

A study on the effect of Socio-economic status on the mathematics interest of student

Nabha Prakash Kawale

Department of Mathematics, Research Scholar,
CSJM University, Kanpur

Abstract

The purpose of the research was to determine whether there was a correlation between students' gender, school district, and socioeconomic level (SES) and their performance in mathematics. The research used an uncontrolled and unmanipulated ex-post factor design. The study was based on four research questions and three hypotheses. Over a thousand and nine hundred students were selected using a stratified random selection method to ensure that all relevant factors were included. The Mathematical Objective Test (MOT) and the Socioeconomic Status Questionnaire (SESQ) were employed in this research (SESQ). Mathematicians and physicists checked the accuracy of the measuring devices. Using the test-retest approach, the MOT and SESQ have reliability coefficients of 0.71 and 0.70, respectively. It was found in the research that pupils' mathematical performance is about par for the course. "Additionally, the results showed that male students outperformed female students, urban students outperformed rural students, and kids from high-SES families outperformed those from low-SES" families. It was suggested that while instructing students in mathematics, educators should take into account differences in student achievement that occur according to gender, location, and socioeconomic status.

Keywords Socio-economic status · Mathematics achievement ·

Introduction

Sociologists and other social scientists use the term "socio-economic status" (SES) to refer to a person's standing within a society's stratification system. Group members who defined "socio-economic status," which encompasses both a person's social and economic standing, agreed that children from higher socio-economic backgrounds not only benefit from higher levels of intelligence but also enjoy more opportunities to grow and flourish in other ways, including their bodies and their spirits. The effects of socioeconomic status on students' performance have been well-documented. It has been discovered that the academic performance was impacted by socio-economic level of the youngsters. ' Socio-economic statuses may encompass so many elements such as parental education, employment, money etc. found in

their study that socio-economic status evaluated by parents' education or occupational position is positively connected with accomplishment in most of the situations. Extensive research in the sociology of education shows strong evidence of a favorable association between parental socio-economic status (SES) and the academic success of]. There is no agreement on the conceptual definition of SES, although it is often understood to refer to an individual's or family's place within a social hierarchy in terms of their access to or control over material resources and institutional authority and prestige. And, a single SES variable is operationalized using the component's parental education, parental occupational prestige, and family income. In society it is known to everyone those educational results of children vary with the socio-economic background of their parents. Children's initial learning environment is the home. A child's goals to become a productive member of society in the future are influenced by the values and norms he or she experiences at home. As the children of today will be the country builder of future, it is vitally necessary to operate the children's educational programmes very genuinely and efficiently. Through scientific-designed and fruitfully conducted educational courses youngsters may be created equipped with required information, skills and moral values. The influence of the family in a student's growth outside of the classroom should not be underestimated. When it comes to teaching their children about the world and how to interact with others, parents and guardians have a significant role to play. The facilities and conditions supplied to a student to learn, is the cornerstone for his success . A student's socioeconomic background might affect them in both good and bad ways in the long run. Thus, to research the children's performance in a certain topic, it is very much vital to explore their family background or in other words 'socio-economic statuses of their family. Therefore, it is not unexpected that WAEC, mathematics instructors, educationists, parents, and the government are interested in resolving the issues that hinder mathematics education in secondary schools. Numerous studies have found several elements impacting students' academic success, including students' and teachers' attitudes, students' and teachers' study habits, teachers' qualifications, teaching techniques, the school atmosphere, government policy, school location, and family types.

Mathematical significance cannot be denied. This is supported by the fact that math and English are typically taught to all students from kindergarten through 12th grade. Students in Nigerian elementary and secondary schools who do not get a passing grade in mathematics are required to retake the course and earn a passing grade before being advanced to the next class at the

conclusion of the session.. Students who aren't able to persevere through this challenge often come to dislike mathematics as a subject as a result. Mathematical concepts are of particular interest to the investigators because they provide a concentrated example of intelligent learning—that is, the development of mental structures that are transmitted and modified via the use of symbols. Moreover, since the early years of a person's life are the most determinant of their psychosocial and cognitive development, what young children or learners learn and experience today will impact them for the rest of their lives. Since any stage not adequately examined will reoccur as a difficulty in the future, this time period may be seen as one of outstanding brain growth that builds a great foundation for further learning.

Math anxiety may manifest itself physically in a number of ways, including a racing heart, sweaty palms, nausea, and dizziness. Focusing difficulties, anxiety, and shame are some of the mental symptoms. Avoiding or putting off mathematics is a symptom. Anxiety in mathematics may be traced back to problems in the student's surroundings, their thinking, and their character. Negative classroom or home environments are examples of environmental influences. Since a child's intellectual, social, emotional, and physical development are profoundly impacted by their classroom experiences, educational psychologists are increasingly concerned with the classroom environment. What we mean when we talk about "classroom climate" is "the social, emotional, intellectual, and physical element of the classroom," It's the belief that classroom instructors may have a significant impact on their students' development and actions. The instructor is responsible for shaping the students' behaviors because of their impact on students' interactions with one another. When a teacher takes the time to set up a classroom in a manner that encourages learning rather than destruction, everyone in the room benefits.

Review of literature

(Adimora et al. 2015) studied “Influence of Socio-Economic Status and Classroom Climate on Mathematics Anxiety of Primary School Pupils The research examined the relationship between students' socioeconomic level and the emotional environment in their classrooms, as well as their fear of mathematics, at the Nsukka Local Government Primary Education Authority in the Nigerian state of Enugu. In order to answer these problems, we tested three alternative theories. The study employed an exposure-to-facts research strategy and included 103 public elementary schools in Nsukka Local Government Primary Education Authority in

Enugu State, Nigeria, with a total of 12628 students in grades five and higher. Approximately 432 students in grades five were included in the study.

(Pettigrew 2009) studied “A Study of the Impact of Socioeconomic Status on Student Achievement found that and the purpose of this study was to explore the impact of socioeconomic status on academic achievement as measured by the Tennessee Comprehensive Assessment Program Achievement Test and the Tennessee Comprehensive Assessment Program Writing Assessment. The population consisted of 8th grade students enrolled in 4 elementary schools in a rural school system in Tennessee. Data were analysed for the population of the 2006-2007 academic school year. A 2-way analysis of variance model was used to compare the means among the schools, the means between economically disadvantaged students and those who were not economically disadvantaged, and whether there was a significant school by socioeconomic status interaction.

(Alordiah, Akpadaka, and Oviogbodu 2015) studied “The Influence of Gender, School Location and Socio-Economic Status on Students’ Academic Achievement in mathematics Caroline found that and the study investigated the influence of gender, school location, and socio-economic status (SES) on students’ academic achievement in mathematics. The study was an ex-post factor design in which the variables were not manipulated nor controlled. Four research questions and three hypotheses were formulated to guide the study. The stratified random sampling approach was used to sample 1900 students such that the variables in the study were put into consideration. One of the recommendations was that teachers should put into consideration the disparities that exist between male/female, urban/rural, and low SES/high SES when teaching mathematics”.

Conclusion

Educational psychologists and educators alike are taking a keener interest in classroom culture. The emotional, physical, intellectual, and social aspects of the classroom, as well as the students' families' socioeconomic condition, may all have significant effects on students' academic success. Also, the atmosphere that the instructor produces in the classroom for the students via goal-setting, suitable challenges, and empathy for the pupils may be contributing some key variables to teenage kids’ adjustment. Moreover, contemporary societal demands need a heightened emphasis on mathematics. In order to alleviate mathematics anxiety, particularly among pupils in the formative years of elementary school, it is essential that mathematics be seen in a favorable light. Mathematics is a tool that may be utilized to bring

about the desired change of economic sector. Some kids may struggle in arithmetic for various reasons, and if this is the case, it is important to identify and address these issues as soon as possible.

References

1. Dimora, D.E. (2012) *Effect of comprehension monitoring strategy on interest and achievement of Nigeria, Nsukka.*
2. Agway & Usman (2003) *Training of undergraduate teachers in Nigeria universities: focus on problems of effective integration and attitude of*
3. *students to computers in mathematics instruction.* Retrieved from <http://www.math.uocgr/jetm2/proceeding/gapw9.pdf>.
4. Akinola, M. A. &Tela, A. (2007) Correlates of academic procrastination and mathematics achievement of university undergraduate students.
5. *Eurasia Journal of Mathematics, Science and Technology Education*, 3(4),363-370.
6. Alexander, L., &Marray, C. (1989) The development of an abbreviated version of the mathematics anxiety rating scale. *Measurement and*
7. *Evaluation in Counselling and Development*, 22, 143–150.
8. Ambrose, S.A, Bridges, M.W,DiPietro, M, Lovett, M.C and M.K. Norman. (2010) *How Learning Works: Seven Research-Based Principles for*
9. *Smart Teaching.* San Francisco, CA: Jossey-Bass.
10. Ashcraft, M.N. (2002) maths anxiety: personal, educationan and cognitive consequences. *Directions in psychological science*, 11, 181-185.
11. Blazer, C (2011) Strategies for reducing math anxiety. *Information capsuleresearch services. Vol 1102,*
12. Bierman, K. L. (2011) "The promise and potential of studying the "invisible hand" of teacher influence on peer relations and student outcomes: A
13. commentary".*Journal of Applied Developmental Psychology*. SI Teachers and Classroom Social Dynamics 32 (5): 297.