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Effect of Rational Emotive Therapy and Becks Cognitive Therapy on Aggressive Behaviour among Secondary School Students in Cross River State, Nigeria.

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Keywords

cognitive behaviour therapy; rational emotive behaviour therapy; Beck's cognitive therapy; aggressive behaviour; gender; age

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Abstract

Aggressive behaviour among students often emerges from attempts to protect the self from perceived threats and may hinder the development of social competence. This study examined the effects of two Cognitive Behavioural Therapy (CBT) approaches- Rational Emotive Behaviour Therapy (REBT) and Beck's Cognitive Therapy (Becks CT) on aggressive behaviour among secondary school students in Calabar Metropolis, Nigeria. A quasi-experimental, non-equivalent pretest–posttest control group design was adopted using three intact classes randomly assigned to REBT, Beck's CT, or a control group. Gender and age were treated as covariates. Data were collected using the Students' Opinion Questionnaire on Aggression (SOQA) and analysed with multivariate analysis of covariance (MANCOVA) at the 0.05 level of significance. Findings revealed that REBT and Beck's CT significantly reduced verbal and social aggression but had no significant effect on physical aggression. No significant gender differences or interaction effects were observed, although aggressive behaviour varied across age groups. The results suggest that CBT-based interventions are effective for managing verbal and social aggression, while physical
aggression may require more intensive or long-term treatment approaches.

Introduction

Secondary education is one of the most critical levels of education, as it provides learners with fundamental knowledge, skills, and values necessary for healthy and productive living. In general education serves to produce an ideal society and nation (Kaur & Niwas, 2017). In recognition of the importance of education, the National Policy on Education (Section 2, Item 13) outlines several goals for secondary education, including the following:

c) The inculcation of values and development of morally upright individuals who are capable of independent thinking and appreciation of the dignity of labour and

d) The promotion of national consciousness and harmonious coexistence irrespective of differences in endowment, religion, colour, ethnicity and socioeconomic background, (Federal Republic of Nigeria, FRN, 2013).

Despite these policy objectives, their realization has been significantly undermined by the increasing prevalence of aggressive behaviour among secondary school students in Cross River State and Nigeria as whole. Aggression among Students is a global concern due to its detrimental effects on victims, perpetrators and the overall school environment (Bibire, et.al. ,2023; Bisong, et.al, 2022; Opubo-Ezekeil & Olayinka-Osho, 2004). It is counter-productive (Okon, 2011) and has been shown to negatively affect the mental health (Ayah, 2019) and academic adjustment of all parties involved (Kaur & Niwas, 2017). Aggression refers to behaviour intended to cause physical, verbal social, or psychological harm to another individual or group (Mambra & Kotian, 2023; Okoro, et.al., 2011; Anderson & Bushman, 2002). Kaur & Niwas (2017) conceived aggressive behavior as verbal, non - verbal and physical behaviours expressed by an individual that injures another person directly or indirectly resulting in extraneous gains for the perpetrator. In addition to this, Onukwufor (2013) stated that aggression appears to be the most prevalent and disturbing deviant behavior in the society. The consequences of aggressive behaviours are often severe, examples include emotional trauma, academic disruption, and the breakdown of social relationships. The heightened rate of aggression among secondary school students has been quite worrisome. The increase in the rate and sophistication of aggressive behavior among students in our secondary schools has continued to occur despite efforts made by education stakeholders particularly researchers to find and provide solutions to the concern. Instances of yelling, killing, arson, using harmful weapons, throwing bottles and so on by students have been reported (Opubo- Ezekeil & Olaniyinka- Osho, 2024), this therefore necessitates immediate and result oriented and effective intervention.

Aggression is considered a maladaptive behaviour (Anyamene & Ngwakwe, 2019; Okon, 2011), and substantial empirical evidence suggests that it is largely learned rather than innate (Bandura, 1977; kim, Lee & Farber, 2019). Bandura's social learning theory provides a strong theoretical framework for understanding the development of aggressive behaviour. According to Bandura (1977), children acquire aggressive responses through observation and imitation of significant others, a process referred to as social modelling. Although Nativist perspectives propose that aggression may have genetic origins, behavioural psychologists emphasise the significant role of environmental learning in the acquisition of aggressive behaviours (Bandura

1986. Importantly, behaviours that are learned can also be modified or unlearned through appropriate psychological interventions. In view of this, the present study investigates the effectiveness of Rationale Emotive Cognitive Therapy (REBT) and Beck's cognitive Therapy (Becks CT) in reducing aggression among secondary school students leaning on Albert Ellis rational emotive theory and Aaron Becks cognitive restructuring model (Spiegler & Guevremont, 2003).

Cognitive Behavioural Therapy (CBT), including REBT and Beck's CT, has been widely used to address maladaptive behaviours such as aggression (Ajah, 2019) and depression (Spiegler & Guevremont, 2003). REBT posits that irrational beliefs underlie maladaptive behaviours: therefore, behavioural change is achieved by restructuring these beliefs into rational alternatives (Ellis, 1974). Conversely, Beck's cognitive therapy emphasises the role of automatic thoughts (that is spontaneous, distorted, cognitions) that influence emotions and contribute to behaviours such as aggression. Intervention therefore focuses on helping individuals recognise these triggering thoughts, critically evaluate their accuracy, and replace them with more constructive alternatives that support psychological and behavioural developments (Beck, 1970; Chan, 2025). Drawing on these frameworks, the present study applied cognitive-behavioural therapies viz a viz REBT and Becks CT to reduce aggressive behaviour among students with age and gender as moderator variables.

LITERATURE REVIEW

Several studies examined the effectiveness of cognitive behavioral therapies in managing aggressive behaviour among adolescents both in school and out of school (Bwan, et al., 2025; Bisong, et al., 2025; Olatunbosun, 2022; Ajah, 2019; Ikechukwu-Ilomuanya & Iwuagu, 2016; Iman, 2016). In many of these studies the effect of therapy was examined across some confounding variables such as age, gender, experimental condition, school location, and so on. Introducing such confounding variables compensates for the absence of randomization. This helps to ensure that observed effects are more likely attributable to the intervention rather than to pre-existing group differences. It thus make the research outcome a lot clearer, (Capili, C Anastasi, 2024; Fabrigar et al., 2024).

Aggression is a conduct disorder (Ajah, 2019), characterized by the use of physical force or coercion by a perpetrator to inflict unwarranted physical, verbal, social, and/ or psychological harm on a victim. It occurs in different forms, including physical, verbal, social, and psychological aggression (Udensi et al., 2025; Babalola, 2025). Idenso et al., (2025) and Babalola (2025) stressed that the adverse effects of aggression, across its various domains, on social competence among students in general and undergraduates in particular underscore its relevance in educational and social environments. In effect, aggression limits students' social competence which is essential for effective learning, collaboration and academic success. Social competence is a vital element for healthy interpersonal relationships and promotes healthy living. Thus aggression left unattended to militate against effective personal and social functioning, underscoring the need for effective therapeutic strategies to mitigate and reduce it among students during a critical period of their lives such as adolescence. The influence of cognitive behavioural therapy on aggressive behavior among students has been empirically

studied and reported.

REBT and Beck's Cognitive Therapies are forms of CBT. Studies in the area reveal mixed outcome. In the area of REBT many studies have reported positive outcome. For instance, Ikechukwu-Ilomuanya and Iwuagwu (2016) found that the therapy was effective in improving the academic and emotional adjustment of the in-school bereaved adolescents used in their quasi-experiment. 20 traumatized students drawn from the population selected with purposive sampling technique were used to collect data using emotional adjustment inventory and academic adjustment rating scale. From the result of analysis achieved through t-test, it was concluded that the therapy was effective in transforming trauma, facilitating behavioural change and restructuring cognition of clients. In the same vein, Ekechukwu (2018) examined the effect of rational emotive behavior therapy and cognitive behavior therapy in reducing aggressive behaviour of secondary school students in Abia State. The study design was quasi experimental and the population comprised 100 students' who showed aggressive tendencies were tested with Buss Perry Scale for Aggressive Behaviour (BSAB) and the data collected was analysed using mean and standard deviation for the two research questions while paired t-test statistic was used for the hypotheses of the study. Result revealed the effectiveness of REBT/CBT in treatment of aggressive behaviour.

In an earlier study, Venkatesh (2009) examined the impact of REBT on adolescents conduct disorder. The study used 200 participants who made up the experimental group (n=100) and the control group (n=100). A pre-test was administered with an aggressive behaviour questionnaire before the commencement of the therapy which lasted for seven weeks then the posttest was given after therapy. Data from the two test were analysed and result of analysis revealed a positive impact of REBT intervention on the adolescents conduct, emotional and behavioural disorders. Furthermore, Ajah (2019) studied the effect of REBT and problem solving skill training therapy (PSST) on aggressive behaviour of senior secondary school students in Calabar, Nigeria. Adopting quasi-experimental design, cluster, purposive and simple random sampling techniques, and 3 intact classes with 167 students in total constituted the sample of the study. The three intact classes were grouped as follows: Experimental Group I (N =73), experimental group 2 (N =47) and control group (N =47). REBT was administered on group I, PSST was administered on group 2 while the control group received no particular intervention. Pretest and Posttest were administered before and after therapy respectively using the Behaviour Assessment Questionnaire (BAQSSS). Data generated were subjected to analyses using descriptive statistics and Multivariate Analysis of Covariance (MANCOVA) for the research questions and hypotheses respectively. The hypotheses were tested at 0.05 level of significance. The result of analysis revealed among other things that REBT significantly reduced the different dimension of students aggression measured. Moreso there was no significant gender effect found. The significance of REBT in changing aggressive behaviour recorded in this study further confirms its usefulness in behaviour therapy.

In the area of Beck's cognitive therapy's impact on aggressive behaviour, literature reveals some works from meta-analysis and major clinical trials on particularly depressed subjects (Hofmann et al., 2012). The researchers reported that a large meta-analysis of CBT outcomes (which includes Becks CT) across multiple conditions (like behavioural and emotional regulation difficulties) found CBT to be very effective, with moderate to large effect. Few

works have targeted aggression. Though the number of researches using Becks CT in therapy locally are sparse, its effectiveness as an intervention tool for behavior management, in reducing disruptive, aggressive and maladaptive behaviours is well established (Hoffman et al., 2012; Beck 2011). In view of this, Bisong, et al. (2025) examined the efficacy of cognitive restructuring (Becks version) in addressing maladaptive behaviours (disobedience and aggressive) among primary school children in Cross River State, Nigeria. The study design was quasi-experimental. Data for pretest and Posttest were collected from sample drawn from a population of primary four pupils with high level of aggression using the Buss-Perry aggression scale for Aggressive Behaviour (BSAB). Two groups were involved the experimental group and the control group. Treatment with Beck's Cognitive Therapy was administered to the experimental group after pretest while the control group had no treatment. At the end of therapy posttest was given. The two sets of data collected were subjected to analyses using descriptive statistics and analysis of covariance. Result of data analysis revealed the efficacy of CBI in reducing delinquent behaviour which includes aggression. No covariates were included in the study.

In a related study, Bwan et al. (2025) investigated the effect of cognitive Behaviour Intervention (CBI) on delinquent behaviours of senior secondary school students in Mangu, Plateau State. Quasi-experimental design was adopted for the study. A sample of 63 SSS 2 students with varying levels of delinquent behaviours e.g. bullying, vandalism among others were selected using purposive sampling and assigned to the experimental group (n=32) and the control group (n=31). CBI was administered to the experimental group for a period of eight weeks while the control group received no particular treatment within the period. Pretest data was collected prior to treatment while posttest data was collected post treatment. Data was collected with questionnaire titled Cognitive Behavioural Intervention on Delinquency Questionnaire for students (CBIDBQS). Mean and standard deviation scores derived from the data were used in data analyses Result revealed a considerable reduction in the mean scores on bullying, vandalism and aggressive behaviour of the students in the experimental group. Thus reflecting the efficacy of CBI in reducing delinquent behaviour.

Additionally, Anyamene and Ngwakwe (2019), tested the effect of cognitive restructuring technique in reducing aggressive behaviour among secondary school students in Gombe, Nigeria. Two research question and two hypotheses guided the study. The study adopted quasi-experimental design while a sample of 81 students with very high aggression constituted the sample of the study. Pretest and Posttest data were collected using an adapted version of Buss Perry Aggression Questionnnaire (BPAQ) with a relaibilty coefficient of 0.80. Treatment was administered after the pretest. Two experimental groups received treatment with REBT and CBI while the control group received the conventional counselling. Treatment lasted for eight weeks. Data from pretest and posttest were analysed using Analysis of covariance and results revealed that cognitive restructuring effectively modified the students' aggressive behaviour. This outcome further gives credence to the efficacy of intervention in reducing aggression among students.

Literature on the influence of gender and age on aggression presents several findings that contradict conventional assumptions. For instance Odu et al. (2015) reported that neither gender nor age significantly influenced aggression. Similarly, Nwufo et al. (2023) found that overt aggression decreased with increasing age. In contrast, Ojewola (2014) observed a significant age-based difference in the influence of media violence on aggressive behavior. With regard to gender, De Frutos, (2013) as reported in Ajah, (2019) found that men were more involved in aggressive behavior than women, while Ajah (2019) found that males exhibited significantly higher levels of intense anti-social and lawless behavior than females. Conversely, Bamidele and Adewale (2015) found no significant gender influence on aggression. Likewise, Ekeanya et al. (2023), from a review of Nigerian studies, reported no significant gender moderation of aggression when cognitive behavioural therapy was applied. Nevertheless, Frutos (2013) , cited in Ajah, (2019), emphasised that gender remains the strongest discriminatory variable in statistical study of violence, noting a ratio of four men imprisoned for violence for every one woman. Specifically, Estevez et al. (2012), noted that males exhibit higher levels of direct and physical aggression than females. Conventionally, age and gender are assumed to influence aggression, Given that increased physical strength with age and the generally greater biological strength of males would be expected to favour males over females in aggressive encounters.

Cognitive Behavioural Therapy (CBT) generally has proven to be an effective tool in behaviour management (Shittu, et al. 2025; Bisong, et al. 2025; Ajah, 2019; Anyamene, et al., 2019; Hoffman et al., 2012). The rationale for CBT is to help individuals' example students identify, understand, and overcome cognitive distortions by challenging negative thought patterns and replacing them with more balanced thinking, thereby promoting emotional well-being (College of Cognitive Behavioural Therapies, 2016). Research into the effectiveness of CBT in behaviour modification remains an evolving field. Although numerous studies have attempted to apply therapeutic approaches to behaviour management, many have relied primarily on counselling method involving verbal interaction with clients. Some studies have employed rationale emotive behaviour therapy as a stand-alone intervention, while a limited number have combined REBT with problem solving techniques. In several instances, researchers adopted randomized sampling procedures without adequately accounting for confounding variables, an approach that conflicts with the principles of quasi-experimental design. This is particularly problematic in school-based research, where participants typically exist in naturally occurring clusters, making randomization impractical.

Furthermore, empirical studies integrating CBT approaches specifically REBT and Beck's cognitive therapy remain scarce within the study area. Existing literature also revealed limited focus on junior secondary school students as a target population, for behavioural intervention. This group is especially significant, as many students are in early adolescence, a developmental stage characterized by puberty-related changes and identity formation. These challenges, including confusion regarding gender roles and the transition from childhood to adulthood, often increase emotional instability and vulnerability to aggressive behaviours. Consequently, the present study seeks to address these methodological and contextual gaps by adopting an

appropriate quasi-experimental design and applying CBT based interventions among junior secondary school students with problem of aggression across age and gender.

Purpose of the study: The purpose of this study was to determine the effectiveness of treatment using REBT and Beck's cognitive therapy on aggressive behaviour of junior secondary school students when age and genders are controlled.

Research Question: Is there any difference in aggressive behaviour among junior secondary school students exposed to REBT, Becks cognitive therapy, and the control group across age and gender?

Null hypotheses: There is no significant difference in aggressive behaviour among secondary school students exposed to REBT, Becks cognitive therapy, and the control group, across age and gender.

RESEARCH METHODOLOGY

Research Design: The study adopted a quasi-experimental pretest-posttest non-equivalent control group design. This design was considered appropriate because the participants were drawn from intact classes in junior secondary schools, making random assignment impracticable. The design involved three groups: Rational Emotive Behaviour Therapy (REBT) group, Beck's Cognitive Therapy (Becks CT) group, and a control group. Pretest and posttest measures of aggressive behaviour were administered to all the groups.

Population of the Study: The population of the study consisted of all junior secondary school 2 students in public secondary schools in Calabar Metropolis during the 2024/2025 academic session.

Sample and Sampling Technique: A multi-stage sampling technique was adopted for the study and it comprised of cluster and simple random sampling techniques.

1. Cluster sampling was used to select 90 junior secondary 2 students with moderate to high levels of aggressive behaviour from a total of 152 students found within pre-existing clusters (intact classes) from 3 public secondary schools in Calabar Metropolis.

2. Screening was carried out using an aggression scale titled Students Opinion Questionnaire on Aggression (SOQA) to identify the 90 students from each of the clusters.

3. The identified students from each cluster 90 on the whole were assigned into three groups as follows: experimental group 1= REBT (n=30): REBT; experimental group 2 = Becks CT (n=30) group, and control group 3 (n=30).

Instruments for Data Collection

Data was collected using the questionnaire SOQA. This instrument was developed by the researchers. The four-point Likert type researcher-developed questionnaire was based on Buss

and Perrys (1992) questionnaire on aggression as well as information from literature review, theoretical review, and observations of students to establish its content. The questionnaire was divided into two sections A and B. Section A of the questionnaire elicited information on demographics of the subjects, such as gender and age while section B collected information on students' aggressive behaviours. Section B was sub divided into three units: B1 for physical aggression; B2 for verbal aggression; B3 for social aggression. Each of the sub-units of section B had 8 items totaling 24 items on the whole. Items for physical aggression included- I would hit back if someone hits me first; verbal aggression- I often feel justified in insulting people who annoy me; social aggression- when people upset me, I shut them out of my life. The questionnaire employed four response options: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD, from which the respondents selected their responses to each item. Based on the response options, items were scored as follows: Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, Strongly Disagree (SD) =1. Negatively worded items were reverse scored. The instrument was used as both pretest and posttest. The treatment with REBT and Becks CT was carried out in between the questionnaire administration.

Validity of the Instrument: The instrument was subjected to face and content validation by experts in educational psychology and measurement and evaluation. Their observations and recommendations were used to improve clarity, relevance, and suitability of the items. Specifically the items initially generated were on the whole 30 in number but were reduced to twenty four, six for each dimension of aggression. This was achieved through the expert's proof reading as well as the content validity.

Reliability of the Instrument: The reliability of the instrument was established using the Cronbach Alpha method following a trail testing of the instrument carried out among junior secondary school 2 students outside the study sample. The data collected from this procedure were subjected to analysis using Cronbach Alpha reliability coefficient and it yielded values ranging from 0.78-0.85, indicating that the instrument was reliable for the study.

Treatment Procedure: The treatment lasted for 8 weeks, with sessions held once weekly, with the researcher's and their assigned assistants administering treatment on the experimental groups 1 and 2 (for approximately 45 - 60 minutes) as follows:

- Experimental Group 1 (Rational Emotive Cognitive Therapy - REBT): Participants were exposed to REBT techniques such as the ABC model, cognitive restructuring, disputation of irrational beliefs, and emotional regulation strategies to target the irrational thoughts/ beliefs that enable aggression (physical, verbal, social) in the students. The therapists used this skills (instruction, persuasion, disputation) to bring about the desired change across the different types of aggression.

- Experimental group 2 (Beck's Cognitive Therapy - Becks CT) Group: Participants received therapy based on Beck's cognitive model, involving the following steps: 1) Identification of triggers and automatic negative thoughts, 2) Spotting cognitive distortions using e.g, mind reading and catastrophizing to model, 3) Challenging cognitive distortions, 4) Replacing distorted thoughts with a balanced alternative. The

therapists guides the students through these steps of the therapy exposing them to problem-solving strategies, self-control and emotional regulation skills, as well as mindfulness and journaling procedures.

- Control Group: Participants received conventional school counselling or no therapeutic intervention during the period of the study.

Procedure for Data Collection

1. Permission was obtained from school authorities through an application explaining the purpose of the research.
2. Informed consent was secured from students and school administrators.
3. Pretest was administered to all groups.
4. Treatment was implemented for the experimental groups using the treatment packages.
5. Posttest was administered immediately after the treatment period.
6. Data were collected, coded, and prepared for analysis.

Control of Extraneous Variables

Extraneous variables such as school environment, gender, school counsellor/teacher influence, session duration, and testing conditions were controlled by using well planned treatment packages based on standard theories. Facilitators were adequately trained in the procedures for administering the treatment. In addition, one facilitator was assigned to each treatment group to assist the researchers effectively manage group size.

Method of Data Analysis

Data were analysed using inferential statistics, specifically Multivariate Analysis of Covariance (MANCOVA). The use of MANCOVA improvsd the internal validity of the experiment, enables statistical adjustment for pre-existing (non-random) group differences through the inclusion of covariates, and the simultaneous analysis of multiple related outcome variables. All hypotheses were tested at the 0.05 level of significance.

Ethical Considerations

Ethical standards were strictly observed. Participation was voluntary, confidentiality was guaranteed, and participants were informed of their right to withdraw at any stage of the study without penalty. Furthermore the researchers sort for and obtained informed consent from the school administration considered to be the subjects legal guardians.

Results

Hypothesis One

There is no significant difference in aggressive behaviour (physical, verbal and social) among secondary school students exposed to Rational Emotive Behaviour Therapy (REBT), Beck's Cognitive Therapy and the control group, across age and gender. To test this hypothesis, Analysis of Covariance with pre-test as covariate was used. The result of the analysis is presented in Table 1.

A multivariate analysis of covariance (MANCOVA) was conducted to examine the effects of treatment (Rational Emotive Behaviour Therapy, Beck's Cognitive Therapy, and control), age, and gender on physical, verbal, and social aggressive behaviours, while controlling for pretest scores. The results revealed a significant main effect of treatment on verbal and social aggression, $F(1, 22) = 2.12$, $p = .002$, and $F(1, 22) = 2.30$, $p = .006$, respectively. The treatment effect on physical aggression was not significant, $F(1, 22) = 0.00$, $p = .949$. Gender did not have a significant main effect on any dimension of aggressive behaviour (all $ps > .05$).

Age demonstrated a significant main effect on physical, verbal, and social aggression, $F(2, 22) = 4.05$, $p = .003$; $F(2, 22) = 2.47$, $p = .008$; and $F(2, 22) = 2.60$, $p = .005$, respectively, indicating age-related differences in aggressive behaviour. A significant treatment × age interaction was observed for physical aggression, $F(1, 22) = 3.11$, $p = .004$, suggesting that the effectiveness of the intervention on physical aggression varied across age groups. However, this interaction was not significant for verbal or social aggression. The gender × age interaction was not significant across all outcome variables.

Overall, the null hypothesis was partially rejected, with significant treatment effects observed for verbal and social aggression and a significant treatment-by-age interaction for physical aggression.

TABLE 1

Multivariate Analysis of Covariance (MANCOVA) Examining Effects of Treatment, Age, and Gender on Aggressive Behaviour

Source	**Dependable Variable**	**Df**	**F-ratio**	**p-level**
Pretest (Covariate)	Physical	1, 22	.69	.415
	Verbal	1, 22	2.38	.137
	Social	1, 22	.14	714
Treatment	Physical	1, 22	.00	.949
	Verbal	1, 22	2.12	.002
	Social	1, 22	2.30	.006
Gender	Physical	1, 22	.47	.499
	Verbal	1, 22	.93	.345
	Social	1, 22	.74	.400
Age	Physical	2, 22	4.05	.003
	Verbal	2, 22	2.47	.008
	Social	2, 22	2.60	.005
Treatment × Age	Physical	1, 22	3.11	.004
	Verbal	1, 22	.64	.434
	Social	1, 22	.06	.811
Gender × Age	Physical	1, 22	.01	.921
	Verbal	1, 22	.53	.471
	Social	1, 22	.80	.380

Note. Pretest scores were entered as covariates.
Significant at $p < .05$.

Discussion

This study examined the effectiveness of cognitive behavioural therapy (CBT), specifically Rational Emotive Behaviour Therapy (REBT) and Beck's Cognitive Therapy (CT), in managing aggressive behaviour among junior secondary school students in Calabar Metropolis, Cross River State, Nigeria. The main effects of treatment, gender, and age, as well as the interaction effects of treatment × gender and treatment × age, were investigated. The findings revealed that both REBT and Beck's CT significantly reduced verbal and social aggression, but not physical aggression, when compared with the control group. Consequently, no significant differences were observed among the three groups with respect to physical aggression. Although treatment was expected to produce significant improvement across all dimensions of aggression, this expectation was only partially supported. The absence of a significant treatment effect on physical aggression may be attributed to the short duration of the intervention and the use of single therapeutic approaches for each experimental group. Physical aggression may require more intensive or combined interventions, as suggested by Spiegler and Guevremont (2003), who recommended integrating multiple behavioural therapy procedures to enhance treatment effectiveness. The analysis of the treatment × gender interaction showed no significant differences in aggressive behaviour between male and female students following treatment. This finding contradicts the assumption that males are inherently more aggressive than females (Estevez, 2012) and supports the work of Ekeanya et al. (2023), who similarly reported no significant gender × treatment interaction effect on aggression. The result suggests that CBT interventions may be equally effective for both genders.

Results related to age indicated a significant variation in aggressive behaviour across age groups, regardless of treatment condition. This finding supports existing literature suggesting that age does not moderate treatment effectiveness for aggression (Odu, 2015). However, the observed significant interaction effect between treatment and age on physical aggression suggests that age may influence how physical aggression responds to intervention. Older students, who are typically stronger and more emotionally reactive, may be more prone to physical aggression when frustrated, this counteracts the findings of Ojewale, (2014). This finding aligns with Ajah (2019), who reported that age significantly influences aggressive behaviour. In contrast, no significant interaction effects were found for treatment × age on verbal and social aggression, nor for treatment × gender across all forms of aggression, thus supporting the findings of Odu (2015). Additionally, the three-way interaction effect of treatment × gender × age was not significant. These findings indicate that gender and age did not jointly moderate treatment outcomes. This may be due to sample characteristics, including the use of intact classes, an unequal gender distribution favouring females, and the relatively small number of older students, which may have limited the detection of significant interaction effects.

The significant effects of treatment on verbal and social aggression, alongside the interaction effect of treatment and age on physical aggression, suggest that physical aggression is a more complex and resistant behaviour than verbal or social aggression. Physical aggression likely involves higher levels of emotional arousal and behavioural reinforcement, making it less

responsive to short-term CBT interventions. Overall, the retained hypotheses may be explained by individual differences in learning and behavioural change. Variations in age and gender influence how individuals process information and respond to therapeutic strategies. Consequently, future CBT-based interventions for aggression should consider longer treatment durations, combined therapeutic approaches, and developmentally sensitive strategies that account for age- and gender-related differences in cognitive and behavioural functioning.

Implications

The findings of this study indicate that REBT and Beck's Cognitive Therapy are effective in reducing verbal and social aggression among junior secondary school students. These results support the use of CBT-based interventions within school settings as practical tools for managing non-physical forms of aggression. However, the limited impact on physical aggression suggests that short-term, single-method CBT interventions may be insufficient for addressing more complex aggressive behaviours. The absence of significant gender differences implies that CBT interventions can be applied uniformly across male and female students. Furthermore, the interaction between treatment and age on physical aggression highlights the need for developmentally appropriate and age-sensitive intervention strategies. Overall, the findings emphasize the importance of structured, sustained, and contextually responsive CBT programmes in school-based aggression management.

Limitations

Despite the valuable contributions of this study, certain limitations need to be acknowledged. First, the study employed a short intervention duration, which may have limited the effectiveness of the CBT procedures, particularly in reducing physical aggression. Physical aggression is often more resistant to change and may require longer or more intensive interventions to produce measurable outcomes. Second, each experimental group was exposed to only one therapeutic approach (REBT or Beck's Cognitive Therapy). The absence of a combined or multimodal intervention may have reduced the overall impact of treatment, especially for complex aggressive behaviours that may respond better to integrated therapeutic strategies. Third, the use of intact classes rather than random individual assignments may have introduced pre-existing group differences that could not be fully controlled. This limits the internal validity of the findings and the extent to which treatment effects can be attributed solely to the interventions. Fourth, the unequal distribution of gender and age groups, particularly the relatively small number of older students and the higher proportion of female participants, may have reduced the statistical power to detect significant interaction effects involving age and gender. Fifth, the study relied on self-report measure of aggression, which may be subject to social desirability bias or inaccurate reporting. Such measurement limitations could have influenced the observed treatment effects. Finally, the study was conducted within a single geographical location (Calabar Metropolis, Cross River State), which may limit the generalizability of the findings to other regions or cultural contexts within Nigeria or beyond.

Conclusion

This study examined the effectiveness of REBT and Beck's Cognitive Therapy in managing aggressive behaviour among junior secondary school students in Calabar Metropolis, Cross River State. The results demonstrated that both therapeutic approaches significantly reduced verbal and social aggression but had no significant effect on physical aggression. Gender did not moderate treatment outcomes, while age was found to influence physical aggression in interaction with treatment. These findings suggest that while CBT-based interventions are valuable for managing certain forms of aggression, physical aggression may require more intensive, prolonged, or integrated therapeutic approaches. The study contributes to the growing body of evidence supporting the use of CBT in school-based behavioural interventions and highlights the need to consider developmental factors in programme design.

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REFERENCES

Ajah, M., (2019). Effect of Behavioural Therapy on Aggressive Behviours of Secondary School Students in Calabar, Unpublished Ph.D Thesis. University of Calabar.

Anderson, G. A. & Bushman, B. J. (2002). Human Aggression. Annual Review of Psychology, 53, 27-51. https//doi.or|10.1146|annurev.psyche.53.100901.135231.

Annyamene, A. & Ngwakwe, C. C. (2019). Effect of Cognitive Restructuring in Reducing Aggressive Behaviour of Secondary School Students in Gombe Local Government Area of Gombe State. *International Journal of Research and Innovation in Social Science (IJRISS)* 3(10), 77-83. https:rsisinternational.org|journals|ijriss|digitallibrary|volume-3issue-id77-83.pdf.

Babalola, A. E. (2025). Aggressive Behaviours among Pupils: Prevalence and Management in Ibadan North. *International Journal of Social Learning*.

Bandura, A. (1977). Social Learning Theory New York: Prentice-Hall.

Bandura, A. (1986). Social Foundations of Thought and Actions: A social Cognitive Theory. Prentice-Hall.

Bibire, A. H., Maiwada, R. A. & SA. AD, K. Y. (2023). Socio-demographic Disparities and Aggressive Behaviour of Secondary School Students in North-West Nigeria. Illorin *Journal of Education* ,43(1),1-16. https://ije.unilorinedu.sch.ng|index.php|ije|article|view|72

Bisong, N. N., Ntamu, B. A., & Undelikwo, V. A. (2025) Cognitive Restructuring as a Panacea for Maladaptive Behaviour among Primary School Children. *International Journal of Evaluation and Research in Education (IJERE),* 14(1), 398-405. Doi.10.11591|ijere.v14:1.29393

Bwan., Anakwe., & Akintunde (2025). Effects of Cognitive Behaviourial Intervention on Delinquent Behaviours of Secondary School Students in Mangu Local Government Area, Plateau State, Nigeria, 15(1), 143-149. https://doi.org|10.15580|GJER 2025.1.071425112

Capili, B., & Anastesia, J. K. (2024). An Introduction to the Quasi-Experimental Design. *The American Journal of Nursing*, 124(11), 50-52.

Chan, D. (2025). Mindful Thinking: Catching and Correcting Cognitive Distortions. MENTALZON. DOI.:10.36349|easyjpbs.2022.VO4i02.006

Ekechukwu, R. O. (2018). Efficacy of Rationale Emotive Therapy and Cognitive Behaviour Therapy in Reducing Aggressive Behavioour among Secondary School Students in Abia State. *International Journal of Humanities, Social Science and Education*, 5(1):77-82.https://dx.doi.org|10.20431/2349-0381-050|012

Estevez, E., Povedano, A., T. I., & Musitu, G. (2012). Aggression in Adolesence: A gender perspective. In B. Cotto Guevara & N. A. Becerra (Eds.), Psychology of Aggression:New Research (pp. 37-57). Nova Science Publishers.

Fabrigar, L. R., Vaughan-Johson, T. I., & Wegener, D. T. (2024). Quasi-experimental design: In handbook of Research Methods in Social and Personality Psychology (pp. 160-192). Cambridge University Press.

Federal Republic of Nigeria. (2013). National Policy on Education (6th ed.). NERDC Press.

Ikechukwu-Ilomuanya, A. B., & Iwuagwu, L. C. (2016). Effect of Cognitive/Behavioural Intervention on Aggressive Behaviour of Adolescents Exposed to Violent Media in Ogbomosho, Nigeria.

Kaur, D. & Niwas, R. (2017). Aggressive Behaviour of Secondary School Students in Relation to School Environment. *International Journal of Aduance Research*, (5):801-809. https://dx.doi.org|10.21474|IJAROI|4182.

Nwugo, J, Eze, J. E., Chukwuorji, J., Orjiakor, C. T. C Ifeagwazi, C. M. (2023). Parenting styles contributes to overt aggression, but age and gender matters. European Review of Applied Psychology. 73(5), https://doi.org|10.1016|J.erap.2022.1000852

Okon, E. E. (2011). Aggressive Behaviour and Academic Performance of Secondary School Students. Nigeria *Journal of Educational Psychology*, 9(2), 45-46.

Odu, B. K., F. B. Ibimiluyi, F., Ireto, O., Oluwaseun, B., ZOlotu, O. A. (2015). Influence of Gender and Age on Behavioural Problems and Experience of Child Abuse among Secondary School Students. British Journal of Education 3(10):22-34. https://eajournals.org|up-content|upload|influence-of-Gender-and-Age on-Beha…

Olatunbosun, I. (2022). School-type and Gender Influence on the Efficacy of Cognitive Behaviour Therapy in Reducing Bullying among Secondary School Student in Rivers

State. East African Scholars of Psychology and Behavioural Sciences. 4(2), 76-82. https://www.easpublisher.com

Onukwufor, J. N. (2013). Physical and Verbal Aggressive among Adolescent Secondary School Students in River State of Nigeria *International Journal of Education*, learning and Development, 1(2),73-84.

Opubo-Ezekiel, V., & Rolayinka-Osho, O. O. (2024). Social Variables as correlates of Aggressive Behaviour among Secondary School Students in Obio-Akpor Local Government Area of Rivers State. *International Journal of Education and Evaluation*, (IJEE), 10(2):1-17. https://Doi:10.56201|ijee.VIO.no2.2024.Pg 17.

Oyewola, F. O., (2014). The Influence of Family Condition, gender and age on the aggressive Behaviour of Adolescents prone to violent media in Ogbomoso, Nigeria. *European scientific Journal*, ESJ, 10(32).https://eujournal.org|index.php|esj|article|view|4548

Shittu, S, Akinola, O. P., Ajabem, S. W. & Raheem, K. M. (2025). Effects of Cognitive Behaviour Therapy and Social Learning Therapy in Reducing Adolescent Aggressive Behaviour among Secondary School Students in Oyo Town. *International Journal of Educational Research*, 2 (3),142-155. https://doi.org|10.5281|zenodo.15868217

Udensi, C. E., Obikezw, N. J., & Onyemaechi, C. (2025). Appetive Aggression as Predictors of Social Competence among Undergraduates. *Journal of Psychology and Behavioural Disciplines*, Coou (JPBDC), 5(1), 27-32.https://doi.org|10.47134|ijsl.v3i3.179