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RESEARCH ARTICLE

CORRELATION BETWEEN PARENT'S ATTITUDE TOWARDS MATHEMATICS AND MATH HOMEWORK BEHAVIOR

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Abstract

Assignments are a critical part of teaching and learning that characterizes the educational landscape of Nigeria. Homework reflects an assessment pattern used by teachers to improve students' commitment and engagement in education. However, parents' attitudesare essential in children's commitment to completing their homework. The purpose of the present study was to investigate students' mathematics homework behavior based on their parent's attitude towards mathematics. One hundred and fourteen parents drawn from different locations in Onitsha and Awka in Anambra state, Nigeria, participated in the study. The respondents completed a self-report measure of the Parents Attitude Towards Mathematics scale and the Mathematics Homework Behavior Scale (MHBS). The linear regression analysis conducted on the data indicated a statistically positive interaction between parents' attitudes towards mathematics and the student's mathematics homework behavior. The study concludes that parental attitude towards mathematics is an essential determinant of a student's math homework behavior.

Introduction:-

Over the years, mathematics has assumed the foundation of the education landscape of every society relating to science and technological development (Etuk & Bello, 2016; Festus, 2014; Josiah & Olubunmi Adejoke, 2014; Musa & Dauda, 2014). Mathematical education is essential in the Sustainable Development Goals (Lafuente-Lechuga et al., 2020), and it contributes significantly to the development of society (The Education Committee, 2021). Mathematical skill has been identified as avital competence necessary for employability in contemporary society. It is central to many professions, especially in STEM (Li & Schoenfeld, 2019), and an essential tool in everyday life. Success in mathematics has been linked to a successful future career (Hemmings et al., 2011). An increase in mathematical skills is a vital component of industrialized societies (Maloney et al., 2013). Mathematics provides learners with the opportunity to define, analyze and modify their world. Researchers have underscored the relevance of mathematics in various domains (Akinoso, 2018; Andrews, 2007; Charles-Ogan, 2015; Kachapova, 2014; Kusmaryono, 2014; Lai et al., 2011; Obadara, 2012). Accordingly, mathematics isa compulsory subject in Nigeria (Adebule & Ayoola, 2015; Ugodulunwa & Okolo, 2015) and central to the school curriculum (Aguele & Usman, 2007). It is among the required subjects in the educational progression of most societies.

Regrettably, teaching and learning mathematics remains a considerable concern for educators at the primary level (Adedeji, 2018). Over the years, students 'low performance and avoidance in math have remained a significant

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challenge for the education system (Aburime, 2007; Agnes & Mathew, 2019; Dada & Akpan, 2019; Nwaocha, 2010; Owan, 2018; Salami & Okeke, 2017). Possibly, this has created a variation in the performance outcome. Teachers augment classroom learning with homework to increase performance and enhance mathematical commitment.

Homework produces a relationship between home and school and fosters progress in all aspects of school life (Nisar et al., 2020). Homework is an important activity to develop different mathematics skills learned in school. Research has stressed the effectiveness of after school assignments (Dettmers et al., 2019; Rosário et al., 2019; Valle et al., 2016; Zhou et al., 2020) and its association with performance (Fernández-Alonso et al., 2019; Murillo & Martínez-Garrido, 2012; Núñez et al., 2015; Trautwein, 2007; Trost & Salehi-Isfahani, 2012). For example, Silinskas and Kikas (2019) found an association between parental support in homework and students' increased task persistence during homework. Students' attitude towards homework predicts their behavior and commitment to completing it. There are indications that many students do not complete or commit less effort to complete their math homework. Also, indications suggest that the trend is prevalent among students whose parents are less interested in math. Thus, the current study investigates the interaction between parents' adopted attitudes towards mathematics and their ward's homework behavior. Homework behavior is conceptualized as a student's commitment and ability to complete assignments. Parental involvement in schoolwork activities is essential in pupils' academic outcomes (Simweleba & Serpell, 2020).

Attitude is a sociopsychological concept that describes an individual expression of like or dislike towards any aspect of their environment. In this study, attitude entails parents 'favorable or undesirable evaluation of mathematics and its resultant response. For instance, parents with positive knowledge of math are more likely to recognize the subject's relevance, thus, providing homework assistance to their children. At the same time, those who lack essential mathematical exposure may be more unconcerned in their children's mathematics homework activities. Parental consent in school children's mathematics learning may enhance students' commitment toward math (Sheldon & Epstein, 2005).

Similarly, Wilkins and Ma (2003) opined that parental involvement in after-school math activity influences positive mathematics interactions and attitudes. Perhaps, researchers have applauded parental attitudes and contribution to mathematics learning (Ampadu et al., 2017; Areepattamannil et al., 2015; Hemmings et al., 2011; Husen & Mansor, 2018; Mok, 2020; Soni & Kumari, 2015). Indeed, effective parent-child homework activity and parents' aspirations for their children's mathematics education have been beneficial for student achievement. The current study is aimed to examine the impact of parental math attitude on their children's homework behavior.

Research question:
Would parents' positive or negative attitudes significantly affect their child's mathematics homework behavior?

Method:-

The survey population includes parents whose children are in primary schools in the Anambra State of Nigeria. Parents in this study comprised biological parents, guardians, or adoptive parents. During morning school drops and after-school picks, the parents were approached in different public and private primary schools in Onitsha and Awka metropolis between August and November 2021. The parents were urged to participate in the study to ascertain their children's homework behavior. One hundred and forty-two parents were approached. However, 126 consented to partake in the study and were given the study instruments to fill at the spot. In all, one hundred and fourteen (114) of the instruments were filled correctly and used for the research. Perhaps, the others were discarded for wrong fillings. The study is quantitative, and a cross-sectional survey design was adopted.

Measures:-

Parents' attitudes towards mathematics were assessed using the researcher's instrument and designed to ascertain parents' positive or negative beliefs, feelings, and responses towards mathematics. The ten items Likert-type scale contains three sub-dimensions, including conceptual understanding of mathematics, feelings of likes or dislikes, and behavioral responses. The instrument is graded in a four-point response format ranging from 'very little' to 'very high.' The highest score is 40, and the minimum score is 10. A higher score determines a favorable attitude. The internal consistency coefficient of this scale was .86 in this research.

Students' mathematics homework behavior was ascertained using the Mathematics Homework Behavior Scale designed to measure students' homework behavior. The scale developed by Özcan and Erktin (2013) was adapted and modified to suit the present context. The scale is a 15-item Linkert-form rating style with a five-point response format ranging from "Always, often, occasionally, rarely, and never. The original internal consistency coefficient of the scale was .91. However, .81 was recorded in this study.

Result:-

Table 1:- Table showing the percentage score of parental attitudes towards math.

	N	Percent
Negative attitude	53	45.8
Positive attitude	61	54.2
Total	114	100

The above table shows the percentage distribution of the parental attitude towards mathematics. The data indicates that 54.2% of the participants showed a positive attitude towards mathematics, while 45.8% displayed a negative attitude.

Table 2:- The table shows the linear regression result performed to determine the predictive role of parental attitude towards mathematics on students' homework behavior.

	B	Std. Error	β	R^2	t	Sig.
(Constant)	-1.53	.33			-4.66	.000
Math Homework Behavior	.57	.091	.55	381	6.33	.000

A linear regression analysis was performed to understand the effect of parental attitude towards mathematics on homework behavior. The investigation established that parental attitude statistically significantly predicted students' homework behavior, F (1,112), 39.97, P<.001. Thus, the result positively answered the research question that parents' attitude towards mathematics predicts students' homework behavior.

Discussion:-

The present study investigated whether parents' attitudes towards mathematics would forecast their school children's homework behavior. A simple linear regression model indicates that parents' attitudes towards math statistically significantly correlated with their children's homework behavior. Thus, the result means that students whose parents have a positive attitude towards mathematics are more likely to invest effort in completing their math homework when compared to the students whose parents indicated an unfavorable attitude towards math. The result is consistent with literature showing that parental participation in children's learning is linked with higher levels of commitment in education (Cairney, 2000; Melhuish et al., 2008). Thus, the result further proves that parents who perceive a subject as necessary contribute to higher academic performance, positive behavior, and emotional commitment.

Similarly, the result of the study corroborates previous studies that found a strong relationship between parent's attitudes towards mathematics and student's attitudes towards mathematics, performance, and commitment (Areepattamannil et al., 2015; Mok, 2020; Olivares & Ceglie, 2020; Quaye & Pomeroy, 2021; Soni & Kumari, 2017). Although the importance of parental attitude to mathematics does not seem debatable, the level of the attitude determines to a more considerable extent how the child responds to activities relating the mathematics. A favorable attitude strengthens the relationship between the children and mathematics homework behavior.

Limitations of the study

The study encountered some limitations that need to be stated. For example, the convenience samples selection method may pose a critical challenge to adequate representation. Also, the parents reported data about mathematics homework behavior rather than the learners. This is a limitation in the sense that some parents may have been reluctant to report the actual homework behavior of their children. Based on these inherent limitations, the generalization of the finding may have been affected. Therefore, future investigations are urged to reach larger samples across varying societies and a more inclusive range of lifestyles. This is imperative because it could reveal a broader range of attitudes or

barriers to homework engagement, necessary to practitioners and policymakers. It would be encouraging to compare parental attitudes to actual learners' homework behavior.

Conclusion:-

It is widely predicted that parents and families are a critical part of children's education, and they are accountable for laying down the behavioral foundations applicable to learning and development. The present finding provides evidence that a positive parental attitude towards mathematics benefits children's education, including their commitment to mathematics homework activities. The study contributes to the literature by revealing positive parental attitudes towards mathematics as a scarcely explored variable that could enhance children's mathematics homework behavior. Thus, it is recommended that the schools engage the parents in a program designed to enhance their attitudes towards mathematics. This should be able to increase the student's homework activities.

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