

# The Mean Score Difference in the Reduction of Aggressive Behaviours between Students Exposed to Multi-Modal Management Therapy and the Self-Control Techniques

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## ABSTRACT

This study evaluated the mean score difference in the reduction of aggressive behaviours between students exposed to multi-modal management therapy and the self-control techniques behaviour among in-school adolescents in Abia State. Two null hypotheses was formulated to guide the study. The study adopted a quasi-experimental design employing the pretest, posttest, non-randomized control group design with a 4x2x2x2 factorial matrix. The sample of the study consisted of 120 in-school adolescents who were purposefully selected from 1,327 (Male 616 and Female 711) with aggressive behaviours in the state were used for the study. These comprised 40 students each for multi-modal management theory, self-control techniques, and multi-modal management theory with self-control and control techniques groups respectively. The study equally adopted multi-stage sampling techniques. The instrument used for data collection were a 30-item questionnaire titled "Aggression Behaviour Questionnaire" and another 30-item Personality types A/B questionnaire". Data collected were analyzed using mean and standard deviation to answer the research questions and Analysis of Covariance (ANCOVA) to test the null hypotheses at 0.05 level of significance. The result showed that: Intervention using multi-modal management therapy (MMT), Self-control techniques and the combination of multi-modal management therapy and self-control techniques respectively reduced aggressive behaviours of in-school adolescents at posttest; ; the treatment using multi-modal management therapy had greater effect than single treatment using self-control techniques; the treatment using multi-modal management therapy and self-control techniques had greater effect on the Type B in-school adolescents than the Type A in-school adolescents; male and female in-school adolescents with aggressive behaviour exposed to multi-modal management therapy and self-control techniques did not differ significantly in the reduction of their aggressive behavior. Based on the findings, the study recommends that School counsellors should use multi-modal management therapy (MMT), Self-control techniques and the combination of multi-modal management therapy and self-control techniques in modifying aggressive behaviours of students that referred to them. Government should organize and sponsor workshop, seminars and conferences to educate the teachers, school guidance counsellors and the parents of the students on the effectiveness of multi-modal management therapy (MMT).

**Key words:** multi-modal management therapy, aggressive behaviours, teacher education, therapy and self-control techniques

## INTRODUCTION

Aggression could be defined as a deliberate act intended to cause harm to another person. Aggression could simply mean an action which may involve attacking someone or a group directly or indirectly with the aim of making the person feel the impact of the action. In this regard, Ojewola (2014) defined aggression as an act that is intended to cause harm to another person. Obi and Obikezie (2013) defined aggression as a behaviour whose primary or sole purpose or function is to injure physically or psychologically. Evis (2016) in his definition, submitted that aggression is a physical or verbal behaviour intended to hurt someone. Nnodum, Uwaegbulam and Ugwadu (2017) viewed aggression as behaviour that is intended to harm another individual. Aggression can be defined as a strong, uncomfortable emotional response to an incitement that is unwanted and incoherent with a person's values, beliefs, or rights (Roya, 2015). Aggression can be defined operationally as behaviour motivated by competitiveness, anger or hostility that results to destruction of others and in some cases, oneself.

Aggression can be physical or verbal. Physical aggression was defined by Ayodele (2011) as an act carried out with the intention of harming others physically such as hitting, kicking, stabbing, or shooting them. Ayodele (2011) also defined non-physical aggression as aggression that does not involve physical harm. Nonphysical aggression may include verbal aggression such as yelling, screaming, swearing, and name calling and relational or social aggression. Social aggression could be defined as intentionally harming another person's social relationships; for instance, by gossiping about another person, excluding others from our friendship group, or giving others the "silent treatment" (Ayodele, 2011). Nonphysical aggression may also occur in the form of sexual, racial, and homophobic jokes and epithets, which are designed to cause harm to individuals (Okoye, Abamara & Anyanwu, 2013). According to Okoro, Aduonye and Egwusi (2015), all these behaviours could be common during the period of adolescence. Aggression among adolescents could be with the intention to lower the victim's self-esteem and make him or her have a feeling of worthlessness. Aggression in the school system among adolescents may come in form of a verbal attack, insults, threats, sarcasm, or attributing nasty motives to them or a physical punishment or restriction (Jimenez et al., 2017).

Esiri (2016) identified two main types of aggression such as emotional or compulsive aggression and instrumental or cognitive aggression. The type or level of intent that underlines an aggressive behaviour creates the distinction between the two fundamental types of aggression, which are caused by very different psychological processes. According to Esiri (2016), emotional or impulsive aggression refers to aggression that occurs with only a small amount of fore thought or intent and that is determined primarily by impulsive emotions. Emotional aggression is the result of the extreme negative emotions that an individual is experiencing at the time that he aggresses and is not really intended to create any positive outcomes; it is impulsive and carried out in the heat of the moment. Coleman (2013) argued that emotional aggressions often the result of the build-up of frustration and the feeling of having 'no-control' (losing control). Instrumental or cognitive aggression, on other hand, was opined by (Onukwufor, 2013) as aggression that is intentional and planned. Instrumental aggression is more cognitive than affective and may be completely cold and calculating. Instrumental aggression is aimed at hurting someone to gain something—attention, monetary reward, or political power.

The negative effects of aggression could be more worrisome during adolescence stage. Jimenez and Estevez, (2017) observed that the period of adolescence is the stage between childhood and adulthood which is between the ages of 12 and 20 years. During this stage, teenagers tend to experiment and begin to reassess their role in the society and family. This may create confusion and uncertainty in the minds of teenagers. All these factors may result in aggressive outbursts among adolescents who do not know how to vent or channel their confusion.

Aggression among in-school adolescents has far-reaching negative effects. Aggressive behaviours have been related to a host of social problems among adolescents, such as substance abuse and low achievement (Olive, 2011). Adolescents who demonstrate problems of aggression are at increased risk for a number of negative outcomes. It is on record that the rate of absenteeism \ from school as well as dropout rates in Abia State Secondary Schools are higher among victimized students than among their non-bullied peers. Those who are bullied generally show higher level of insecurity, anxiety, depression, loneliness, unhappiness, physical and mental symptoms, and low-self-esteem (Aluede, 2011). This persistent bullying may have long term negative effect on the victims many years beyond school as they could lose the spirit of compassion for other students.

The students who have chronic aggressive behaviours could maintain their behaviours into adulthood and this may influence their ability to develop and maintain positive relationship. They may find it difficult to conclude relationships. They could turn out to be antisocial adults, who usually engage in juvenile crimes and other criminal activities. Fights between one group and another are common sights and the use of weapons such as; knives, dagger, bottles, clubs and other dangerous weapons for fighting among students is common especially during inter-class fights and inter school sports competitions (Onukwufor, 2013).

Students involvement in aggressive behaviour has brought miseries and anguish to many parents, teachers, guidance counsellors as well as the government and this ugly development has adversely affected the academic performance of the students and their overall wellbeing. The news of students on rampage over a colleague's death in Abeokuta made the headlines of Nigerian Tribune (2021). The daily reported pandemonium that broke out on Monday, June 28, 2021, at Saje area of Abeokuta, the Ogun State capital, when students of Baptist Boys' High School, allegedly invaded the premises of Ilugun High School, also within the area, to avenge the death of two of their students who were stabbed to death during an un-official gambling competition. It was reported that the rampaging students were armed with dangerous weapons which made students and management of Ilugun High School to scamper for safety. The activities of the students not only disrupted academic activities in the affected schools, but it disrupted commercial activities in the area as well, as shop owners had to close their shops and also run for safety. Efforts have been made to use several techniques and strategies to manage aggression in the past but the problem of aggressive behaviour continues to persist (Onukwufor, 2013). The techniques and strategies recommended and used include instructional counselling, enactment of regulations, laws and sanctions, psychoanalysis, pharmacological and behavioural approaches (Ezeokan, Obi-Nwosu & Okoye, 2014). Available literature reports tend to suggest that of the various techniques that have been employed, behavioural modification strategies tend to stand out clearly as being promising in managing this complex behaviour. Perhaps the reason being that aggression is particularly suitable behaviours to engage those who work from the behavioural perspective. Aggression can easily be observed and recorded. It occurs in discrete episodes and can be easily exhibited and observed among persons in all race, gender and age. Its antecedents, actions and consequences could be measured.

### Statement of the problem

The issue of aggression is becoming more worrisome because the aggressive behaviours are taking a more dangerous dimension in Abia State Secondary Schools. Fights between one group and another are common sights and the use of weapons such as; knives, dagger, bottles, clubs and other dangerous weapons for fighting among students is common especially during inter-class fights and inter school sports competitions. Students' involvement in aggressive behaviour has brought miseries and anguish to many parents, teachers, guidance counsellors as well as the government and this ugly development has adversely affected the academic performance of the students and their overall wellbeing.

The following hypotheses were tested at 0.05 level of significance to guide the study:

**H<sub>01</sub>:** There is no significant difference in the aggression behaviour reduction mean score between students exposed to multi-modal management therapy and the control group at post-test.

**H<sub>02</sub>:** There is no significant difference in the aggression reduction mean score between students exposed to the self-control techniques and the control group at posttest.

### Conceptual Framework

#### Concept of aggression

There are various definitions that attempt to capture the construct of human aggression, yet there is no single term that can adequately describe the variety of ways in which such behaviours manifest (Barbara, 2013). From a behaviourist perspective, aggression is simply characterized as the infliction of harm on others or obnoxious stimuli delivered to another organism. A general working definition is that, aggression refers to a range of behaviours that can result in either physical or psychological harm to oneself, others, or objects in the

environment. An important aspect of aggressive behaviour towards others is the immediate intention underlying the perpetrator's behaviour to harm the target. The harm can be delivered through aversive stimulator by more passive means such as withholding beneficial stimuli (Izuchi & Aneto, 2014). Theorists have proposed numerous subtypes of aggression that may be expressed through various channels. In a comprehensive review, Ofodile and Ofodile (2018) identified the following subtypes of aggression that have existed in the literature: Direct versus indirect; active versus passive; rational versus manipulative; proactive versus reactive; antisocial versus prosocially; annoyance-motivated versus incentive-motivated; overt versus covert; targeted versus target less; overt versus relational; and relational versus social.

There are two types of Aggression: which are reactive and proactive aggression. These two types of aggression are distinguished on the basis of their function and differ in terms of their goals, level of physiological arousal, and theoretical roots. Reactive aggression, which can also be categorised as hostile or impulsive aggression refers to aggression in response to provocation and negatively perceived or actual threats. The goal of reactive aggression is to defend oneself or inflict harm on a source of frustration (Ofodile & Ofodile, 2018). Reactive aggression which is often accompanied by anger, is underpinned by intense central nervous system (CNS) automatic arousal, and unplanned attacks on the 'object' of frustration (Paul -Cookey & Iwuama, 2011). Similarly, reactive aggression involves a lack of inhibitory functions, reduced self-control, and increased impulsivity. Reactive aggression is rooted in the frustration-aggression theory in which the aggression is thought to arise in response to frustration that is caused by being prevented from attaining a particular goal (Paul -Cookey & Iwuama, 2011). In contrast, proactive aggression, also known as instrumental or predatory aggression, can be described as "cold-blooded". It refers to behaviour in which the goal is to obtain desired outcome or reward. Proactive aggression involves unprovoked deliberate behaviour that is carefully planned. Physiologically, there is little central nervous system (CNS) arousal, irritability, anger, or fear when an individual engages in proactive aggression (Paul -Cookey & Iwuama, 2011). Proactive aggression has its theoretical roots in the social learning theory, whereby aggression is a learned phenomenon reinforced by social role modelling and positive reinforcement (outcomes) for aggressive behaviours in a social context (Cornell, Morris & Piquero, 2016).

### **Multi-modal management therapy**

Multi-modal therapy (MMT) is an approach to psychotherapy devised by psychologist Arnold Lazarus. Multi-modal therapy refers to the principles and procedures of social and cognitive learning theories. Social learning theory states that all behaviours (normal and abnormal) are created, maintained, and modified through environmental events. MMT is anchored on the idea that humans are biological beings that think, feel, act, sense, imagine, interact and that psychological treatment should address each of these modalities. Multi-modal Management therapy treatment follows seven reciprocal dimensions of personality or modalities known by their acronym – BASIC ID: behaviour, affect, sensation, imagery, cognition, interpersonal relationship and drug biology (Morcross, 2011). National Academy of Sciences (2017) describes multi-modal therapy as a broad category that involves combining two or more modalities that target different aspects of a behavioural problem. It usually refers to two or more techniques used in combination, or two or more single components combined in a single entity with the aim of optimizing treatment by delivering the different types of therapy together. The multiple modes may include pharmacotherapy devices or behavioural psychosocial interventions. Clifford (2019) defines multi-modal management therapy (MMT) as a comprehensive bio psychosocial approach to psychological assessment and theoretically consistent and technically eclectic psychotherapy. According to the author, multimodal management therapy arose out of Arnold Lazarus' realization that there were significant omissions in behaviour therapy and cognitive behavioural therapy which he found too limited and narrow, hence in addition to focusing on behaviour, cognition and affect, multimodal management therapy also assesses imagery, sensations, interpersonal relationships and biological factors.

Based on the above conceptualizations, it can be summarized that multimodal management therapy is a concept which describes the utilization of two or more cognitive behavioural management programmes in an integrated form to build a more effective intervention programme. Therefore, multimodal management technique is a cognitive-behavioral based management programme. Cognitive behavioural management programmes have become one of the most common therapeutic programmes to be used with children and adolescents regarding the intervention of aggression issues. Aggression management training from a cognitive-behavioral perspective,



does not only focus on the behaviours of students but also on the student's thoughts and feelings as well. Therefore, the theory is that students will learn how their thoughts, feelings, and aggressive behaviours are interconnected, hence a multi-modal management therapy will work on a more intensive basis than a single management programme. The assumption is that aggression being a complex phenomenon, will require a multifaceted approach, hence the best skills in cognitive aggression management programmes are carefully selected and integrated into a multi-component programme.

The goal of multi-modal management therapy is to achieve a comprehensive psychological treatment that addresses the seven modalities of an individual's personality: the thinking, feeling, actions, sensation, imagery and interpersonal relationship in order to help them develop self-awareness of the inner constructs which could lead to the maladaptive problem of aggression, and assist him to learn and implement coping skills and achieve a complete behavioural change (Marcross, 2011).

Breathing and relaxation skills are also included in the skills of multi-modal management techniques and they include the diaphragmatic breathing and progressive relaxation. These skills can be utilized in the reduction of negative emotions and associated aggressive behaviours. Diaphragmatic breathing is effective in reducing the nervous system arousal that accompanies negative emotions (Deffenbacher, 2011). Simple relaxation tools such as deep breathing and relaxing imagery can also help to calm down tensed nerves (Gavina & David, 2011). Relaxation training has two purposes. The first purpose, like that of diaphragmatic breathing, is to reduce overall tension in the body so that the body does not remain in an aroused state. The aroused state is detrimental not only due to the physical wear on the body, but also due to the greater susceptibility to react aggressively to provocation. The second purpose of relaxation training is to maintain some control over the emotional state of the individual (Deffenbacher, 2011). The introduction of these skills in the current study is regarded as important in reducing physiological levels of arousal to manageable levels.

### **Self-control techniques**

Varieties of methods are adopted under the banner of self-control programmes. The Multi-stage model identified by Briesch and Briesch (2016), (which were employed by the present study) appears to enjoy a wide popularity among researchers and clinicians. The multi stage model according to Briesch and Briesch (2016), proceeds from self-monitoring to self-evaluation to self-reinforcement. Although self-monitoring, self-evaluation and self-reinforcement are the central features of this multi-stage model, there are however, relevant self-control skills on which the three principal features are integrated to produce a comprehensive mechanism for therapeutic change. In this orientation, several major points regarding self-control could be made. One of such points is that it is of no use whatsoever for the clients to think of themselves as lacking in will-power or backbone. Viewing themselves in such terms can only sabotage their efforts in self-control; for there is no point in trying to change if one's difficulties emanate from an immutable state of inner weakness. The therapist should further explain that the problem with the clients is not that they are not trying hard enough but that they simply have not learned to employ the most effective tactics. The client should know that the therapist's role is of course, to facilitate the learning of these tactics. Above all, the therapist should reassure the clients of his availability to train them in the techniques that make change easier (Denson, Delwas & Finkel, 2017). Experiments as well as clinical experience have suggested that the client's perception of himself as the major agent in bringing about improvement increases his disposition toward further change and toward expanding his horizon for continuing personal development ((Denson et al., 2011). The therapist should note this fact at the earliest stage of programme implementation. Another vital point to note at the initial session is for the therapist to introduce variables that may produce or increase a conflict before treatment can begin. For instance, such films, pictures, or discussions that would arouse the client's awareness and appreciation of the consequences of anger and aggression which the clients have disregarded may facilitate client's acceptance of treatment programme.

### **Theoretical Framework**

#### **Rational emotive behaviour therapy by Albert Ellis (2001)**

The Rational emotive behaviour therapy was developed by Albert Ellis in 2001. The theory currently underlying management and aggression prevention is cognitive behavioural theory proposed by Albert Ellis. Rational

emotive behaviour therapy is based, on the theory that emotional disturbances are largely the result of illogical and irrational patterns of thinking. The basic assumption of the Rational emotive therapy of Ellis include that (1) people are disturbed not by things, but by the views they take of them. In other words, it is not original events alone that cause emotional disturbances, but those events, plus a person's perceptions and evaluation about them. (2), thinking, feelings and behaviour interact and affect one another, if one of these processes is somehow altered, the other two are affected as well. (3), individuals have the capacity to act in either rational or irrational manner. (4), people with emotional problems develop belief systems that lead to implicit verbalizations and self-talk resting on faulty logic and assumptions. (4), humans have a strong tendency to be influenced by their environment, particularly in childhood when family, peers, and culture have an enormous impact on their belief, emotions and actions. (5), emotional disturbance is almost always associated with the individual caring too much about what others think of him.

The REBT treatment approach is based on the belief that humans have the ability to evaluate their thoughts as to whether they are rational or irrational, which in turn affects their emotional responses and allows them to choose their behaviours. REBT theory places the duty on individuals not parents or society – to take responsibility for their cognitions, emotion, and behaviour. Thus, people are not just victims of their past or current circumstances; they have the power to choose how to interpret life's events. The view of the theory on maladaptive behaviours is that humans are cognitive, conative, and motoric. Their feelings are usually triggered off by, an appraisal of a given situation. This means that emotional disturbance is fostered by the illogical sentences that the person continually repeats to himself or herself. Self-defeating belief system which is based on irrational ideas that were incorporated and invented result in emotional disturbance and negative behaviour.

Some of the major cognitive processes that serve as the focus of change may include perceptions, self-statements, expectations, and problem-solving skills. These cognitive processes have been frequently accorded a major role in aggressive behaviour. Thus, aggression is not triggered merely by environmental events, but rather through the way these events are perceived and processed. Furthermore, a person's belief system can be divided into two basic categories: Rational beliefs and irrational beliefs. Rational beliefs are realistic and lead to positive and healthy consequent emotions and behaviours. Conversely, irrational beliefs are unrealistic or unreasonable and lead to negative and unhealthy emotional and behavioural responses. If an adolescent boy believes that no one likes him, he may be angry and manifest the anger by bullying or other destructive behaviour like destruction of school properties as if this irrational belief is true.

## Review Of Empirical Studies

A study by Houges and Hauber (2010) examined the effect of multi-dimensional family therapy for adolescents' behaviour disorder among American adolescents. Five research questions and five null hypotheses guided the study.

The sample for this study composed of 63 substance abusing adolescents receiving MDFT during a randomized clinical trial ( $n = 224$ ). Eligible adolescents were between the ages of 13 and 17, and were currently using illicit drugs, and had a caregiver able to participate in assessment and treatment sessions. Exclusion criteria included a history of mental disability or organic disorder, the need for in patient detoxification, and suicidal ideation. The 63 cases selected for inclusion in the current study were those MDFT cases that had completed a pretreatment assessment, at least one follow-up assessment (6- or 12-month), and at least one videotaped therapy session. Selected cases attended an average of 13.8 sessions ( $SD = 8.4$ ); 37% of the sample dropped out of treatment before having completed 10 sessions. Active consent from care-givers and active assent from adolescents were collected in writing from all participants. The study was conducted with active approval of the governing Internal Review Board.

The study by Ayodele and Sotonade (2014) investigated the effect of self-management, emotional intelligence and assertiveness training programmes in reducing the potentials for terrorism and violence among Nigerian adolescents. Three research questions and three hypotheses guided the study. A quasi experimental pretest, control group research design of 3x2x2 factorial matrix type was used for this study. Gender (male and female) and locus of control (internal and external) used as moderating variables were considered at 2 different levels along with two (3) experimental groups. The study participants were one hundred and eighty (180) Senior

Secondary 2 students randomly selected from 3 co-educational secondary schools from three different Local Government Areas in Remo educational block of Ogun State, Nigeria. One standardized instrument was used in collecting data while analysis of covariance was used to analyze the generated data. Results show that all the treatment programmes (SM = 20.981 and 1.901; EQ = 21.009 and 1.687; AT = 22.046 and 1.418) were effective in fostering the reduction of adolescents' potentials for terrorism and violence but self-management was found to be most effective.

The study also revealed that both gender and locus of control of participants combined to interact with the treatment to affect participants' potentials for terrorism and violence. Results showed that male participants benefit more from self-management and assertiveness training programmes while the female benefit more from emotional intelligence training. Also, all the treatment packages work more on the individual internal LOC compared to their external LOC. were effective in fostering the reduction of adolescents' potentials for terrorism and violence but self-management was found to be most effective. The study also revealed that both gender and locus of control of participants combined to interact with the treatment to affect participants' potentials for terrorism and violence. Results showed that male participants benefit more from self-management and assertiveness training programmes while the female benefit more from emotional intelligence training. Also, all the treatment packages work more on the individual internal LOC compared to their external LOC.

The study by Adebisiyi and Ayodele (2018) investigated the effect of self-management and emotional intelligence training programmes in reducing peer victimization among Nigerian adolescents. The study was guided by four research questions and four null hypotheses. A quasi experimental pretest, post-test, control group research design of 3x2x2 factorial matrix type was used for this study while gender (male and female) and locus of control (internal and external) used as moderating variables. The study participants were one hundred and eighty (180) Senior Secondary 2 students selected from 3 coeducational secondary schools in Remo educational block of Ogun State, Nigeria. One standardized instrument was used in collecting data while analysis of covariance was used to analyze the generated data. Method of Analysis: Analysis of covariance (ANCOVA) was adopted to analyze data generated and to test the hypothesis at 0.05 significant level. Analysis of covariance (ANCOVA) was utilized to investigate the joint effect of the independent variables on the dependent variable. Results show that self-management and emotional intelligence training programs were effective in reducing peer victimization but self-management was found to be more effective. The study also revealed that only locus of control of participants combined to interact with the treatment in reducing peer victimization among the participants. Results showed that participants with internal locos of control benefit more from self-management and emotional intelligence training. It was concluded that participants' peer relationship skills improved significantly as a result of the treatment. The findings have effectively demonstrated that the treatment packages could be used as veritable tools in equipping adolescents with necessary skills that can be used to expedite some kinds of cognitive processes in our youths such as decision-making, problem-solving, self-control, and therefore bringing about peaceful co-existence among the people.

## METHODOLOGY

The study was carried out in Abia State, Nigeria. Abia is a State in the South East of Nigeria. The data for the study were collected at 4-phases, consisting of pre-treatment phase, treatment phase, post-test treatment phase and follow-up phase. The pre-treatment involved preliminary introductions and pre-treatment assessments which yielded the baseline data for the study as pre-test. The post-treatment phase evaluated the treatment outcome while the follow-up (final phase) measured permanence of treatment effects. The data collected from the pre and post treatment assessments, as well as the follow-assessment were statistically analysed, using mean and standard deviations to answer the research questions and the analysis of co-variance, (ANCOVA) to test the null hypotheses. In each of the treatment phases, the instruments were administered to the subjects with the help of briefed research assistants who were the guidance counsellors of the selected schools. The population of the study comprised all the SS2 students in the 186 public secondary schools in the three educational zones in Abia State numbering about 1,327 (Male 616 and Female 711) with aggressive behaviours (SEMB, 2021). Using Aggressive Behaviour Questionnaire (ABQ) and Personality Type Questionnaire (PTQ) on the in-school adolescents, 1,327 (Male 616 and Female 711) adolescents were identified as having symptoms of Aggressive Behaviour. This study adopted a pretest, posttest, control group quasi experimental design with a 4x 2x 2 factorial

matrix. A quasi experimental design is an empirical intervention study where assignment to the given treatment condition is not based on random assignment (such as a cut off score) to determine which participants receive the treatment. The row consists of (4) four experimental groups (Multimodal Management Therapy (MMT), (Self-Control Techniques (SCT)), (Multimodal Management Therapy and Self Control Techniques) and Control group. The column consists of the moderator variables, the Personality Types A and B and Gender as presented in table 3.1.

The factorial matrixes presented in table 3.1.

#### 4x2x2 Factorial Matrix

GROUPS	P Types		Gender	
MMT	A	B	F	M
	X	X	x	x
SCT	X	X	X	X
MMT& SCT	X	X	X	X
C	X		X	X

#### KEY

(MMT) =Multimodal Management Therapy

(SCT) =Self Control Techniques

(MMT & SCT) = Multimodal Management Therapy & Self Control Techniques

(C) =Control

X = Sample number

A = Personality type A

B = Personality type B

F = Female

M = Male

## RESULTS

### Research Question 1

What is the mean score difference in the reduction of aggressive behaviours between students exposed to multi-modal management therapy and control at posttest?

Table 4.1: Pretest-Posttest Mean and Standard Deviation of Reduction of Aggressive Behaviours between Students Exposed to Multi-Modal Management Therapy and Control at Posttest

		Pretest		Posttest		Mean Reduction	Mean Reduction Difference
Groups	N	X	SD	X	SD		



MMT	40	45.23	3.73	26.11	3.74	19.12	
							15.52
Control	40	44.33	3.63	40.73	3.94	3.60	

Data in Table 4.1 show that the in-school adolescents having aggressive behaviours and were exposed to multi-modal Management therapy (MMT) had a pretest mean score of 45.23 with a standard deviation of 3.73 and a posttest mean score of 26.11 with a standard deviation of 3.74. Similarly, the in-school adolescents in the control group recorded pretest mean score of 44.33 with a standard deviation of 3.63 and a posttest mean score of 40.73 with a standard deviation of 3.94. The table further showed that the in-school adolescents exposed to multi-modal Management therapy (MMT) had mean reduction difference of 19.12 while their counterparts in the control group had 3.60. The mean reduction difference between the multi-modal Management therapy (MMT) and the control group is 15.52; which implies that the in-school adolescents exposed to multi-modal therapy (MMT) had higher mean aggressive behaviours reduction than their counterparts in the control group. The standard deviation of the two groups ranged between 3.63 and 3.94; indicating that the respondents were not too far from the mean and from one another in their responses, adding further validity to the mean. The results therefore, indicated that the use of multi-modal Management therapy (MMT) had reduced the aggressive behaviours of the in-school adolescents.

### Hypothesis 1

There is no significant difference in the aggressive behaviour reduction mean score between students exposed to multi-modal Management therapy and control at posttest.

Table 4.2: Analysis of Covariance (ANCOVA) on Aggressive Behavior Reduction of In-School Adolescents Exposed to Multi-Modal Management Therapy (MMT) and the Control Group

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	7778.422 <sup>a</sup>	2	3889.211	71.721	.000
Intercept	5361.536	1	5361.536	98.872	.000
Pretest	3149.339	1	3149.339	58.077	.001
Group	4462.034	1	4462.034	82.284	.000
Error	4175.453	77	54.227		
Total	78934.000	80			
Corrected Total	13953.875	79			

The results in the Table 4.2 above showed that multi-modal Management therapy (MMT) as a factor in the study has a significant effect on the rate of reduction of aggressive behaviour of the in-school adolescents. The calculated f-value of 82.284 in respect of the treatment as main effect of multi-modal Management therapy (MMT) on mean rate of reduction of aggressive behaviour scores is higher than f-critical of 1.96 with degree of freedom of 77 at 0.05 level of significance. This implies that exposing in-school adolescents with aggressive behaviour to multi-modal Management therapy (MMT) significantly reduced their aggressive behaviour. Therefore the null hypothesis of no significant mean score difference in the rate of reduction of aggressive behaviour between those in the multi-modal Management therapy (MMT) group and control at posttest period is rejected. Thus, there is significant mean score difference in the rate of reduction of aggressive behaviour between those in the multi-modal Management therapy (MMT) group and control at posttest period.

## Research Question 2

What is the mean score difference in the reduction of aggressive behaviours between students exposed to self-control techniques and control at posttest?

Table 4.3: Pretest-Posttest Mean and Standard Deviation of Reduction of Aggressive Behaviours In-School Adolescents in the Self-Control Techniques and Control

		Pretest		Posttest		Mean Reduction	Mean Reduction Difference
Groups	N	X	SD	X	SD		
SCT	40	42.22	3.74	27.11	3.64	15.11	
							13.51
Control	40	41.37	3.83	39.77	3.74	1.60	

Data in Table 4.3 show that the in-school adolescents having aggressive behaviours and were exposed to self-control techniques (SCT) had a pretest mean score of 42.22 with a standard deviation of 3.74 and a posttest mean score of 27.11 with a standard deviation of 3.64. Similarly, the in-school adolescents in the control group recorded pretest mean score of 41.37 with a standard deviation of 3.83 and a posttest mean score of 39.77 with a standard deviation of 3.74. The table further showed that the in-school adolescents exposed to self-control techniques (SCT) had mean reduction difference of 15.11 while their counterparts in the control group had 1.60. The mean reduction difference between the self-control techniques (SCT) and the control group is 13.51; which implies that the in-school adolescents exposed to self-control techniques (SCT) had higher mean aggressive behaviours reduction than their counterparts exposed to control group. The standard deviation of the two groups ranged between 3.64 and 3.83; indicating that the respondents were not too far from the mean and from one another in their responses, adding further validity to the mean. The results therefore, indicated that the use of self-control techniques (SCT) had reduced the aggressive behaviours of the in-school adolescents.

## Hypothesis 2

There is no significant difference in the aggressive behaviour reduction mean score between students exposed to self-control techniques and control at posttest.

Table 4.4: Analysis of Covariance (ANCOVA) on Aggressive Behaviour Reduction of In-School Adolescents Exposed to Self-Control Techniques (SCT) and the Control Group

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	7878.422 <sup>a</sup>	2	3939.211	70.945	.000
Intercept	5461.535	1	5461.535	98.362	.000
Pretest	3249.359	1	3249.359	58.521	.002
Group	4562.134	1	4562.134	82.164	.006
Error	4275.453	77	55.525		
Total	79934.000	80			
Corrected Total	14953.875	79			

The results in the Table 4.4 above showed that self-control techniques (SCT) as a factor in the study has a significant effect on the rate of reduction of aggressive behaviour of the in-school adolescents. The calculated  $f$ -value of 82.164 in respect of the treatment as main effect of self-control techniques (SCT) on mean rate of reduction of aggressive behaviour scores is higher than  $f$ -critical of 1.96 with degree of freedom of 77 at 0.05 level of significance. This implies that exposing in-school adolescents with aggressive behaviour to self-control techniques (SCT) significantly reduced their aggressive behaviour. Therefore, the null hypothesis of no significant mean score difference in the rate of reduction of aggressive behavior between those in the self-control techniques (SCT) group and control at posttest period is rejected. Thus, there is significant mean score difference in the rate of reduction of aggressive behaviour between those in the self-control techniques (SCT) group and control at posttest period.

## DISCUSSION OF FINDINGS

The findings of the study showed that intervention using multi-modal management therapy (MMT) significantly reduced the aggressive behaviours of the in-school adolescents in Abia State. This is evident from the result that showed that in-school adolescents exposed to multi-modal management therapy (MMT) had higher mean aggressive behaviour reduction than those in the control group. The findings of the study are in line with the findings of the study by Houges and Hauber (2010) which examined the effect of multi-dimensional family therapy for adolescents' behaviour disorder among American adolescents. The overall findings indicated that both CBT and MDFT significantly reduced substance use. Compared with CBT, youths in MDFT evidenced sustained treatment effects up to 1 year after termination from treatment, showing significantly greater reduction in psychological involvement with drugs and frequency of drug use other than cannabis. Also, compared with CBT, youths in MDFT were significantly more likely to be abstinent at 1-year follow-up. The findings of the study also agree with the findings of the study by Sudvosky, Kasinola and Gorman (2014) which reported that skills training and multimodal treatments were effective in reducing aggressive behaviour and improving social skills. However, problem-solving treatments were more effective in reducing subjective anger experiences. Modelling, feedback, and homework techniques were positively related to the magnitude of effect size. The effectiveness of multi-modal management therapy (MMT) in reducing the aggressive behaviours of the in-school adolescents in the present study becomes more compelling when one considers the assertion by Marcross (2011) that the goal of multi-modal management therapy is to achieve a comprehensive psychological treatment that addresses the seven modalities of an individual's personality which include the thinking, feeling, actions, sensation, imagery and interpersonal relationship in order to help the individual develop self awareness of the inner constructs which could lead to the maladaptive problem of aggression, and assist him to learn and implement coping skills and achieve a complete behavioural change.

The findings of the study also showed that self-control techniques significantly reduced the aggressive behaviour of in-school adolescents in Abia State. This is evident from the result that showed that in-school adolescents exposed to self-control techniques had higher mean aggressive behaviour reduction than those in the control group. The findings of the study support the findings of Ayodele and Sotonade (2014) who investigated the effect of self-management, emotional intelligence and assertiveness training programmes in reducing the potentials for terrorism and violence among Nigerian adolescents. Results showed that all the treatment programmes ( $SM = 20.981$  and  $1.901$ ;  $EQ = 21.009$  and  $1.687$ ;  $AT = 22.046$  and  $1.418$ ) were effective in fostering the reduction of adolescents' potentials for terrorism and violence but self-management was found to be most effective. The result of this study also agree with Longe and Adeyeye (2019) who examined aggression and bullying acts as predictors of delinquent behaviour and the mediating role that self-control could play in the exhibition of the violent acts among junior secondary school students in Lagos, Nigeria. The results of the first hypothesis showed that there was a significant influence of adolescents' aggression and bullying on delinquent behaviour respectively among the participants with  $F_{cal} = 4.04$  and  $F_{crit} = 3.90$ . The second hypothesis also revealed that self-control can play a significant role of influencing both the aggression and the bullying tendencies among adolescents having  $F_{cal} = 4.18$  as against  $F_{crit} = 3.90$ . The study clarifies aggression and bullying as predictive factors for delinquent behaviour later. The result of this study also confirm the findings by Ikporukpo (2019) who analyzed the results of an intervention in improving the friendship-making ability of peer-rejected adolescents. Specifically, it investigated the effectiveness of self-management technique in fostering friendship-making ability of peer-rejected adolescents in some secondary schools in Ibadan, Nigeria.

The result obtained indicated a significant main effect of treatment on the friendship-making ability of the participants. The fact that self-control was effective in reducing the aggressive behaviour of the in-school adolescents confirm the theoretical belief that self-control is not only a matter of inhibiting unwanted impulses but also of initiating attempts at goal pursuit. This initiatory component of self-control is responsible for the effect of self-control on well-being. Being able to engage in initiatory goal pursuit is facilitated by effortless self-control strategies. Rather than being busy with suppressing unwanted impulses, which would drain self-control resources leading to self-control failure, high self-control is a matter of adaptive routines and strategically avoiding conflicts, which in turn, leaves more room for initiatory goal pursuit.

## CONCLUSION

Intervention using multi-modal management therapy (MMT), Self-control techniques and the combination of multi-modal management therapy and self-control techniques reduced aggressive behaviours of in-school adolescents at posttest. Evidence from the results showed that in-school adolescents exposed to the combination of multi-modal management therapy and self-control techniques had higher mean aggressive behaviour reduction than those in the control group. Therefore, the reduction of aggressive behaviour among in-school adolescents could depend on exposure to either multi-modal management therapy (MMT), Self-control techniques or the combination of multi-modal management therapy and self-control techniques. There was significant mean score difference in the rate of reduction of aggressive behaviour between those in the multi-modal management therapy and self-control techniques group and at posttest period in favour of multi-modal therapy. The treatment using multi-modal management therapy had greater effect than single treatment using self-control techniques. Therefore, the use of multiple therapies or techniques could be more effective in reducing aggressive behaviour than single treatment packages

## RECOMMENDATIONS

Based on the findings, the following recommendations are made:

1. School counsellors should use multi-modal management therapy (MMT), Self-control techniques and the combination of multi-modal management therapy and self-control techniques in modifying aggressive behaviours of students that referred to them.
2. Government should organize and sponsor workshop, seminars and conferences to educate the teachers, school guidance counsellors and the parents of the students on the effectiveness of multi-modal management therapy (MMT), Self-control techniques and the combination of multi-modal management therapy and self-control techniques in reducing aggressive behaviours of students both in the schools and at home.

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