

EFFECT OF BEHAVIOUR CONTRACT ON AGGRESSIVE BEHAVIOUR AMONG PRIMARY SCHOOL PUPILS

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Abstract

The study investigated the effect of behaviour contract on aggressive behaviour among primary school pupils. The objective of the study was to find out the effect of behaviour contract on aggression as a composite score, verbal aggression and physical aggression respectively. Pre test post test control group experimental design was adopted. The target population was primary 4, 5 and 6 pupils from Dagara primary school Gaya local government Kano state, comprising 73 identified as having chronic aggression. Forty samples were randomly selected and assigned to experimental and control group each group having 20 pupils. Behaviour Contract and weekly points were used as the intervention for 12 twelve weeks. The intervention was preceded by a baseline measure likewise succeeded by post intervention measurements. Three research questions were utilized and three hypotheses were formulated to guide the study. Mean and standard deviation were used to answer the research questions while t-test for independent samples was used to test the null hypotheses at 0.05 level of significance. The findings revealed that pupils in the experimental group, compared to the control group, exhibited less aggression (as a composite score) after the intervention. The findings also revealed a significant difference between the experimental and control in verbal and physical aggression when compared and analysed separately. Based on the findings it is recommended that teachers and even parents utilize behaviour contract in dealing with aggressive behaviour, verbal and physical aggression among primary school children. It was also recommended that further studies be conducted to explore more about other types of aggression.

Key words: behaviour contract; individual behaviour contract; reward menu; point system; aggression; physical aggression; verbal aggression

Introduction

All children will from time to time be aggressive. This is a normal part of growing up. Anger and aggressive behaviours are common among children, representing clinically significant problems only when frequent and severe enough to disrupt a family's or school's functioning, or when the behaviour leads to serious antisocial behaviour, delinquency, or substance abuse (Lochman et al., 2006). Anger is often, but not always, a precursor to aggression and externalizing behaviours in children (Bohnert et al., 2003) but can also be related to internalizing problems (Eisenberg et al., 2005). Aggressiveness can be defined as the generation of a behaviour that aims at causing physical or psychic harm to somebody else (Ferguson, & Beaver, 2009). Another severe type of aggression is violence. The World Health Organisations (2002) defined violence as:

The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation (p. 5).

The study of adolescent aggressive behaviour during the last decade has increasingly focused upon the fact that aggression is not only physical by its nature, but it can be of various forms. The concept of aggression has been described as a threat of harm or an action aimed at harming others (Loeber & Hay, 1997). The aggressive actions often commence in early childhood and reach a peak at around four years of age, declining thereafter (Campbell et al., 2000). Aggression is mostly a symptom or part of diagnostic criteria of several other mental conditions. Along its developmental trajectory, aggressive behaviour can be associated with Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) (Loeber, 1990).

Behaviour contract, also known as contingency contract, is an effective, positive behaviour intervention that includes access to reinforcement (Downing, 2007; Simonsen et al., 2008). Contingency contracting in the educational setting includes the manipulation of antecedent and consequence variables to affect a student's patterns of behaviour. Contracting involves creating a written document between the teacher and the student that specifies a target behaviour, a set criterion for performance of the target behaviour, and the consequence available to the student

upon meeting that criterion (Downing, 2007). Contracts have demonstrated effectiveness for individual or small groups of students with and without disabilities in the elementary setting to attend to disruptive or other problematic behaviours (De Martini-Scully et al., 2000; Mruzek et al., 2007). Reinforcing replacement behaviours with contingency contracting is possible (Mruzek et al., 2007). Cooper et al., (2007) suggested that contingency contracts can yield positive results because they actually package together several effective behaviour management components, including rule-governed behaviour and positive consequences with the provision of explicit behavioural feedback. Contingency contracts may work in a similar way to contingencies guided by the Premack Principle (Downing, 2002), also known as “Grandma’s Law” (Cooper et al., 2007). The Premack Principle makes access to a highly preferred activity contingent upon completion of a less preferred activity (Cooper et al., 2007). Contracts can also be used alongside verbal praise or other evidence based practices to create an effective treatment package (Cooper et al., 2007). Contracts also may prove a more ethical classroom management approach than some time-out procedures as teachers do not remove the student from instruction (Kostewicz, 2010). As an antecedent approach, practitioners use a contract to identify a target behaviour, a specific consequence (e.g. reward) for emitting certain rates of the behaviour, and duration of the contract or number of behaviour occurrences needed to meet the agreed contingency, then consequences are delivered if the contract goal is met (Downing, 2007). Teachers can create contracts for one or all students, focus on social or academic behaviours, and implement alongside pre-existing management approaches. In this study the researcher used individual behaviour contract in which all participants had same goals they individually worked towards achieving it. The agreement was individually signed, likewise the reward items were earned in the same manner.

Statement of the problem

Students exhibiting aggressive behaviours are the ones frequently being reported as facing challenges in their academic, social, and later occupational life. This makes life difficult and sometimes unbearable for them and those around them like siblings, peers, parents and teachers. In this situation teachers find themselves in a critical position as they need to find a remedy to this behavioural challenges before successful learning takes place, otherwise such aggression will disrupt the learning and teaching process or setting. Likewise aggression at home put parents under pressure and in struggle of how to tackle or prevent it from permeating to other settings

and from being emulated by other siblings, and similarly to prevent it from escalating or worsening into a more severe level like having trouble with legal bodies as it was pointed in several studies. Besides, adolescence is a turbulent stage of development and many researchers found high prevalence of aggression among adolescents. Another motivation for conducting this study is that aggression as pointed by social learning theory is a learned behaviour which could have been wrongfully reinforced in the past through many ways such as observation or imitation. School environment as one of such socialization agencies, for example, classrooms with high levels of disruptive or aggressive behaviours place children at-risk for more serious behaviour problems. Research has indicated that students in an aggressive or disruptive classroom environment are more likely to be aggressive in later grades (Greer-Chase et al., 2002). In view of this aforementioned problems, the current study investigated the effect of individual behaviour contract on aggression among primary school children.

Purpose of the study

The following objectives were set to be investigated in the study:

1. To investigate if there is a difference in aggression (composite scale scores) between experimental group given intervention with behaviour contract and the control group not given the intervention
2. To find out if there is a difference in physical aggression between experimental group given intervention with behaviour contract and the control group not given the intervention
3. To find out if there is a difference in verbal aggression between experimental group given intervention with behaviour contract and the control group not given the intervention

Research Questions

Three research questions were asked as follows:

1. What are the differences in aggression (composite scale scores) between experimental group given intervention with behaviour contract and the control group not given the intervention?
2. What are the differences in physical aggression between experimental group given intervention with behaviour contract and the control group not given the intervention?
3. What are the differences in verbal aggression between experimental group given intervention with behaviour contract and the control group not given the intervention?

Hypotheses

The following null hypotheses were formulated to be tested:

1. H01 There is no significant difference in aggression (composite scores) between experimental group given intervention with behaviour contract and the control group
2. H02 There is no significant difference in physical aggression between experimental group given intervention with behaviour contract and the control group.
3. H03 There is no significant difference in verbal aggression between experimental group given intervention with behaviour contract and the control group.

Methodology:

Research Design

In this study a Pre test post test control group experimental design was employed. As the name indicates a pre test was given followed by an intervention then another measurement followed as a post test.

Population

The population of this study was drawn from primary 4, 5 and 6 pupils identified to be exhibiting chronic aggressive tendencies. The Peer-Nomination Scale was administered and 73 pupils were identified having the level of aggression that met the inclusion criteria of 70% peer nomination.

Sample

A simple random sampling technique was applied to select 40 pupils and likewise same technique was used to randomly assign them to either experimental or control group respectively. Each group contained 20 pupils.

Instrumentation

Two instruments were adopted in the study. The Peer-Nomination Scale was adopted by permission from the author (a precondition before adoption). The scale has items that measure presence or absence of aggression in the target respondent. The scores for each scale item range from 0 to 1. Each score represents the total proportion of times the child was nominated on a given behaviour description (scale item). The composite scores of the scale is calculated by summing up the number of times a child is nominated by his peers and dividing by the total number of expected nominations (maximum). A maximum score of 1 signifies that the child has been nominated on every aggressive behaviour description and by all nominators. A minimum score of 0 signifies that the child has not been nominated by any peer (Huesmann, 2002). The reliability of this instrument was estimated in a study using a sample of (N=748) Cronbach's

alpha coefficient for internal consistency was high; .97 and a test–retest reliability of .91 (Huesmann, 2002).

The second instrument; The aggression Scale was developed by two authors, Orpinas and Frankowski (2001). The scale consists of items which measures physical, verbal aggression which are direct acts of aggression toward others and contains items that tap information about anger which gives a clue about inner disposition of the target respondent. It also helps in determining the types of aggression whether proactive or reactive. The scores range from 0-66, higher score indicates higher aggressive traits and lower scores indicate low aggressive traits. This scale was administered to a samples of (n = 253) and Cronbach's alpha .87 internal consistency index was found (Orpinas & Frankowski, 2001).

Data collection

Initially, permission was obtained from the Local Education Authority. The data collection was carried out at two points of time. First a pre test was conducted followed by the intervention which lasted for 12 weeks then post test measure was done. Research assistants were recruited and trained from the regular teachers of the school. The researcher was part of the entire intervention process providing all the necessary guides and intervention materials.

Intervention

The intervention lasted for 12 weeks and the participants in the experimental group individually signed a written contract of not engaging in acts of aggression such as name calling, fighting or property destruction. A weekly review of the contract was scheduled because at their tender ages they may easily forget the agreement. A reward item was given based on the earned weekly points. This weekly points system reflects a decrease in aggressive behaviour compared to the baseline records. If a decrease is recorded a point is earned otherwise no point for that week. The materials used in this intervention include reward menu containing edibles options of nearly same monetary values, contract agreement Form and weekly points Form.

Result

Both descriptive and inferential statistics were used to analyse the data. Mean, standard deviations and t test for independent samples were computed using SPSS version 16.

Research Question one

What are the differences in aggression (composite scale scores) between experimental group given intervention with behaviour contract and the control group not given the intervention?

Table 1: Showing Mean scores and Standard Deviation for the Experimental and Control Groups

	Experimental Group (Contract)	Control Group
Mean	7.4000	31.4500
SD	2.87274	8.19804
N	20	20

Table 1 presents the mean and standard deviation of the aggressive behaviour composite scores in the experimental and control groups after intervention with behaviour contract. The experimental group had a mean of 7.4000 with a standard deviation of 2.87274 while the control group had a mean score of 31.4500 with standard deviation of 8.19804. This indicates that the samples in the experimental group had a lower aggressive tendency after the intervention.

Research Question two

What are the differences in physical aggression between experimental group given intervention with behaviour contract and the control group not given the intervention?

Table 2: Showing Mean scores and Standard Deviation in Physical Aggression for the Experimental and Control Groups

	Expr Group (Contract)	Control Group
Mean	2.5000	11.6000
SD	1.87785	3.50038
N	20	20

Table 2 presents the mean and standard deviation of the physical aggression in the experimental and control groups after intervention with behaviour contract. The experimental group had a mean of 2.5000 with a standard deviation of 1.87785 while the control group had a mean score of 11.6000 with standard deviation of 3.50038. This indicates that the experimental group had a lower physical aggressive incident after the intervention.

Research Question three

What are the differences in verbal aggression between experimental group given intervention with behaviour contract and the control group not given the intervention?

Table 3: Showing Mean scores and Standard Deviation in Verbal Aggression for the Experimental and Control Groups

	Expr Group (Contract)	Control Group
Mean	9.2000	13.3500
SD	1.63755	4.36825
N	20	20

Table 3 above presents the mean and standard deviation of the verbal aggressive in the experimental and control groups after intervention with behaviour contract. The experimental group had a mean of 9.2000 with a standard deviation of 1.63755 while the control group had a mean score of 13.3500 with standard deviation of 4.36825. This indicates that the experimental group had a lower verbal aggressive tendency after the intervention.

Hypothesis one

H01 There is no significant difference in aggression (composite scores) between experimental group given intervention with behaviour contract and the control group

Table 4: Independent t-test Result for Experimental and the Control Groups (composite scores)

Variables	N	Mean	SD	Df	t-valu	Sig.	p-value	Decision
Exp Group (Contract)	20	7.4000	2.87274					
Control Group	20	31.4500	8.19804	38	12.381	0.05	.000	Ho1 Rejected

To test this hypothesis a t test for independent samples was calculated. The post test scores of the two groups were compared. The table 4 above showed that the Experimental Group (behaviour

contract) having (Mean=7.4000, SD=2.87274) was significantly different from the Control Group with (Mean=31.4500, SD=8.19804), $t(38) = 12.381, p < .000$. This showed that there is significant difference between the experimental and the control groups in the tested variable (aggression). This is because the p-value (.000) is less than the level of significance (0.05) which means the data gathered and analyzed did not support the null hypothesis. This analysis showed that the null hypothesis asserting there is no significant difference between the experimental and the control groups is rejected based on the analysed data and the alternative hypothesis is therefore accepted and confirmed.

Hypothesis two

H02 There is no significant difference in physical aggression between experimental group given intervention with behaviour contract and the control group.

Table 5: Independent t-test Result for the Experimental and Control Groups (Physical Aggression)

Variables	N	Mean	SD	Df	t-value	Sig.	p-value	Decision
Expr Group (Contract)	20	2.5000	1.87785					
				38	10.245	0.05	.000	Ho2 Rejected
Control Group	20	11.6000	3.50038					

Independent samples t test was also calculated to test hypothesis two. The table 5 above showed that the Experimental Group (behaviour contract) with (Mean=2.5000, SD=1.87785) was significantly different in physical aggression from the Control Group which had (Mean=11.6000, SD=3.50038), $t(38) = 10.245, p < .000$. This indicated that there is a significant difference in physical aggression between the experimental and the control groups in the tested variable (physical aggression) as the p-value (.000) is less than the level of significance (0.05) which means the data gathered and analyzed did not support the null hypothesis that claims there is no significant difference in physical aggression between the experimental and the control groups, hence it is rejected, and the alternative hypothesis is therefore accepted and confirmed.

Hypothesis three

H03 There is no significant difference in verbal aggression between experimental group given intervention with behaviour contract and the control group.

Table 6: Independent t-test Result for the Experimental and Control Groups (Verbal Aggression)

Variables	N	Mean	SD	D	t-value	Sig.	p-value	Decision
Expr Group	20	9.2000	1.63755					
(Contract)				38	9.970	0.0	.000	Ho3
						5		Rejected
Control	20	13.350	4.36825					
Group		0						

Independent samples t test was also calculated to test hypothesis three and the post test scores of the two groups were compared. The table 6 above showed that the Experimental Group (Contract) (Mean=9.2000, SD=1.63755) was significantly different in verbal aggression from the Control Group (Mean=13.3500, SD=4.36825), $t(38) = 9.970$, $p < .000$). This indicated that there is a significant difference in verbal aggression between the experimental and the control groups as the p-value (.000) is less than the level of significance (0.05) which means the data gathered and analyzed gave enough evidence to reject the null hypothesis that asserts there is no significant difference in verbal aggression between the experimental and control groups, thus the alternative hypothesis is therefore accepted and confirmed.

Summary of Findings

1. The result finding revealed that there was a significant difference between experimental group participated in behaviour contract and the control group (Table 4). The null hypothesis (H01) asserting there is no significant difference between the two groups was therefore rejected in favour of the alternate hypothesis.
2. Table 5 shows that a significant difference in physical was found between the experimental and the control groups after the twelve weeks intervention with behaviour contract. This is evident for rejecting the null hypothesis and accepting the alternate one.
3. Similarly, a significant difference was found (Table 6) in verbal aggression between experimental and the control groups after the intervention with behaviour contract. The null hypothesis is therefore rejected in favour of the alternate hypothesis.

Discussion

The findings revealed that behaviour contract was effective in reducing aggression. The research hypothesis one which purports; there is no significant difference between experimental group participated in behaviour contract and the control group was rejected ($t\text{-value}=12.381$) indicating a significant behaviour reduction resulting from behaviour contract. This finding is consistent with another finding by Mruzek et al (2007) where they used behaviour contract as independent variable to be tested against the dependent variable of aggression. They realized a significant reduction in aggressive behaviour.

The difference was also significant, in physical and verbal aggression, between the experimental and the control groups. Hence, the effectiveness of behaviour contract on both types of aggression is therefore confirmed. This led to the rejection of the null hypothesis assuming that; there is no significant difference in physical aggression between the experimental and the control groups, the calculated $t\text{-value}$ was ($t\text{-value}=10.245$). The analysed data also gave enough evidence for the rejection of the null hypothesis that negates existing of a significant difference, in verbal aggression, between the experimental and the control ($t\text{-value}=9.970$). This finding was also supported by a research finding by Stage et al., (2006) in which they reported significant improvement in both physical and verbal aggression by using behaviour contract. It also concurs with another research findings by Hawkins et al., (2011) in which the effectiveness of behaviour contract on physical and verbal aggression among other disruptive behaviours was confirmed.

Conclusion

The effect of individual behaviour contract on aggression was investigated in this study. A pre test post test experimental design was employed and the intervention lasted for twelve weeks. Mean, standard deviation and t test for independent samples were computed using SPSS software version 16. The findings revealed that the intervention was effective and this led to the rejection of all the three null hypotheses in the study and acceptance of the alternate ones.

Recommendations

The findings of the study led to the following recommendations

1. Behaviour contract can be used to decrease physical and verbal aggression among primary school children

2. It is recommended that behaviour contract be used in conjunction with weekly point system in an extended intervention schedule
3. Teachers can use individual behaviour contract for multiple participants with each pupil having a separate terms, contract agreement and reward
4. It is also recommended for parents to use behaviour contract with their children at home

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