



INFLUENCE OF FAMILY AND TECHNOLOGY-RELATED FACTORS ON THE ACADEMIC INTEREST OF SENIOR SECONDARY SCHOOL STUDENTS IN CALABAR EDUCATION ZONE OF CROSS RIVER STATE, NIGERIA.

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Abstract

This study aims to investigate the influence of family and technology-related factors on the academic interest of Senior Secondary School Students in Calabar Education Zone of Cross River State, Nigeria. To achieve this purpose, two research questions and two null hypotheses guided the study. A correlation survey research design was adopted. The population of the study comprised all the 2,735 Senior Secondary School Two (SSS2) students in the zone. The sample of the study was 213 respondents which was determined using Taro Yamane sampling method. The research instrument used for data collection was a researcher-developed questionnaire of Senior Secondary Students Academic Interest Questionnaires (SSSAIQ) which was face validated by experts in Educational Test and Measurements department of the university of Calabar, Calabar. Cronbach's Alpha was used to test the reliability coefficient and 0.88 and 0.94 were obtained. The findings of the study based on the research questions formulated was that, there exists a strong impact of family influence on students' academic interest. Also, that digital resources like educational apps, positively impacted students' interest, and excessive social media which involves the use of technology negatively affected academic motivation. Based on the findings it was recommended among others that the management of schools should implement program aimed at educating parents about their roles in supporting their children's education in Calabar Education Zone of Cross River State, Nigeria.

Keyword: Influence of family, Technology related factors, Academic interest & Senior Secondary School Students.

Introduction

Academic engagement, achievement, and future success of every student or learner can be influenced by various factors. This can be done by either student's intrinsic motivation to learn, their enjoyment of the learning process and their desire to excel in academic pursuit (Akinsoluyo et al, 2019). However, research suggest a decline in academic interest among senior secondary school students in various region, including Nigeria and Calabar Education Zone Area in particular (Shittu, 2015; Afolay, 2018; Adeneye, 2023).

A student's family related factors encompassing family income, parental education level and access to learning resources, can significantly influence academic interest. A study by Ayodele (2020) found that students from lower-income family demonstrate lower academic interest

compared to their counterpart from wealthier backgrounds. This could be attributed to limited access to educational materials, ineffective learning environment at home and the pressure to contribute to household income hindering academic focus (Esambe & Ajaji 2018). Uche et al (2018) found out from their study that students with parents who had higher level of education exhibited greater academic interest than their counterparts with parents who were illiterates or with lower academic attainment. This might be due to more stimulating environment, parental support for activities and higher educational expectations from better educated parents (Asledu & Agyapong 2021).

Technology related factors such as availability, affordability and effective utilization of educational technologies (like; computers, smart phones, tablets, projectors, smart screen, assistive technologies, etc.) can significantly impact students' academic engagement; while limited access to technology can hinder their ability to research, access educational resources, and participate in online learning activities. A study Owolabi et al. (2023) showed that the effective integration of technology into teaching and learning increased student's engagement and academic interest. However, responsible use of technology is advised as excessive exposure to screens could cause distraction and lead to decreased attention span, reduced focus, and a decline in academic work (Smith & Johnson, 2023). Social media platforms and online games can be highly distracting, diverting students' attention away from their studies and reducing their motivation to engage in academic tasks. The quality and relevance of online educational resources can influence students' academic interest. If students cannot find reliable and engaging content, they may become disengaged and frustrated.

Students in senior secondary school across Nigeria, including Calabar Education Zone of Cross River State are increasingly demonstrating a lack of academic interest. This decline in interest tends to result in poor academic performances in both internal and external examinations, thereby hindering their future prospects. This also accounts for many acts of examination malpractice and desperation moves in order to pass internal and external examinations. Many efforts by stakeholders like the government, school management, teacher, parents and concerned bodies have failed to yield sustainable and replicable solutions to the issue. While the reason for this situation could likely be multifaceted, a clear understanding of the contributing factors is currently lacking. Since the search for lasting solution is still on, the need to empirically address the gap by exploring the various factors that are responsible for the situation cannot be over emphasized. Thus, the researcher seeks to answer the question, to what extent does family and technology related factors serve as determinants of academic interest among senior secondary school students in Calabar Education Zone of Cross River State.

The family's educational level has a profound impact on a child's academic achievement and interest. Research has consistently shown that children from families with higher educational qualifications tend to perform better academically and have higher academic aspirations and interest (Adewale, 2017). This is because educated parents are more likely to provide a supportive learning environment, have high expectations for their children and be involved in their children's education (Oladeji, 2018). In Nigeria, studies have shown that family educational level is a significant predictor of students' academic interest (Adebayo 2019). Furthermore, research has shown that the impact of family educational level on academic interest is intergenerational (Akinbote, 2019). Children from families with higher educational levels are

more likely to pursue higher education and have higher academic aspirations and interest (Oyedele 2018).

Adewale (2017) examined the Parental Education and Academic Achievement of Students in Nigeria in Secondary school students in Lagos State, Nigeria. A Sample size of 300 students using questionnaire for data collection and Regression analysis for data analysis. The result showed that positive significant relationship was found between family educational level and students' academic achievement.

Another key family-related factor that influence students' academic interest is parental involvement. Researches have shown that when parents are actively involved in their children's education, they tend to have higher level of academic motivation and interest. Parents who show interest in the schoolwork of their wards, attend parent-teacher meetings, and provide supportive learning environment at home, can positively impact their wards attitude towards learning. Johnson (2021), found out that parental involvement was associated with higher academic interest across all socio-economic levels. The study reported that, on average, parental involvement accounted for approximately 10-15% of the variance in student outcomes. A similar study by Fan & Chen (2021), examined parental involvement in homework assistance and reported that approximately 80% of parents surveyed helped their children with homework regularly. This high percentage highlights the importance parents place on supporting their children's learning outside of school hours.

In the contemporary educational world, technology plays a pivotal role in fostering students' academic interest. The integration of technology in teaching and learning processes has been linked to increased student engagement, improved academic performance, and enhanced learning experiences. The access to information is a fundamental practice that has gained significant attention in the contemporary world. The ability to obtain and process information is crucial for individual empowerment, social development, and economic growth. Several technology-related factors such as, access to technology (computers, tablet, internet, etc.), use of educational technology (online learning platform, digitals tools), digital literacy skills (ability to find, evaluate and use information online) and use of technology for communication and collaboration with peers and teachers.

Access to technology has become a crucial factor in determining the quality of education in today's digital age. It is essential for providing students with the skills they need to succeed in the digital age. However, there are still significant disparities in access to technology, particularly for marginalized groups. Krueger (2018) found that students from low-income families had less access to technology than their peers from more affluent families. Interactive learning environments created by technology have been shown to boost students' academic interest. Interactive whiteboards, educational software, and multimedia resources provide students with opportunities to explore concepts in a more engaging and interactive way (Kebritchi et al., 2020).

Personalized learning facilitated by technology is another factor that can enhance students' academic interest. With the help of adaptive learning platforms and educational apps, teachers can tailor instruction to meet individual students' needs and learning styles (Johnson, 2021). This

personalized approach can help students stay engaged in the learning process and feel more interested to learn. The use of educational technologies and online learning platforms has transformed the teaching and learning experience in the digital age.

Technology tools such as Google Docs, wikis, and discussion forums allow students to work together on projects from anywhere in the world (Buckingham Shum and Williams, 2016). With the vast amount of information available online, students have unprecedented access to resources that can help them deepen their understanding of complex concepts (Chen et al., 2014). Moreover, digital libraries and e-books offer convenience and flexibility for students who may not have easy access to physical textbooks or libraries. Paul, et al (2020) examined the effect of educational technology on student engagement and learning outcomes of students in higher education. Sample size of 500 students from 10 universities, and an online survey was used for data collection, with descriptive statistics and regression for data analysis. The result showed that the use of educational technology was found to improve student engagement and learning outcomes.

Digital literacy skills refer to the ability to effectively and critically navigate, evaluate, and create information in digital environments. They are essential for navigating the digital world and accessing information, services, and opportunities (Wagner, 2018). Digital literacy skills include technical skills, information literacy skills, and critical thinking skills. Digital literacy skills are critical for academic success, workforce development, and lifelong learning. They can bridge the digital divide and promote social inclusion. A study conducted by Wagner (2018) focused on investigating the relationship between digital literacy skills and academic interest. It covered students in grade K-12 with a sample size of 2000 students from 40 schools. The research employed Standardized test score and survey questionnaire for data collection. Data were analyzed using descriptive statistics and regression analysis. The findings of the study shows that students with strong digital literacy skills tend to perform better academically.

Indeed, technology has revolutionized the way people communicate and collaborate, and its impact on education has been significant. Interactive educational tools, such as educational apps, simulations, and multimedia resources, have been shown to provide students with more engaging learning experiences than traditional method. These technologies can capture students' attention and stimulate their curiosity, leading to a deeper understanding of academic concept. Multimedia resources like videos and animations can help students visualize abstract concepts and make learning more enjoyable. Moreover, interactive technologies can cater to different learning styles and preferences. For example, visual learners can benefit from multimedia resources like videos and diagrams, while kinesthetic learners can engage with interactive simulations that allow them to manipulate objects in a virtual environment (Kolb and Frye, 2015). Furthermore, interactive technology can facilitate collaboration among students by enabling real-time communication and group projects.

Method

This study adopted a correlation survey research design with study area in Calabar Education Zone of Cross River State, Nigeria. Two research questions and two null hypotheses were formulated to guide the study. The population of the study comprised of all the 2,735 Senior Secondary School Two (SSS2) students in the zone. The sampling techniques adopted for the

study was simple random and accidental sampling techniques. Out of 79 public secondary schools in Calabar Education zone, ten (10) were randomly selected through a lottery method. In each of the sampled schools the senior secondary school two (SS2), twenty-one (21) students who were members of the class from any unit were selected. The sample of the study was 213 respondents which was determined using Taro Yamane. The research instrument used for data collection was a researcher-developed questionnaire of Senior Secondary Students Academic Interest Questionnaires (SSSAIQ) which was face validated by experts in Educational Test and Measurements department of the University of Calabar. Cronbach's Alpha was used to test the reliability coefficient and 0.88 and 0.94 were obtained. Data collected through the questionnaire were scored, coded and analyzed using simple linear regression, particularly, the correlation coefficient (R), coefficient of determination and regression ANOVA which was used to test all the hypotheses at 0.05 level of significance.

Results

Data for testing the hypotheses were analyzed using simple linear regression.

Hypothesis one: Family-related factors do not significantly contribute to students' academic interest.

Table 1: Simple linear regression analysis of the contribution of family-related factor to students' academic interest

		Students' Academic Interest (SAI)	Family-Related Factor (FRF)	R	R ²
Pearson Correlation	Students' Academic Interest (SAI)	1.000	.722	0.722	0.522
	Family-Related Factor (FRF)	.722	1.000		
Sig. (1-tailed)	SUMSAI	.	.000		
	SUMFRF	.000	.		
N	SUMSAI	213	213		
	SUMFRF	213	213		

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1038.124	1	1038.124	229.975	.000
	Residual	952.468	211	4.514		
	Total	1990.592	212			

a. Dependent Variable: Students' Academic Interest (SAI)

b. Predictors: (Constant), Family-Related Factor (FRF)

The result in the table above shows that when the scores from students' responses on family-related factor were correlated with the scores from their responses on academic interest, a correlation coefficient (R) of .722 with a coefficient of determination (R²) of .522 were obtained from the analysis. The correlation coefficient of .722 signifies that there exists a highly positive relationship between family-related factor and students' academic interest. The coefficient of determination (R²) of .522 implies that family-related factors contribute to 52.2% changes in

students' academic interest. Further analysis revealed that family-related factors significantly contribute to students' academic interest, ($F(1, 211) = 229.975$, Sig. = .000). This is because the associated probability (sig.) value of .000 when compared with 0.05 level of significance for testing the hypothesis was found to be significant because .000 is less than 0.05 ($p < .05$). Therefore, the null hypothesis one (H_{01}) was rejected, and the inference drawn is that family-related factors significantly contribute to students' academic interest.

Hypothesis two: Technology-related factors do not significantly contribute to students' academic interest.

Table 2: Simple linear regression analysis of the contribution of technology-related factor to students' academic interest

		Students' Academic Interest (SAI)	Technology-Related Factor (TECHRF)	R	R ²
Pearson Correlation	Students' Academic Interest (SAI)	1.000	.591	0.591	0.350
	Technology-Related Factor (TECHRF)	.591	1.000		
Sig. (1-tailed)	SUMSAI	.	.000		
	SUM TECHRF	.000	.		
N	SUMSAI	213	213		
	SUM TECHRF	213	213		

ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	696.138	1	696.138	113.473	.000
	Residual	1294.454	211	6.135		
	Total	1990.592	212			

a. Dependent Variable: Students' Academic Interest (SAI)

b. Predictors: (Constant), Technology-Related Factor (TECHRF)

The result in the above table shows that when the scores from students' responses on technology-related factor were correlated with the scores from their responses on academic interest, a correlation coefficient (R) of .591 with a coefficient of determination (R^2) of .350 were obtained from the analysis. The correlation coefficient of .591 shows that there exists a moderately positive relationship between technology-related factor and students' academic interest. The coefficient of determination (R^2) of .350 implies that technology-related factors contribute to 35.0% changes in students' academic interest. Further analysis also revealed that technology-related factors significantly contribute to students' academic interest, ($F(1, 211) = 113.473$, Sig. = .000). This is because the associated probability (sig.) value of .000 when compared with 0.05 level of significance for testing the hypothesis was found to be significant because .000 is less than 0.05 ($p < .05$). Hence, the null hypothesis three (H_{02}) was rejected, and the inference drawn is that technology-related factors significantly contribute to students' academic interest.

The findings obtained in the study are discussed based on the research question formulated for the study.

Findings:

Family-Related Factors and Students' Academic Interest

This study found that teacher-related factors contribute to 48.1% changes in students' academic interest. Thus, it was further revealed that teacher-related factors significantly contribute to students' academic interest. This means that there exists a strong impact of family influence on students' academic interest. This could be so because family environments are pivotal in shaping students' attitudes towards learning, as they provide emotional, financial, and motivational support which can either foster or hinder academic interest. Parental involvement, such as encouraging learning, creating a conducive study environment, and setting high academic expectations, often contributes positively to students' interest. Conversely, challenges like lack of support, low socio-economic status, or negative parental attitudes toward education can adversely affect a student's academic motivation.

The finding is in agreement with the findings of some previous studies. For instance, Smith et al. (2023) reported that students with parents who actively engage in their education exhibited higher academic interest and performance. Similarly, Ahmed and Wills (2022) revealed that socio-economic stability within families enables access to resources that enhance students' interest in learning. The finding is also in line with the finding of another recent investigation by Baker and Lee (2024), which showed that parental education levels and positive reinforcement substantially impact academic enthusiasm in secondary school students, thus reinforcing the substantial effect of family-related factors.

Technology-Related Factors and Students' Academic Interest

The study also found that technology-related factors contribute to 35.0% changes in students' academic interest. Further analysis also revealed that technology-related factors significantly contribute to students' academic interest. This suggests that technology has a notable but slightly lesser impact compared to family and teacher factors. This can be true because technology offers students access to interactive and engaging learning resources that can enhance interest in academic activities. However, excessive or unregulated use of technology for entertainment rather than educational purposes may detract from academic focus, leading to a complex relationship between technology use and academic interest.

This finding is consistent with the findings of some previous scholars. For example, the finding is in consonance with that of Brown and Ahmed (2023) who reported that technology use in classrooms, when managed well, can increase students' engagement and interest in learning. Similarly, the finding is in tandem with that of Kang and Zhang (2022) which showed that digital resources like educational apps, positively impacted students' interest. On the other hand, Parker and Hughes (2021) found that excessive social media which involves the use of technology negatively affected academic motivation. Moreover, Foster and Nguyen (2024) indicated that while technology can support learning, without adequate guidance, students may be distracted, thus reducing their academic interest.

Conclusion:

From the findings, it was concluded that the family and technology related factors contribute significantly to students' academic interest. These results stress the crucial roles that family support, engagement, and responsible technology use play in fostering students' academic interest.

Recommendations.

Based on the finding from the study, the following recommendation were projected.

1. Management of schools should implement program aimed at educating parents about their roles in supporting their children's education. Workshop or seminar could be organized to equip parents with skills necessary for providing academic support
2. Management of schools should implement mentoring programs where teachers can support students beyond academic content, fostering a supportive environment for growth and motivation.
3. School authorities should implement guidelines to help students balance educational and recreational technology use, minimizing distractions and promoting focus on academic content.

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