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Effect of Cognitive Behavioural Intervention on Bullying, Vandalism and Aggressive Behaviour among Secondary School Students in Mangu Local Government Area, Plateau State, Nigeria

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ABSTRACT

Delinquent behaviours such as bullying, vandalism and aggressive behaviour constitute important behavioural challenges in secondary schools and can disrupt students' learning, interpersonal relationships and school safety. This study examined the effect of Cognitive Behavioural Intervention (CBI) on bullying, vandalism and aggressive behaviour among Senior Secondary School II students in Mangu Local Government Area of Plateau State, Nigeria. The study adopted a quasi-experimental non-equivalent pre-test and post-test control group design. The population comprised 418 SSS II students identified with delinquent behaviours in 25 public secondary schools, from which 63 students were purposively selected from two schools. Thirty-two students constituted the experimental group, while 31 formed the control group. The experimental group received CBI, while the control group did not receive the intervention during the treatment period. Data were collected using the Cognitive Behavioural Intervention on Delinquents' Behaviour Questionnaire for Students (CBIDBQS), which had a Cronbach's alpha reliability coefficient of 0.86. Mean and standard deviation were used to answer the research questions, while Analysis of Covariance (ANCOVA) was used to test the hypotheses at the 0.05 level of significance. The findings showed that CBI reduced bullying, vandalism and aggressive behaviour among students in the experimental group. The ANCOVA results revealed significant group effects for bullying, $F(1, 60) = 37.65$, $p < .05$, vandalism, $F(1, 60) = 56.03$, $p < .05$, and aggressive behaviour, $F(1, 60) = 63.11$, $p < .05$. The findings indicate that CBI is a useful intervention for reducing selected delinquent behaviours among secondary school students. It is recommended that school counselling programmes incorporate structured CBI techniques for the prevention and management of bullying, vandalism and aggressive behaviour.

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INTRODUCTION

Secondary education is an important stage in the development of young people because it prepares students for further education, employment and responsible participation in society. However, delinquent behaviours among secondary school students remain a concern to parents, teachers, counsellors and school administrators. Such behaviours may include bullying, vandalism, aggression, truancy and other forms of misconduct that disrupt teaching and learning. When persistent, these behaviours may affect students' academic progress, social relationships and general adjustment. Delinquent behaviours may also have wider consequences for individuals and society through poor educational outcomes, property damage and other social costs. In Nigeria, Ola-Williams, Ola-Williams and Ogbaini (2024) found that juvenile delinquency was associated with poorer mental health and academic performance among secondary school students, highlighting the need for effective intervention strategies.

Among these behaviours, bullying involves repeated harmful conduct towards another student and may occur through physical, verbal, social or other forms of aggression. Vandalism refers to the deliberate destruction or defacement of school or other people's property, while aggressive behaviour involves actions intended to harm, threaten or intimidate others. These behaviours can create fear, hostility and an unfavourable learning environment. Evidence from intervention research indicates that structured school-based programmes can reduce bullying behaviour among students. Gaffney, Farrington and Ttofi (2019), in a meta-analysis of school-bullying intervention programmes, reported that such programmes produced reductions in both bullying perpetration and victimisation. This suggests that systematic behavioural interventions can play an important role in addressing problematic behaviours within the school environment.

In many Nigerian secondary schools, disciplinary measures have traditionally been used to control delinquent behaviours. However, disciplinary approaches may not always address the underlying factors associated with problematic behaviour. Ukpabio, Usen and Etor (2019) highlighted concerns surrounding disciplinary control, particularly corporal punishment, thereby reinforcing the need to consider alternative approaches to behavioural management. Cognitive Behavioural Intervention (CBI) provides one such approach because it focuses on the relationship between thoughts, emotions and behaviours. Through cognitive and behavioural techniques, students can be helped to recognise unhelpful thought patterns, manage emotional responses, develop appropriate coping strategies and modify problematic behaviours. The relevance of such approaches is supported by broader evidence showing that psychosocial interventions can reduce aggressive behaviour among adolescents (Castillo-Eito et al., 2020).

The application of CBI is particularly relevant to bullying, vandalism and aggressive behaviour because these behaviours may involve difficulties in emotional regulation, problem-solving and responses to challenging social situations. Research on adolescent aggression indicates that behavioural practice and problem-solving are among the intervention components associated with more effective reductions in aggressive behaviour (Castillo-Eito et al., 2020). Similarly, evidence from school-based bullying interventions demonstrates that structured interventions can reduce bullying perpetration and victimisation (Gaffney et al., 2019). However, there remains a need to examine the effect of Cognitive Behavioural Intervention specifically on bullying, vandalism and aggressive behaviour among secondary school students in Mangu Local Government Area. It is against this background that the present study investigates the effect of Cognitive Behavioural Intervention on bullying, vandalism and aggressive behaviour among secondary school students in Mangu Local Government Area, Plateau State, Nigeria.

STATEMENT OF THE PROBLEM

Ideally, secondary school students ought to demonstrate behaviours that promote safety, discipline, positive peer relationships and effective learning. However, the persistence of delinquent behaviours such as bullying, vandalism and aggressive behaviour among secondary school students in Mangu Local Government Area suggests a departure from this expectation and constitutes a behavioural problem requiring attention. These behaviours may disrupt classroom activities, damage school property, create fear and insecurity among students, and weaken healthy relationships between students and teachers. If left unaddressed, persistent delinquent behaviours may become more established, increase the risk of academic and social difficulties, and undermine the achievement of the educational objectives of secondary schools. Although various disciplinary approaches are used to manage students' behavioural problems, there is a need for interventions that address the thoughts, emotions and behavioural patterns underlying such conduct. It is therefore necessary to examine the effect of Cognitive Behavioural Intervention (CBI) on bullying, vandalism and aggressive behaviour among secondary school students in Mangu Local Government Area, Plateau State, in order to provide empirical evidence on its usefulness as a behavioural intervention.

AIM AND OBJECTIVES OF THE STUDY

The aim of the study is to investigate the effects of Cognitive Behavioural Intervention on delinquent behaviours of secondary school students in Mangu Local Government Area of Plateau State. The following are the specific objectives of the study:

1. Ascertain the pre–test and post–test bullying behaviour mean scores of SSS II students in the experimental and control groups in Mangu Local Government Area, Plateau State.
2. Find out the pre–test and post–test vandalism behaviour mean scores of SSS II students in the experimental and control groups in Mangu Local Government Area, Plateau State.
3. Determine the pre–test and post–test aggressive behaviour mean scores of SSS II students in the experimental and control groups in Mangu Local Government Area, Plateau State.

RESEARCH QUESTIONS

The following research questions have been raised to guide the study:

1. What are the pre–test and post–test bullying behaviour mean scores of SSS II students in the experimental and control groups in Mangu Local Government Area, Plateau State?
2. What are the pre–test and post–test vandalism behaviour mean scores of SSS II students in the experimental and control groups in Mangu Local Government Area, Plateau State?
3. What are the pre–test and post–test aggressive behaviour mean scores of SSS II students in the experimental and control groups in Mangu Local Government Area, Plateau State?

HYPOTHESES

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

1. There is no significant difference between the post–test bullying behaviour mean scores of SSS II students in the experimental and control groups in Mangu LGA, Plateau State.
2. There is no significant difference between the post–test vandalism behaviour mean scores of SSS II students in the experimental and control groups in Mangu LGA, Plateau State.
3. There is no significant difference between the post–test aggressive behaviour mean scores of SSS II students in the experimental and control groups in Mangu LGA, Plateau State.

METHODOLOGY

Research Design

The study employed a quasi-experimental research design, specifically the non-equivalent pre-test and post-test control group design. The design was considered appropriate because the study involved measuring students' levels of bullying, vandalism and aggressive behaviour before and after the administration of Cognitive Behavioural Intervention (CBI). The pre-test provided baseline information on the selected behaviours, while the post-test enabled the researcher to determine changes following the intervention. The use of a control group also provided a basis for comparing the behavioural changes observed in students who received CBI with those who did not receive the intervention during the treatment period.

Population of the Study

The population of the study comprised all SSS II students identified with delinquent behaviours in the twenty-five (25) public secondary schools in Mangu Local Government Area. The population was 418 SSS II students, comprising 206 females and 212 males, as obtained from the field survey conducted in 2024. SSS II students were selected because they are predominantly within the adolescent stage, a period associated with behavioural and social challenges that may manifest in forms such as bullying, vandalism and aggressive behaviour.

Sample and Sampling Procedure

The sample for the study comprised 63 male and female SSS II students identified with delinquent behaviours from two public secondary schools: Government Secondary School (GSS) Mangu and Government Secondary School (GSS) Panyam. The experimental group comprised 32 students, while the control group comprised 31 students. The sample consisted of 34 male and 29 female students.

A multi-stage sampling procedure was used to select the participants and schools. The first stage involved screening SSS II students to identify those with evidence of delinquent behaviours. The screening was conducted using the Deviant Behaviour Scale (DBS) and relevant anecdotal records, including weekly duty reports, logbooks and class registers. In the second stage, purposive sampling was used to select two schools with the highest number of identified students exhibiting delinquent behaviours. These schools were GSS Mangu and GSS Panyam. The two schools were selected because they provided sufficient numbers of students with identified behavioural problems and had comparable characteristics in terms of school size, administrative structure and socio-cultural setting. In the third stage, simple random sampling was used to assign the selected schools to the experimental and control groups. GSS Panyam was randomly assigned to the experimental group, where Cognitive Behavioural Intervention (CBI) was administered, while GSS Mangu was assigned to the control group, which did not receive the intervention during the treatment period.

Instrument for Data Collection

The instrument used for data collection was an adapted questionnaire titled Cognitive Behavioural Intervention on Delinquents' Behaviour Questionnaire for Students (CBIDBQS). The instrument consisted of two sections, A and B. Section A collected the respondents' personal information, including gender and school, while Section B contained items measuring

the dependent variables of the study, namely bullying, vandalism and aggressive behaviour.

The instrument was subjected to face and content validation by four experts. Two of the experts were from Educational Psychology, while two were from Research Measurement and Evaluation, all in the Department of Educational Foundations, Faculty of Education, University of Jos. For reliability, the instrument was subjected to an internal consistency test using Cronbach's alpha. The instrument yielded a reliability coefficient of **0.86**, indicating satisfactory internal consistency for the study.

Method of Data Analysis

The data collected were analysed using descriptive and inferential statistics. Mean scores and standard deviations were used to answer the research questions. Analysis of Covariance (ANCOVA) was used to test the hypotheses at the 0.05 level of significance. ANCOVA was considered appropriate because it enabled the researcher to statistically control for participants' pre-test scores when comparing the experimental and control groups at post-test. This helped to account for possible initial differences in students' levels of bullying, vandalism and aggressive behaviour and provided a clearer estimate of the effect of the Cognitive Behavioural Intervention.

RESULTS AND DISCUSSION

This chapter presents the results of the study under the following subheadings: Results, Discussion and Summary of outstanding work.

RESULTS

Research Question One

What are the pre-test and post-test bullying behaviour mean scores of SSS II students in the experimental and control groups in Mangu Local Government Area, Plateau State?

To answer this research question, data on bullying behavior was used and the result is presented in Table 1.

Table 1: Result, of the Pre-test and Post-test Bullying Mean Scores of Students in the Experimental and Control Groups

Group		N	$\overline{X}$	SD	Mean Gain/Loss	Mean Gain difference	Post-test Main Difference
Experimental	Pre-test	32	23.56	2.00	9.56		
	Post-test	32	14.00	3.76			
						-7.04	6.87
Control	Pre-test	31	23.39	1.90	2.52		
	Post-test	31	20.87	4.97			

Table 1 revealed the pre-test and post-test bullying behaviour mean scores of SSS II students in the experimental and control groups. From the result experimental group had a pre-test mean score of 23.56, SD = 2.00 and a post-test mean score of 14.00, SD= 3.76 and a mean loss of -9.56. While the control group had a pre-test mean score of 23.39, SD=1.90 and a post- test mean score of 20.87, SD=4.97 with mean loss of -2.52. The mean loss difference was -7.04 with a post-test mean difference between the experimental and control group of 6.87. This implies that Cognitive Behaviour Intervention helps in reduce the level of bullying amongst SSS II students' more than conventional method.

Research Question Two

What are the pre–test and post–test vandalism behaviour mean scores of SSS II students in the experimental and control groups in Mangu Local Government Area, Plateau State?

To answer this research question, data on vandalism behaviour was used and the result is presented in Table 4.

Table 2: Result of the Pre-test and Post-test Vandalism Behaviour Mean Scores of Students in the Experimental and Control Groups

Group		N	$\overline{X}$	SD	Mean Gain/Loss	Mean Gain difference	Post-test Main Difference
Experimental	Pre-test	32	22.75	2.69	9.09		
	Post-test	32	13.66	2.62			
						-6.38	6.63
Control	Pre-test	31	23.00	1.79	2.71		
	Post-test	31	20.29	4.32			

The results of the analysis in Table 2 showed that the experimental group had a pre-test mean score of 22.75, SD = 2.69 and a post-test mean score of 13.66, SD= 2.62 and a mean loss of -9.09. While the control group had a pre-test mean score of 23.00, SD=1.79 and a post- test mean score of 20.29, SD=4.32 with mean loss of -2.71. The mean loss difference was -6.38 with a post-test mean difference between the experimental and control group of 6.63. This implies that Cognitive Behaviour Intervention helps in reduce the vandalism behaviour of SS II students' more than conventional method.

Research Question Three

What are the pre–test and post–test aggressive behaviour mean scores of SSS II students in the experimental and control groups in Mangu Local Government Area, Plateau State?

Data on aggressive behavior was used and the result is presented in Table 3.

Table 3: Pre-test and Post-test Aggressive Behavior Mean Scores of Students in the Experimental and Control Groups

Group		N	$\overline{X}$	SD	Mean Gain/Loss	Mean Gain difference	Post-test Main Difference
Experimental	Pre-test	32	21.91	3.49	8.22		
	Post-test	32	13.69	2.10			
						-5.77	5.89
Control	Pre-test	31	22.03	2.27	2.45		
	Post-test	31	19.58	3.59			

The results of the analysis in Table 3 revealed that the experimental group had a pre-test mean score of 21.91, SD = 3.49 and a post-test mean score of 13.69, SD= 2.10 and a mean loss of -8.22. While the control group had a pre-test mean score of 22.03, SD=2.27 and a post- test mean score of 19.58, SD=3.59 with mean loss of -2.45. The mean loss difference was -5.77 with a post-test mean difference between the experimental and control group of 5.89. This implies that Cognitive Behaviour Intervention helps in improving the aggressive behavior of SS II students' more than conventional method.

SUMMARY OF ANCOVA TEST OF HYPOTHESES

Hypothesis One

There is no significant difference between the post-test bullying behaviour mean scores of SSS II students in the experimental and control groups.

Table 4: Summary of ANCOVA Test of the Effect of Cognitive Behavioural Intervention on Bullying Behaviour

Source	F (df = 60)	p-value	Adjusted R^2
Group Effect	37.65	.000	.367

The result indicated a significant difference in the bullying behaviour mean scores between the experimental and control groups, F(60) = 37.65, p < .05. The adjusted R^2 of .367 suggests that 36.7% of the variance in bullying behaviour was accounted for by the Cognitive Behavioural Intervention, confirming its significant effect.

Hypothesis Two

There is no significant difference between the post-test vandalism behaviour mean scores of SSS II students in the experimental and control groups.

Table 5: Summary of ANCOVA Test of the Effect of Cognitive Behavioural Intervention on Vandalism Behaviour

Source	F (df = 60)	p-value	Adjusted R^2
Group Effect	56.03	.000	.469

The ANCOVA analysis revealed a significant effect of the intervention on vandalism behaviour, F(60) = 56.03, p < .05. The adjusted R^2 of .469 indicates that 46.9% of the variation in vandalism behaviour was attributed to the Cognitive Behavioural Intervention, highlighting its effectiveness in reducing this behaviour.

Hypothesis Three

There is no significant difference between the post-test aggressive behaviour mean scores of SSS II students in the experimental and control groups.

Table 6: Summary of ANCOVA Test of the Effect of Cognitive Behavioural Intervention on Aggressive Behaviour

Source	F (df = 60)	p-value	Adjusted R^2
Group Effect	63.11	.000	.497

The analysis showed a significant difference in aggressive behaviour between the two groups, F(60) = 63.11, p < .05. With an adjusted R^2 of .497, the result

suggests that the intervention accounted for 49.7% of the variance in aggressive behaviour, affirming the positive impact of the Cognitive Behavioural Intervention.

DISCUSSION

The findings on bullying behaviour revealed that the experimental and control groups recorded relatively high mean scores at the pre-test. Following the intervention, the experimental group recorded a greater reduction in bullying behaviour than the control group, and the difference in their post-test scores was statistically significant in favour of the experimental group. This finding suggests that Cognitive Behavioural Intervention (CBI) was effective in reducing bullying among SSII students. The reduction may be attributed to the ability of CBI to help students recognise unhelpful thoughts, regulate emotional reactions and develop more appropriate ways of responding to interpersonal conflicts. Through cognitive restructuring and behavioural practice, students may learn to question beliefs that justify intimidation or domination and develop more constructive responses to peers. This finding is supported by Gaffney, Farrington and Ttofi (2019), who found through a meta-analysis of school-bullying intervention programmes that structured interventions significantly reduced both bullying perpetration and victimisation. The agreement between the present finding and the earlier evidence suggests that systematic behavioural interventions can help students modify patterns of interaction that contribute to bullying.

The findings on vandalism behaviour showed that both the experimental and control groups had relatively high mean scores at the pre-test, but the experimental group recorded a greater reduction after the intervention. The significant difference between the pre-test and post-test mean scores in favour of the experimental group indicates that CBI was effective in reducing vandalism behaviour among SSII students. This reduction may be related to the emphasis of CBI on identifying the thoughts and emotional reactions that precede inappropriate behaviour and replacing them with more constructive responses. Students exposed to the intervention may have developed better skills for managing frustration, resolving conflicts and considering the consequences of their actions before responding destructively. Although the available supporting studies have focused more directly on aggression than vandalism, Castillo-Eito et al. (2020) reported that psychosocial interventions incorporating problem-solving and behavioural practice were effective in reducing problematic aggressive behaviours among adolescents. Such intervention components are also relevant to vandalism because they encourage students to examine situations that provoke negative reactions and practise alternative behavioural responses. The present finding therefore indicates that CBI may provide a useful behavioural framework for addressing destructive conduct among secondary school students.

The findings on aggressive behaviour revealed that students in the experimental group recorded a greater reduction in aggressive behaviour after the intervention than those in the control group, with a statistically significant difference between the groups. The finding indicates that CBI was effective in reducing aggressive behaviour among SSII students. This may be explained by the intervention's focus on helping students identify distorted or unhelpful thoughts, manage emotional reactions and develop alternative responses to situations that may trigger aggression. The finding is consistent with Castillo-Eito et al. (2020), who found in a multi-level meta-analysis that psychosocial interventions were effective in reducing adolescent aggression, particularly where interventions incorporated problem-solving and behavioural practice. Similarly, Alsem et al. (2023) reported that cognitive behavioural therapy supported by virtual reality showed promise in reducing aggressive behaviour problems among children. The consistency between these findings and the present result suggests that cognitive and behavioural techniques can help students replace impulsive or aggressive responses with more appropriate ways of managing challenging social situations.

CONCLUSION

The study examined the effect of Cognitive Behavioural Intervention (CBI) on bullying, vandalism and aggressive behaviour among Senior Secondary School II students in Mangu Local Government Area of Plateau State. Using a quasi-experimental non-equivalent pre-test and post-test control group design, the findings showed that students exposed to CBI recorded greater reductions in bullying, vandalism and aggressive behaviour than those in the control group. The significant differences observed between the experimental and control groups indicate that CBI was effective in reducing the three selected behavioural problems among the students.

The effectiveness of CBI may be attributed to its structured focus on helping students recognise unhelpful thoughts, manage emotional responses and develop more appropriate behavioural patterns. Through cognitive restructuring and behavioural techniques, students can learn to examine situations that trigger problematic behaviours and practise alternative ways of responding. Based on the findings of the study, it is concluded that Cognitive Behavioural Intervention is a useful intervention for reducing bullying, vandalism and aggressive behaviour among secondary school students and could be incorporated into school-based counselling programmes for the management of these behavioural problems.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

1. School counsellors in Mangu Local Government Area and similar contexts should incorporate Cognitive Behavioural Intervention (CBI) techniques into counselling programmes to help reduce bullying, vandalism and aggressive behaviour among secondary school students.
2. The Ministry of Education and relevant educational authorities should organise regular training and workshops for school counsellors and teachers to equip them with practical knowledge and skills for applying CBI techniques in managing bullying, vandalism and aggressive behaviour among students.
3. School management should establish functional behavioural screening and early identification systems to identify students who exhibit bullying, vandalism and aggressive behaviour and facilitate timely referral to school counsellors for appropriate CBI-based intervention before such behaviours become more persistent.

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