The Effectiveness of Two Psycho-Social Behavioural Interventions on Adolescents' Bullying Behaviour among Nigerian Adolescents

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Abstract. Bullying constitutes a significant threat to the mental, social and physical wellbeing of school children. As an old phenomenon and worldwide problem, it has defied several efforts to curb it. This study examined the influence of class types and religions on the effects of Contingency Management and Cognitive self-instruction on bullying behaviour among secondary school students in Ogun state, Nigeria. The population for the study consisted of bullies in public secondary schools in Nigeria schools. Stratified random sampling technique was used to select three schools while purposive sampling was used to select the participants. The study adopted a 3x2x2 pre-test and post-test experimental research design consisting of two treatment groups and one control group. Each of this group has 40 participants each, while six participants did not complete the study. Adolescent Peer Relation Inventory (APRI) was the instrument used for data collection and a total number of one hundred and fourteen students fully participated. Analysis of covariance (ANCOVA) was used to analyse the three hypotheses formulated at the 0.05 level of significance. Results revealed a significant effect of Cognitive self-instruction, Contingency Management on bullying behaviour ($F_{2, 101} = 6.444; p<0.05$). Cognitive self-instruction was found to be more effective ($MD = 7.754$) than Contingency Management ($MD = 5.503$). The study also revealed that the combination of class type and religions of the students did not interact with the effect of the two treatments ($F_{(2,101)} = 2.379; p > 0.05$) did not affect bullying behaviour. Lastly, religion and class type collectively ($F_{(1,101)} = 0.04; p > 0.05$) did not affect bullying behaviour. Based on these findings, it was recommended that psychologists, counsellors, parents, teachers and social workers should use these treatment packages in
controlling bullying behaviour among secondary schools students. Also, the government should sponsor seminars/workshops for school counsellors and educational psychologists on how to use Cognitive self-instruction and Contingency Management techniques in controlling bullying behaviour. Finally, government can make a policy that each school (Private and Public) should have a counsellor in the school so as to check it among students.

Keywords: Religions, Class types, Cognitive Self-Instruction, Contingency Management, Bullying behaviour.

Introduction:

Over the last 20 years, great attention has been directed towards bullying and the negative impact of this behaviour on schools both in Nigeria and the world at large (Adeoye, 2008a; Egbochuku, 2001, Olweus, 1993, Smokwoski & Kopazz, 2003, Merrellet al, 2008). Most secondary school students in South Western Nigeria experienced high levels of peer victimisation (Adeoye, 2008b, Popoola, 2007). Data collected on the prevalence of this phenomenon among secondary school students revealed that 70.6 per cent of the study sample reported high level of peer victimisation while 27% and 2.1% reported moderate and low levels of peer victimisation respectively. Studies also revealed attack on property was the most frequent form of peer victimisation, followed by physical victimisation and social manipulation. The high proportion of students who reported high level of peer victimisation with regard to attack on property and ‘physical victimisation’ appears worrisome as it suggests the existence of a serious problem that may have far-reaching effects on children’s emotional and social development and by logical extension impact negatively on the social and psychological wellbeing of the entire Nigerian society (Owoaje & Ndubisi, 2007).

The issue of peer victimisation is a social issue requiring the immediate attention of school authorities in Nigeria. It is reasonable to assume that the exposure of young people to bullying and victimisation while in school normally will generate high level of social aggression which according to Farrington (1993) in Poopoola (2007) may persist into adulthood in the form of criminality, marital violence, child abuse and sexual harassment. When these happen, the negative
impacts extend beyond the victims of peer victimisation to their family members, the community and the entire nation. The high level of peer victimisation is probably one of the early signs of anti-social behaviour that eventually culminates in youth violence and violent crimes in Nigerian society.

Bullying occurs mostly among children and adolescents in any setting like workplace, schools and others (Olweus, 2003; Owoyemi & Oyelere, 2010; Pellegrini, 1998; Twyman et al., 2010). During elementary schools bullying is consistently more prevalent among boys than among girls. However the prevalence in each sex decreases during junior high school and continues to decrease into high school. Boys tends to use physical and verbal bullying while girls use more subtle and psychologically manipulative behaviour such as alienation, ostracism and character deformation (Asamu 2006, Crick & Dodge, 1994; Olweus,2003).

Contingency Management is based on the behaviour theory principle that behaviours are learnt. Any behaviour (such as smoking, bullying, etc.) occurs within the context of environmental contingencies that make the behaviour more or less likely to occur. People engage in behaviours to influence the environment to obtain positive consequences and avoid negative ones. Bullying and other antisocial behaviours are maintained through operant conditioning (Haggens & Silverman, 1999, Petry, 2000, Ryan, 2004). Contingency Management is proposed to provide alternative operant reinforcement to compete with other associated disorder behaviour. That is, behaviour is selected as a target of change, and clients are provided with tangible reinforcement to reduce the target behaviour. In general, four conditions must be met for contingency management to be effective.

Frick & Mumiz (2003) stated that contingency management programmes involved:
1. Establishing clear behavioural goals that gradually shape a child's behaviour in areas of specific concern.
2. Developing a system to monitor whether the child is reaching these goals.
3. Developing a system to reinforce appropriate behaviour toward reaching stipulated goals Examples include gaining of points when an aggressive child
has expressed anger appropriately and has displayed increased pro-social interactions with peers and with adults.

4. Providing negative consequences for inappropriate behaviour. Examples involve losing of points for misbehaving and explaining to the child that fighting results in isolation.

A significant amount of empirical evidence has shown how Cognitive self-instruction has been used to modify behaviour of aggressive children in social situations. Lynch, Laws & McKenna (2009) formulated a five-step sequential model of social information processing. According to this model, an individual must first encode the social cues, interpret those cues, generate solutions, decide on an optimal response and then enact the response. Research has shown that there is a relationship between biases as well as deficits in processing information at some or all of the steps and problem behaviour, particularly in aggressive children (Kingdon & Price, 2009). They further stated that one of the most replicated findings is the tendency of elementary school-age aggressive children to attribute hostile intent to peers under conditions of ambiguity. Hostile attribution bias was particularly found to characterize aggressive/delinquent adolescents. Follette & Ruzek (2006) proposed that social behaviour is to a greater extent controlled by cognitive self-instruction learned during early developmental stages. By cognitive scripts, Follette & Ruzek (2006) meant a representation in memory of a specific sequence of actions corresponding to a familiar event. When explaining the sequential steps through which scripts guide the behaviour, Prather (2007) reported that an individual possessing a stable cognitive representation of the script, enters a social interaction that contains elements evoking the script, and retrieves the script from memory. The concept of the script emphasized the role of the content of thought and the process of thinking in mediating behaviour. Prather (2007) found that beliefs serve to motivate and to inhibit social behaviour. In their study of aggressive adolescents, Sadiku (2000) and Aderanti (2006) found that boys were more likely to be aggressive than girls. The aggressive boys were also found to be more likely to respond aggressively without considering other non-aggressive responses and the consequences of their behaviour.
When explaining anger and aggression in youth diagnosed with bullying behaviour, Dobson, Dozois & David (2001) stated that most antisocial behaviour is a manifestation of one's personal construct system and the irrational thoughts that emanate from that construct system. They further explained that these personal constructs and irrational thoughts precede the development of anger and hostility, which ultimately contribute to the onset of antisocial behaviour. Ellis (2001) found that children who engage in antisocial behaviour show distortions and deficiencies in cognitive processes such as generating alternative solutions to interpersonal problems, identifying the means to obtain particular ends or consequences of one's actions including what would happen after a particular behaviour. More examples include deficiencies and distortions in making attributions to others of the motivation of their actions, perceiving how others feel and expectations of the effects of one's own actions. Ellis (2001) further reported that anti social behaviour is not merely triggered by environmental factors but occurs through the way in which the child perceives and processes the events. The cognitive-behavioural therapists have empirically evaluated many interventions for effectiveness in treating anti social behaviour. Dattilio & Freeman (2007) reported that the cognitive-behavioural therapies comprise about 50% of treatment studies on anti social behaviour that has proved to be effective to a reasonable extent.

The study is aimed at establishing the effects of these independent variables (Contingency management and Cognitive self Instruction) on the dependent variable (Bullying behaviour). It is also designed to establish the influence of class types and religions on the effects of Contingency Management and Cognitive self-instruction on bullying behaviour among secondary school students in Nigeria.

The study would provide both theoretical and empirical basis for adopting suitable methods of handling bullying behaviour among children by parents, social worker, educators, government and all other stakeholders in the reduction of this behaviour and would reduce the amount of money spend in rehabilitation, psychiatric hospital and remand homes. The following hypotheses were raised:
1. There is no significant difference in the effect of contingency management, cognitive self-instruction and control on the bullying behaviour of secondary school students.

2. There is no significant difference in the effect of class types and religion on the bullying behaviour of secondary school students.

3. There is no significant class types and religion difference in the effect of contingency management, cognitive self-instruction and control on the bullying behaviour of students from different secondary school students.

Methodology

Research Design

This study adopted a 3x2x2 pre-test, post-test, factorial design. The factors of the study are treatment, which exists at three levels (Contingency Management, Cognitive Self-Instruction and Control). Class types, which exists at two levels, (Junior Secondary Schools (JSS 1-3) and Senior Secondary Schools (SSS 1-3)) and Religion which was observed at two levels, (Christianity and Muslim). This design enabled the researchers to determine the effect of the independent and moderators on the dependent variable at a single shot.

Population of the study

The population of this study consisted of secondary school students exhibiting bullying behaviour in three local governments comprising of Sagamu, Ikenne and Remo North Local Governments Areas in Ogun state, Nigeria.

Sample and Sampling Technique:

A stratified random sampling technique was used to pick one school in each of the three Local Government Areas in Remo namely Shagamu, Ikenne and Remo North Local Government. In each of the randomly selected Local Government Areas, one school each was randomly selected. The researcher requested the counselors to provide a list of bullies. From each of these lists, 40 bullies (20 males and 20 females) were selected to participate making a total of one hundred and twenty participants, six of these students did not participate fully leaving a total of one hundred and sixteen participants. Each of the schools was assigned with the treatment and the control group thus: (A, B & C)
Instrumentation

Bullying behaviour was assessed by Adolescent Peer Relation Instrument (APRI) by Parada (2000) for both pre-test and post-test. Items No. 1, 3, 5, 7, 10, & 14 represent verbal bully, while Items No, 2, 6, 9, 12, 15, 16 represent physical bully, Items No, 4, 8, 11, 13, 17, 18, represent social. It is of 6 – point scales from 1 – Never, 2 – Sometimes, 3 -1 or 2 times a month, 4 – once a week, 5-Severa times a week, 6-Everyday.

The validity was also ensured through proper scrutiny of the items by experts in Educational Psychologist. The internal consistency of the scale was reported by the developer using Chrombach’s alpha to have yielded a scale of 0.92. The Adolescent Peer Relation Instrument (APRI: Parada, 2000) is an 18 – items inventory that measure specifically 3 types of bullying behaviours (physical, verbal, and social) as well as to generate total bullying. A high scores in these subscales designated frequently bullying behaviour, whereas low scores designate bullying or victimization that is not as frequent. The Instrument was subjected to three weeks pre and post test among some Secondary Schools students in Oyo state. Scores generated from these were correlated using Pearson Product Moment Correlation method. A co-efficient (r) of 0.81 showed that the instrument is reliable to be used for the study.

Procedure

This study was carried out in three phases. In the first phase the participant was assigned to the two treatment groups (Cognitive self-Instruction = 40, Contingency Management N= 40 and Control group N = 40) respectively. Adolescent Peer Relation Instrument (APRI) was administered. The data generated through the administration of pre-test served as covariate in the analysis of covariance. At phase two, each group went through six weeks (1 hour a week) of intensive training. 30 minutes of discussion/lecture, 15 minutes to discuss the previous assignments given, 15 minutes to summarize and give the next assignment. Instructions and explanations on the task involved in each experimental group such as lectures, discussion, and assignments were given to all participants. Among other discussions/lectures given to participants under cognitive self Instruction (CSI) were the effect of self-statements on behaviour
and the importance of substituting negative self-statements with positive self-statements. Assignments include: giving examples of self-statements, substituting negative self-statement with positive self statements such as substituting “I have to can overcome this behaviour” ” I need to think twice before acting”. Contingency Management is like reinforcing behaviour through additional marks etc. The participants in the control group received a placebo treatment in which study habits technique was taught to them. Things like time management, jotting recap was mentioned, assignments were also given to them. Phase three involve the use of APRI as post-test.

**Method of Data Analysis**

All the stated hypotheses in this study were analyzed using Analysis of Co-variance (ANCOVA). This method helped to draw out the effect of the independent variables on the dependent variable using scores as covariant. The hypotheses were tested at 0.05 level of significant.

**Results:**

**Hypothesis One**

There is no significant difference in the effect of contingency management, cognitive self instruction and control on the bullying behaviour of secondary school students.

| Table 1: **Tests of Between-Subjects Effects of Treatment, Class types and Religions grouping on Bullying Behaviour of Secondary School Students.** |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Source          | Type III Sum of Squares | Df | Mean Square | F     | Sig.  |
| Corrected Model | 2953.691a        | 29 | 101.851       | 1.124 | .332 |
| Intercept       | 2929.422         | 1  | 2929.422      | 32.332 | .000 |
| Pretest         | 525.229          | 1  | 525.229       | 5.797 | .018 |
| Group           | 647.968          | 2  | 323.984       | 4.576 | .012 |
| Class types     | .005             | 1  | .005          | .000  | .994 |
The results in Table 1 revealed that there was a significant interaction effect of treatments on the bullying behaviour of secondary school students ($F_{(1,101)} = 4.567; p < 0.05$). Therefore, the null hypothesis which stated that there was a significant difference in the effect of contingency management, cognitive self-instruction and control on the bullying behaviour of secondary school students was rejected by this finding. The implication of the results is that treatments affected the bullying behaviour of participants.

Table 2: Estimates of Effect of Contingency Management, Cognitive Self Instruction and Control on Bullying Behaviour of Secondary School Students

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingency Management Group</td>
<td>29.539a</td>
<td>1.516</td>
<td>Lower Bound: 26.532</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Upper Bound: 32.547</td>
</tr>
<tr>
<td>Cognitive Self-Instruction Group</td>
<td>27.288a</td>
<td>1.490</td>
<td>Lower Bound: 24.331</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Upper Bound: 30.244</td>
</tr>
<tr>
<td>Control Group</td>
<td>35.042a</td>
<td>1.548</td>
<td>Lower Bound: 31.971</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Upper Bound: 38.113</td>
</tr>
</tbody>
</table>

a. Covariates appearing in the model are evaluated at the following values: Pre-test Bullying Behaviour = 37.0877.

The results in Table 2 revealed that participants in the contingency management group had a mean score of 29.539 and standard error of 1.516. In the cognitive self-instruction group, the mean score was 27.288 and the standard error was 1.490. However, in the control group, the mean score was 35.042 and the standard error was 1.548.
Hypothesis Two
There is no significant difference in the effect of class types and religion on the bullying behaviour of secondary school students.

Table 3: Estimates of the Interaction Effect of class types and religion on Participants' Bullying Behaviour

<table>
<thead>
<tr>
<th>Class Types</th>
<th>Religion</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval Lower</th>
<th>95% Confidence Interval Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSS</td>
<td>Christianity</td>
<td>31.964</td>
<td>2.138</td>
<td>27.723</td>
<td>36.205</td>
</tr>
<tr>
<td></td>
<td>Muslim</td>
<td>27.115</td>
<td>2.150</td>
<td>22.850</td>
<td>31.380</td>
</tr>
<tr>
<td>SSS</td>
<td>Christianity</td>
<td>29.039</td>
<td>2.097</td>
<td>24.879</td>
<td>33.200</td>
</tr>
<tr>
<td></td>
<td>Muslim</td>
<td>25.536</td>
<td>2.145</td>
<td>21.282</td>
<td>29.791</td>
</tr>
</tbody>
</table>

a. Covariates appearing in the model are evaluated at the following values: Pre-test Bullying Behaviour = 37.0877

The results in Table 1 showed that there was no significant two-way interaction effect of class types and religions on the bullying behaviour of secondary school students \((F_{(1,101)} = .204; \ p > 0.05)\). Therefore, the null hypothesis which stated that there is no significant difference in the effect of class types and religions on the bullying behaviour of secondary school student was accepted by this finding. The implication of the results was that class types would not interact with religions to influence the bullying behaviour of secondary school students. This is indicated in the results in Table 3 which showed that participants in JSS classes and are Christians group had a mean score of 31.964 and a standard error of 2.138 compared with those in the SSS classes who had a mean score of 29.039 and a standard error of 2.097.

Also, participants between JSS classes and are Muslim group had a mean score of 27.115 and a standard error of 2.150 compared with those in the SSS classes who had a mean score of 25.536 and a standard error of 2.145.
Hypothesis Three

There is no significant class types and religions difference in the effect of contingency management, cognitive self instruction and control on the bullying behaviour of students from different secondary school students.

Table 5: Estimates of the Interaction Effect of Treatment, Class types and Religion on Participants’ Bullying Behaviour

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Class types</th>
<th>Religion</th>
<th>Mean</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contingency Management</td>
<td>JSS</td>
<td>Christianity</td>
<td>30.197a</td>
<td>2.757</td>
<td>24.729 - 35.666</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSS</td>
<td>Christianity</td>
<td>33.731a</td>
<td>3.247</td>
<td>27.289 - 40.172</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSS</td>
<td>Muslim</td>
<td>24.180a</td>
<td>3.041</td>
<td>18.148 - 30.212</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive Self-Instruction</td>
<td>JSS</td>
<td>Christianity</td>
<td>26.292a</td>
<td>3.102</td>
<td>20.138 - 32.446</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSS</td>
<td>Muslim</td>
<td>28.250a</td>
<td>3.181</td>
<td>21.939 - 34.562</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSS</td>
<td>Christianity</td>
<td>31.786a</td>
<td>2.919</td>
<td>25.997 - 37.576</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSS</td>
<td>Muslim</td>
<td>22.822a</td>
<td>2.885</td>
<td>17.100 - 28.544</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Group</td>
<td>JSS</td>
<td>Christianity</td>
<td>36.621a</td>
<td>3.230</td>
<td>30.213 - 43.028</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSS</td>
<td>Christianity</td>
<td>32.551a</td>
<td>2.885</td>
<td>26.829 - 38.274</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SSS</td>
<td>Muslim</td>
<td>36.867a</td>
<td>3.065</td>
<td>30.786 - 42.947</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Covariates appearing in the model are evaluated at the following values: Pre-test Bullying Behaviour = 37.0877.

The results in Table 1 revealed that there was no three-way interaction of treatments, class types and religions on the bullying behaviour of secondary school students ($F_{(2,101)} = 2.379; p > 0.05$). The null hypothesis which stated that there is no significant class types and religions difference in the effect of contingency management, cognitive self instruction and control on the bullying behaviour of students from different secondary school students was by this finding accepted. The finding reflects that participants’ bullying behaviour would not be affected by the interacting effect of treatment, class types and religions as indicated in Table 5.
Discussion

The first hypothesis stated that there is no significant difference in the effect of contingency management, cognitive self-instruction and control on bullying behaviour of secondary school students. The result of the finding indicated that a significant difference exist in the effectiveness of the treatment on bullying behaviour, which is an indication that the two treatments (cognitive instruction and contingency management) are effective in the treatment of bullying behaviour. This result confirms the importance of independent variables in exerting influence on the criterion variables. The reason for this result was as a result of the six weeks exposure to treatment. This is due to the fact that positive changes are facilitated by using behavioural techniques (Aderanti, 2006; Madubuike, 2002). The result in Table 2 reveals that cognitive self-instruction was more effective than contingency management in the treatment of bullying behaviour. This result is not surprising because cognitive factors play an important role in anti-social behaviour changes, since the way people think has a controlling effect on their action. The result also affirms the researches of Okwun (2011), Onyechi & Okere (2007) and Obalowo (2004).

The second hypothesis states that there is no significant difference in the effect of class types and religions on participants bullying behaviour. The result of this was accepted as there was no significant effect of class types and religions on participants bullying behaviour. The result laid credence to the earlier results to the research conducted by Adeoye (2008b). The result is in consistent with the existing literature that close class grouping do not affect bullying behaviour especially when considering the three aspect of bullying (Asamu, 2006; Chesney-Lind, Marash & Irvain, 2007). Although it was observed that religion affiliation does not affect bullying behaviour. This might be as a result of the fact that the two religions group preach peace (Johnston, O'Malley Bachman, & Schulenberg, 2008; Kuntshe & Gmel, 2004).

The third hypothesis states that there is no significant class types and religion difference in the effect of contingency management, cognitive self-instruction and control on the bullying behaviour of secondary student. Results
from table 1 and 5 revealed that there were no significant difference in the three way interactions of treatment, class types and religions on the bullying behaviour of secondary school students. Hence, it was accepted. This implies that the combination of class types and religions will not aid the effect of cognitive self-instruction and contingency management on bullying behaviour of secondary school students. The result further confirms the result in the previous tables that each of these variables does not affect the treatment group.

Conclusion

The following conclusions were drawn from the findings of the study: Cognitive self-instruction and Contingency Management are effective in controlling bullying behaviour among secondary students. Class types and religions will not affect the interaction of cognitive self-instruction and contingency management in treating secondary schools students with bullying behaviour. Class types and religions would not affect participants when considering general bullying behaviour

Recommendation

Based on the conclusion of the studies, the following recommendations were made:
Counselling psychologists could use any of the treatment packages (cognitive self-instruction and contingency management) as identified by the study in the treatment of bullying behaviour.
References


