International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531
(Print & Online)

http://gssrr.org/index.php?journal=JournalOfBasicAndApplied

Modular Distance Education: The Role of Socio Demographic Profile, Family Structure, and Parental Involvement on the Student's Final Grade in Science

Jermae B. Dizon LPT, MSc[a*], Ma. Elizabeth C. Leoveras Ph.D.[b],Eden S. David Ph.D.[c], Rhodora I. Dela Rosa Ph.D.[d]

[a,d]*College of Education, Central Luzon State University, Muñoz, 3119, Nueva Ecija, Philippines*

[b,c]*College of Science, Central Luzon State University, Muñoz, 3119, Nueva Ecija, Philippines*

[a]*Email: dizon.jermae@clsu2.edu.ph,* [b]*Email: mariaelizabeth.leoveras@clsu2.edu.ph*

[c]*Email: eden.david@clsu2.edu.ph,* [d]*Email: ridelarosa@clsu.edu.ph*

Abstract

The current descriptive-correlational study focused on the role of socio-demographic profile, family structure, and parental involvement on the student's academic achievement in science during the Modular Distance Education at Bugallon Integrated School. Correlation analysis showed that gender is highly related to the students' final grade in science ($r = 0.167$, $p < 0.05$), number of devices available is highly related to final grade in science ($r = 0.326$, $p < 0.01$), and internet usage is highly related to final grade in science ($r = 0.245$, $p < 0.01$). For parents' socio-demographic characteristics, correlation analysis showed that income is positively highly related to the students' final grade in science ($r = 0.241$, $p < 0.01$), father's educational attainment is positively related to the students' final grade in science ($r = 0.191$, $p < 0.05$), and mother's educational attainment is positively highly related to the students' final grade in science ($r = 0.332$, $p < 0.01$). The student's Family Structure was not significantly related to the students' final grade in science. The number of learners in household was also not significantly related to science grade.

---

* Corresponding author.

For parental involvement, retrieval of student's modules in school ($r = 0.251$, $p < 0.01$), enquiring the teachers on the student's performance in their modules ($r = 0.217$, $p < 0.01$), encouraging the student to do their performance task ($r = 0.390$, $p < 0.01$), monitoring the student's television watching habit and playing games ($r = 0.272$, $p < 0.01$), and involving the student in decision making regarding their education ($r = 0.220$, $p < 0.01$) were the only significantly related to academic achievement in science as manifested by science grade which was shown by the correlation analysis. Further, the study did not show any significant difference between the family structure (living with whom), and students' final grade in science.

Keywords: family structure; parental involvement; modular distance learning; pandemic; academic achievement in science.

1. Introduction

Families are seen as a vital part of society in the Philippines. The specific traits of the Filipino people and their culture, such as their history, values, experiences, adaptations, and ways of being, have been included into it [1]. Given the lengthy history of political and social upheaval in the nation, it may seem as though Filipino parents have insurmountable parenting challenges [2].

Research on family structure have become more prevalent over the past few decades; these studies explored various living plan designs and their suggestions for the welfare of children [3]. Teenagers who do not reside in families with two biological parents, on the other hand, often fare worse than those who do. Only minor developmental alterations are seen in kids from intact parent families and single-parent households. A child's performance is impacted by a number of factors, including their mental, behavioral, physical, and emotional health [4, 5]. Concerns over how a child's living situation may affect their academic achievement have evolved throughout time. A key predictor of a child's happiness and academic success is the family structure. It chooses how time and money flow [6]. Common focus points include improved academic performance, fewer behavioral issues, and better health outcomes. These outcomes are typically attributed to vital family dynamics. Which features of the family structure, if any, affect a child's ability for learning is unknown. In order to address other family-related concerns, more study should be conducted, according to a review of the World Family Chart [7].

Parental involvement is the degree to which a parent participates in the education of his or her children. Some schools encourage good parental involvement, however occasionally parents are unsure about getting involved in their children's education. It has received support from Western nations. A collection of literature examines the impact of social and cultural factors, as well as the effects of parental participation and expectations for their children's development and learning. Because parents come from a variety of backgrounds and have varying opinions on when, why, and how to be active in their children's education, it is crucial for schools to be aware of these cultural disparities.

This study is limited on the correlational study of the socio-demographic characteristics of grade 7 students and their parents, as well as their family structure and parental involvement during the Modular Distance Learning in Bugallon Integrated School S.Y. 2021-2022.

1.1. Statement of the Problem

Because the family is seen as the core of one's social existence, socio-demographic profile, family structure, and parental involvement is significant in Philippine culture. However, over the past 10 years, the social environments in which Filipino families are enmeshed have changed significantly [8]. Children's education is progressively shifting toward a more comprehensive understanding of learning in the 21st century. As a result, studies on family structure and parental engagement in children's education continue to be inaccurate in their portrayal in terms of its academic effect [9].

1.2. Research Objectives

This research study aims to:

- find out if there is a significant relationship between students' socio-demographic characteristics and their final grade in science;
- find out if there is a significant relationship between parent's socio-demographic characteristics and the student's final grade in science;
- determine the significant relationship between family structure and the student's final grade in science;
- find out the significant relationship between parental involvement and the student's final grade in science; and
- find out if there is a significant difference between the means of the student's achievement across their family structure.

2. Methodology

2.1. Study Sites

The Bugallon Integrated School (BIS), originally known as Bugallon I Central School, served as the study's location. It is a public school that was established in 2000 and offers community members a curriculum-based, high-quality education. The Department of Education is in charge of BIS, a single-grade elementary and high school (DepEd). It is a part of the School Division Office 1 Pangasinan and is situated in Espino St. Poblacion, Bugallon, Pangasinan. Sir Fernando P. Espinoza, Principal II, is in charge of BIS, which currently provides programs for junior and senior high school students as well as primary school.

2.2. Respondents and Data Collection

This study involved 146 junior high school students in Grade 7 who were enrolled during the Academic Year 2021–2022, when the Department of Education introduced Modular Distance Education in the midst of the COVID 19 pandemic. In the study, purposive sampling was employed. One sort of nonprobability sampling methodology is the use of purposeful sampling. According to the researcher-established criteria, individuals are purposefully chosen for purposeful sampling techniques [10].

2.3. Instrumentation

The instrument employed was a questionnaire that was modified from previous research and literature to incorporate questions about (1) the sociodemographic profiles of the student and parents, (2) their family structure, and (3) parental involvement.

I. Socio Demographic Profile

The instrument's initial section concentrated on the student and the parents' socio-demographic characteristics. For the student's socio-demographic profile, it includes their gender, device available at home, and availability of internet usage. For the parent's socio-demographic profile, it includes the number of parents working, parental income, parent's educational attainment, and if they are beneficiaries of 4P's.

II. Family Structure

The second part focused on whether the students live in a two-parent household, single-parent household (mother or father), co-parenting or joint physical custody, adoptive parents, or neither parent (i.e., grandparent, aunt/ uncle, cousin, etc.), under which is categorized whether parent are working overseas/OFW parents, deceased parents, parents work far away locally, and other reasons.

III. Parental Involvement

The third section of the questionnaire tries to determine how frequently parents or guardians' control, support, or motivate their kids to learn as well as how they help with the students' education while they are enrolled in a modular distance learning program. The Student Survey Questionnaire, which was derived from Francess Dufie Azumah's study, served as the primary research tool in this investigation [11].

In this section, some of the pinning questions includes number of household members that can provide instructional support, number of hours of parental support in student education per day, frequency of module retrieval, frequency of parents' inquiry on the students' performance, frequency of parents' encouragement on students to accomplish their performance tasks, frequency of monitoring the students' leisure activities and decision making.

2.4. Data Analysis

After the collection of data, data were analyzed through descriptive and inferential analyses using Statistical Package for Social Sciences (SPSS) and MS Excel Worksheet.

The raw data was analyzed using correlational analysis and Pearson's product moment coefficient (Pearson r) to determine the relationships between the student's and parent's socio-demographic characteristics. Chi-Square (With whom the student live, 2x5 categorical data) and Pearson-r (No. of learners in household, both continuous data) were used to determine the relationship of family structure academic achievement in science, and for parental involvement against the students' academic achievement in science, Pearson will be used. For the difference between the mean of family structure, Independent-sample T-test was used.

3. Results and Discussion

3. 1. Relationship between the Students' Socio-demographic characteristics and Final grade in Science

Table 1 presents the relationship between the students' socio-demographic characteristics and final grade in science.

Table 1: Relationship between the students' socio-demographic characteristics and final grade in science.

SOCIO-DEMOGRAPHIC CHARACTERISTICS	FINAL GRADE IN SCIENCE		INTERPRETATION
	r-value	p-value	
Gender	0.167*	0.043	Significant
Number of Devices Available	0.326**	0.000	Highly Significant
Internet Usage	0.245**	0.003	Highly Significant

Legend: * correlation is significant at 0.05 level (2-tailed) result

** correlation is highly significant at 0.01 level (2-tailed)

Correlation analysis showed that the gender ($r = 0.167$, $p < 0.05$), number of devices available ($r = 0.326$, $p < 0.01$), and internet usage ($r = 0.245$, $p < 0.01$) are positively related to the students' final grade in Science. These findings indicate that females will most likely have higher academic achievement in science than males based on their grade; most likely highly have higher academic achievement in science as the number of device available increases; and most likely highly have higher academic achievement in science when they can use the internet. This means that we reject the null hypothesis stating that there is no significant relationship between the students' socio-demographic characteristics and final grade in science. However, there is no significant relationship on the student's age and academic achievement in Science.

3.1.1. Gender

The findings focusing on the positive relationship of gender and academic achievement in science supports the study that claimed that females perform better than males in research that looked into the gender effect. There is a non-joint influence of gender and Chemistry students' academic performance according to Alfan and Othman [11] Woodfield[12], and Smith [13]. Previous studies reveal that female students are likely to attend class more frequently than males. In a study of 650 students at Sussex University, Woodfield [12] discovered that females were substantially more likely to attend class and thus perform better academically than males were with 88% to 84%, respectively.

In a survey conducted at University College Dublin, Kelly discovered that there is considerable evidence that females had a higher grade among those who live on campus [14]. A student has a two in three chance of receiving a failing grade and a four in five chance of receiving low grades if they do not show up for at least 70% of the classes. According to the "80% rule," students are 50% more likely to receive failing grades if they do not attend at least 80% of their classes than they are to receive great grades, in this case, males are more lilkely to absent than females. In their study entitled "The effect of students' class attendance on their academic

performance: A case study at Simad University Mogadishu," Ahmed discovered a moderate correlation between students' attendance in class and their academic achievement. In addition to that, the results demonstrated that lower levels of academic performance are correlated with increased absenteeism rates. Female students miss fewer classes than male students, according to the survey [16].

According to research by Kassarnig on "Class attendance, peer similarity, and students' academic success," regular attendance in class had a positive impact on students' grades [17]. According to research by Blad, pupils with poor attendance on tests performed worse than their counterparts who never missed a class [18]. According to reports, students' mathematics performance improved when class attendance increased by one standard deviation [19]. Dr. Patricia Licuanan, former chair of the Commission on Higher Education (CHED), underscored that early socialization of children is the cause of the gender gap in schools. Or, to put it another way, how they were raised. Parents teach their daughters how to perform household chores. Because of this, women are better suited to complete jobs that are delegated to them by higher-ups. In contrast, males are allowed greater time and freedom to play outside. They become more laid back or unresponsive to assignments as a result of this. Addiction is more likely to affect them [20].

Additionally, even before they graduate from high school, families of men already expect them to find employment [21]. Males and females frequently have different cultural perspectives on schoolwork. Males' aversion to education and schools begins in kindergarten, when they are slower readers than girls. Around the world, girls perform considerably better in reading than boys at the basic and secondary levels. In comparison to girls, boys are eight percentage points more likely to think that school is a waste of time. In addition, he notes that across the Organization for Economic Co-operation and Development (OECD), boys typically spend over an hour less each week on schoolwork than girls. He claims in his paper that males are less likely to read outside of school and more likely to play video games [22]. Martin Seligman and Angela Lee Duckworth discovered that middle school girls outperform boys in terms of general self-discipline in a landmark 2006 study. Their higher grades in all disciplines are mostly a result of this. They found that girls are more adept at “reading test instructions before proceeding to the questions,” “paying attention to a teacher rather than daydreaming,” “choosing homework over TV,” and “persisting on long-term assignments despite boredom and frustration” [23].

These top cognitive scientists from the University of Pennsylvania also discovered that girls are more likely to start their homework earlier in the day than boys and spend almost twice as much time completing it. In all areas, including basic and advanced science, traditionally considered to be the domain of males, females had greater grade point averages than males. The tendency to plan ahead, set objectives, and persevere in the face of difficulties and setbacks is what Seligman and Duckworth refer to as "self-discipline," while other studies refer to it as "conscientiousness." Social scientists unanimously agree that conscientiousness is an innate personality attribute that is not shared equally by all people [23]. Numerous cross-cultural studies have found that women are typically more conscientious than men. The study by Lindsay Reddington in Columbia University even indicated that female college students are much more likely than males to scribble down thorough notes in class, accurately transcribe what lecturers say, and retain lecture content better. It could be argued that males' less developed conscientiousness puts them at a disadvantage in educational environments where good

organizational skills and evidence of learned material are heavily weighted in grades [24].

Due to their early upbringing, where females often perform better academically than males, the difference between sexes can have an impact on performance. An annual assessment that assesses gender equality in 153 nations finds that Filipino women enroll in high school and college at much higher rates than men. According to the World Economic Forum's (WEF) 2020 Global Gender Gap Report, 71.3 percent of women are engaged in secondary education, but only 60.2 percent and 40.4 percent of men are doing the same [25]. This is also supported by the Philippine Statistics Office's data that women outnumbered men (56.1%) among those with college or academic degrees who were surveyed (43.9 %). Similarly, among those who had taken post-baccalaureate courses, there were more females (58.0%) than males (42.0%) [26]. According to recent studies, girls outperform boys in math and science. In every topic, particularly those involving science, where boys are supposed to do better than girls, girls receive higher grades. Girls outperform guys in school academically because they are more likely to make plans, establish objectives, and work hard to achieve them [27].

3.1.2. Number of Device Available

The results also showed that the number of device available is positively related to academic achievement in science, where as the number of device available increases, the student's grade in Science also increases. In his study published in 2011, Soloway found that when students use electronic mobile learning devices like smartphones, computers, tablets, etc. during class, their performance and production improve. Because when they have a smartphone device, their time spent learning procedures will decrease and their time spent doing tasks will increase [28].

Nayak (2018) discovered that many students download the contents of class readings and use electronic books to enhance their learning [29]. According to a different study, some students use mobile learning applications like emails, voicemails, cameras, voice recorders, google drive, GPS, and others to create, upload, download, and share their academic resources and content with their friends and teachers instead of using the internet or electronic books. This has a favorable correlation with the high prevalence of smartphone ownership among college students. According to the survey, they can use the tips of their hands to access the internet, send and receive text messages from their friends and family, check emails, and even video chat with them [30].

Additionally, the study of Mahmood noticed that students access social media platforms, apps, and websites through their smartphones, which improves their learning process [31]. The value of cellphones increased along with the development of mobile learning tools and electronic libraries, which also boosted students' information-seeking habits [32]. Other research projects have been conducted to evaluate the effects of ICT in the field of education. According to Solar, implementing ICT boosts student learning and raises the standard of instruction [33]. This is in line with the findings of the study by Gallego, who contend that a nation must implement ICT policies and laws that are strong and effective at all levels if it is to successfully increase the quality of education. Thus the more available devises the students possess, the higher his or her academic perfomance [34].

3.1.3. Internet Usage

The results regarding the significant positive correlation between internet usage and academic achievement in science supports the findings of Mistler-Jackson and Songer who looked at how the internet affected students' motivation and academic performance. They discovered that the use of the internet boosted students' interest in studying and their performance in atmospheric science [35]. One of the most important ICTs that has had an impact on education all across the world is internet technology. According to Alabi, the majority of people who use the internet and its resources in modern countries are young students. High-speed internet access and a staff with the necessary qualifications should be made available to participants [36].

Further, it was urged to block any immoral websites that would interfere with students' ability to focus on their studies. The same year, Ying-Tien and Chin-Chung noted a significant correlation between students' grade level and their positive attitude about the internet [37]. Researchers advised organizing the most efficient strategies for enhancing students' independent use of the internet and communication skills in order to get higher academic performance. Suhail and Bargees looked into how regular internet users' use of the internet affected them. According to the poll, 31% of students said their grades or college performance had declined, and another 21% acknowledged they had missed classes or assignments as a result of their online usage. The researchers discovered that 78% of respondents said accessing the internet helped them get better grades and that 74% said it helped them develop their reading and writing skills. They observed favorable effects on the respondents' academic performance [38].

Due to the pandemic, distancing meant that more individuals needed an internet connection to pay bills, conduct business, learn, and work as the virus expanded throughout the Philippines in early 2020. Even though they did not have the same access, the city's poorest citizens weren't exempt. Schoolchildren rushed to Pisonet machines, sometimes slipping in pesos, snapping photos of their online syllabi, and hurrying home to finish them as "blended learning," a mix of online lectures and printed-out modules, became the norm for education. The accessibility of smartphones and mobile data has made it possible for students to use the internet [39].

3.2. Relationship between the Parents' Socio-demographic characteristics and Final grade in Science

Presented in Table 2 is the relationship between the parents' socio-demographic characteristics and students' final grade in science.

Table 2: Relationship between the parents' socio-demographic characteristics and students' final grade in science.

SOCIO-DEMOGRAPHIC CHARACTERISTICS	FINAL GRADE IN SCIENCE		INTERPRETATION
	r-value	p-value	
Number of Parents Working	0.128	0.124	Not Significant
Parental Income	0.241**	0.003	Highly Significant
Father's Educational Attainment	0.191*	0.021	Significant
Mother's Educational Attainment	0.332**	0.000	Highly Significant
4P's	0.111	0.181	Not Significant

Legend: *correlation is significant at 0.05 level (2-tailed)

** correlation is highly significant at 0.01 level (2-tailed)

Correlation analysis showed that the income ($r = 0.241$, $p < 0.01$), father's educational attainment ($r = 0.191$, $p < 0.05$), and mother's educational attainment ($r = 0.332$, $p < 0.01$) are positively related to students' final grade in Science. These findings indicate that as the parents' income increases, it is most likely that students have higher grades in science. This means that we reject the null hypothesis stating that there is no significant relationship between the parents' socio-demographic characteristics and the student's final grade in science. However, there is no significant relationship on the number of parents working and 4Ps beneficiary against the academic achievement in Science.

3.2.1. Parental Income

The majority of respondents come from families that are living with less than P10,000 per month which is more or less near minimum wage. The cost of the transportation for delivering modules to school, food or snacks, and the school materials required for the child's daily needs have made it difficult for the parents in this situation to assist their children in school work. Due to the stress of having insufficient financial means, a child's financial situation may have a negative impact on their academic performance. Mayer noted that children from wealthy families have better odds of succeeding in academics than children from poor families. This is likely because parents of wealthy families spend more on their children's education because they view it as an "investment" that will help their children have a better future [40]. No matter their race or ethnicity, students from low-income families regularly perform below average. One research, for instance, found that just 13.2% of low-income students successfully completed all of the necessary subject area tests, while 43.5% of low-income students failed to pass any of the essential subject area examinations [41].

Comparable investigations have discovered similar outcomes. The impacts of poverty on children worsen as time goes on. Children who grew up in persistently low-income families performed 6 to 9 points worse on various tests than children who never experienced poverty. The severity of poverty has a considerable impact. In comparison to children from near-poor homes, children from extremely poor households with incomes below 50% of the poverty line scored 7 to 12 points lower, while children from poor households with incomes between 50% and 100% of the poverty line scored 4 to 7 points lower [14].

In addition to that, low parental income has an adverse effect on a student's academic performance. Sum and Fogg did a study and discovered that whereas students from middle-upper income families scored in the 66th percentile on exams, impoverished pupils scored in the 19th percentile [42]. According to data from the Early Childhood Longitudinal Study (ECLS), low-income students typically scored at or around the 30th percentile on the ECLS reading achievement assessment, middle income students typically scored at or around the 45th percentile, and upper income students typically scored at or around the 70th percentile [43]. The impacts of poverty appear to be most pronounced in middle teenagers, according to numerous studies on various age groups. Family economic risk and the degree of neighborhood risk were predictive of behavior risk variables for

middle adolescent pupils across all subgroups. For all groupings, family income level was a predictor of finishing school [44].

Additionally, Mayer assessed students in reading and mathematics before and after an increase in income. The study also included a post-test. The results show that while the influence on mathematics scores is slightly bigger, the effect on reading scores ranges from a little negative effect to a small positive effect. Mayer conducted a second study in which she compared the exam results of two siblings, one who had taken the test before and one who had taken it after their parents' wealth had increased. According to the research, based on students' test scores and academic achievement, changes in siblings' income have a very little and statistically insignificant impact. In light of this, research have shown that there is no connection between student test scores and household income. The source of the income may be the reason why there is occasionally no association between income and achievement in some research [45].

3.2.2. Parent's Educational Attainment

Results in Table 2 also show the positive relationship of parents' educational attainment and academic achievement in science. The parents' highest level of education is another factor taken into account in this study. Parents can assist their children with any schoolwork that has been assigned to them at home. If parents are adequately informed about their children's tasks, they can assist their offspring in completing those chores. Their level of education is therefore pertinent to this issue.

The table reveals that the majority of parents have graduated from high school. When pupils are at home with their parents, they are seen as second teachers. They are supposed to assist their kids in doing the chores around the house. However, parents who are unfamiliar with the assignments from school will be unable to help their children complete the task. Parental education and students' performance were significantly correlated which is why it is important to look at this variable in this study [46]. Students with educated parents performed better than those with uneducated parents. They also emphasized how much a student's mother's educational level affects their performance, with pupils whose moms had greater levels of education performing better in school. The mother's education level has an impact on students' academic performance in addition to the impacts of income. In several research, mother's education had a bigger impact on kids' test scores than did her wealth. For all middle school participants in the studies, the mother's educational attainment was a predictor of school completion [44].

Parental education has a considerable impact on academic attainment. The academic results of teenagers were 20% more influenced by the mother's education level than the father's [47]. The impact of the mother's education on the "particular ways of talking, playing, engaging, and reading with early children" is thought to be the cause of this effect on student accomplishment. Student performance improved "by more than four points, schooling improved by more than one-third of a year, salaries improved by 4%, and labor market experience for women improved by 0.2 years" when a variety of reading materials were accessible in the home. Due to the anticipated strong correlation between parental and student education, parental education is also a crucial component of a student's socioeconomic standing. Children with highly educated mothers score better on tests.

Research investigations have also shown that there are variances between the educational backgrounds of the mother and father with regard to how education affects the academic performance of the children [47]. The researchers predicted that the most significant factor in predicting children's academic outcomes was the educational level of the parents. The father's career and education have a direct impact on the family's money, which in turn has a direct and strong relationship to the amenities provided for kids at home, which has an impact on kids' academic success. For instance, families with higher incomes may more readily meet their children's fundamental needs in terms of health, nutrition, and education; they can also give their kids access to additional resources and opportunities that could improve their grades [48]. According to Anderson, the primary reasons why pupils struggle in school are due to unfavorable family issues such illiteracy, limited parental involvement in their children's education, low socioeconomic position, and a lack of time for their children. Because parents' education and children's education are intimately intertwined, children's education can be explained by their parents' education. The educational success of parents tends to encourage in students good learning behavior. Parental self-assurance is correlated with cognitive skill mastery and positive life experiences from their prior general and educational lives. It was shown that parents who had excellent educational experiences and high cognitive abilities may help their children enhance their cognitive capabilities as well as boost their confidence level [49].

On the other hand, parents who did not have a successful educational experience were shown to be unable to support their children in the development of their cognitive skills and confidence [50]. The likelihood that a child will pursue higher education improves with the involvement of the father, but the mother's education has a considerably greater impact on a child's academic success. According to studies, a mother's education is more crucial than a father's since it has a greater impact on youngsters' educational achievement. Additionally, it was discovered that moms with less education show less interest in their kids' education, which is detrimental to their prospects for a good education [51]. Uneducated parents, according to Hanafi, treat their children with greater care, but they also set up unstable academic environments at home for their education and have high expectations for them. These tactics have an inconsistent and erratic impact on pupils' academic success. As a result of their high expectations for kids, low investment, and occasionally use of corporal punishment, primary pass parents instead adopt relatively unsupported and unrealistic academic approaches from their kids. Higher educated parents, on the other hand, are more methodical and realistic when setting educational goals for their kids. The highly educated parents provide their children with contemporary and adoptive academic environments at home [51].

Additionally, these findings showed that parents with a particular level of education could help their kids with their homework and were aware of the right books, models, and maps for them. Children with parents with low or no education also have high rates of truancy and even dropout. In research on truancy and education, Booth noted that parents with limited education are just as likely as households with low incomes to have children drop out of school [52].

3.3. Relationship between the Family Structure characteristics and Final grade in Science

Table 3 presents the relationship between the students' family structure and their final grade in science.

Table 3: Relationship between the students' family structure and their final grade in science.

FAMILY STRUCTURE	FINAL GRADE IN SCIENCE		INTERPRETATION
	r-value	p-value	
With whom does the student live	$\chi^2 = 2.904$	0.404	Not Significant
No. of learners in household	r = -0.046	0.580	Not Significant

For the category "With whom does the student live," Chi-Square was used because it is 2x5 categorical data where 2 represented either the student lived with both parents/single parent and those who do not live with either biological parents, and 5 represented the five grade range in Science. The result of the Chi-Square showed that with whom does the student live and the students final grade in science was not significant ($\chi^2 = 2.904$, $p > 0.05$). For the relationship of number of learners in household and the students final grade in Science, it also not significant ($r = -0.046$, $p > 0.05$). This means that the result fail to reject the null hypothesis stating that there is no significant relationship between the students' family structure and their final grade in science.

3.3.1. With whom does the student live

Although it was not evident in the study, a considerable impact on students' performance and mental development has been linked to family structure, namely single-parent and two-parent homes, according to research [53]. This is due to the fact that creating a conducive learning environment at home needs both time and financial resources from parents.

Over the past few decades, McLanahan and Sandefur noted that studies on family structure have increased. These studies specifically examined living arrangements and their recommendations for the welfare of children. However, teenagers who do not live in families with two biological parents typically perform worse than those who do [3]. Children in intact parent homes and single-parent families show only mild developmental changes. These living arrangements influence a few aspects of a child's performance, such as their mental, behavioral, physical, and emotional health [4, 5]. Battistella and Conaco found that across four different family patterns, the mother-absent children had the worst educational performance while children of non-migrant parents had the highest average grades in a study that included 9 to 15-year-old elementary school students of Filipino descent. Father-absent and children with both parents absent fall between these two extremes, with the former outperforming the latter [54].

If a child's academic achievement were only based on the number of parents in the home, then children who live in intact nuclear or stepfamilies should perform better than those who live with just one parent. It is less obvious which family structure would be best if the issue is "consistent parenting approaches" [55]. According to the research, biologically intact families with two parents have the strongest parental authority. For single-parent [mother] families, for instance, the erosion of parental control is a structural effect of the father's absence from the family residence [56]. In the Philippines, moms who are gone frequently "hire paid domestic employees to care for their families" while they are away [57]. The effect of this kind of arrangement on the educational outcomes of children is uncertain, but one theory is that with less parental involvement in the home, one or both parents moving abroad may have a detrimental effect on children's educational success. Children in two parent nuclear homes should fare the best, followed by those with a single mother and finally those with a single father,

if evolutionary psychologists and biologists are right. According to this line of reasoning, both human men and women invest in their own offspring, but mothers do so more than fathers do. This is partly because women are responsible for taking care of their existing children, although men have slightly better odds of reproducing [56]. Again, for these reasons, one or both biological parents moving abroad may be detrimental to their children's educational success. But other research studies suggest higher academic achievement. Another frequent effect of parental separation on children's academic achievement is a slowdown in it. Academic achievement may be hampered by the emotional strain of separation alone, but a broken family's dysfunctional lifestyle can also affect pupils' academic progress. This irregular behavior, lack financial means, and unstable home environments are a few possible causes of the poor academic success. A fractured family is more likely to experience financial difficulties, which depressingly affects students' struggles to pay for their daily necessities and education costs. In comparison to other children (19%), children living with a divorced parent were more likely (28%) to live below the poverty line in a family in 2009 [49].

In terms of student's academic achievement for students who are in a Joint Physical Custody (JPC), this study showed very low academic performance in the respondents which is inconclusive to the current body of knowledge. She discovered that children with JPC arrangements were, on average, better off than children with sole custody arrangements in all three evaluations. In all of these studies, kids with JPC setups had better grades and cognitive development, lower levels of anxiety, depression, and dissatisfaction, less aggression, drug use, and alcohol use, better physical health, lower smoking rates, and better father-child relationships. This can be explained by the low-income families that the respondents belong to which is largely a factor for low grades in school. When their parents separate, most of the resources that the parents have will be pooled towards their new families and their new offspring to that family. This will lessen the financial capacity of the child who is undergoing physical custody to maintain his/her available resources in studying [58].

3.3.2. Number of learners in household

For the number of learners in household, the term "sibling size" or "Sibsize" refers to the total number of children in the child's household, not just the child. The academic achievement of a child is typically impacted by the sort of family they are from, whether they are from a monogamous or polygamous home. Numerous factors could link sibling size to a child's educational success. First, having more siblings might result in less support for each child's education from the family and home. According to the "resource dilution hypothesis" having more siblings results in a "quantity/quality" trade-off where fewer kids will receive enough support for their schooling [59]. By lowering parental time, money, and other resources needed to support schooling [60], as well as by creating a lower quality intellectual environment at home, having more siblings is thought to have a negative impact on educational outcomes [61]. With some significant exceptions, a study of the substantial empirical literature on the impacts of sibsize indicated support for the resource dilution theory in developed nations [62]. Exogenous changes in family size (using twin births and sibling sex composition as instrumental variables) decreased the likelihood of attending private school in the United States, according to rigorous methodological testing [63]. The extent of these impacts may vary depending on the national fertility setting, according to studies conducted in developing countries [64].

3.4. Relationship Between the Students' Family and Parental Involvements and Final Grade in Science

Table 4 presents the relationship between the students' family and parental involvement and final grade in science.

Table 4: Relationship between the students' family and parental involvements and final grade in science.

FAMILY/PARENTAL INVOVEMENT	FINAL GRADE IN SCIENCE		INTERPRETATION
	r	p-value	
No. of household members that can provide instructional support	0.029	0.724	Not Significant
No. of hours of parental support in student education per day	0.073	0.381	Not Significant
Retrieval of Student's Modules in School	0.251**	0.002	Highly Significant
Enquiring the Teachers About the Student's Performance in Their Modules	0.217**	0.008	Highly Significant
Encouraging The Student to Do Their Performance Task	0.390**	0.000	Highly Significant
Monitoring the Student's Television Watching Habit and Playing Games	0.272**	0.001	Highly Significant
Involving the Student in Decision Making Regarding Their Education	0.220**	0.008	Highly Significant
Discussing the Importance of Education with the Student	0.115	0.168	Not Significant

Legend: *correlation is significant at 0.05 level (2-tailed)

** correlation is highly significant at 0.01 level (2-tailed)

Correlation analysis showed that the retrieval of student's modules in school ($r = 0.251$, $p < 0.01$), enquiring the teachers on the student's performance in their modules ($r = 0.217$, $p < 0.01$), encouraging the student to do their performance task ($r = 0.390$, $p < 0.01$), monitoring the student's Television watching habit and playing games ($r = 0.272$, $p < 0.01$), and involving the student in decision making regarding their education ($r = 0.220$, $p < 0.01$) are positively related to students' final grade in Science. These findings indicate that as the retrieval of student's modules in school is done more frequently, it is most likely highly have higher academic achievement in science based on their grade; most likely have higher academic achievement in science as enquiring the teachers on the student's performance in their modules is done more frequently; most likely have higher academic achievement in science as encouraging the student to do their performance task is done more frequently; most likely have higher academic achievement in science as monitoring the student's television watching habit and playing games is done more frequently; and most likely highly have higher academic achievement in science when the involving the student in decision making regarding their educational games is also done more frequently. This means that we reject the null hypothesis stating that there is no significant relationship between the parental involvement and the student's final grade in science. However, there is no significant relationship on the number of household members that can provide instructional support, number of hours of parental support in student education per day, and discussing the importance of education with the student agaisnt the academic achievement in Science.

3.4.1. Instructional Support and Parental Support

This means that there is no significant difference in the number of household members and the academic achievement of students that can provide instructional support as well as the number of hours of parental support in student education per day. Though it holds true that the more family member who can give the student the needed instructional support, it does not necessarily correlate to higher academic achievement. This is because we also have the concept of independent learning where a student can learn on their own. Independent learning is an active learning process that is compelled by the need to develop a skill and is supported by prior knowledge or skill [65]. Self-learning is a process of self-actualizing information acquisition and skill training without the direction of teachers and the control of educational and training institutions, according to Quyen. It is a procedure, approach, and educational philosophy in which a learner develops the capacity for critical thinking and evaluation while actively acquiring knowledge [66]. This is evident in some of the students in this study who have little parental support but still have high grades. Some contend that parental involvement in school activities, homework monitoring, and control, are not always connected to children's academic success [67]. Others claim that, at least when compared to "at-home good parenting," school-based parental involvement is only moderately connected with student results. In Ghana, it was discovered that parental participation at home was positively correlated with academic achievement whereas involvement at school was negatively correlated [68].

3.4.2. Retrieval of Student's Modules in School

Helping their children with the distribution and retrieval of their modules and supporting them with their academic work at home are two ways that parents can positively impact their children's education. Children whose parents read to them, help with their homework, and offer tutoring using materials made available by teachers typically perform better academically than children whose parents do not. By doing simple things like asking their students about school or helping them with their homework, parents can demonstrate to their kids that they are invested in their lives [69]. Parents who are actively involved in their children's education not only encourage academic success in them but also give teachers more assurance when presenting material to help kids learn to their full potential.

3.4.2. Enquiring the Teachers About the Student's Performance in Their Modules

Majority of the respondents reported that their parents ask them about their teachers. Epstein argues that teacher evaluation plays a substantial role in the educational success of children, drawing on his study on the rise in parental, school, and teacher participation. However, it was also shown that the majority of respondents said their parents encourage them to participate in school activities [70]. This supported the argument made by Epstein, who cited the grouping structure of her educational socialization and stated that parents must influence their children's interactions with peers and teachers. As a result of these interactions, children can participate in school programs by being encouraged by peer groups in socializing academic advancement. Additionally, studies demonstrate a connection between parental participation and academic performance [71]. Children profit more from their education when their parents are actively involved than when they are merely passive.

Particularly, children will benefit academically more from their parents' attendance at parent-teacher conferences, acceptance of phone calls from the school, and reading and signing of letters from the school than children whose parents don't do any of the aforementioned. The fact that it assists children who are having difficulty with their lessons relieve stress and worry is one of the advantageous reasons for parents to become involved. Parents who are knowledgeable about a variety of topics and have lived through varied experiences tend to improve relevance to children. Additionally, parents who assist their kids in understanding the lesson's material and give it greater significance greatly aid in their comprehension.

The frequency with which parents visit classrooms, speak with teachers or counselors, or volunteer at the school is a prominent way to conceptualize parent-school involvement. They refer to these actions as "school-situated educational-support strategies." Useem discovered that similar procedures had favorable and helpful effects on a student's placement in class and subsequent performance. The authors of both research studies discovered that parents from higher social classes had higher levels of cultural capital, and that this increased familiarity and knowledge of the educational system allowed these parents to change their child's classroom placement [72]. Thus, educational support strategies are more likely to have a direct impact on accomplishment since they show a parent's direct involvement in the educational process. Given that many older teenagers frequently oppose parental intervention, such strategies may only slightly affect the attitudes and behaviors of adolescents, particularly in middle and high school. Participation in a parent-teacher organization is a concept that is comparable to this one that is frequently used in the literature [70].

3.4.3. Encouraging The Student to Do Their Performance Task

The findings were inspired by Epstein's appraisal of her educational socialization, which claims that children will be more motivated to attend school on a regular basis if parents convey their strong and accurate beliefs to them in an honest and helpful manner [71]. Parental participation fosters drive and self-assurance in the classroom. Strengths and weaknesses, spending one-on-one time with children, enlightenment, making learning more interesting, and having higher goals are just a few advantages that parents who assist their children enjoy. The same article claims that having parents involved at home has a favorable impact on kids. For children to succeed in school and later in life, parental encouragement in higher secondary education is crucial. Studies have shown that parental support and involvement in a child's education are linked to: higher test scores, higher attendance rates, higher rates of homework completion, an increase in positive attitudes and behaviors at school and at home, higher graduation rates, higher rates of college attendance, higher overall student achievement, better attitudes toward school and individual subject areas, and more time spent on homework [73].

3.4.4. Monitoring the Student's Television Watching Habit and Playing Games

Many respondents also indicated that their parent(s) supervise their television watching behavior. This was due to the parent's (autocratic) parenting style and rigorous parental surveillance. The majority of respondents said that their parent(s) oversee their homework, which corroborated Epstein's literature from 1989 about the timing of her education socialization, which highlighted that parents must complete their children's time dedicated to coursework as well as other activities. According to Epstein, parents should keep an eye on their kids as they

complete their schoolwork and other tasks. The extent to which a parent actively participates in their child's life, is aware of their locations, and ensures that their child completes their schoolwork is a second way to think about parent-child participation [71]. Monitoring is the term most often used to describe these actions. Parents typically keep an eye on their children's performance and behavior, rewarding or punishing both positive and undesirable behavior. By first changing the adolescent's behavior (i.e., truancy, absenteeism, and homework), it is believed that active parental monitoring will eventually affect the child's academic performance. The reinforcement process therefore indirectly affects achievement by parents keeping their kids away from negative influences, helping teachers by ensuring that homework is properly completed, and making sure that their kid is staying out of trouble [74].

3.4.5. Involving the Student in Decision Making Regarding Their Education

For Ochoa and Torre, parenting programs should emphasize fostering open lines of communication between parents and children, promoting non-confrontational interactions between parents, and giving students a platform to express their thoughts and feelings [8]. They used document analysis to analyze published and unpublished studies on parenting, childrearing, and discipline carried out among Filipino households from 2004 to 2014. Other studies, however, have been more skeptical of the relevance of parenting ideas because Filipino kids may view parental authority in different ways. However, results showed that the majority of respondents said their parents involve them in decisions about their education. This conclusion was confirmed by Epstein's model of socialization in education. Children must have duties and be involved in decision-making regarding their education, according to Epstein's authority structure. Research over time has shown that parenting style affects several aspects of psychosocial development [71]. More recently, academics have started to investigate how parenting style may affect factors related to career development, such as career decision-making. For instance, parenting styles with higher levels of warmth, acceptance, and autonomy-granting and moderate levels of strictness/control have been linked to higher levels of career self-efficacy, career exploratory behaviors, and vocational maturity [75].

3.4.6. Discussing the Importance of Education with the Student

Finally, research showed that the majority of respondents said their parents have talked to them about the value of education. Although this variable did not have significant relationship with the academic achievement in science. There are many factors that could be involved and could have been lost in communication. Parent-child communication and parental monitoring are two of the most popular conceptualizations for parental participation [55]. The well-established theoretical underpinnings of parent-child conversation can be summed up as follows: when parents talk to their kids about school-related subjects, they help them understand the value of education and help them develop better attitudes and expectations. In other words, discussing school with your kids sends the message that "school is important to me and I want it to be important to you too." This idea is consistent with the claim made by Hoover-Dempsey and Sandler that modeling is a crucial way through which parental involvement influences behavior. Student attitudes (and even conduct) should change as a result of parent-child conversations, which should lead to better academic performance [74].

3.5. Difference between the Students' Final Grade in Science according to Family Structure

Table 5 presents the Difference between the students' final grade in science when grouped according to family structure.

Table 5: Difference between the students' final grade in science when grouped according to family structure.

GROUP	n	MEAN	SD	t-value	p-value	INTERPRETATION
Live with either both or single parent/s	132	87.591	4.980	0.114	0.909	Not Significant
Do not live with either both or single parent/s	14	87.429	5.707			

Independent-sample T-test showed that when grouped according to family structure, either living with either both and single parent/s or do not live with either both or single parent/s is not significant to the students' final grade in Science (t-value = 0.114, $p > 0.05$). The result failed to reject the null hypothesis stating that there is no significant difference between the students' final grade in science when grouped according to family structure (living with whom).

Most studies indicate that a child's family structure has a big impact on their academic achievement. Academic success among students from two-parent homes was greater or superior to that of students from one-parent families. It should be mentioned, nevertheless, that a recent study's findings indicate that family structure has no impact on children's academic success. Other aspects of the family structure, such socioeconomic position, family size, parent education, parental participation, and so forth, have a significant impact on how well children perform academically.

4. Conclusion

The primary driving force behind this inquiry is the realization that family is the core of resources for the child's prosperity, particularly educational success. Any observable progress must begin with the development of human resources. As a result, every country's mechanism for socioeconomic growth continues to affect poor educational outcomes which can hinder the economic and social development of a country. Assumed studies coincide with other studies in recognizing that a variety of factors, including family structure, parental participation, and parental education levels, might have a direct or indirect impact on children's academic success.

In students' socio-demographic characteristics, correlation analysis showed that the students' final grade in science is positively related to gender, highly related to number of devices available, and highly related to internet usage. In parents' socio-demographic characteristics, correlation analysis showed that the students' final grade in science is positively highly related to income, related to father's educational attainment, and highly related to mother's educational attainment. The student's final grade in science was not significantly related to family structure because we only looked at two variables, either the student lived with both parents/single parent and those who do not live with either biological parent which may be skewed by other factors.

The number of learners in household was also not significantly related to science grade.

For parental involvement, academic achievement in science as manifested by science grade was only significantly related to retrieval of student's modules in school, enquiring the teachers on the student's performance in their modules, encouraging the student to do their performance task, monitoring the student's television watching habit and playing games, and involving the student in decision making regarding their education. In addition to that, the study also did not show any significant difference between the students' final grade in science when grouped according to family structure.

The performance of children throughout their learning pathways depends critically on parental involvement in school, according to results from the program for International Student Assessment. Parents who are actively involved in their children's education help them develop the language and other abilities necessary for learning by demonstrating how to plan, supervise, and be aware of the learning process.

Additionally, if teachers are aware that students' parents are more interested, they might pay closer attention to them. Regardless of the parents' level of educational achievement, research demonstrates that parental involvement in schools enhances children's reading. Promoting greater parental participation may aid in minimizing performance disparities between socioeconomic groups. There is evidence that impoverished parents with support can become more involved in their kids' education, which can improve outcomes.

Because parents have to participate in the teaching and learning process on the front lines due to the COVID-19 epidemic, it has been further highlighted how important parental support is. In general, findings suggest that children of involved parents are more motivated to learn for learning's sake because they adopt their parents' positive attitudes towards school and learning.

However, parents' lack of education and ability to provide support for homework may crucially affect child learning outcomes, especially during school closures.

The most positive effects on learning come from supporting and supervising children's primary academic objectives, which are to study and learn, modeling positive school-related behaviors and attitudes, and emphasizing the value of education. However, in order to have an impact on promoting equitable learning outcomes, family policies need to be strengthened. Family policies can also be used as entrance points for boosting school attendance and learning at all stages of life.

Acknowledgement

The researcher would like to thank the following: DOST-SEI Capacity Building Program in Science and Mathematics Education (CBPSME), and the respondents from Bugallon Integrated School.

The researcher also extends gratitude to the advisory committee headed by Dr. Ma. Elizabeth C. Leoveras and to the ever-supportive panelists, Dr. Rhodora I. Dela Rosa and Dr. Eden S. David.

References

[1] L. Alampay, "Parenting in the Philippines," Ateneo De Manila University (Research), 2010.

[2] S. L. Blair, "Parental involvement and children's educational performance: A comparison of Filipino and U.S. parents," Journal of Comparative Family Studies, vol. 45, no. 3, pp. 35-36, 2014.

[3] S. McLanahan and G. Sandefur, Growing up with a single parent: What hurts, what helps., Harvard University Press, 2009.

[4] J. Artis, "Maternal cohabitation and child well-being among kindergarten children," Journal of Marriage and Family, pp. 69, 222–236, 2007.

[5] S. Brown, "Family structure and child well-being: The significance of parental cohabitation," Journal of Marriage and Family, vol. 66, no. 2, p. 351–367, 2004.

[6] E. Thomson, T. L. Hanson and S. S. & McLanahan, "Family structure and child well-being: Economic resources vs. parental behaviors," Social Forces, vol. 73, no. 1, p. 221–242, 1994.

[7] WORLD FAMILY MAP, "MAPPING FAMILY CHANGE AND CHILD WELL-BEING OUTCOMES," Child Trends, Maryland, 2014.

[8] D. Ochoa and B. Torre, "Parenting in the Philippines: A Review of the Research Literature from 2004 to 2014," Terre de Hommes Germany, 2015. [Online]. Available: https://www.coursehero.com/file/58066065/Parenting-in-the-Philippines-A-review-of-the-research-literature-from-2004-to-2014pdf/. [Accessed 12 December 2022].

[9] M. E. Jackson, Where are the parents: The parent's perspective of parent involvement in education, vol. 71, P. I. &. Learning, Ed., Washington, D.C: George Washington University, 2010.

[10] L. R. Gay and Airasian, Educational Research: Competencies for Analysis and Applications, New York: Merril Prentice Hall, 2003.

[11] F. Azumah, J. Nachinaab, S. Krampah and F. Azumah, "Effects Of Family Structure on The Academic Performance of Children: A Case Study of Ayeduase R/C Junior High School in The Kumasi Metropolis, Ghana," International Journal of Social Science Studies, vol. 6, no. 10.111114/ijsss.v6i10.3643, pp. 11-22, 2018.

[12] E. Alfan and N. Othman, "Undergraduate students' performance: The case of University of Malaya," Quality Assurance in Education, vol. 13, no. 4, pp. 329-343, 2005.

[13] R. Woodfield, D. Jessop and L. McMillan, "Gender differences in undergraduate attendance rates," Studies in Higher Education, vol. 31, no. 1, pp. 1-22, 2006.

[14] F. Smith, "It‟s not all about grades”: accounting for gendered degree results in geography at Brunel University," Journal of Geography in Higher Education, vol. 28, no. 2, pp. 167-178, 2004.

[15] G. Kelly, "Lecture attendance rates at university," Journal of Further and Higher Education, vol. 36, no. 1, pp. 17-40, 2012.

[16] A. Ahmed, A. Zeynab and M. Ahmed, "The Effect of Student's Attendance on Academic Performance: A case Study at Simad University Mogadishu," Academic Research International, vol. 6, no. 4, pp. 409-417, 2013.

[17] V. Kassarnig, A. Bjerre-Nielsen, E. Mones, S. Lehmann and D. Lassen, "Class attendance, peer similarity, and academic performance in a large field study," PLoS ONE, vol. 12, no. 11, p. e0187078, 2017.

[18] E. Blad, "Attendance Affects Achievement: Study Provides Stateby-State Look," 2014. [Online]. Available: blogs.edweek.org/edweek/rulesforengagement/2014/09/attendance_. [Accessed 12 December 2022].

[19] F. Njal, "The impact of class attendance on student learning in a flipped classroom," Nordic Journal of Digital Literacy 12p, 2017.

[20] United Nations, "World must 'never relent' until gender equality becomes reality, UN women's commission told," 2015. [Online]. Available: https://news.un.org/en/story/2015/03/492982. [Accessed 12 December 2022].

[21] National Statistics Office, "2008 FLEMMS," Philippine Statistics Office, Manila, 2008.

[22] K. Richardson, "Family Therapy for Child and Adolescent School Refusal," Willy Online Library, vol. 37, no. 4, pp. 528-546, 2016.

[23] A. L. Duckworth and M. E. P. Seligman, "Self-discipline gives girls the edge: Gender in self-discipline, grades, and achievement test scores," Journal of Educational Psychology, vol. 98, no. 1, p. 198–208, 2006.

[24] L. Reddington, "Gender Difference Variables Predicting Expertise in Lecture Note-taking," 2011. [Online]. Available: https://academiccommons.columbia.edu/doi/10.7916/D8CN79XG/download. [Accessed 12 December 2022].

[25] World Economic Forum, "Global Gender Gap Report 2020," World Economic Forum, Geneva, 2020.

[26] Philippine Statistics Office, "The Educational Attainment of the Household Population (Results from the 2010 Census)," 2013. [Online]. Available: https://psa.gov.ph/press-releases/id/41292. [Accessed 12 December 2022].

[27] E. Gnaulati, "Why Girls Tend to Get Better Grades Than Boys Do," The Atlantic, 2014. [Online]. Available: https://www.theatlantic.com/education/archive/2014/09/why-girls-get-better-grades-than-boys-do/380318/. [Accessed 13 December 2022].

[28] C. Norris, A. Hossain and E. Soloway, "Using smartphones as essential tools for learning: A call to place schools on the right side of the 21st century," Educational Technology, vol. 51, pp. 18-25, 2011.

[29] J. K. Nayak, "Relationship among smartphone usage, addiction, academic performance and the moderating role of gender: A study of higher education students in India," Computers & Education, vol. 123, p. 164–173, 2018.

[30] S. F. Ng, N. H. M. Nor and N. A. A. Malek, "The Relationship Between Smartphone Use and Academic Performance: A Case of Students in a Malaysian Tertiary Institution," Malaysian Online Journal of Educational Technology, vol. 5, no. 4, p. 13, 2017.

[31] H. K. Mahmood, J. Abbas and F. Hussain, "Information security management for small and medium size enterprises," Science International-Lahore, vol. 27, no. 3, p. 2393–2398, 2015.

[32] J. H. Kuznekoff and S. & Titsworth, "The impact of mobile phone usage on student learning," Communication Education, vol. 62, no. 3, p. 233–252, 2013.

[33] M. Solar, J. Sabattin and V. Parada, "A Maturity Model for Assessing the use of ICT in School Education," Educational Technology & Society, vol. 16, pp. 206-218, 2013.

[34] J. Gallego, L. Gutiérrez and S. Lee, "A Firm-Level Analysis of ICT Adoption in an Emerging Economy: Evidence from the Colombian Manufacturing Industries," Industrial and Corporate Change, 2014.

[35] M. Mistler-Jackson and N. Songer, "Student Motivation and Internet Technology: Are Students Empowered to Learn Science?," Journal of Research in Science Teaching, vol. 37, pp. 459 - 479, 2000.

[36] O. F. Alabi, "A survey of facebook addition level among selected Nigerian undergraduates," Journal of New Media and Mass communication, vol. 10, pp. 70-80, 2013.

[37] W. U. Ying-Tien and T. Chin-Chung, "University students' internet attitudes and internet self-efficacy: A study at three universities in Taiwan," Cyber Psychology and Behavior, vol. 9, no. 4, pp. 441-450, 2006.

[38] K. Suhail and B. Z, "Effects of excessive internet use on undergraduate students in Pakistan," Cyber Psychology & Behavior, vol. 9, no. 3, p. 297–307, 2006.

[39] R. Royandoyan, "These vending machines sell internet access five minutes at a time," Rest of the World, 2022. [Online]. Available: https://restofworld.org/2022/philippines-pisonet-internet-access/. [Accessed 12 December 2022].

[40] C. Machebe, B. Ezegbe and J. C. Onuoha, "The Impact of Parental Level of Income on Students' Academic Performance in High School in Japan," Universal Journal of Educational Research, pp. 1614-1620, 2017.

[41] T. Bergeson, "Race, poverty, and academic achievement," 2006. [Online]. Available: http://www.doh.wa.gov/SBOH/ESS/documents/Race&Poverty.pdf. [Accessed 12 December 2022].

[42] A. Sum and W. Fogg, "The adolescent poor and the transition to early adulthood," in Adolescence & Poverty: Challenge for the 1990s, Lanham, MD: Center for National Policy Press, 1991, pp. 37-110.

[43] B. Rowan, D. Cohen and S. Raudenbush, "Improving the educational outcomes of students in poverty through multidisciplinary research and development," 2004. [Online]. Available: http://www.isr.umich.edu/carss/about/Prospectus.pdf. [Accessed 13 December 2022].

[44] C. Halpern-Felscher, "Neighborhood and family factors predicting educational risk and attainment in African American and white children and adolescents," in Neighborhood Poverty, New York, Russell Sage Foundation, 1997, pp. 146-173.

[45] S. Mayer, " The "true" effect of income. In What Money Can't Buy," in Family Income and Children's Life Chances, Cambridge, MA: Harvard University Press, 1997, pp. 79-96.

[46] S. M. Dornbusch, P. L. Ritter, P. H. Leiderman, D. F. Roberts and M. J. & Fraleigh, "The relation of parenting style to adolescent school performance," Child Development, vol. 58, pp. 1244-1257, 1987.

[47] H. Peters and N. Mullis, "The role of family income and sources of income in adolescent achievement," in Consequences of Growing Up Poor, New York, Russell Sage Foundation, 1997, pp. 340-381.

[48] S. Qaiser, H. Aslam, I. Hussain, M. Shakir and N. Phil, "Effects of Parental Socioeconomic Status on the Academic Achievement of Secondary School Students in District Karak (Pakistan) Zaib-un," International Journal of Human Resource Studies, vol. 2, 2013.

[49] J. Anderson, "The Impact Of Family Structure On The Health Of Children: Effects Of Divorce," The Linacre Quarterly, vol. 81, no. 4, pp. 378-387, 2014.

[50] M. Shah, A. Atta, M. Qureshi and H. Shah, "Impact of Socio Economic Status (SES) of Family on the Academic Achievements of Students," Gomal University Journal of Research, vol. 28, pp. 12-17, 2012.

[51] A. Hanafi, "The Requirements of Integrating Deaf Students in the Ordinary School from the Point of View of Workers in the Field of Educating the Deaf," in The 8th Scientific Symposium of the Arab Federation of Deaf Organizations (Development of Education and Rehabilitation of Deaf and Hearing Impaired Persons), Riyadh, 2008.

[52] W. B. Tim Booth, "Parental competence and parents with learning difficulties," Child & Family Social Work, vol. 1, no. 2, pp. 81-86, 1996.

[53] D. J. Tenibiaje, "Influence of family size and family birth order on academic performance of adolescents in higher institution," Pakistan Journal of Social Sciences, vol. 6, no. 3, pp. 110-114, 2009.

[54] G. Battistella and M. C. Gastardo-Conaco, "The Impact of Labour Migration on the Children Left Behind: A Study of Elementary School Children in the Philippines," Journal of Social Issues in Southeast Asia, vol. 13, pp. 220-241, 1998.

[55] N. M. Astone and S. S. McLanahan, "Family structure, parental practices and high school completion," American Sociological Review , vol. 56, no. 3, p. 309–320, 1991.

[56] T. J. Biblarz and A. E. Raftery, "Family structure, educational attainment, and socioeconomic success: Rethinking the "pathology of matriarchy"," American Journal of Sociology, vol. 105, no. 2, p. 321–365, 1999.

[57] R. Parrenas, Servants of Globalization: Women, Migration, and Domestic Work, Stanford California, Stanford : Stanford University Press, 2001.

[58] J. Turunen, "Shared physical custody and children's experience of stress," Journal of Divorce & Remarriage, vol. 58, no. 5, p. 371–392, 2017.

[59] N. Blake, "Peace Education and National Security," Journal of Philosophy of Education, vol. 19, no. 1, pp. 27-38, 1985.

[60] H. Kuo and R. M. Hauser, "How does size of sibship matter? Family configuration and family effects on educational attainment," Social Science Research, vol. 26, no. 1, p. 69–94, 1997.

[61] R. B. Zajonc, "Family configuration and intelligence: Variations in scholastic aptitude scores parallel trends in family size and the spacing of children," Science, vol. 192, no. 4236, p. 227–236, 1976.

[62] L. Steelman, B. Powell, R. Werum and S. Carter, "Reconsidering the effects of sibling configuration: Recent advances and challenges," Annual Review of Sociology, vol. 28, p. 243–269, 2002.

[63] D. Conley and R. Glauber, "Parental educational investment and children's academic risk: Estimates of the impact of sibship size and birth order from exogenous variation in fertility," Journal of Human Resources, vol. 41, no. 4, pp. 722-737, 2006.

[64] J. Bronte-Tinkew and G. DeJong, "Children's nutrition in Jamaica: Do household structure and household economic resources matter?," Social science & medicine, vol. 58, pp. 499-514, 2004.

[65] H. Mudjiman, Manajemen Pelatihan Berbasis, Yogyakarta: Pustaka Pelajar, 2011.

[66] N. V. Quyen, "Research On The Framework Of Mathematics Self-Study Capabilities Of Vietnamese High School Students," Linguistics And Culture, Review, vol. 5, no. S3, p. 340–351, 2021.

[67] M. Castro, E. Expósito-Casas, E. López-Martín, L. Lizasoain, E. Navarro-Asencio and J. J. Gaviria, "Parental involvement on student academic achievement: a meta-analysis," Educational Research and Reviews, vol. 14, p. 33–46, 2015.

[68] G. Chowa, R. Masa and J. Tucker, "The effects of parental involvement on academic performance of Ghanaian youth: Testing measurement and relationship using structural equation modeling," Children and Youth Services Review, vol. 35, no. 12, pp. 2020-2030, 2013.

[69] F. Chen, L. Bao, R. M. Shattuck, J. B. Borja and S. Gultiano, "Implications of Changes in Family Structure and Composition for the Psychological Well-Being of Filipino Women in Middle and Later Years," Research on aging, vol. 39, no. 2, p. 275–299, 2017.

[70] J. Epstein, School and Family partnerships, New York: MacMillan Encyclopedia of education research, 1992.

[71] J. Epstein, In research on motivation in education 3: Goals and cognitions, New York: Academic Press, 1989.

[72] E. L. Useem, "Middle schools and math groups: Parents' involvement in children's placement," Sociology of Education, vol. 65, no. 4, p. 263–279, 1992.

[73] K. Lawrence and O. Fakuade, "Parental Involvement, Learning Participation and Online Learning Commitment of Adolescent Learners during the COVID-19 Lockdown," Research in Learning Technology, vol. 29, p. 16, 2021.

[74] K. V. Hoover-Dempsey and H. M. Sandler, "Parental involvement in children's education: Why does it make a difference?," Teachers College Record, vol. 97, no. 2, p. 310–331, 1995.

[75] T. J. Tracey, R. W. Lent, S. D. Brown, S. Soresi and L. Nota, "Adherence to riasec structure in relation to career exploration and parenting style: Longitudinal and idiothetic considerations," Journal of Vocational Behavior, vol. 62, no. 2, pp. 248-261, 2006.