

## EXPLORING THE RELATIONSHIP BETWEEN PARENT-CHILD COMMUNICATION, PEER PRESSURE AND MATHEMATICS ANXIETY AMONG SENIOR SECONDARY SCHOOL STUDENTS IN LAGOS EDUCATION DISTRICT IV

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### Abstract

*This study seeks out to assess the relationship between parent-child communication, peer pressure and math-related anxiety among high school students in education district IV. Two specific objectives were pursued (a) explore how parent-child communication predict math-related anxiety among secondary school students, (b) to explore how peer pressure predicts math-related anxiety among secondary school students. Two-hundred and fifty secondary school students  $n=250$ (130, 52% males and 120,48% females) school students were selected through purposive sampling techniques. The Parent-Adolescent Communication Scale (PACS), Peer Pressure Scale Questionnaire-revised (PPSQ-R), and the Abbreviated Maths Anxiety Scale (AMAS) alongside with a brief demographical question was administered individually to respondents. Their consent was sought for in the introductory part of the questionnaire. Structural Equation Modelling was employed to statistically test the hypotheses for the study. The result revealed that 77% of the variance of the model was explained by Maths Learning Anxiety while 99. of the variances in the model was explained by Maths Evaluation Anxiety. Results revealed that open family communication positively predicted maths learning anxiety among student, results also showed that peer pressure positively predicted maths learning anxiety. the study concluded that understanding this relationship is important because it provides more insight into reasons students develop maths anxiety.*

**Keywords:** Parent-Child Communication, Peer Pressure, Mathematics Anxiety, Secondary School Students

### INTRODUCTION

We live in a technology-driven society and the knowledge of mathematics is key for Science Technology Engineering and Mathematics (STEM) related careers. The knowledge of Mathematics is also relevant in achieving the Sustainable Development Goals (SDG). According to UNESCO (2020), greater global awareness of mathematical sciences is vital to addressing challenges in areas such as artificial intelligence, climate change, energy and sustainable development, and to improving the quality of life in both the developed and the developing countries/societies.

Mathematics is placed on a very high position in Nigeria and it is precisely because mathematics is the major pathway to scientific and technological progress and the survival of the economy (Eguavon, 2012). Ugama (2011) also stresses that mathematics is the only universal language and the only common culture for all research. Nekang (2018) states that it is the discipline that explores the structure, direction, and relationships that develops from counting, quantifying, and describing the forms of objects. A study by Oledede (2004) stated that mathematics is one of the subject with the highest failure rate for low-achieving students. There are some notable factors that may be responsible for the poor achievement which include but are not limited to poor teaching/instruction materials, low motivation, self-efficacy, peer pressure, mathematics anxiety, parent-child relationship.

Studies have revealed that math-related anxiety do have a negative influence on mathematics performance among learner (e.g., Degaldo, Espinoza & Fonseca, 2017; Ramirez, Hooper, Kersting, Ferguson & Yeager, 2018). Olubusayo (2020) stated that mathematics failure often brings frustration to individual students and this can also make some of them dropouts of school. Khatoon and Mahmood (2010) found that math-related anxiety often leads to avoidance of math-related classes and other related activities by those who

have experienced it. As a result, students who should have been admitted to university are unable to do so, as their career options are reduced, thereby eroding the country's resource base in science and technology. technology and lead to a significant loss of financial investment (Olubusayo, 2020). In Nigeria, studies have shown that the prevalence of math-related anxiety among high school students is very high. For example, Olatunde (2009) reported that 61.5% of secondary school students in Nigeria had higher levels of math-related anxiety.

One predictor of math-related anxiety that this study is interested in is parent-child communication. Chuks (2015), in a study established the role family as the first environment a child comes into contact with at birth and how the communication pattern between the child's birth and the parental rules is of utmost important in the development of the child's growth, self-esteem and academic success. Parent-child communication is how the child learn to communicate with others, interpret others' feelings, and often experience communicative activities with others (Koerner, 2014). Koemer and Fitzpatrick (2012). Basically, the concept of communication between parents and children is a form or way in which the world outside the family that is determined on the basis of the communication of family members with each other, how they interact with each other, what they do and what they mean through these communications

According to Offordile (2012), parents with a strong social orientation does not allow their children to argue with adults and should not express views distinctively from other family members in order to maintain a good relationship while parents have a lot of opinions that children should consider both. aspects of the matter and talk about it freely. Richiel and Fitzpatrick (1990) claimed that there are two types of parental communication models, which they describe as listening and speaking oriented model and the choral oriented model.

Parent-child communication can be largely defined as the communication pattern that exists between parents and their children both in the verbal and non-verbal contexts (Munz, 2015). In addition, active parent-child communication in the family system is considered to be child-parent communication when they talk frequently and openly about different topics; meanwhile, they also need mutual understanding, which can make them feel less isolated or isolated (Ying et al. 2019). Literatures have argued extensively that parent-child communication can have a significant impression on children's mental health (Narayan et al. 2015; Pumamaki 2014). Meanwhile, Diab, Palosaari and Punamäki (2018) reported found a positive significant correlation between parent-child communication and the children's mental health. Consequently, parent-child communication has a direct effect on children's friendships (Khamis 2005) and parent-child relationships (Liu 2010).

Another predictor of math-related anxiety that this study looked at is peer pressure. Peer groups play a critical role in students' social, emotional, and academic development. The influence of peer group is becoming increasingly apparent and studies have shown that adolescents are more likely to increase peer approval behaviors (Arnett, 1992; Clark & Loheac, 2007). Teenagers spend more time in the monopolistic company of their peers than their counterparts did before. According to Clark and Loheac (2007), this may be because changes in family roles have forced women to take up high-paying jobs, which has significantly reduced the quality time that families spend families for each other, thus making peer groups a viable alternative. According to Schneider (2010), being a member of a peer group addresses many of adolescents' concerns about social expectations such as developing independence from parents, learning decision-making skills, etc self-determination and action. According to You (2011), perceived peer support gives adolescent students a sense of motivation that allows them to see the importance of pursuing academic success. Indeed, adolescents who are accepted by their peers are generally more mentally healthy and confident than adolescents who are rejected by their peers (Allen et al., 2005).

According to Estrada and Vargas-Estrada (2013), peer pressure includes both direct and indirect social factors. It occurs when one person affects the opinions or actions of another (Poncelet, 2020). Even if they are unaware of it, peers have an impact on people's life. Simply by spending time together, they can learn from one another. It is only natural for people to listen to and learn from those who are similar to them in age (Kidshealth, 2015). Peer pressure, in reality, is the effect that one peer, or a group of peers, has on another person. It can be beneficial or bad. Positive peer pressure may expose people to healthy habits and help them develop into good role models. Similarly, peers can encourage one another's interest in books, music, or extracurricular activities as well as create strong neural connections and help one another learn new skills. Negative peer pressure, on the other hand, can lead students to forgo their studies and social activities by encouraging them to skip class, steal, cheat, use drugs or alcohol, share inappropriate content online, or engage in other risky behaviors (Hartney, 2020; American Academy of Child and Adolescent Psychiatry, 2018). The distinction is solely in the result. Peer pressure is positive if it persuades the student to undertake

something and it turns out to be healthy, and it is negative if a student is pressured into making unhealthy choices (Morin, 2019).

Studies have found significant relations between peer pressure and mathematics anxiety. For instance, Pasco (2021) found a negative relationship between peer pressure and mathematics performance. Also, Garba, Ismail, Osman and Rameli (2020) found that negative peer pressure leads to increased mathematics anxiety.

#### ***Ecological Systems theory (Bronfenbrenner, 1979)***

Bronfenbrenner developed a theory known as ecological systems in 1979. It has been widely used for understanding the role of environment individual's growth and development. Bronfenbrenner's (1979) postulated that several interrelated variables and cultural factors may have an effect on a person's social development. As a result, many elements, like the family, schools the child attends, peer groups, cultural factors, and beliefs, as well as many others, may have an influence on children in their immediate environments and in the ecologies that revolve around them. Child's development is complex, hence why a child needs a functional ecosystem for optimal growth. Therefore, according to Bronfenbrenner (1979), the five systems that potentially affect children's social development are the microsystem, mesosystem, exosystem, macrosystem, and chronosystem. The theory defined the term "microsystem" refers to a system made up of a variety of events that happen to children such as their parents, peers, teachers, and neighbours, as well as a variety of social roles and relationships. The mesosystem is a system made up of two or more microsystems that may coexist and collectively have a significant impact on their behaviour and development. The term "exosystem" refers to connections between two or more connections or ecologies that may have an effect on children, such as the workplace of a parent (Bronfenbrenner, 1979). The macrosystem emphasizes the significance of values, ideologies, and ideas that are present in all four of the systems and which have been shown to have an indirect influence on children (Dietrich et al. 2013).

#### **Review of Literatures**

Miao (2021) examined the relationship between parent-child communication and mathematics performance among Chinese Children and found a significant positive relationship between active parent-child communication and mathematics performance of the participants. Anibueze and Ugwuanyi (2020) examined the relationship between parent-child communication and Mathematics self-esteem among some selected high School students in Enugu State, Nigeria. Participants were 370 Junior Secondary School (JSS) 3 students (195 males and 175 females) who were recruited using simple random sampling. The study found significant differences between the mean self-esteem scores of students whose parents used the different parent-child communication patterns on the way their children learn Mathematics. The study also found that students whose parents adopted the pluralistic and consensual parent-child communication patterns as a method to their learning of Mathematics score higher on Mathematics self-esteem. Omosigho, Raji and Raji (2020) examined the relationship between parent-child communication (parental involvement) and mathematics anxiety among polytechnic undergraduates in Ekiti, Nigeria. Participants were 465 undergraduate students randomly selected from eight departments in the Federal Polytechnic, Ado-Ekiti. The study adopted a survey research design. Self-constructed measures were used by the researchers to measure the constructs. The study found that parental involvement significantly predicted mathematics anxiety negatively.

Johnson (2016) explored the relationship between parental involvement (parent-child communication) and mathematics achievement. The study was an empirical review study. Previous research articles were searched using EBSCO. Only those articles that contained information pertaining to parental involvements and its effect on mathematics achievement of secondary school students were selected. The study found that the biggest contributor to secondary school students' mathematics achievement was parent-student discussion. Pasco (2021) assessed the relationship between peer influence and mathematics performance among students in Philippines. Participants were 224 Grade 7-10 students selected using stratified random sampling. The study then proceeded to adopt a descriptive (survey) correlational design using self-adapted questionnaires to assess peer pressure while the grades of students in Mathematics was used to assess their performance in Mathematics. The study found a significant negative relationship between peer pressure and performance in mathematics.

Garba, Ismail, Osman and Rameli (2020) examined the relationship between peer influence (peer tutoring) and mathematics anxiety among college students in Sokoto state, Nigeria. The study adopted a photovoice qualitative research design. Participants were 20 selected secondary school students (10 males and 10 females). Ten cameras were distributed; Each pair of students was given a camera and tasked with recording the actions and expressions of classmates in which they felt an increase or decrease in their level of math-related anxiety. The photos were taken in four sessions. After each section, a structured face-to-face interview was conducted in which students had to choose a photo for each case (increase or decrease in math-

related anxiety) to discuss. Data collected from interviews and photographs were first transcribed and analysed using the NVivo software package. The study passed pre-test post-test with control group design. The participants were 420 students in grades 7, 8 and 9 (205 boys and 215 girls) aged 12-15 years old (M.D = 13.56, S.D = 1.25). Participants were randomly assigned and equally divided by course level (140 people in each course level) and experimental conditions (210 in the experimental group and 210 in the control group). Quantitative data were collected using the Mathematical Anxiety Scale developed by Chiu and Henry (1990), while qualitative information was collected during eight focus group sessions held with students.

The significance of mathematics in the educational sector cut across all levels in the entire curriculum from Universal basic education to the end of secondary school and sometimes in the first two years of higher education in some discipline reflects the fundamental role mathematics as a subject in this age and time. However, it is the subject that is considered to be most lacking in schools because of inadequate facilitators and ways of handling, especially in junior high schools (Anibueze, 2017). Emmanuel et al. (2013) suggested that one of the factors behind these poor results was high levels of math-related anxiety, which affected students' cognitive and intellectual abilities. Arigbabu, Tobih and Arigbabu (2016) reported that 72.5% of their total study participants in Nigeria had higher levels of math-related anxiety. In addition, Olatunde (2009) reported that 61.5% of secondary school students in Nigeria had higher levels of math-related anxiety. Therefore, in view of this, the research seeks to conduct a study which explores the predictive role of parent-child communication and peer pressure on mathematics anxiety. The prime objective of this study is to explore the predictive role of parent-child communication style and peer pressure on mathematics anxiety among secondary school students. It will specifically investigate the following (a) to explore how parent-child communication predict math-related anxiety among secondary school students (b) to explore how peer pressure predicts math-related anxiety among secondary school students.

## METHOD

**Research Setting:** This research was carried out in classrooms at Handmaids International Catholic School, Aguda, Surulere, Cifman College, Yaba, and C.M.S. Grammar School, Bariga all in Lagos education district IV of Lagos State. This setting was chosen because it allowed for easy accessibility of participants, who happen to be secondary school students.

**Population/Sample and Sampling Procedures:** The population of the study were senior secondary school students in classes SS1 – SS3. The study used a sample size of n=250 (130, 52% males and 120, 48% females) senior secondary school students. Purposive sampling techniques, which is a non-random sampling technique was used since the participants were all secondary school students.

**Research Design:** This is predominantly a survey research and cross-sectional design was adopted. Descriptive statistics was used to analyse the demographic details, while Structural Equation Modelling and independent t-test were employed to statistically test the hypotheses for the study. The reason for choice of Structural Equation Modelling is based on the fact that SEM allows for testing of multiple dependent variables.

**Instruments:** Three scales were used in the present study. The Parent-Adolescent Communication Scale (PACS), Peer Pressure Scale Questionnaire-revised (PPSQ-R), and the Abbreviated Maths Anxiety Scale (AMAS).

### *Parent-Adolescent Communication Scale (PACS)*

The Parent-Adolescent Communication Scale (PACS) was developed by Barnes and Olson (1982). The scale is made up of **20 items aimed at measuring the quality of communication between adolescent and parent**. It comprises of two subscales; with the first subscale measuring the degree of openness in family communication, while the other subscale assesses the extent of problems in family communication. Each subscale is made up of 10 items each using a five-point Likert scale (ranging from Strongly disagree = 1 to Strongly agree = 5) to indicate the extent of their agreement with the items. Scores can range from 10 to 50 for both subscales. The Open Family Communication (OFC) subscale reflects feelings of free expression and understanding in parent-adolescent interactions (e.g., “When I ask questions, I get honest answers from my mother/father”) and includes items 1, 3, 6, 7, 8, 9, 13, 14, 16, and 17. The Problems in Family Communication (PFC) subscale measures negative interaction patterns and hesitancy to disclose concerns (e.g., “My mother/father has a tendency to say things to me that would be better left unsaid”) and consists of items 2, 4, 5, 10, 11, 12, 15, 18, 19, and 20.

For the Open Family communication (OFC) subscale, a higher score suggests a higher degree of openness in family communication and vice versa. The scores for items on the Problems in Family Communication (PFC) subscale are reversed, resulting in a high score that is indicative of communication problems, and a low score indicative of a lack of perceived problems in family communication. Wang (2009)

reported a Cronbach's alpha values of 0.80 for the OFC and 0.67 for the PFC respectively. In the present study, a reliability coefficient of .78 was obtained for the entire scale, and reliability coefficients of .83 and .63 were obtained for the Open Family communication (OFC) and Problems in Family Communication (PFC) subscales respectively.

### **Peer Pressure Scale Questionnaire-Revised (PPSQ-R)**

The Peer Pressure Questionnaire-Revised was developed by Saini and Singh in 2016. It is a revised version of the original Peer Pressure Scale Questionnaire which was developed in 2010. It is a five-point Likert self-administered questionnaire comprising of 25 items aimed at measuring peer pressure in adolescents aged 16 to 21 years. Response format ranges from 1 - Strongly Disagree to 5 - Strongly Agree. However, to get the total score for each participant, the summation of each items is added together to form a total score. A score of 55 indicates low peer pressure, scores of 56 to 72 indicates moderate peer pressure, while scores greater than 72 indicate a high level of peer pressure. Also, according to the author, the scale generated a Cronbach's alpha of .79. Zulkifly et al. (2022) also revealed a Cronbach's value of 0.932 among Malaysian participants. In the present study, a reliability index of .87 was obtained.

**Abbreviated Maths Anxiety Scale (AMAS):** The Shortened Maths Anxiety Scale was developed by Hopko et al. in 2003. However, this version of the scale is known to be the briefest version with the Cronbach's  $\alpha = 0.90$ ; two-week test-retest reliability value of:  $r = 0.85$  and convergent validity of AMAS and MARS,  $r = 0.85$ . Also, according to (Hopko, 2003), the scale has been confirmed to be just as efficient as the longer Math Anxiety Rating Scale (MARS). Furthermore, this scale was divided into two dimensions with the first-dimension measuring mathematics learning anxiety and the second-dimension measuring mathematics evaluation anxiety. Items on the maths learning anxiety dimensions include items 1,3,6,7 and 9. While items on the maths evaluation anxiety dimension include items 2, 4, 5, and 8. Furthermore, all items on the scale are to be assessed using a 5-point scale which ranges from 1 - Not anxious at all to 5 - Very anxious. The results of the two-factor model of CFA support the original factor structure with a good fit:  $\chi^2 (26) = 48.33$ ,  $\chi^2 /df = 1.86$ , CFI = 0.92, TLI = 0.89, RMSEA = 0.074 (90% CI: 0.040–0.107), and SRMR = 0.057. Ma, Li and Zhang (2021) reported Cronbach's  $\alpha$  coefficients of 0.77 and 0.89 in Wave 1 and Wave 2 time period correspondingly in a longitudinal study. In the present study, a reliability coefficient of .74 was obtained for the entire scale, and reliability coefficients of .72 and .70 for the Maths Learning Anxiety and Maths Evaluation Anxiety dimensions respectively were obtained.

**Procedure:** The participants were approached by the researcher in their classrooms after obtaining permission from the principals of the various schools who gave consent to the participation of the student in the study. However, the student that volunteered to be part of the study were handed the questionnaire to complete. The researcher went on to briefly explain the concept behind the research and also gave direction on what they should do after assuring them of confidentiality and anonymity. Participants were also informed about their right to withdraw at any point in time when they feel they can no longer proceed with the research. However, they are also encouraged to be as honest as possible as there no right or wrong answers. It was observed that the length of the items was not an issue for the respondents in the present study as there were no such complaints during the study.

**Data Analysis:** The Statistical Package for Social Sciences (SPSS) version 29 was employed by the researcher for the analysis of the data gathered from the participants. Descriptive statistics, reliability statistics and independent t-test were run using SPSS while the hypotheses were tested using Structural Equation Modelling on SPSS AMOS software version 29.

### **Results**

This chapter presents the results of the data analysis. Figure 1 shows the Structural Modelling Equation model that was used in this study. Table 1 shows the descriptive properties of the participants, Table 2 shows the result for the test of the hypotheses one and two. Table 3 shows the result of the test of the third hypothesis.

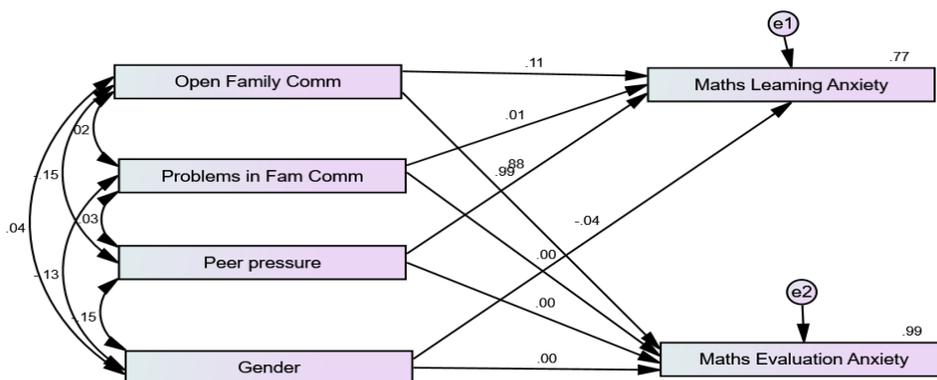
### **Demographic Description of Participants**

As stated earlier, the respondents included senior secondary school students from 4 secondary schools in Lagos Island. The intended number of participants was 250, causing 250 packets to be given out. They were all correctly filled and return leading to a 100% return rate. Below is a representation of the demographic information of the participants.

### **Model for the study**

The model for the study is own below in figure 1. Open Family communication, Problems in Family Communication, Peer pressure and Gender were all entered as exogenous variables while maths learning anxiety and maths evaluation anxiety were entered in as endogenous variables. From the model, 77% of the

variance of the model was explained by Maths Learning Anxiety while 99 of the variances in the model was explained by Maths Evaluation Anxiety.



**Fig. 1 – Model for the study**

**Hypothesis Testing**

This section presents the hypotheses tested and results analysed. The first and second hypotheses were tested using SEM, while the third hypothesis was tested using independent t-test in this study. All the hypotheses were tested using structural equation model.

**Table 1: Structural Equation Modelling predicting mathematics anxiety among senior secondary school students by frequent parent-child relationship and peer pressure**

	Estimate	S.E	C.R	p-value
Maths_Learning_Anxiety <-- Open_Family_Communication	.027	.008	3.549	***
Maths_Learning_Anxiety <-- Problems_in_Family_Comm	.005	.010	.484	.628
Maths_Learning_Anxiety <-- Peer_Pressure	.117	.004	28.174	***
Maths_Evaluation_Anxiety <-- Open_Family_Communication	1.00	.008	129.443	***
Maths_Evaluation_Anxiety <-- Problems_in_Family_Comm	.000	.004	.000	1.000
Problems_in_Family_Comm <-- Peer_Pressure	.000	.004	.000	1.000
Maths_Learning_Anxiety <-- Gender	-.161	.129	-1.247	.213
Maths_Evaluation_Anxiety <-- Gender	.000	.129	.000	1.00

**Hypothesis 1: Parent-child communication will significantly predict mathematics anxiety among secondary school students.**

From this table, it is seen that Open Family Communication (OFC) dimension positively predicted Maths learning anxiety (S.E = .008, p < .001). This implies that as open family communication increased, maths learning anxiety also increased.

Problems in Family Communication (PFC) did not significantly predict Maths Learning Anxiety (S.E = 0.10, p > .05). This means that problems in family communication did not have any significant impact on math learning anxiety.

Also, Open Family Communication (OFC) positively predicted Maths Evaluation Anxiety (S.E = .008,  $p < .001$ ). This implied that as open family communication increased, maths evaluation anxiety also increased.

Problems in Family Communication (PFC) did not significantly predict Maths Evaluation Anxiety (S.E = .004,  $p = 1.00$ ). This implies that problems in family communication did not have any significant impact on maths evaluation anxiety.

### **Hypothesis 2: Peer pressure will significantly predict mathematics anxiety among secondary school students.**

From the model, peer pressure positively Open family communication (OFC) (S.E = .004,  $p < .001$ ). This implies that as peer pressure increased, open family communication also increased.

Also, peer pressure did not significantly predict Problems in Family Communication (S.E = .004,  $p = 1.00$ ). This means that peer pressure did not have any impact on problems in family communication (PFC).

## **DISCUSSION**

The current study aimed at examining the predictive roles of parent-child communication and peer pressure on maths anxiety among Nigerian secondary school students. Results revealed that open family communication positively predicted maths learning anxiety among students. Thus, the first hypothesis which stated that parent-child communication will significantly predict maths learning anxiety of students was accepted. This finding contradicts previous studies such as Omosigho et al. (2020) and Johnson (2016) which both found a negative relationship between parent-child communication and maths anxiety. The reason why open family communication positively predicted maths learning anxiety could be that the nature of the communication was negative which led to maths learning anxiety.

Results also indicated that problems in family communication did not significantly predict maths learning anxiety. Thus, the first hypothesis which stated parent-child communication will significantly predict maths anxiety of students was rejected. This finding is not consistent with previous studies such as Miao (2021) and Anibueze and Ugwuanyi (2020) which both found significant relationships between parent-child communication and maths anxiety. The reason why problems in family communication did not significantly predict maths learning anxiety in this study may be due the presence of a confounding variable such as a positive schema.

Results also showed that open family communication positively predicted maths evaluation anxiety. Although, this result is not supported by popular literature, it is supported by Soni and Kuman (2017) which found a positive relationship between parent-child communication and maths anxiety. A possible reason why open family communication positively predicted maths evaluation anxiety may be due to the presence of maths anxiety in the parents. This assertion is consistent with the social cognitive model that posits that students learn from observing models. Thus, it is possible that from open family communication, students can learn to negatively evaluate mathematics, thereby leading to maths evaluation anxiety.

Results also showed that problems in family communication did not significantly predict maths evaluation anxiety. Thus, the first hypothesis which states that parent-child communication will significantly predict maths anxiety was rejected. This finding is not consistent with previous studies such as Miao (2021) and Anibueze and Ugwuanyi (2020) which both found significant relationships between parent-child communication and maths anxiety. The reason why problems in family communication did not significantly predict maths learning anxiety in this study may be due the presence of a confounding variable such as social support. Thus, it is possible that having a strong social support could buffer the impact of problems in family communication on maths anxiety.

Results also showed that peer pressure positively predicted maths learning anxiety. Thus, the second hypothesis which stated that peer pressure will significantly predict maths anxiety among students was accepted. This finding is consistent with previous studies such as Garba et al. (2020) which found a positive relationship between peer pressure and maths anxiety. A possible reason why peer pressure positively predicted maths anxiety could that the very presence of others increases the anxiety students experience thereby leading to increased maths anxiety.

Results also showed that peer pressure did not significantly predict maths evaluation anxiety among students. Thus, the second hypothesis which stated that peer pressure will significantly predict maths anxiety was rejected. This finding is not consistent with previous studies such as Pasco (2021) and Moliner and Alegre (2020) which both found a significant relationship between peer pressure and maths anxiety. A possible reason why this result was obtained may be due to the pressure of a moderating variable such as resilience.

## CONCLUSION

The present study examined the relationship between parent-child communication, peer pressure and maths anxiety of Nigerian students. The peculiarity of this present research lies in its inquiry into the influence of parent-child communication (open family communication and problems in family dimensions), and peer pressure on maths anxiety among an adolescent sample. However, as is known to the researcher, no previous studies have considered parent-child communication and peer pressure and how they contribute to maths anxiety. The Social cognitive theory, the Ecological system theory, and the broaden and build theory were reviewed to offer explanation to the study. It was hypothesized that parent-child communication will significantly predict maths anxiety, peer pressure will significantly predict maths anxiety among students and that males will report more maths anxiety than females. Implications of this study therefore transcend the academia and spread across facets such as policy implementations and practical day to day living.

### Limitations of the study

The sensitive nature of the variables may have led to social desirability by the respondents. Also, the retrospective nature of the assessment method could have also led to under reporting of physical abuse by the respondents. Also, the cross-sectional and correlational nature of the design for this present research prevents conclusions regarding causal patterns between variables. The sample size, although a little bit conventionally large, may not be very useful in making generalizations for the whole Nigerian public. Therefore, the findings of this study are to be taken with caution as findings may not be generalized to other samples both within and outside Nigeria. That the participants were secondary school students drawn from just 3 secondary schools in Lagos is another limitation as it is not representative of the entire student population in Lagos and Nigeria at large. The research was not funded, and this issue affected the geographical spread of the data collection.

### Recommendations

The positive correlation open family communication and maths learning anxiety is counterintuitive as one would believe that a situation where the children are free to talk about their fears with their parents would reduce maths anxiety and not vice versa. Therefore, future research could be done to explore and explain this relationship. Also, the inability of peer pressure to significantly predict maths evaluation anxiety should also be explored. Also, this study should be replicated using experimental or longitudinal methods to allow for establishment of causal relationships. Future studies should consider using more representative samples that cut across different occupations and experiences. Also, this study may be replicated in other adolescent settings to see if similar trend exists.

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