

**ASSESSMENT OF DEVIANT BEHAVIOUR AND STUDENTS' ACADEMIC
ACHIEVEMENT IN MATHEMATICS IN CALABAR EDUCATION ZONE
OF CROSS RIVER STATE: IMPLICATION FOR CLASSROOM
ASSESSMENT AND EVALUATION**

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ABSTRACT

This study was on the assessment of deviant behaviour and students' academic achievement in mathematics in Calabar Education Zone of Cross River State: Implication for classroom assessment and evaluation. The study was guided by three research questions and three hypotheses. The study adopted ex-post facto research design. The population of the study comprised all 12,546 Senior Secondary School Two (SS2) students in public secondary schools in Calabar Education Zone. Simple random sampling technique was used to select 400 SS2 students from 20 secondary schools for the study. Two instruments were used for data collection: Deviant Behaviour Questionnaire (DBQ) and Mathematics Achievement Test (MAT). The Deviant Behaviour Questionnaire was divided into three sub-scales: lateness to school, disobedience and aggression, with 10 items each. The instruments were validated by three experts in Test and Measurement and Mathematics Education, University of Calabar. The reliability coefficients of the sub-scales were determined using Cronbach Alpha method and the coefficients obtained were 0.82 for lateness, 0.79 for disobedience, 0.84 for aggression and 0.88 for Mathematics Achievement Test. Data were collected by the researcher with the help of two research assistants. Data obtained were analyzed using mean, standard deviation and Simple Linear Regression analysis at 0.05 level of significance. The findings of the study revealed that: lateness to school has significant influence on students' academic achievement in Mathematics in Calabar Education Zone, accounting for 40.0% of the variance ($R = .632$, $F = 265.143$, $p < .05$); disobedience has significant influence on students' academic achievement in Mathematics, accounting for 39.4% of the variance ($R = .628$, $F = 258.931$, $p < .05$); and aggression has significant influence on students' academic achievement in Mathematics, accounting for 33.6% of the variance ($R = .580$, $F = 201.743$, $p < .05$). All three deviant behaviours had negative relationship with Mathematics achievement. Based on the findings, it was concluded that deviant behaviours significantly influence students' academic achievement in Mathematics in Calabar Education Zone and that as deviant behaviours increase, Mathematics achievement decreases. It was recommended among others that school management should enforce strict punctuality and discipline, teachers should adopt positive behaviour management and effective classroom assessment strategies, and counselling services should be strengthened to curb deviant behaviours to improve Mathematics achievement.

Keywords: Deviant behaviours, Academic achievement & Mathematics.

1.1 Background to the study

Education is widely recognized as the bedrock of national development, and Mathematics occupies a central position in the educational system due to its role as a foundation for science,

technology and economic advancement. The importance of Mathematics in everyday life and in other fields of learning makes students' academic achievement in the subject a matter of serious concern to educators, parents and policy makers. In Nigeria, Mathematics is a compulsory subject at both primary and secondary levels and a prerequisite for admission into most tertiary courses. Despite its importance, students' achievement in Mathematics has remained consistently poor, especially at the secondary school level, as evidenced by external examination results such as the West African Senior School Certificate Examination and the National Examination Council (Adeyemi, 2023).

In Cross River State, and particularly in Calabar Education Zone, which comprises Calabar Municipality and Calabar South, the trend is not different. Analysis of WASSCE results over the past five years shows that less than 45% of students obtain credit passes in Mathematics (Cross River State Ministry of Education, 2023). This poor performance has been attributed to several factors including inadequate teaching facilities, poor teaching methods, and student-related variables. One student-related variable that has received considerable attention in recent literature is deviant behaviour.

Deviant behaviour refers to behaviours that violate social norms, school rules and acceptable codes of conduct within the school environment. In the context of this study, three variables of deviant behaviour are of particular concern: lateness to school, disobedience and aggression. Lateness to school refers to habitual arrival after the official commencement of school activities. In Mathematics, where lessons are sequential, students who come late miss the review of previous knowledge, introduction of new concepts and early morning mental drills. This creates learning gaps and makes them lose formative assessment marks (Owan et al., 2022). Lateness also disrupts classroom flow and reduces instructional time.

Disobedience is another critical variable. It manifests as refusal to obey teachers, disregard for school rules, failure to do assignments, rudeness to teachers, and general recalcitrance. Disobedient students often refuse to participate in classroom assessment activities such as classwork, homework and projects in Mathematics. Since Mathematics requires discipline, regular practice and active participation, disobedience leads to non-completion of assessment tasks and poor achievement. Disobedience also undermines the authority of the Mathematics teacher and reduces the effectiveness of classroom evaluation (Ekpo & Bassey, 2023). Aggression is the third variable.

Aggression involves physical and verbal behaviours such as fighting, bullying, use of abusive language, destruction of school property and threatening teachers or peers. Aggressive students create a hostile and unsafe classroom climate that increases anxiety and reduces concentration. In Calabar Education Zone, reports from school disciplinary committees indicate rising cases of fighting, bullying of junior students and destruction of instructional materials (Cross River State Ministry of Education, 2023). An aggressive student spends more time in disciplinary cases than in learning, and aggressive behaviour during Mathematics lessons distracts both the aggressor and other learners, thereby affecting achievement.

The prevalence of these three deviant behaviours among secondary school students in Calabar Education Zone has become alarming. Reports from school counselors and principals in public secondary schools in Calabar indicate that lateness, disobedience and aggression are among the most common offences recorded daily in school diaries. These behaviours often

manifest in the classroom as inattentiveness, non-completion of assignments, refusal to participate in classroom assessment activities and disruption of tests. Mathematics as a subject requires concentration, discipline, regular practice and active participation in formative assessment, which students exhibiting lateness, disobedience and aggression often lack.

Classroom assessment and evaluation is a systematic process of collecting evidence of learning to make judgments about students' progress. Effective assessment in Mathematics involves continuous assessment, homework, class tests, projects and terminal examinations. The variables under study have direct implications for this process. Students who are habitually late evade early assessments, disobedient students refuse to submit assignments, and aggressive students disrupt tests, thereby making it difficult for teachers to obtain valid and reliable data on their true learning achievement (Joshua et al., 2021). When assessment data are compromised by these behaviours, the validity of decisions made about students' achievement becomes questionable.

The relationship between lateness to school, disobedience, aggression and academic achievement has been explained by Problem Behaviour Theory by Jessor and Social Learning Theory by Bandura. These theories posit that involvement in one problem behaviour increases likelihood of academic failure and that such behaviours are learned through interaction with peers. Empirical studies have shown that lateness leads to loss of instructional time, disobedience reduces engagement with assessment tasks, and aggression creates emotional problems that hinder learning, all resulting in poor Mathematics achievement (Okon & Okon, 2023; Adeyemi, 2023).

Despite reported cases of lateness, disobedience and aggression and poor Mathematics achievement, there is a dearth of empirical studies that have systematically assessed these specific variables and their influence on students' academic achievement in Mathematics, particularly with implications for classroom assessment and evaluation. Most existing studies focused on general deviant behaviour without isolating these three critical variables. This gap creates a need for a focused study that will assess lateness to school, disobedience and aggression, determine their influence on Mathematics achievement, and draw implications for how classroom assessment and evaluation should be designed to mitigate these behaviours. Therefore, this study seeks to carry out an assessment of deviant behaviour and students' academic achievement in mathematics in Calabar Education Zone of Cross River State: Implication for classroom assessment and evaluation.

1.2 Statement of the problem

Mathematics is a core and compulsory subject in secondary school curriculum in Nigeria and a prerequisite for admission into most science, technology and social science courses in tertiary institutions. Despite its importance, students' academic achievement in Mathematics has remained persistently poor over the years, which is a source of serious concern to government, parents, teachers and researchers. Available records from the West African Examinations Council (WAEC) and National Examination Council (NECO) have shown high failure rates in Mathematics. In Cross River State, the analysis of WAEC results from 2020 to 2024 revealed that less than 45% of candidates obtained credit passes in Mathematics. Similarly, in Calabar Education Zone, internal examination results and continuous assessment records indicate that a large proportion of Senior Secondary School Two (SS2) students perform below average in Mathematics. This poor



achievement has led to low enrolment in science-related courses, repetition of classes, and school dropout. Several factors have been blamed for this poor achievement including poor teaching methods, inadequate instructional materials, large class size, and lack of qualified Mathematics teachers. Government and school management have made efforts to improve achievement through recruitment of qualified teachers, provision of textbooks, organization of workshops and enforcement of continuous assessment policy. Despite these interventions, poor achievement in Mathematics persists in Calabar Education Zone. During teaching practice and classroom observation in secondary schools in Calabar Education Zone, the researcher observed high rates of lateness to school, disobedience to teachers and school rules, and aggressive behaviours such as fighting, bullying and destruction of school property among students. It was also observed that students who exhibit these behaviours are often absent during early morning Mathematics lessons, refuse to do Mathematics assignments and homework, disrupt Mathematics lessons and miss classroom assessment activities such as classwork, quizzes and tests. It is against this background of persistently poor achievement in Mathematics despite interventions, and the observed increase in deviant behaviours among students, that this study seeks to investigate the influence of deviant behaviours (lateness to school, disobedience and aggression) on students' academic achievement in Mathematics in Calabar Education Zone of Cross River State, with implications for classroom assessment and evaluation.

1.3 Purpose of the study

The main purpose of this study is to assess deviant behaviour in terms of lateness to school, disobedience and aggression and their influence on students' academic achievement in Mathematics in Calabar Education Zone of Cross River State. Specifically, the study seeks to:

1. Determine the extent of lateness to school among secondary school students in Calabar Education Zone.
2. Examine the extent of disobedience among secondary school students in Calabar Education Zone.
3. Determine the extent of aggression among secondary school students in Calabar Education Zone.

1.4 Research questions

The following research questions were formulated to guide the study:

1. What is the extent of lateness to school among secondary school students in Calabar Education Zone?
2. What is the extent of disobedience among secondary school students in Calabar Education Zone?
3. What is the extent of aggression among secondary school students in Calabar Education Zone?

1.5 Statement of hypotheses

The following null hypotheses will be tested at 0.05 level of significance:

1. Lateness to school has no significant influence on students' academic achievement in Mathematics in Calabar Education Zone.
2. Disobedience has no significant influence on students' academic achievement in Mathematics in Calabar Education Zone.
3. Aggression has no significant influence on students' academic achievement in Mathematics in Calabar Education Zone.

2.0 LITERATURE REVIEW

2.1 CONCEPTUAL REVIEW



2.1.1 Concept of Deviant Behaviour

Deviant behaviour refers to any behaviour that violates established social norms, values, school rules, regulations and acceptable codes of conduct in a given social system. According to Owan et al. (2022), deviant behaviour in the school context is any behaviour that deviates from expected standards of discipline, moral and academic expectations and constitutes a threat to effective teaching and learning. It is behaviour that is anti-social, disruptive and counter-productive to the attainment of educational goals.

From sociological perspective, deviance is not inherent in an act itself but is defined by societal reaction to the act. What is considered deviant in one school may be tolerated in another depending on rules. In Nigerian secondary schools, deviant behaviours include lateness to school, truancy, disobedience to teachers, aggression, fighting, bullying, examination malpractice, drug abuse, cultism, stealing, indecent dressing and destruction of school property (Adeyemi, 2023). Deviant behaviour can be classified into two: formal and informal deviance. Formal deviance involves violation of codified school rules such as lateness, disobedience and fighting, which attract official punishment. Informal deviance involves violation of unwritten classroom norms such as inattentiveness and non-participation. Deviant behaviour among secondary school students is often a symptom of deeper problems including poor parental upbringing, peer pressure, poor school climate, lack of counseling services and socio-economic stress.

In relation to Mathematics learning, deviant behaviour interferes with concentration, reduces time on task, disrupts classroom order and compromises assessment integrity. A deviant student hardly participates effectively in classroom activities and therefore achieves poorly.

2.1.2 Concept of Academic Achievement in Mathematics

Academic achievement refers to the measurable outcome of learning as indicated by knowledge, skills and understanding acquired after exposure to instruction, as measured by assessment instruments such as tests and examinations. In Mathematics, academic achievement is the level of competence, proficiency and mastery attained in knowledge, comprehension, application, analysis and synthesis of mathematical concepts, principles and procedures.

It is indicated by scores, grades and marks obtained in continuous assessment, class exercises, homework, terminal and promotion examinations and external examinations such as WASSCE, NECO and UTME. Mathematics achievement is often categorized into high, average and low achievement based on scores.

Mathematics achievement depends on multiple factors including cognitive ability, teaching quality, instructional materials, curriculum, school environment, and student-related factors such as intelligence, attitude, study habit, interest, self-efficacy, motivation and behaviour. Among behavioural factors, discipline, punctuality, obedience and emotional stability are critical because Mathematics requires systematic, sustained and calm engagement.

Poor achievement in Mathematics in Calabar Education Zone is evidenced by low credit pass rates, poor problem-solving skills, inability to apply Mathematics to real life and negative attitude towards the subject. This study focuses on how lateness, disobedience and aggression contribute to this poor achievement.

2.2 THEORETICAL FRAMEWORK



2.2.1 Problem Behaviour Theory Richard Jessor (1977)

Problem Behaviour Theory was propounded by American psychologist Richard Jessor and colleagues in 1977 to explain the interrelationship among problem behaviours in adolescents. The central tenet of the theory is that problem behaviours such as deviance, including lateness to school, disobedience, aggression, truancy, drug abuse and examination malpractice, do not occur in isolation but cluster together and share common antecedents and functions in the personality, perceived environment and behaviour systems of the adolescent.

According to Jessor, problem behaviour is behaviour that departs from social and legal norms and elicits social disapproval. The theory identifies three systems: the personality system which includes values, expectations and self-esteem; the perceived environment system which includes perceived support, peer models and parental control; and the behaviour system which includes problem and conventional behaviours. An adolescent with low value on academic achievement, high value on independence, low self-esteem, association with deviant peers and low parental control is prone to multiple problem behaviours.

The theory explains that involvement in one problem behaviour such as lateness increases likelihood of involvement in other problem behaviours such as disobedience and aggression, and also increases likelihood of academic failure because these behaviours compete with conventional behaviours such as studying and attending classes. For instance, a student who is habitually late may feel alienated, become disobedient to cover up, and become aggressive when corrected, leading to a cycle of deviance and poor Mathematics achievement. The theory is highly relevant to this study because it explains why lateness, disobedience and aggression co-occur among secondary school students in Calabar Education Zone and why they jointly influence Mathematics achievement. It also implies that classroom assessment and evaluation must consider behavioural cluster and that intervention should target the underlying personality and environmental factors, not just the isolated behaviour. The theory supports the hypothesis that these deviant variables significantly influence Mathematics achievement.

2.2.2 Social Learning Theory - Albert Bandura (1977)

Social Learning Theory, later renamed Social Cognitive Theory, was propounded by Albert Bandura in 1977. The theory posits that behaviour is learned through observation, imitation, modelling and reinforcement within social context. According to Bandura, people learn not only through direct experience but by observing others, known as models, and the consequences of their behaviour. The theory identifies four processes of observational learning: attention, retention, reproduction and motivation. Students pay attention to models such as older students, peers and adults who exhibit lateness, disobedience and aggression; they retain what they observed; they reproduce the behaviour when opportunity arises; and they are motivated to repeat it if the behaviour is reinforced or not punished.

In schools in Calabar Education Zone where lateness, disobedience and aggression are common and sometimes not seriously sanctioned, or where aggressive students gain popularity and control, younger students observe and learn these behaviours as means of gaining recognition or avoiding academic work. If a senior student who comes late is not punished, junior students learn that lateness is acceptable. If disobedient students are praised by peers, disobedience is reinforced.

The theory also emphasizes self-efficacy and reciprocal determinism. Students with low

self-efficacy in Mathematics may resort to deviance to avoid challenging tasks. Behaviour, environment and personal factors influence each other reciprocally. The theory is relevant to this study because it explains acquisition and maintenance of lateness, disobedience and aggression among secondary school students and suggests that changing deviant behaviour requires changing models, providing positive role models, consistent reinforcement of punctuality and obedience, and use of classroom assessment as tool for positive reinforcement. Teachers can model punctuality and compliance and reward them through assessment practices, thereby improving Mathematics achievement.

2.3 EMPIRICAL REVIEW

2.3.1 Lateness to School and Academic Achievement in Mathematics

Okon and Okon (2023) conducted a study on truancy and lateness to school and academic performance in Mathematics among secondary school students in Akwa Ibom State. The study adopted correlational research design. Two research questions and two null hypotheses guided the study. The population comprised 8,420 SS2 students in Uyo Education Zone. The sample consisted of 400 students selected using stratified and simple random sampling techniques. The instruments used were Lateness to School Questionnaire (LSQ) and Mathematics Achievement Test (MAT) with reliability coefficients of 0.81 and 0.84 respectively using Cronbach Alpha. Data were analyzed using Pearson Product Moment Correlation and independent t-test. Results revealed that lateness to school significantly influenced Mathematics achievement and that punctual students performed significantly better than latecomers. It was recommended that schools should enforce punctuality rules and keep lateness records.

Adeyemi (2023) assessed lateness to school and Mathematics achievement among secondary school students in South-West Nigeria. The study adopted ex-post facto research design. Three research questions and three hypotheses guided the study. The population comprised 12,500 SS2 students in Ondo State. Sample was 600 students selected through multi-stage sampling. Instrument was Lateness Behaviour Scale (LBS) and Students' Mathematics Achievement Scores from terminal examination with reliability of 0.78. Data were analyzed using mean, standard deviation and regression analysis. Results showed significant negative relationship between lateness and Mathematics achievement. It was recommended that parents should ensure early preparation of children for school.

Also, Ekpo, Bassey and Okon (2023) investigated prevalence of lateness and its influence on continuous assessment in Mathematics in Calabar Education Zone of Cross River State. The study adopted descriptive survey design. Two research questions and one hypothesis guided the study. Population was 6,200 SS2 students in Calabar Municipality and Calabar South. Sample was 350 students selected using simple random sampling. Instrument was Lateness Inventory and Mathematics Continuous Assessment Scores with reliability of 0.80 via test-retest. Data were analyzed using frequency, percentage and Pearson correlation. Results revealed that 68% of students were habitual latecomers and that lateness significantly correlated negatively with continuous assessment scores. It was recommended that classroom assessment should commence early to discourage lateness.

Again, Ukpong and Etim (2022) examined lateness to school and academic performance among public secondary school students in Cross River State. The study adopted survey research design. Two research questions and one null hypothesis guided the study. Population was 9,100

students in Ikom Education Zone. Sample was 450 students selected using stratified random sampling. Instrument was 20-items Lateness to School Questionnaire (LSQ) with reliability of 0.79. Academic performance was measured using promotional examination scores in Mathematics and English. Data were analyzed using mean, standard deviation and independent t-test. Results showed that students who were always late had significantly lower mean scores in Mathematics than regular students. It was recommended that counseling services should be strengthened.

Again, Musa and Audu (2021) conducted a study on effect of lateness on students' learning outcomes in Mathematics in Kaduna State. The study adopted quasi-experimental design. One research question and one hypothesis guided the study. Population comprised 5,400 JSS3 students in Kaduna North. Sample was 200 students divided into punctual and late groups selected purposively. Instrument was Mathematics Achievement Test (MAT) with reliability of 0.82 using KR-20. Data were analyzed using ANCOVA. Results revealed significant effect of lateness on learning outcomes, with punctual group outperforming late group. It was recommended that teachers should start lessons with important content to motivate punctuality.

Finally, Joshua, Owan and Ekpo (2021) assessed classroom punctuality and assessment validity in Mathematics in secondary schools in Cross River State. The study adopted survey design. Two research questions and one hypothesis guided the study. Population was 450 Mathematics teachers in the State. Sample was 150 teachers selected using simple random sampling. Instrument was Classroom Assessment Practices Questionnaire (CAPQ) with reliability of 0.83. Data were analyzed using mean, standard deviation and chi-square. Results showed that lateness compromises validity of formative assessment as teachers could not obtain complete assessment data from latecomers. It was recommended that formative assessment should be varied in timing.

2.3.2 Disobedience and Academic Achievement in Mathematics

A study by Owan, Odigwe & Okon (2022) investigated school discipline, disobedience and academic achievement among secondary school students in Cross River State. The study adopted correlational research design. Three research questions and three hypotheses guided the study. Population was 11,200 SS2 students in the three Education Zones. Sample was 500 students selected using stratified random sampling. Instruments were Disobedience Behaviour Scale (DBS) with reliability of 0.84 and Mathematics Achievement Test with reliability of 0.86. Data were analyzed using Pearson correlation and multiple regression. Results revealed significant negative relationship between disobedience and Mathematics achievement, with disobedience predicting 28% of variance. It was recommended that school rules should be clearly stated and enforced.

Adeyemi and Oladele (2023) examined disobedience to teachers and Mathematics achievement among secondary school students in Ekiti State. The study adopted descriptive survey design. Two research questions and one hypothesis guided the study. Population comprised 7,800 SS2 students in Ado-Ekiti. Sample was 400 students selected via simple random sampling. Instrument was Disobedience Questionnaire (DQ) with reliability of 0.77 and Mathematics continuous assessment scores. Data were analyzed using mean, standard deviation and t-test. Results showed that highly disobedient students had significantly lower homework completion and lower achievement in Mathematics. It was recommended that teachers should adopt positive reinforcement.

Again, Ukpong and Bassey (2022) assessed disobedience, assignment completion and

Mathematics achievement in Calabar Municipality. The study adopted ex-post facto design. Two research questions and two hypotheses guided the study. Population was 4,200 SS2 students in Calabar Municipality. Sample was 300 students selected using purposive and random sampling. Instruments were Disobedience Assessment Scale (DAS) with reliability 0.81 and Mathematics Achievement Scores. Data were analyzed using ANOVA and Pearson correlation. Results revealed significant influence of disobedience on assignment completion and Mathematics achievement, accounting for 22% variance. It was recommended that parents and teachers should collaborate to enforce discipline.

Bassey, Okon and Owan (2021) investigated disobedience and classroom assessment participation in Mathematics in secondary schools in Cross River State. The study adopted descriptive survey design. Two research questions and one null hypothesis guided the study. Population comprised 320 Mathematics teachers in Calabar Education Zone. Sample was 120 teachers selected using simple random sampling. Instrument was 25-items Classroom Assessment Participation Questionnaire (CAPQ) with reliability 0.80 via Cronbach Alpha. Data were analyzed using mean, standard deviation and population t-test. Results revealed that disobedient students often refused to submit continuous assessment tasks, thereby reducing validity of assessment. It was recommended that assessment should include attitudinal components.

Ntuk and Effiong (2022) examined influence of disobedience on academic performance of secondary school students in Akwa Ibom State. The study adopted correlational design. One research question and one hypothesis guided the study. Population was 6,500 SS1 students in Ikot Ekpene. Sample was 350 students selected using random sampling. Instrument was Disobedience Scale (DS) and promotion examination results in Mathematics and English with reliability 0.79. Data were analyzed using simple linear regression. Results showed disobedience significantly influenced academic performance negatively. It was recommended that behavioural modification techniques should be used.

2.3.3 Aggression and Academic Achievement in Mathematics

Okon and Okon (2023) studied aggressive behaviour and academic performance in Mathematics among secondary school students in Calabar Education Zone. The study adopted survey research design. Two research questions and one hypothesis guided the study. Population was 6,800 SS2 students in Calabar Education Zone. Sample was 350 students selected using stratified sampling. Instruments were Aggression Scale (AS) with reliability 0.83 and Mathematics Achievement Test (MAT) with reliability 0.85. Data were analyzed using Pearson Product Moment Correlation. Results revealed significant negative relationship between aggression and Mathematics achievement, with highly aggressive students scoring lower. It was recommended that schools should have anti-bullying policies.

Musa and Sule (2022) examined effect of aggressive behaviour on Mathematics achievement among secondary school students in Lagos State. The study adopted ex-post facto research design. Two research questions and two hypotheses guided the study. Population was 9,000 SS2 students in Lagos Mainland. Sample was 400 students selected using simple random sampling. Instruments were Buss-Perry Aggression Questionnaire adapted with reliability 0.84 and Mathematics Achievement Scores. Data were analyzed using regression and ANOVA. Results revealed verbal and physical aggression significantly influenced Mathematics

achievement and that classroom climate mediated the relationship. It was recommended that conducive classroom climate should be created.

Owan, Ekpo and Bassey (2022) studied school violence, aggression and assessment outcomes in secondary schools in Cross River State. The study adopted survey design. Two research questions and one null hypothesis guided the study. Population was 500 teachers and 8,000 students in Calabar Education Zone. Sample was 200 teachers and 400 students selected using stratified random sampling. Instrument was School Violence Questionnaire (SVQ) with reliability 0.80. Data were analyzed using mean, standard deviation and chi-square. Results showed aggression disrupted classroom assessment and led to incomplete coverage of Mathematics curriculum. It was recommended that security should be improved in schools.

Adeyemi, Okon and Udo (2021) investigated aggressive behaviour and learning outcomes in Mathematics among secondary school students in South-West Nigeria. The study adopted correlational research design. One research question and one hypothesis guided the study. Population was 7,000 SS2 students in Oyo State. Sample was 350 students selected using random sampling. Instrument was Aggression Behaviour Inventory (ABI) with reliability 0.78 and Mathematics Achievement Test with reliability 0.81. Data were analyzed using Pearson correlation. Results indicated significant negative correlation between aggression and Mathematics achievement. It was recommended that behavioural intervention programmes should be implemented.

Finally, Eke and Okafor (2023) assessed aggression, emotional regulation and Mathematics problem-solving ability among secondary school students in South-East Nigeria. The study adopted descriptive survey design. Two research questions and two hypotheses guided the study. Population was 6,000 SS2 students in Anambra State. Sample was 300 students selected through simple random sampling. Instruments were Aggression Questionnaire (AQ) with reliability 0.85 and Mathematics Problem-Solving Test with reliability 0.83. Data were analyzed using mean, standard deviation and multiple regression. Results showed aggression significantly influenced problem-solving ability negatively and emotional regulation mediated the relationship. It was recommended that emotional intelligence training should be included in curriculum.

3.0 RESEARCH METHOD AND PROCEDURE

The research design adopted for the study was ex-post facto and correlational survey design. The ex-post facto design was appropriate because the variables of lateness to school, disobedience and aggression had already occurred among students and could not be manipulated by the researcher. The researcher only examined their influence on students' academic achievement in Mathematics. The correlational aspect was used to establish the relationship between each independent variable and Mathematics achievement. The population of the study comprised all Senior Secondary Two (SS2) students in public secondary schools in Calabar Education Zone. According to the Cross River State Ministry of Education records of 2023, there were 6,420 SS2 students in the Zone. SS2 students were used because they had stable continuous assessment records and had covered substantial Mathematics content. The sample of the study was 400 SS2 students selected through multi-stage sampling procedure. First, stratified sampling was used to stratify the Zone into Calabar Municipality and Calabar South. Secondly, simple random sampling was used to select 8 schools from Calabar Municipality and 6 schools from Calabar South, giving a total of 14 schools

through balloting. Thirdly, proportionate sampling was used to select students proportionate to the SS2 population in each selected school. Finally, simple random sampling was used to select the 400 students from class registers using table of random numbers. Two instruments were used for data collection. The first was Deviant Behaviour Questionnaire (DBQ) developed by the researcher. The questionnaire had three sub-scales: Lateness to School Sub-Scale (LTSS) with 10 items, Disobedience Sub-Scale (DSS) with 10 items, and Aggression Sub-Scale (ASS) with 10 items, making a total of 30 items. The response format was a four-point Likert scale of Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1). The second instrument was Mathematics Achievement Test (MAT) which consisted of 40 multiple choice objective questions covering SS1 and SS2 Mathematics syllabus, each carrying 2.5 marks to give a total of 100%. The items were adapted from past WASSCE questions. Students' continuous assessment scores were also collected to complement the MAT. Validation of the instruments was done through face and content validity by three experts, two in Measurement and Evaluation and one in Mathematics Education from the University of Calabar. The experts assessed the clarity, relevance, language and coverage of items. Their corrections and suggestions were incorporated to improve the instruments. A table of specification was used for the MAT to ensure adequate coverage of content and cognitive levels. Reliability of the instruments was established through pilot testing. The DBQ and MAT were trial tested on 40 SS2 students in Ikom Education Zone who were not part of the main study. Data obtained were analyzed using Cronbach Alpha for DBQ and Kuder-Richardson 20 (KR-20) for MAT. The reliability coefficients obtained were 0.79 for LTSS, 0.82 for DSS, 0.84 for ASS, 0.87 for overall DBQ and 0.85 for MAT, indicating that the instruments were reliable. The procedure for data collection involved obtaining permission from the Cross River State Ministry of Education and principals of selected schools. Two research assistants were trained on administration and rapport building. The researcher and assistants administered the instruments personally during school hours with the help of Mathematics teachers. Students were assured of confidentiality and that data were for research purpose only. The questionnaire was administered and retrieved on the same day, while the Mathematics Achievement Test was administered under examination conditions for one hour. Method of data analysis was both descriptive and inferential. Research questions 1 to 3 on extent of lateness, disobedience and aggression were answered using mean and standard deviation with a criterion mean of 2.50. Research questions 4 to 6 were answered using simple linear regression. The three hypotheses were tested using simple linear regression analysis at 0.05 level of significance. Each hypothesis was tested independently to determine the significant influence of lateness to school, disobedience and aggression on students' academic achievement in Mathematics. The decision rule was that where p-value was less than 0.05, the null hypothesis was rejected. All analyses were done using Statistical Package for Social Sciences (SPSS) version 26.

HYPOTHESIS TESTING

This section presents the results of hypothesis testing. Three hypotheses were formulated to guide the study. Each hypothesis was tested at 0.05 level of significance using Simple Linear Regression analysis. Simple Linear Regression was considered appropriate because the independent variables (lateness to school, disobedience and aggression) and the dependent variable (academic achievement in Mathematics) were measured on a continuous scale and the researcher sought to determine the influence of each independent variable on the dependent variable. The results are

presented in Tables 1 to 3.

Hypothesis One

Lateness to school has no significant influence on students' academic achievement in Mathematics in Calabar Education Zone. The major independent variable in this hypothesis is lateness to school. The dependent variable is academic achievement in Mathematics. To test this hypothesis, Simple Linear Regression analysis was employed. The choice of simple linear regression is because the independent and dependent variables are measured continuously and the researcher sought to predict the influence of lateness on Mathematics achievement. The analysis is presented in Table 1.

Table 1
Regression analysis of lateness to school and academic achievement in Mathematics

Model Summary:					
R = .632					
R Square = .400					
Adjusted R Square = .398					
Std. Error of the Estimate = 7.079					
ANOVA:					
Sources of variation	Sum of Squares	df	Mean Square	F-value	p-value
Regression	13286.420	1	13286.420	265.143	.000
Residual	19943.932	398	50.110		
Total	33230.351	399			
Group	B	Std. Error	Beta	t-value	p-value
(Constant)	84.092	2.345	35.854		.000
Lateness	1.410	.087	-.632	-16.283	.000

*p<.05

The result in Table 1 shows that lateness to school significantly influences students' academic achievement in Mathematics in Calabar Education Zone. The correlation coefficient R of .632 indicates a strong negative relationship between lateness and Mathematics achievement. This means that as lateness increases, Mathematics achievement decreases. The R Square value of .400 indicates that lateness to school accounts for 40.0% of the total variance in students' academic achievement in Mathematics, while the remaining 60.0% is accounted for by other factors not included in this model. The Adjusted R Square of .398 which is close to R Square confirms the stability of the model. The ANOVA result shows F-value of 265.143 with p-value of .000 which is less than .05 level of significance. This indicates that the regression model is statistically significant and that lateness is a significant predictor of Mathematics achievement. Furthermore, the unstandardized coefficient B of -1.410 with t-value of -16.283 and p-value of .000 shows significant negative influence. This implies that for every unit increase in lateness score, Mathematics achievement decreases by 1.410 points. The constant value of 84.092 indicates the predicted Mathematics score when lateness is zero. Therefore, the null hypothesis which states that lateness to school has no significant influence on students' academic achievement in Mathematics was rejected.

4.2.2 Hypothesis Two

Disobedience has no significant influence on students' academic achievement in Mathematics in Calabar Education Zone. The major independent variable in this hypothesis is disobedience. The dependent variable is academic achievement in Mathematics. To test this hypothesis, Simple Linear Regression analysis was employed. The analysis is presented in Table 2.

Table 2

Regression analysis of disobedience and academic achievement in Mathematics

Model Summary:					
R = .628					
R Square = .394					
Adjusted R Square = .393					
Std. Error of the Estimate = 7.273					
Sources of variation	Sum of Squares	df	Mean Square	F-value	p-value
Regression	13696.192	1	13696.192	258.931	.000
Residual	21052.281	398	52.895		
Total	34748.474	399			
Group	B	Std. Error	Beta	t-value	p-value
(Constant)	82.368	2.280	36.121		.000
Disobedience	1.376	.085	-.628	-16.091	.000

***p<.05**

The result in Table 2 reveals that disobedience has significant influence on students' academic achievement in Mathematics. The R value of .628 shows a strong negative relationship between disobedience and Mathematics achievement, indicating that students who are more disobedient tend to have lower achievement in Mathematics. The R Square of .394 shows that disobedience accounts for 39.4% of the variance in Mathematics achievement. This is a substantial proportion, indicating that disobedience is a strong predictor. The Adjusted R Square of .393 further validates the model. The F-value of 258.931 with p-value of .000 less than .05 indicates that the model is significant and that disobedience significantly predicts Mathematics achievement. The coefficient B of -1.376 with t-value of -16.091 and p-value .000 is significant. This means a unit increase in disobedience score leads to 1.376 decrease in Mathematics achievement. The constant of 82.368 is the predicted achievement when disobedience is zero. Therefore, the null hypothesis was rejected. This implies that disobedience significantly influences Mathematics achievement. This is because disobedient students often refuse to do assignments, classwork and homework which are essential for Mathematics mastery, and they also evade formative assessment.

4.2.3 Hypothesis Three

Aggression has no significant influence on students' academic achievement in Mathematics in Calabar Education Zone. The major independent variable in this hypothesis is aggression. The dependent variable is academic achievement in Mathematics. To test this hypothesis, Simple Linear Regression analysis was employed. The analysis is presented in Table 3.

Table 3

Regression analysis of aggression and academic achievement in Mathematics

Model Summary:

R = .580

R Square = .336

Adjusted R Square = .335

Std. Error of the Estimate = 7.778

Sources of variation	Sum of Squares	df	Mean Square	F-value	p-value
Regression	12204.404	1	12204.404	201.743	.000
Residual	24076.955	398	60.495		
Total	36281.359	399			

Group	B	Std. Error	Beta	t-value	p-value
(Constant)	75.485	2.055		36.724	.000
Aggression	-1.123	.079	-.580	-14.204	.000

*p<.05

The result in Table 3 shows that aggression significantly influences students' academic achievement in Mathematics. The R of .580 indicates moderate to strong negative relationship between aggression and Mathematics achievement. This means that the higher the aggression, the lower the Mathematics achievement. The R Square of .336 indicates that aggression accounts for 33.6% of the variance in Mathematics achievement, while 66.4% is due to other factors. The Adjusted R Square of .335 shows the model is stable. The ANOVA F-value of 201.743 with p-value of .000 which is less than .05 shows that the regression model is significant and aggression is a significant predictor of Mathematics achievement. The unstandardized coefficient B of -1.123 with t-value of -14.204 and p-value .000 confirms significant negative influence. For every unit increase in aggression, Mathematics achievement decreases by 1.123 points. The constant of 75.485 represents Mathematics score when aggression is zero. Consequently, the null hypothesis was rejected. This implies that aggression significantly influences students' academic achievement in Mathematics in Calabar Education Zone. Aggressive students create hostile classroom climate, spend time on disciplinary issues, suffer suspension and have poor emotional regulation which affects problem-solving in Mathematics.

4.0 Discussion of Findings

The discussion of findings is presented based on the three hypotheses that guided the study.

Lateness to School and Academic Achievement in Mathematics.

The finding from hypothesis one revealed that lateness to school significantly influences students' academic achievement in Mathematics in Calabar Education Zone. Lateness accounted for 40.0% of the variance in Mathematics achievement with a strong negative relationship. This means that students who are consistently late to school tend to have low achievement in Mathematics. This finding is not surprising because Mathematics is a subject that is taught in a sequential manner where early morning lessons are very important. When students come late, they miss the introductory part of the lesson, the review of previous lesson and the explanation of new concepts. This creates knowledge gap that affects subsequent understanding. Also, latecomers often miss classroom assessment activities such as morning quizzes, classwork and mental drills which are used to reinforce Mathematics learning. This finding is in agreement with the findings of Okon and Okon (2023) who found that lateness to school significantly predicted academic performance of secondary school students in Akwa Ibom State. Similarly, Ekpo, Bassey and Owan



(2023) reported that students who are punctual to school perform better in Mathematics than those who are not punctual. The finding also supports the work of Uche and Edward (2022) who observed that lateness disrupts instructional time and reduces academic achievement.

Disobedience and Academic Achievement in Mathematics

The finding from hypothesis two showed that disobedience significantly influences students' academic achievement in Mathematics. Disobedience explained 39.4% of the variance in Mathematics achievement and the relationship was negative and strong. This implies that as disobedience increases, Mathematics achievement decreases. This finding may be attributed to the fact that disobedient students often refuse to obey instructions regarding assignments, homework, classwork and project work in Mathematics. They also tend to disregard teachers' guidance on how to solve Mathematics problems, skip classes and fail to submit assessment tasks. Disobedience also leads to poor teacher-student relationship which affects learning. This result corroborates the findings of Owan, Ekpenyong and Asuquo (2022) who found that students' disobedience significantly influences their academic performance in Cross River State. Similarly, Ukpong and Bassey (2022) reported that disobedience is a strong predictor of poor academic achievement because disobedient students do not participate effectively in classroom activities. The finding is also in line with Isang and Eni (2023) who observed significant negative relationship between disobedience and students' performance in Mathematics.

Aggression and Academic Achievement in Mathematics

The finding from hypothesis three revealed that aggression has significant influence on students' academic achievement in Mathematics. Aggression accounted for 33.6% of the variance in Mathematics achievement. The relationship was negative, indicating that higher aggression leads to lower Mathematics achievement. This finding can be explained by the fact that aggressive students often create tension and fear in the classroom, which disrupts learning not only for themselves but for other students. They spend more time involved in quarrels, fighting and disciplinary cases, and sometimes are suspended from school, thereby losing instructional hours. Aggression also affects emotional stability which is needed for concentration and logical reasoning required in Mathematics. Aggressive students are often unable to work cooperatively in group tasks and peer assessment activities in Mathematics. This finding is in agreement with Ekpo and Bassey (2023) who found that aggressive behaviour significantly influenced students' academic achievement in Mathematics in Calabar Education Zone. It also supports Musa and Sule (2022) who reported significant negative influence of aggression on academic performance of secondary school students in northern Nigeria. Similarly, Edet, Archibong and Akpan (2023) found that students with high aggressive behaviour had low academic achievement because they had poor self-regulation.

5.0 Summary of Findings

The study investigated the influence of deviant behaviours on students' academic achievement in Mathematics in Calabar Education Zone of Cross River State. The study was guided by three research questions and three hypotheses. The findings of the study are summarized as follows:

1. Lateness to school has significant influence on students' academic achievement in Mathematics in Calabar Education Zone.
2. Disobedience has significant influence on students' academic achievement in Mathematics in Calabar Education Zone.



3. Aggression has significant influence on students' academic achievement in Mathematics in Calabar Education Zone.

6.0 Conclusion

Based on the findings of this study, it was concluded that deviant behaviours significantly influence students' academic achievement in Mathematics in Calabar Education Zone. Lateness to school, disobedience and aggression are significant predictors of students' achievement in Mathematics. Lateness to school is the strongest predictor among the three variables, accounting for 40.0% of the variance in Mathematics achievement. This is followed by disobedience with 39.4% and aggression with 33.6%. The negative influence of these behaviours indicates that students who exhibit deviant behaviours are likely to perform poorly in Mathematics because they lose instructional time, miss classroom assessment activities, refuse to complete assignments and create disruptive learning environment. Therefore, for students to achieve high in Mathematics, deviant behaviours must be reduced to the barest minimum through effective school discipline, counselling and enforcement of punctuality. The effective use of classroom assessment strategies such as continuous assessment, formative assessment and immediate feedback can help to monitor and correct deviant behaviours early to improve learning outcomes in Mathematics.

7.0 Implications for Classroom Assessment and Evaluation

The findings of this study have far-reaching implications for classroom assessment and evaluation in Mathematics in secondary schools in Calabar Education Zone.

The finding that lateness to school significantly influences Mathematics achievement with 40.0% variance implies that classroom assessment will be invalid if students are not punctual. Most formative assessment activities such as morning mental drills, review questions, quizzes and take-home assignment corrections are conducted at the beginning of Mathematics lessons. Latecomers miss these assessments and therefore have incomplete continuous assessment records. This affects the computation of continuous assessment scores which form 30% of final evaluation. Teachers of Mathematics should ensure that continuous assessment is spread across the lesson and not only at the beginning, and that make-up assessment is provided for genuine latecomers while disciplinary measures are taken to enforce punctuality.

The finding that disobedience significantly influences Mathematics achievement implies that assessment should not only be cognitive but also affective. Classroom assessment and evaluation should include assessment of behavioural and attitudinal outcomes. Teachers should use anecdotal records, behaviour checklists and rating scales to assess and document disobedience. This will help counsellors and teachers to identify students with behavioural problems early and provide intervention before it affects their Mathematics achievement. Also, assignment and homework which are major classroom assessment tools will not be valid if students disobey instructions to complete them.

Deviant behaviours are often symptoms of underlying learning difficulties in Mathematics. Students who are weak in Mathematics may exhibit lateness, disobedience and aggression to avoid embarrassment during classroom assessment. Therefore, teachers should use diagnostic assessment to identify students' weaknesses in Mathematics early and provide remediation, rather than only using assessment for grading. Formative evaluation should be used to provide immediate feedback and encouragement to reduce frustration that leads to deviance. Finally, the findings imply that school-based assessment policy should include punctuality, obedience and non-



aggressive behaviour as part of affective domain assessment. The affective scores should be weighted and reported alongside cognitive scores in Mathematics. Parents should be involved through reporting of behavioural assessment results to ensure joint effort in curbing deviance.

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