ISSN: 2714-2965 (Print)
ISSN: 2714-3449 (Online)

The African Journal of Behavioural and Scale Development Research
AJB-SDR Vol. 4, No 2, 2022

# School Climate Indices and academic performance of Junior Secondary School Students in Lagos State

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## Abstract

*Several efforts have been made towards improving junior secondary student's scholastic performance as this affects the quality of human resources in the country. This study assessed the influence of school climate indices (teachers' support, peer support and students' autonomy) on the junior secondary students' academic performance in Ikorodu, Lagos State. Three hypotheses were developed; a correlational research design was used to conduct the study. 300 students and 300 teachers were randomly selected. The instrument used was the school climate indices scale (SCIS), and the student academic report. The data collected was analyzed using regression analysis at a 0.05 significance level. This study revealed that teacher's support is most viable amongst others in determining students' academic performance. It was recommended among others that all institutions must reconsider the school climate indices and do the needful to improve students' performance.*

**Keywords:** Academic Performance, Peer support School Climate, Teacher support, Students Autonomy

## Introduction

High academic performance of students could be achieved not only by the learners but by other individuals like teachers, parents, and peer groups. Parents, teachers and well-meaning individuals are concerned about the pitiable state of students' performance both within (internal) and outside the school examinations (external). There are various factors that have been found to influence the academic performance of junior secondary school students. Factors that have been found to contribute to high academic performance among junior secondary school students include parental involvement, student motivation, teacher quality, and access to resources (Dong, 2020; Gbamanja, 2017; Nwadiani & Makuochukwu, 2019). For instance, a study by Gbamanja (2017) found that parental involvement, measured by the frequency of parent-teacher communication and involvement in school activities, was positively associated with the academic performance of junior secondary school students in Nigeria.

School climate is an important factor that affects the academic performance of students. It refers to the quality and character of school life, including the social and emotional aspects of the learning environment. It also refers to the quality of relationships between students, teachers, and the school environment. A positive school climate is associated with better student outcomes, including higher academic achievement, improved attendance, and reduced disciplinary problems. Studies have shown that positive school climates, characterized by supportive relationships, clear rules and expectations, and a sense of belonging, are associated with higher academic achievement among students (Cohen, et.al, 2009; Konold & Cornell, 2015). Understanding the various factors that contribute to high academic performance among junior secondary school students is crucial for educators, policymakers, and parents in developing effective strategies to support students' success in school.

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ISSN: 2714-3449 (Online)

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One recent study on the association between a country's socioeconomic improvement and student performance was conducted by researchers from the University of Oxford and published in the Journal of Development Economics in 2021. The study analyzed data from over 140 countries and found that improvements in a country's socio-economic conditions, including increases in per capita income and reductions in poverty and inequality, were significantly associated with better student performance. The researchers also found that these improvements in student performance were crucial for generating a more employable workforce and future leaders for the nation. The study highlighted the importance of investing in education as a means of promoting socio-economic development and improve outcomes for individuals and societies as a whole. Secondary school education can be theoretically seen as the substratum and the basis for advanced knowledge in any university or college of education.

Academic performance can be defined as students' examination grades (or scores) at the end of a particular term or session (OECD, 2019). Student's academic performance is not just a measure of the effectiveness or ineffectiveness of schools, but it is also the main determinant of the youths' future in specific as well as the country as a whole. Students' academic performance in Nigeria is a cause of concern and a field of research for educators, the government, and parents. This is due to the significant impact education has on the country's national development. There is widespread agreement in Nigeria about the country's low educational standards (Adebule, 2004).

For example, a report by the World Bank in 2018 noted that Nigeria has the largest number of out-of-school children in the world, with an estimated 10.5 million children not attending school. The report also highlighted the poor quality of education in Nigeria with high levels of teacher absenteeism, inadequate infrastructure and learning materials, and low level of student learning outcomes. Similarly, a study published in the International Journal of Educational Development in 2020 examined the factors influencing educational quality in Nigeria and found that poor governance, corruption, and inadequate funding were major barriers to improving education in the country. The study also noted that low teacher motivation and poor teacher training were contributory factors to low educational standards in Nigeria.

Numerous research studies have been done to explore these issues, and the study results point to work ethics, economic status, and personality as variables that could clarify differences among students' grades, but few of these findings had linked poor performance consequence to school climate. For example, a study by Oplatka and Arviv-Elyashiv (2018) titled "Teacher working conditions, school climate, and students' achievement: A cross-national analysis". The study aimed at examining the relationship between teacher's working conditions, school climate, and students' achievement in 22 countries. The results of the study showed that school climate, as perceived by teachers, was positively related to students' achievement, even after controlling for teacher's working conditions and student background factors. Specifically, the study found that a positive school climate, characterized by supportive teacher-student relationships, a safe and orderly learning environment, and high academic expectations, was associated with higher student achievement. The study also found that teacher's working conditions, such as workload and salary, were important predictors of school climate, highlighting the importance of improving working conditions for teachers in order to create a positive school climate that promotes student achievement. Also, the article by Koth (2015) titled "Examining the relationships between school climate, discipline, and student achievement" explores the relationship between school climate, discipline, and student achievement. The study

ISSN: 2714-2965 (Print)
ISSN: 2714-3449 (Online)

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found that school climate, as measured by factors such as student-teacher relationship, school safety, and academic expectations, was positively related to student achievement. Specifically, the study found that a positive school climate was associated with higher levels of student achievement in both reading and math.

School climate involves the pattern which portrays the objectives, ethics, norms, and practices of teaching and learning, interpersonal relationships, and managerial structures of the school. An encouraging school atmosphere makes the parties involved to be emotionally and socially safe and their interrelationship will contribute to the effective and smooth operation of the school system (Oguntimehin, et al., 2018). The Center for Prevention Research and Development (1993) in Abosede, et al. (2020) examined school climate from the following indices: Tutor or instructor and peers support, learners' independence**,** clearness and uniformity in the institution's set of laws.

The more students relate with their teachers in school, the more their teacher's support will play a great role in the outcome of their academics, interest, and performance (Lei, et al., 2018). Teachers' abilities and professional competence during interaction can be used to control the tone of the teaching-learning environment, that is why there is a constant call for quality and effective teaching and learning (Duru, et al., 2020). Studies (Isa, et al., 2020; Mutisya, et al., 2019) have shown that students' academic success is significantly influenced by the majority of teachers' teaching strategies and encouragem ent. Additionally, their research demonstrated that the support of the teacher or tutor and the academic stimulus had significant and positive relationships with the students' academic performance.

The importance of peer connection, especially at the junior secondary school level, plays a significant role in how well learners perform. Peer support enhances academic growth since pupils learn more from their peers. According to Filade, et.al. (2019), peer influence played a great role in students' academic performance, which could be positive or negative, depending on the type of interaction. Academic performance is often affected whenever a student is negatively influenced by his/her friends**.** However, a good student can certainly influence his/her friends' academic performance positively. The study of Brouwer, et al. (2022) revealed that when students are already friends, they are more inclined to help one another, and students who support each other academically are more likely to become friends. Filade, et.al. (2019)'s study showed that students' academic performance is influenced by their peer group. It then implies that the higher a student's grade, the more likely he or she will be chosen as a buddy or an academic helper, and the more likely this higher-performing student will begin friendship and academic help interactions.

Student autonomy as one of the indices of school climate examined also fascinated the interest of researchers (Chen, 2019, Yi, 2019, Dong & Mustapha, 2020; Gunes & Alagozlu, 2020). Students' autonomy encompasses the entire instructional process to focus attention on the principle of learning; such that, learners will be able to ascertain the scholarship goals and develop knowledge paths (prior to learning tasks) that will reflect their ability and brief description during the course of learning. (Chen, 2019 in Dong & Mustapha, 2020). According to Yi (2019), students' autonomy can be described as a learning process that focuses on students' schemes and self-consciousness during learning activities. According to the results of Beshel, et al. (2019), students who were instructed using the expository technique and those who were trained using an autonomous learning strategy performed significantly differently. Sun (2021) investigates the relationship between students' autonomous learning ability, teacher-student interaction, and academic development during the COVID-19

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ISSN: 2714-3449 (Online)

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pandemic. The study found that students' autonomous learning ability had a positive effect on their academic development, and that teacher-student interaction also played a mediating role in this relationship. Specifically, the study found that teacher-student interaction had a positive effect on students' autonomous learning ability, which in turn had a positive effect on their academic development.

The study aims to provide insights into the importance of school climate in promoting students' academic success. The findings will be of interest to school administrators, educators, and policymakers who are concerned about improving the quality of education in junior secondary schools. By identifying the school climate indices that have the most significant impact on academic performance, this study can inform interventions aimed at creating a more supportive and conducive learning environment for students

**Objectives of the study**

The main goal of this study is to investigate the relationship between school climate indices and academic performance of junior secondary school students. Specifically, the study aims at identifying the different indices of school climate (such as Peer support School Climate, Teacher support, and Students Autonomy) and examine how they relate to students' academic performance.

**Hypotheses**

$HO_1$ There is no significant relationship between teachers' support as an index of school climate and students' academic performance in junior secondary schools.

$HO_2$ There is no significant influence of peer support as an index of school climate on students' academic performance in junior secondary schools.

$HO_3$ There is no significant influence of opportunities for students' autonomy as an index of school climate on students' academic performance in junior secondary schools.

**Methodology**

The study was designed as a correlational research design. Eight hundred and eighty-six (886) teachers and eight thousand four hundred and twenty-nine (8429) Junior Secondary School Three (JSS 3) learners in 28 junior secondary schools in the Ikorodu zone, Lagos State constituted the population of this study (Statistics from the Ministry of Education Year). A sample of 600 respondents (comprising 300 teachers and 300 students). Twenty (20) schools at the Junior secondary levels in Ikorodu zone were randomly picked for the study **w**hich account for 72 percent of the whole schools. By proportionate stratified random sampling, 44% of the teachers in each of the 20 selected secondary schools were chosen for the study, resulting in a total of 300 respondents. Additionally, a random sample of 300 students, or 5% of the JSS3 students in the 20 schools chosen for the study, was selected as the student sample. Teachers taking English Language and Mathematics were selected. Students' and Teachers' scores were analysed for this study, two instruments were utilised to gather data. They are:

1. **School Climate Indices Scale**: The School Climate Indices Scale (SCIS) was developed by The Center for Prevention Research and Development in 1993. The SCIS is a self-report measure that assesses students' perceptions of school climate across six domains: teacher support, student support, order and discipline, school facilities, school safety, and academic emphasis. In this research, the instrument was adapted to assess teacher support (6-items), peer support (6-items), and student autonomy (4-items). The subscales are rated on a 4- point Likert scale type (1 = never to 4 = always). The School Climate Indices Scale (SCIS) has been used in various research studies to assess students' perceptions of school climate and its impact on student outcomes. Some examples of studies that have used the SCIS include: "The Effects of School Climate on Student Achievement" by

ISSN: 2714-2965 (Print)
ISSN: 2714-3449 (Online)

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Wang and Degol (2016), which examined the relationship between school climate and academic achievement in middle schools. Also, "School Climate and Academic Achievement in a Turkish High School Sample" by Bozkurt and Akkoyunlu (2018), which investigated the relationship between school climate and academic achievement among high school students in Turkey And "School Climate, Teacher-Student Relationships, and Student Achievement: A Review of the Literature" by Thapa, et al. (2013), which reviewed research on the impact of school climate on student achievement and highlighted the importance of teacher-student relationships in promoting positive school climates. SCIS has been widely used in research studies examining the relationship between school climate and student outcomes, particularly in the areas of academic achievement, engagement, and well-being. Reliability coefficient alpha was found to be 0.74 for teacher support, 0.72 for peer support and 0.70 for student's autonomy. Using the test-retest method, the instrument was revalidated by administering it to 30 teachers from outside the study area at Ikosi Junior High School. The correlation coefficients were 0.79 for teacher support, 0.75 for peer support and 0.75 for student's autonomy respectively.

**2. Scores Collection Sheet (SCS)**: The students' scores for Junior Secondary School Certificate Examination (JSSCE) in Mathematics, English Llanguage and Basic science were collected using result collection sheets. Validating the Scores Collection Sheet (SCS) involves ensuring that the data collected from the scores sheet is accurate, reliable, and consistent. To achieve this, scores of data on the scores sheet were verified to ensure it is complete and accurate. All fields were correctly filled, there are no errors, and all relevant information is included. Data was checked for inconsistencies. And of course, discrepancies or patterns that don't make sense were also checked such as students with extremely high or low scores or missing data. Next, data was compared with the data on the scores sheet with other sources of data, such as student records or teacher assessments to establishif there are any discrepancies.

Next, the test for the reliability of the scores sheet was conducted. One way this was achieved is to have two different people independently collect and enter the data from the same set of score sheets. Compare the results to ensure that they are consistent and reliable. Then, a pilot test of the scores sheet was conducted to identify any issues or problems with the data collection process. Finally, it was ensured that the score sheet is user-friendly and easy to understand. This will encourage teachers or other data collectors to use the sheet consistently and correctly. This was achieved by the use of one trained research assistant, to make personal contact with the teachers in the chosen schools and collect their students' performance data, with their consent and support well sorted out. The study's formulated hypotheses were put to the test using linear regression analysis at 0.05 levels.

## Results

**Hypothesis 1**: Teachers' support as an index of school climate does not significantly influence students' academic performance in junior secondary schools.

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ISSN: 2714-3449 (Online)

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**Table 1: Regression Analysis of teachers' support and students' academic performance in junior secondary schools**

| REGRESSION | | ANOVA | | | | | |
|---|---|---|---|---|---|---|---|
| Model | | Source | Sum of Squares | df | Mean Square | F | Sig |
| R | =.116[a] | Regression | 776.522 | 1 | 776.522 | 4.048 | .045[b] |
| $R^2$ | =.013 | Residual | 57158.875 | 298 | 191.808 | | |
| Adj. $R^2$ | =.010 | Total | 57935.397 | 299 | | | |

Table 1 revealed that teachers' support is related to students' academic performance ($R = 0.116$; $R^2 = .013$; $F_{(1,298)} = 4.048$; $P< 0.05$). This demonstrates that teachers' support accounts for 1.3% of the variance in students' academic performance. The null hypothesis claims that junior secondary school students' academic performance was not significantly impacted by teachers' support, which was hereby rejected by this finding. This suggests that teachers' support significantly contributed to the academic performance of students in junior secondary schools.

**Hypothesis 2**: Peer support as an index of school climate does not significantly influence students' academic performance in junior secondary schools.

**Table 2: Summary of the Regression Analysis of peer support and students' academic performance in junior secondary schools**

| REGRESSION | | ANOVA | | | | | |
|---|---|---|---|---|---|---|---|
| Model | | Source | Sum of Squares | df | Mean Square | F | Sig |
| R | =.113[a] | Regression | 743.497 | 1 | 743.497 | 3.874 | .050[b] |
| $R^2$ | =.013 | Residual | 57191.900 | 298 | 191.919 | | |
| Adj. $R^2$ | =.010 | Total | 57935.397 | 299 | | | |

Table 2 revealed that peer support had influence on students' academic performance ($R = 0.113$; $R^2 = .013$; $F_{(1,298)} = 3.874$; $P< 0.05$). This demonstrates that peer support accounts for 1.3% of the overall variation in students' academic performance. This result thus refutes the notion that peer support had no discernible impact on junior secondary school students' academic performance. This suggests that in junior secondary school, peer support had a considerable impact on students' academic performance.

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**Hypothesis 3**: Opportunities for students' autonomy as an index of school climate does not significantly influence students' academic performance in junior secondary schools.

ISSN: 2714-2965 (Print)
ISSN: 2714-3449 (Online)

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**Table 3: Summary of the Regression Analysis of student's autonomy and students' academic performance in junior secondary schools**

| REGRESSION | | ANOVA | | | | |
|---|---|---|---|---|---|---|
| Model | Source | Sum of Squares | Df | Mean Square | F | Sig |
| R =.114[a] | Regression | 753.135 | 1 | 753.135 | 3.925 | .048[b] |
| $R^2$ =.013 | Residual | 57182.262 | 298 | 191.887 | | |
| Adj. $R^2$ =.010 | Total | 57935.397 | 299 | | | |

Table 3 revealed that students' autonomy had influence on students' academic performance (R = 0.114; $R^2$ = .013; $F_{(1,298)}$ = 3.925; P< 0.05). This shows that 1.3% of the total variance in students' academic performance is accounted for by students' autonomy. Therefore, this result rejects the hypothesis that claims that students' autonomy had no significant impact on the academic performance of junior secondary school pupils. This suggests that the degree of student's autonomy affected their academic performance significantly.

**Discussion**

The findings of hypothesis one demonstrated that the students' academic performance at the Junior Secondary School levels related to what does it mean? The findings of Isa *et al* (2020) are supported by this study which demonstrated that the greater part of the teaching approaches used by the teachers had contributed to the academic achievement of the students. Furthermore, data from Mutisya, et al. (2019) study corroborate the findings of the current study, demonstrating that academic engagement was significantly correlated with teachers' teaching support. The current study's findings on the significant relationship between academic performance and teachers' support are consistent with the results of a previous study by Mutisya, et.al. conducted in 2019. The 2019 study found that academic engagement, which is closely related to academic performance, was also significantly associated with teachers' support in teaching. Therefore, both studies suggest that teachers' support plays an important role in enhancing students' academic outcomes.

The results of hypothesis two showed a strong impact of peer support on students' academic performance at the Junior Secondary School levels. Let your voice be made known before supporting evidence. The findings of Filade, et al. (2019) are supported by this study which revealed that a student's academic performance was correlated with her peer group. Brouwer, et al. (2022), discovered that when students are already friends, they are more inclined to help one other, and students who support each other academically are more likely to become friends. The higher a student's grade, the more likely he or she will be chosen as a buddy or an academic helper, and the more likely this higher-performing student will begin friendship and academic help interactions.

The results of hypothesis three showed that possibilities for student autonomy had a substantial impact on the academic performance of students at the Junior Secondary School levels. The outcome of this investigation supports the conclusions made by Beshel et al (2019) which showed that learners taught by means of the expository method and those taught by means of autonomous learning strategy performed differently. Sun (2021) also found that while teacher-student interaction has little impact, students' autonomy in learning showed an immense connection with their academic prowess. This means that the findings of the current study on the relationship between academic performance and teachers' support are similar to those of a

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ISSN: 2714-3449 (Online)

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previous study conducted by Mutisya, et al. in 2019. The 2019 study also found a significant association between academic engagement, which is related to academic performance, and teachers' support in teaching. Therefore, both studies suggest that teachers' support is crucial in improving students' academic outcomes.

**Conclusion**

Based on the findings of the study "School Climate Indices and Academic Performance of Junior Secondary School Students," it can be concluded that teachers' support is the most significant factor in determining the academic performance of students in junior secondary schools. This study highlights the importance of creating a positive school climate that fosters supportive teacher-student relationships. It also suggests that students who feel supported by their teachers are more likely to be engaged in their studies and perform better academically.

The study's findings are consistent with previous research that demonstrates the positive impact of teachers' support on students' academic outcomes. Therefore, it is recommended that educators and policymakers prioritize creating a positive school climate that supports students' academic success by promoting teacher-student relationships and providing opportunities for students to develop autonomy. By doing so, they can help improve the academic performance and overall well-being of students in junior secondary schools.

**Recommendations**

1. Schools should prioritize teacher training and professional development programs aimed at improving teacher-student relationships, effective communication, and support for students' academic success.
2. School administrators should create a positive school climate that fosters trust, respect, and collaboration between teachers and students. This can be achieved through the implementation of school-wide policies and programs that promote positive school climate indices.
3. Teachers should adopt student-centered teaching methods that provide opportunities for students' autonomy, promote peer support and collaboration, and create a conducive learning environment that enhances students' academic performance.
4. Teachers' support should be felt by students to improve their behavioral and emotional engagement in the classroom thereby improving their academic performance
5. The principal should emphasize the importance of Students' autonomy as it has been linked to the confidence and capability of students including self-efficacy in reading, learning, and mastery of the subjects thereby enhancing academic performance.

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ISSN: 2714-3449 (Online)

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