Relationship Between Causal Attributions and Academic Achievement of Senior Secondary School Students in North Central, Nigeria

H.A. Apeh[1]; G.B. Kumo[2] & A. Ibrahim[3]
Department of Educational Foundation, University of Abuja,
P.M.B. 117 Abuja, Nigeria.
[1]apehhosea@gmail.com; [2]gbkumo@gmail.com; [3]asiyaibrahim25@gmail.com
[1]08035052279; [2]08033145087; [3]08069547300
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Abstract
This study investigated the relationship between causal attributions and academic achievement of senior secondary school students in North Central, Nigeria. With the purpose of identifying the causal attributions of senior secondary schools in the North Central of Nigeria and also examining the relationships that academic achievement could have with variables such as controllable internal causal attributions for success, uncontrollable internal attributions for success and external causal attributions for success, controllable internal causal attributions for failure, uncontrollable internal attributions for failure and external causal attributions for failure. The study adopted a correlational research design to examine the relationship between variables. The population for the study was one hundred and eighty thousand, nine hundred and seventy-eight (180,978) SS II students in the North Central of Nigeria out of which 384 students were systematically selected for the study. Controllability causal attribution scale was used as research instruments. Statistical Package for Social Sciences (SPSS) was used to analyze the data at four different levels; simple percentages was used to analyze the respondents' demographic data, mean, standard deviation and scatterplot was used to analyze the research questions, Multiple Linear Regression Analysis was used to analyze hypothesis 1, Person Product-Moment Correlation (PPMC) was used to analyze the hypotheses 2 to 4 while Moderated Multiple Linear Regression Analysis (MMLRA) was used to test hypothesis nine at 0.05 alpha level of significant. The results revealed that causal attributions considerably influence academic achievement, with controllable internal causal attributions for success and failure having significant effects. Controllable Internal Causal Attribution for Failure is a 'major positive predictor' of academic achievement. Uncontrollable internal causal attribution for failure and external causal attribution for failure have considerable negative relationships with academic achievement. Schools should implement attribution retraining programs to help students develop a mindset that links their academic outcomes to controllable factors like effort and strategy use, rather than external or uncontrollable causes.

INTRODUCTION

The issue of poor academic achievement of students in Nigeria keeps reoccurring at the various levels of education. Poor academic achievement, particularly at the secondary school level has been on the increase in both internal and external examinations. Evidence of this poor performance is the subsequent investigation into the academic performance of students which has revealed that some psychological constructs like causal attributions and others have effect on academic performance.

Many scholars and stakeholders are actively searching for workable solutions to the problem posed by increasing poor achievement among students in secondary schools. The attempt of current research is to establish empirical relationship if any, between causal attributions (controllable and uncontrollable internal and external causal attributions for success, controllable and uncontrollable internal and external causal attributions for failure) and academic achievement.

Causal attribution refers to one's perception of the factors that cause learning success and failure. These perceptions encompass three dimensions: locus of causality, stability, and personal control (Rosito, 2020). Attribution is the process where people refer to when explaining, interpreting and sometimes judging event, behavior, or even a result by ascribing these later ones to different causes whether internal or external and that depends on how much he/she are aware of themselves and the environment around them (Chibane & Zelellou, 2022). According to Shores and Smith as cited in Lapite, Gideon and Jordaan (2022) describe attribution as individuals' ascription of failures and successes in life to causes that are either resident in or external to people. They further explain that individuals who are internally driven ascribe their success to their own ability or effort and accept liability for such performance. Those who are externally motivated ascribe their success to elements beyond their control, such as luck or the easiness of a task (Houston as cited in Lapite, Gideon and Jordaan, 2022).

Furthermore, causal attributions refer to the explanations or reasons that individuals give for their own success or failure in various aspects of life, including academic, professional, or personal achievements. These attributions play a significant role in shaping individuals' attitudes, beliefs, and behaviors. When individuals succeed, they tend to make attributions to explain the reasons behind their success. These attributions can be categorized as internal or external. Internal attributions refer to factors within oneself, such as personal effort, abilities, or intelligence. For example, someone who receives a high grade on a test may attribute their success to their hard work and studying. On the other hand, external attributions refer to factors outside of oneself, such as luck, chance, or help from others. In the same example, someone may attribute their success to luck or the assistance of a knowledgeable classmate. Similarly, when individuals experience failure, they also make attributions to explain the reasons behind their lack of success. These attributions can also be categorized as internal or external. Internal attributions for failure may involve factors such as lack of effort, insufficient skills, or personal shortcomings. For instance, someone who fails a job interview may attribute their failure to their lack of preparation or inadequate qualifications. External attributions for failure may involve factors beyond one's control, such as difficult circumstances, unfair competition, or biased evaluation. In the same example, someone may attribute their failure to a highly competitive job market or biased interviewers. According to Ibarra Tancara and Weiner as cited by Moscato, Obregón-Cuesta, Zapatero-Moreno, et al (2023), attribute success or failure at school according to four elements: ability, effort, the difficulty of the task and luck. These are classified into three dimensions: locus of causality, stability and controllability. Regarding the locus of causality, it can be exogenous, that is, associated with chance and/or task difficulty, or internal, associated with skill and effort. Moreover, its causes can be stable (ability) or unstable (effort and/or luck).

Locus of causality is divided into internal vs. external, refers to whether individuals attribute the cause of an event or outcome to internal factors (such as personal abilities, effort, or traits) or external factors (such as luck, task difficulty, or situational factors). Stability refers to whether individuals attribute the cause of an event or outcome to stable factors (those that are relatively permanent and unchanging) or

unstable factors (those that are temporary and subject to change). Controllability refers to whether individuals attribute the cause of an event or outcome to factors that they have control over or factors that are beyond their control. Globality refers to whether individuals attribute the cause of an event or outcome to factors that are general and apply to many situations (global) or factors that are specific and apply only to a particular situation (specific). The study of attributions began in the field of social psychology. Fritz Heider, the 'father' of attribution theory, first proposed that people are naive scientists who try to work out the causes of outcomes for themselves and other people (Heider as cited in Dasborough and Harvey, 2023).

It is increasingly common among secondary school students in Nigeria especially the North Central zone to attribute their academic success or failure to effort, ability, the difficulty of the task and luck. Many of those who did very well in each task attribute the cause of their success to attribution factors such as effort or hard work and ability or intelligence. While those who performed dismally in their academic pursuit tend to attribute the cause of their failure to luck, task difficulty, or teacher bias. More so, different assertion from different scholars has been found that causal attribution is one of the most reliable indicators of students' performance. Thus, it is necessary to find out if this causal attribution factors (controllable, uncontrollable internal and external causal attributions for success and controllable, uncontrollable internal and external causal attributions for failure) have relationship with students' academic achievement in the North Central of Nigeria.

Recent research has explored how gender differences in students' causal attributions relate to academic achievement. A study by Ngunu et al. (2019) investigated gender differences in causal attributions for success and failure among secondary school students in Kenya. The study revealed significant gender differences in attributions for failure, with variations in how boys and girls attributed their academic outcomes. These differences in attributional styles could potentially impact students' academic achievement. Similarly, a study by Pilotti and Wilson (2021) explored the role of self-efficacy and causal attribution habits in accounting for the success of college students. The research highlighted that gender differences in these psychological factors could influence academic performance, suggesting the need for interventions that address these disparities. These studies underscore the complex interplay between gender, teacher attributes, students' causal attributions, and academic achievement. Therefore, investigating the relationship between causal attribution and students' academic achievements is likely to provide potential knowledge that would allow better understanding and more prediction of academic achievement above expectations. Furthermore, understanding these relationships and the complex interplay between gender, students' causal attributions and academic achievement is crucial for developing targeted interventions aimed at promoting equitable educational outcomes.

Previous studies found associations between students' achievement attribution and academic achievement. However, previous studies mainly focused on attribution of academic failures, and found inconsistent results (Gordeeva et al., and Perry et al., as cited in Chen and Wu, 2021). Some studies found that students who attributed a poor academic performance to internal and stable factors, would experience a decrease in academic achievement (Perry et al., as cited in Chen and Wu, 2021). However, other studies found that attributing failures to stable factors had a positive association (Gibb et al., as cited in Chen and Wu, 2021) or did not have a significant association with academic achievement (Houston, 2016). Compared with studies about attribution of academic failure, only a few previous studies focused on attribution of academic success (Gordeeva et al., 2019). Attribution of positive events was found to be a better and more

stable predictor of students' academic achievement than attribution of negative events (Gordeeva et al., 2019). A few studies focusing on attribution of success found that students who tended to attribute positive events to internal and stable factors had higher levels of academic achievement (Houston, 2016). According to Enoch and Asogwa, (2021), academic achievement is teachers' major concern as well as students, parents and guardians including other stakeholders in the education industry. A high academic achievement for any class of students is a sign of teaching/learning effectiveness while poor academic achievement, on the other hand, is an indication that the teaching/learning process is everything but ineffective.

Academic achievement has been described as the outcome of an education. It is the extent to which a student has achieved his or her educational objective. Academic achievement is also defined as the experiences in life which includes community, family, current and school experiences. So to understand the process, the family, community is required. The study of academic achievement and other variables has formed significant contribution to educational system in many countries. Some researchers reported that academic achievement is associated with both cognitive and non-cognitive variables including environment, climate, culture, and socio-economic status. The research in academic achievement and other variables was to discover avenues by which academic achievement could be managed and improved. There are many ways in which academic achievement could be fostered in students (Obochi as cited in Ibrahim, 2018). Since learning is an integral aspect and a major determinant of academic achievement, it logically follows that the factors influencing learning in an individual. Academic performance and its effective factors are one of the pivotal and fundamental variables in education. In fact, it can be said that academic performance of students has been allocated an important contribution of the existing research in the field of educational psychology. There are different definitions of academic performance. To Atkinson academic performance is an acquired ability or individual acquisition. It can be said that academic performance is as follows: the success in passing of different lessons by the students or learners and showing the proper performance in society or their lives based on the learned-material (Khalaj & Savoji, 2018).

The main purpose of this study is to investigate the relationships between causal attributions, and academic achievement of senior secondary school students in the North Central of Nigeria. It sought answer to the following research question:
What is causal attribution of senior secondary school students in the North Central of Nigeria?

Hypotheses

The following null hypotheses were formulated to guide the study:

Ho_1: There is no significant relationship between causal attributions and students' academic achievement in the North Central of Nigeria.

Ho_2: There is no significant relationship between controllable internal causal attribution for failure and students' academic achievement in the North Central of Nigeria.

Ho_3: There is no significant relationship between uncontrollable internal causal attribution for failure and students' academic achievement in the North Central of Nigeria.

Ho_4: There is no significant relationship between external causal attribution for failure and students' academic achievement in the North Central of Nigeria.

Ho_5: There are no significant relationships between teachers' professional attributes, causal attributions and academic achievement of male and female students in the North Central of Nigeria.

Methodology

The study used a correlational research design to examine the relationship between causal attributions and students' academic achievement. The population of the involved one hundred and eighty thousand, nine hundred and seventy-eight (180,978) SS II students of the twenty-four Federal Government Secondary Schools, also known as Unity Schools Federal Government Colleges in the North-Central of Nigeria. Out of which 11 schools and three hundred and eighty-four (384) respondents were systematically and randomly selected respectively. To ensure effective and adequate data generation and collection, controllability causal attribution scale was used. The controllability causal attribution scale was adapted from the Academic Success and Failure Attribution by Moscato, Obregon-Cuesta, Zapatero-Moreno, Gonzalez-Bernal, Fernandez-Solana, Minguez-Minguez, Leon-del-Barco, Mendo-Lazaro and Gonzalez-Santos (2023). The scale was developed from Weiner's theory of attributions, composed of 24 items measuring the attributions of academic success (12 items) and failure (12 items). The scale has an overall internal consistency of 0.87, 0.76, 80. It is a 4-point modified Likert type rating scales, the format of response ranges from strongly agree (4) to strongly disagree (1). It was validated by the supervisors and other experts in Educational Psychology, Department of Educational Foundations, at the University of Abuja. And it reliability was determined through a pilot test, using Cronbach Alpha coefficient to measure the internal consistency. Thus, the reliability index of 0.87 obtained. Data was collected, coded and faded in SPSS Version 20, and analysed using descriptive and inferential statistics. Simple percentages was used to analysed the respondents' demographic data, mean scores and scatterplot was used to answer the research questions, Multiple Linear Regression Analysis (MLRA) was used to test hypothesis 1 and Pearson Product Moment Correlation Coefficient (PPMCC) statistics was used to test hypothesis two to four, while Moderated Multiple Linear Regression Analysis (MMLRA) was used to test hypothesis nine at 0.05 alpha level of significant. Out of the 384 instruments distributed to the study's respondents, the researcher was able to retrieve 382 (99%) which were used for the analysis.

Result

Research Question: What is the causal attribution of senior secondary school students in the North Central of Nigeria?

Table 1a: Students' causal attributions for success
N = 382

S/No.	Items	Mean	Std. Dev.	Decision
1.	I pass because I try so hard in class	3.52	0.70	Agree
2.	I pass because I spend a lot of time preparing for the exams	3.41	0.67	Agree
3.	I pass because I have interest and pay a lot of attention in the classes	3.32	0.70	Agree
4.	I passed because I prepared for the exams.	3.35	0.77	Agree
5.	I pass because I am very intelligent	3.06	0.80	Agree
6.	I pass because I have a very good memory	3.01	0.78	Agree
7.	I passed because I a lot of talent, that is, I have a lot of natural capacity for studies	2.99	0.85	Agree
8.	I passed because I have a calm character, and I don't get nervous in the exams.	3.20	0.87	Agree
9.	I pass because the teachers give easy exams	2.00	0.98	Disagree
10.	I passed because I have good luck.	2.57	1.01	Agree
11.	I passed because my family helped me.	2.38	0.97	Disagree
12.	I passed because my teachers explain the topics very well.	3.24	0.77	Agree
	Sectional Mean/Std. Dev.	**3.00**	**0.82**	**Agree**

Table 7a presents students' causal attribution for success. With a sectional mean score of 3.00, students generally agree with items assessing students' internal causal attribution for success. This indicates that students have internal causal attributions for success the items on the causal attributions for success. Consequently, it can be concluded that senior secondary school students in the North Central of Nigeria have internal causal attributions for success.

Table 1b: Students' Causal attribution for failure
N = 382

S/No.	Items	Mean	Std. dev.	Decision
1.	I failed because I made little effort in class	1.99	0.93	Disagree
2.	I failed because I spent little time preparing for exams.	1.94	1.03	Disagree
3.	I fail because I pay little attention in class.	2.13	1.00	Disagree
4.	I failed because I did not use strategies to prepare for exams.	2.46	1.10	Disagree
5.	I failed because I'm not very smart.	1.91	0.94	Disagree
6.	I failed because I don't have a good memory.	2.01	0.95	Disagree
7.	I fail because I have little talent, that is, I have little natural capacity for studies.	2.03	0.95	Disagree
8.	I fail because I have a nervous character, and I cannot calm down in the exams.	2.05	1.03	Disagree
9.	I failed because the teachers gave difficult tests.	2.57	1.09	Agree
10.	I failed because I had bad luck.	1.63	0.95	Disagree
11.	I failed because my teachers do not explain the subjects well.	2.15	1.03	Disagree
12.	I failed because I didn't receive help from family.	1.63	0.98	Disagree
	Sectional Mean/Std. Dev.	**2.04**	**0.99**	**Disagree**

Table 7b presents students' causal attributions for failure. With a sectional mean score of 2.04, students generally disagreed with internal causal attributions for failure. This suggests that senior secondary school students in North Central Nigeria tend to attribute their failure to external factors rather than internal factors. The only item that received agreement was "difficult tests" (mean = 2.57), indicating that students attribute their failure to external factors such as test difficulty.

Based on the analysis of Tables 7a and 7b, the students' attribution style can be categorized as follows:

Table 7a presents students' causal attributions for success, with a sectional mean score of 3.00, indicating that senior secondary school students in North Central Nigeria attribute their success to internal factors. Specifically, students agree that effort (3.52), preparation (3.41), interest and attention (3.32), and good teaching (3.24) contribute to their success.

Table 7b shows students' causal attributions for failure. The analysis reveals that students tend to disagree with internal causal attributions for failure, except for items 3 (poor attention) and 9 (difficult tests). This suggests that students attribute their failure to external factors.

The students' attribution style can be categorized as follows: Controllable attributions: effort, preparation, attention, and lack of effort. Uncontrollable attributions: intelligence, teacher explanations, difficult tests, lack of intelligence, memory, talent, and bad luck.

The analysis indicates that students exhibit a mixed attribution pattern, with a slight emphasis on internal attributions for success (54.5%) and external attributions for failure (56.8%). Overall, students' attribution style tends to be more controllable than uncontrollable.

Ho_1: There is no significant relationship between causal attributions and students' academic achievement in the North Central of Nigeria.

Table 2a: Model Summary of Relationship between Causal Attributions and Students' Academic Achievement

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.313[a]	.098	.083	15.10080

Table 2a presents the model summary of the relationship between causal attributions and students' academic achievement in the North Central region of Nigeria. The R = .313, R^2 = .098; this means causal attributions explain 9.8% of the variance in academic achievement. The Adjusted R^2 = .083, adjusted for the number of predictors. This indicates a low but present explanatory power. The Standard Error of the Estimate is 15.10080, indicating the average difference between predicted and actual academic achievement scores.

To determine the statistical significance of the relationship between causal attribution and academic achievement, further analysis was conducted, and the results are presented in subsequent tables.

Table 2b: ANOVA of Relationship between Causal Attributions and Students' Academic Achievement.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9276.699	6	1546.116	6.780	.000[a]
	Residual	85512.796	375	228.034		
	Total	94789.495	381			

a. Predictors: (Constant), Causal Attributions

b. Dependent Variable: Academic Achievement

Table 2b shows the ANOVA of whether there is a significant relationship between causal attributions and students' academic achievement in the North Central of Nigeria. The F (6, 375) = 6.780, $p < .001$, the model is statistically significant at 0.05 level of significance, meaning at least one causal attribution variable predicts academic achievement. Therefore, the null hypothesis ($H0_1$) is rejected, that there is no significant relationship.

To further show the statistical significance of each of the independent variables (causal attributions), analysis was further carried out, and results are presented in table 1c.

Table 2c: Coefficient of Relationship between Causal Attributions and Students' Academic Achievement.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	114.952	4.838		23.761	.000
	Controllable Internal Causal Attribution for success	-2.864	.790	-.397	-3.627	.000
	Uncontrollable Internal Causal Attribution for Success	-.945	.840	-.156	-1.124	.262
	External Causal Attribution for Success	-1.280	1.961	-.246	-.653	.514
	Controllable Internal Causal Attribution for Failure	5.921	1.324	1.216	4.473	.000
	Uncontrollable Internal Causal Attribution for Failure	-.957	1.155	-.185	-.829	.408
	External Causal Attribution for Failure	-1.751	1.279	-.347	-1.369	.172

a. Dependent Variable: Academic Achievement

Table 2c shows the coefficients relationships between causal attributions and students' academic achievement in the North Central of Nigeria. For Controllable Internal Causal Attribution for Success: B = -2.864, β = -.397, p = .000, means significant negative predictor. As students rely more on controllable internal factors (e.g., effort) for success, achievement 'decreases' slightly (unexpected trend).

For Uncontrollable Internal Attribution for Success: 'Not significant' (p = .262). For External Attribution for Success: 'Not significant' (p = .514). For Controllable Internal Attribution for Failure: B = 5.921, β = 1.216, p = .000. It is 'significant positive predictor' at 0.05 level of significance, students who attribute failure to controllable internal causes (like effort) 'perform better academically'. For Uncontrollable Internal Attribution for Failure: Not significant (p = .408). And External Attribution for Failure: 'Not significant' (p = .172).

In conclusion, a multiple regression analysis revealed that causal attributions statistically significantly influence academic achievement. Two variables; controllable internal causal attribution for success and controllable internal causal attribution for failure added statistically significantly to the relationship, $p < 0.05$.

Ho_2: There is no significant relationship between controllable internal causal attribution failure and students' academic achievement in the North Central of Nigeria.

Table 3: Pearson product moment correlation of relationship between controllable internal causal attribution for failure and students' academic achievement

Variables	N	Mean	Std. Dev	df	r	p-value
Controllable Internal Causal Attribution for Failure	80	3.40	.088			
				78	-.072**	.526
Students' Academic Achievement	80	44.71	6.53			

Table 3 presents the Pearson Product Moment Correlation (PPMC) analysis of the relationship between controllable internal causal attribution for failure and students' academic achievement in North Central Nigeria. The analysis involved 80 participants, with mean scores of 3.40 (SD = 0.088) for controllable internal causal attribution for failure and 44.71 (SD = 6.53) for students' academic achievement. The correlation analysis revealed a weak negative correlation (r = -0.072) between the two variables. With a p-value of 0.562 (p > 0.05), the results indicate no statistically significant relationship. Therefore, the null hypothesis is accepted, suggesting no significant relationship between controllable internal causal attribution for failure and students' academic achievement in North Central Nigeria.

Ho_3: There is no significant relationship between uncontrollable internal causal attribution for failure and students' academic achievement in the North Central of Nigeria.

Table 4: Pearson product moment correlation of relationship between uncontrollable internal causal attributions for failure and students' academic achievement

Variables	N	Mean	Std. Dev	df	r	p-value
Uncontrollable Internal Causal Attribution for Failure	96	3.42	.496			
				94	-.315**	.002
Students' Academic Achievement	96	48.19	7.88			

**. Correlation is significant at the 0.05 level (2-tailed)

Table 4 presents the Pearson Product Moment Correlation (PPMC) analysis of the relationship between uncontrollable internal causal attribution for failure and students' academic achievement in North Central Nigeria. The analysis involved 96 participants, with mean scores of 3.42 (SD = 0.496) for uncontrollable internal causal attribution for failure and 48.24 (SD = 7.88) for students' academic achievement. The correlation analysis revealed a moderate negative correlation (r = -0.315) between the two variables. With a p-value of 0.002 (p < 0.05), the results indicate a statistically significant relationship. Therefore, the null hypothesis is rejected, suggesting a significant relationship between uncontrollable internal causal attribution for failure and students' academic achievement in North Central Nigeria.

Ho_4: There is no significant relationship between external causal attribution for failure and students' academic achievement in the North Central of Nigeria.

Table 5: Pearson product moment correlation of relationship between external causal attributions for failure and students' academic achievement

Variables	N	Mean	Std. Dev	df	R	p-value
External Causal Attribution for Failure	206	3.39	.489			
				204	-.227**	.001
Students' Academic Achievement	206	47.55	8.56			

**. Correlation is significant at the 0.05 level (2-tailed)

Table 5 presents the Pearson Product Moment Correlation (PPMC) analysis of the relationship between external causal attribution for failure and students' academic achievement in North Central Nigeria. The analysis involved 206 participants, with mean scores of 3.39 (SD = 0.489) for external causal attribution for failure and 47.55 (SD = 8.56) for students' academic achievement. The correlation analysis revealed a moderate negative correlation (r = -0.227) between the two variables. With a p-value of 0.001 ($p < 0.05$), the results indicate a statistically significant relationship. Therefore, the null hypothesis is rejected, suggesting a significant relationship between external causal attribution for failure and students' academic achievement in North Central Nigeria.

Ho_5: There are no significant relationships between teacher attributes, causal attributions and academic achievement of male and female students in the North Central of Nigeria.

Table 6a: Model Summary of Teachers' Attributes, Causal Attributions, Gender, and Students' Academic Achievement.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.103[a]	.011	.000	15.77188

a. Predictors: (Constant), Interaction Terms, Gender, Causal Attributions

Table 6a presents the Model Summary of the relationship between causal attributions, gender, and students' academic achievement in the North Central region of Nigeria.

The R = .103, R^2 = .011, Adjusted R^2 = .000, this shows that only 1.1% of the variation in students' academic achievement is explained by the combined influence of teacher attributes, causal attributions, gender, and their interaction. The adjusted R^2 of .000 confirms the model has very weak explanatory power. The Standard Error of the Estimate is 15.77188, indicating the average difference between predicted and actual academic achievement scores.

To determine the statistical significance of the relationships between teacher attributes, causal attributions, and academic achievement for male and female students, further analysis was carried out and results as presented on Table 5b.

Table 6b: ANOVA of Causal Attributions, Gender, and Students' Academic Achievement.

Model		Sum of Squares	df	Mean Square	F	Sig. (p-value)
1`	Regression	1009.870	4	252.468	1.015	.399[a]
	Residual	93779.624	377	248.752		
	Total	94789.495	381			

a. Predictors: (Constant), Interaction Terms, Gender, Causal Attributions

b. Dependent Variable: Academic Achievement

The ANOVA table 6b shows whether the independent variables (causal attributions, gender, and interaction terms) significantly influence the dependent variable (academic achievement).

The F = 1.015, Sig. (p-value) = .399. Since p > 0.05, the model is not statistically significant. The hypothesis (Ho_5), stating "there are no significant relationships between causal attributions, and academic achievement of male and female students in the North Central of Nigeria," is therefore accepted.

To further determine the statistical significance of the relationships between teacher attributes, causal attributions, and academic achievement for male and female students, further analysis was carried out and results as presented on Table 5c.

Table 6c: Coefficients of Causal Attributions, Gender, and Students' Academic Achievement.

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig. (p-value)
1 (Constant)	70.777	44.844		1.578	.115
Causal Attributions	.519	.512	.638	1.014	.311
Gender	9.226	15.297	.292	.603	.547
Interaction Terms	-.005	.006	-.446	-.856	.393

a. Dependent Variable: Academic Achievement

Table 6c presents the coefficients of the relationship between causal attributions, gender, and students' academic achievement. The results show that Causal attributions (p = .311); not significant, Gender (p = .547); not significant, and Interaction terms (p = .393); not significant.

The analysis shows that causal attributions, gender, and their interactions do not have a significant relationship with students' academic achievement in this model, (p > 0.05). Thus, the null hypothesis (Ho_5) is retained.

Discussion of Findings

The findings of this study reveal significant relationship between causal attributions, and students' academic achievement. The findings show a significant relationship between Causal Attributions and Students' Academic Achievement. The

significant relationship between causal attributions and students' academic achievement (Ho1) indicates that students' beliefs about the causes of their success or failure can impact their academic performance. This supports the attribution theory, which suggests that individuals' causal attributions can influence their motivation and behavior. Weiner and his associates (1985) presented an attributional model which assumed that, upon experiencing success or failure, individuals make causal judgments, and these judgments can indirectly determine achievement behaviors through an individual's performance expectancy and affective responses. Individuals are particularly motivated to seek specific explanations for negative educational outcomes, with these causal attributions, in turn, having important consequences for academic development (Weiner, 1985, 2010). The findings are also similar to the results of Ngunu (2019) study which indicated that causal attributions were significantly correlated to academic achievement.

There is a negative relationship between uncontrollable causal Attributions for Failure and Students' Academic Achievement, between external causal attribution for failure and students' academic achievement. The negative relationships between uncontrollable internal causal attribution for failure (Ho3) and external causal attribution for failure (Ho4) and academic achievement suggest that these attributions can undermine student motivation and performance. This supports the idea that students' beliefs about the causes of their failure can impact their resilience and ability to bounce back from setbacks. According to Dweck, it usually helps both motivation and achievement if a student attributes academic successes and failures to factors that are internal and controllable, such as effort or a choice to use learning strategies. Attributing successes to factors that are internal but stable or uncontrollable (like ability), on the other hand, is both a blessing and a curse: sometimes it can create optimism about prospects for future success ("I always do well"), but it can also lead to indifference about correcting mistakes (Dweck, 2006 as cited in Thompson, 2017), in or even create pessimism if a student happens not to perform at the accustomed level ("Maybe I'm not as smart as I thought"). Worst of all for academic motivation are attributions, whether stable or not, related to external factors, believing that performance depends simply on luck ("The teacher was in a bad mood when marking") or on excessive difficulty of material removes incentive for a student to invest in learning.

Conclusion

Based on the findings of this study, it is concluded that causal attributions play a crucial role in students' academic achievement, with controllable internal causal attributions for success and failure having significant effects. Controllable Internal Causal Attribution for Failure is a 'major positive predictor' of academic achievement. And uncontrollable internal and external causal attributions for failure have a negative impact on students' academic achievement.

Recommendations

The following recommendations were made based on the findings of the study:

1. Schools should incorporate attribution retraining interventions to help students develop a growth mindset, encouraging them to see effort and strategy (controllable factors) as keys to success and failure, thereby boosting academic motivation.
2. Schools should implement attribution retraining programs to help students develop a mindset that links their academic outcomes to controllable factors like effort and strategy use, rather than external or uncontrollable causes.

3. School counselors and educators should provide psychosocial support and mentorship programs aimed at helping students overcome learned helplessness and external blame by promoting personal responsibility and resilience in learning.
4. Programs should be implemented to 'reframe students' understanding of effort', ensuring they see it not as a sign of struggle or failure, but as a 'constructive path to mastery. This may involve teaching 'effective study strategies, goal setting', and reinforcing the idea that 'smart effort', not just hard work, leads to academic improvement.

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