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AUTHORS’ CONTRIBUTIONS

This work was carried out in collaboration between all authors. Author OAA designed the study, wrote the protocol and supervised the work. Author OAA carried out all laboratories work and performed the statistical analysis. All authors managed the analyses of the study. Author AFB wrote the first draft of the manuscript. All authors managed the literature searches and edited the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Violence cuts across generations. It affects every segment of the society and it is particularly common among school-going adolescents. Peer victimization is an important aspect of behavioural problem which makes students to be afraid of going to school and inhibits their learning potentials. It is a serious problem for school age children and for which they receive limited adult help. This study examined the differential effectiveness of cognitive self-instruction and contingency management on peer victimization among Secondary School Students in Ogun State, Nigeria. It was moderated by gender.

Public Secondary school students in Ogun state who exhibit peer victimization were used as
population. Three schools were selected using stratified random sampling technique, while purposive sampling was used to select the participants from the counsellors’ records in each of the schools. The study adopted pre-test, post-test and control group quasi experimental research design using 3x2 factorial matrix. Each of these groups had 40 participants expected in the group making up to a total of 120. Two hypotheses were formulated and data was collection for both pre and post-test using Adolescent Peer Relation Inventory (APRI). data was analysed at the 0.05 level of significance using Analysis of covariance (ANCOVA) statistic.

Result reveals that both Cognitive Self-instruction and Contingency Management were significant to bullying behaviour. Cognitive Self – instruction was more effective than Contingency Management. (Mean Deviation = 5.503). Also, there was no significant difference in the effect of gender (F (1,101) = .121; p > 0.05) on the secondary school students bullying behaviour.

Sequel to these findings, it was recommended Cognitive Self-instruction could be used in preference to Contingency Management to control bullying behaviour. Also, psychologists, counsellors, parents, teachers and social workers could use these treatment packages in controlling bullying behaviour among secondary schools students. Finally, the packages can be used without any bias to gender.

Keywords: Peer victimization male; female; cognitive self-instruction and contingency management.

1. INTRODUCTION

Bullying victimization has been defined as repeated exposure that is intended to harm another person [1,2]. Nansel, Overpeck, Pilla & Simons – Morton [3] and Koo, Kwak & Smith [4] offer a more acceptable definition; defining bullying or peer victimization as an aggressive behaviour that is intended to harm or disturb, also the behaviour occurs repeatedly over time and there is an imbalance of power, with a more powerful person or group attacking a less powerful one. This behaviour can be physical or psychological and the aggressive behaviour may be verbal (e.g. name-calling, threats), physical (e.g., hitting), or psychological (e.g. rumours, shunning/exclusion) [2] Using this definition, bullying is viewed as a unique type of aggression on a spectrum of aggressive behaviour ranging from gang violence, spontaneous fights, rough and tumble play. Another distinction that is sometimes made in defining bullying is that of direct and indirect bullying. Direct bullying is defined as open attacks on the victim, while indirect bullying consists of social isolation and exclusion from the group [5]. A further criterion is that bullying must be unprovoked on the part of the victim [6].

Research on bullying in schools has increased dramatically, in recent years [7,8]. Bullying is a critical issue because it is so prevalent and has long–lasting consequences. A convincing case can be made for the negative social, academic, psychological, and physical impact of bullying in schools and communities [9]. Exposure to bullying by peers has been found to be related to increased dropout rates, lower self-esteem, fewer friends, declining grades, and increases in illnesses [10,11]. Bullies in elementary and middle school are more likely to be convicted of crimes and more likely to take part in sexual harassment and assault in high school and in adulthood. The period of transition between elementary and middle school is critical and has been referred to as being brutal due to the increased frequency and intensity of aggression experienced by students [12]. Bullying is like a normal part of a child’s world and a way they learn to stand up for themselves (Simon, 2001). Bullying make many children feel lonely, unhappy, frightened and unsafe. Some victims blame themselves because they think there is something wrong with them. Signs that might indicate a child is being bullied include stomach aches, nightmares, reluctance to go to school, loss of confidence and loss of contact with friends. (Garret, 2003). Bullying affects learners emotionally, socially and academically [13]. Victims tend to have low self-esteem, depression, insecurity, anxiousness, oversensitivity and quietness [14]. Learners who are bullied tend to have fewer friends, are withdrawn, worried and lonely. They are less happy at school and are more likely to drop out of school and will think of committing suicide [15]. Their academic work tends to suffer because of lack of concentration, absenteeism and health deterioration [16].

Children who are bullied often suffer physically, emotionally, socially and educationally [7]. Physically, the bullied suffer from; unexplained aches, headaches, loss of appetite and
behaviour and the environment reinforce the individual's behaviour, such an event is not considered related directly to the behaviour. In his view, if certain events appear to be consequences and are not related directly to the behaviour manifested, i.e. an environment, such an event is not considered a consequence of the behaviour. An example of the above definition is that if individual exhibits behaviour and the environment reinforce the consequence of the behaviour he exhibits, he is encouraged. But if not, he drops the behaviour. Akinboye (1984) also explains the contingency further by stating that there must be initial situation $S_A$. The equation $S_A \rightarrow R \rightarrow S_C$. Thus $S_A$ may be described as the prevailing situation in which the bullying behaviour existed. He uses behavioural therapy $R$ (contract) and the initial situation change to $S_B$ (elimination of bullying). Thus we have:

$$S_A \rightarrow R \rightarrow S_C$$

(Bullying behaviour situation) (Therapy) (Elimination of bullying). One can deduce from the equation that pre-consequence situation $S_A$ change situation after the new behaviour has been manifested. Cognitive self-instruction are students-operated system, thus allowing students to generalize their newly learned behaviour much more than teacher-operated systems that rely on external and punishment productive. (Coughlin, Cosby & Landenberger, [24]; Harnis & Press, 1991). Obalowo [25] opined that cognitive self-instruction therapy aims at: First, correcting faulty information processing and helping patients modify assumptions that maintain maladaptive behaviours and emotions. Secondly, initially address the symptoms, beliefs including problem behaviours and distortions in logic and ultimately removing systematic biases in thinking. Third, changing patient's beliefs by treating beliefs as testable hypotheses to be examined through behavioural experiments jointly agreed upon by patients and therapists. The therapist does not tell the patients that his beliefs are wrong. Instead, he asked questions to elicit the meaning, function, usefulness and consequences of patient’s beliefs. The patient will decide wither to reject, modify, or maintain all personal beliefs being well aware of their emotional; and behavioural consequences.

The objective of this research work is to established the one (Cognitive self-instruction and Contingency management) that will assist in reducing bullying behaviour among secondary schools students. Also, to look at the interactive effect of gender in Remo zone comprises of three local Governments in Ogun state, Southwest, Nigeria. Hence, the following research questions are raised.

1. Would Cognitive self-instruction be more effective than Contingency management in reducing bullying behaviour scores of secondary school students?
2. Would gender moderating the effect of bullying behaviour scores of secondary school students.

2. METHODOLOGY

2.1 Research Design

This study adopted a 3x2 pre-test, post-test, factorial design. The independent variables of the study are treatment (Contingency Management, Cognitive Self-Instruction and Control), while gender which exists at two levels, (Male & Female). This design was adopted so as to enable the researcher to determine the effect of the independent and interactive variables on the dependent variable at a single shot.

2.2 Population of the Study

The population consisted of secondary school students being bullied (victims) in Remo zone comprising of Sagamu, Ikenne and Remo North Local Government Areas in South Western states, Nigeria.

2.3 Sample and Sampling Technique

The three Local Government Areas in Remo namely Shagamu, Ikenne and Remo North Local Government were selected and stratified random sampling technique was used to pick one school in each of Local Government Areas. The researcher requested the counsellors to provide a list of being bullied. From each of these lists 40 being bullied. (20 males and 20 females) were selected to participate making a total of one hundred and twenty participants. The schools was assigned with the treatment and the control group thus: (A,B&C)

3. INSTRUMENTATION

Bullying behaviour was assessed by Adolescent Peer Relation Instrument (APRI) by Parada [26] 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 months, 4 – once a week, 5-Several times a week, 6-Everyday. The validity was also ensured through proper scrutiny of the items by experts in Educational Psychology. The internal consistency of the scale was established using Chrombach’s alpha which yielded a scale of 0.92. The Adolescent Peer Relation Instrument (APRI: Parada [26]) 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 being bullied 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 shows that the instrument is reliable to be used for the study.

3.1 Administration of the Instrument / 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 and N=40 and Contingency Management N=40, Control=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 overcome this behaviour” “I need to think twice before acting”. 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 and assignments were also given to them. Phase three involve the use of APRI as post-test.
4. METHOD OF DATA ANALYSIS

The two hypotheses in this study were analysed 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.

5. RESULTS

\( H^1 \): There is no significant interaction effect of Cognitive self –Instruction, Contingency Management, and Control on bullying behaviour of secondary school students.

The results in Table 1 revealed that there was a significant difference in the bullying behaviour of participants in the contingency management group and control group (MD = -5.503; Std error = 2.194; \( p < 0.05 \)). Also, significant difference existed in the bullying behaviour of participants in the cognitive self-instruction group and those in the control group (MD = -7.754; Std error = 2.205; \( p < 0.05 \)). In effect, the treatments are significantly different from each other in their bullying behaviour.

Figure indicates that participants in the control group had higher and significant mean score (35.042) followed by participants in the contingency management group (29.539) while participants in the cognitive self-instruction group had the least mean score of (27.288). This implies that control group had highest gains in bullying behaviour of participants and is therefore better than either of contingency management group and cognitive self-instruction group.

\( H^2 \): There is no significant interaction effect of male and female on bullying behaviour scores of secondary school students.

The results in Table 2 indicated that male participants had a mean bullying behaviour score of 30.923 and a standard error of 1.208 while female participants had a mean score of 30.323 and a standard error of 1.226. To determine if these mean scores are significantly different, an Analysis of Covariance was conducted. Results are as presented in table.

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Table 1. Differential effectiveness of cognitive self Instruction, contingency management and control on bullying behaviour of secondary school students

<table>
<thead>
<tr>
<th>(I) Treatment group</th>
<th>(J) Treatment group</th>
<th>Mean difference (I-J)</th>
<th>Std. Error</th>
<th>Sig. (^a)</th>
<th>95% confidence interval for difference (^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower bound</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>-5.503*</td>
<td>2.194</td>
<td>.014</td>
<td>-9.854</td>
</tr>
<tr>
<td></td>
<td>Control Group</td>
<td>-7.754*</td>
<td>2.205</td>
<td>.001</td>
<td>-12.128</td>
</tr>
<tr>
<td>Control Group</td>
<td>Contingency Management Group</td>
<td>5.503*</td>
<td>2.194</td>
<td>.014</td>
<td>1.151</td>
</tr>
<tr>
<td></td>
<td>Cognitive Self-Instruction Group</td>
<td>7.754*</td>
<td>2.205</td>
<td>.001</td>
<td>3.381</td>
</tr>
</tbody>
</table>

Based on estimated marginal means
\( a. \) adjustment for multiple comparisons: least significant difference (equivalent to no adjustments).
\( * \). the mean difference is significant at the .05 level

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Fig. 1. Treatment effects on participants’ being bullied

Table 2. Estimates of gender on participants’ bullying behaviour

<table>
<thead>
<tr>
<th>Gender</th>
<th>Mean</th>
<th>Std. error</th>
<th>95% confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower bound</td>
<td>Upper bound</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>30.923a</td>
<td>1.208</td>
<td>28.527 – 33.320</td>
</tr>
<tr>
<td>Female</td>
<td>30.323a</td>
<td>1.226</td>
<td>27.891 – 32.754</td>
</tr>
</tbody>
</table>

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

Table 3. Univariate test of gender on participants’ being bullied

<table>
<thead>
<tr>
<th></th>
<th>Sum of squares</th>
<th>Df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contrast</td>
<td>10.078</td>
<td>1</td>
<td>10.078</td>
<td>.121</td>
<td>.729</td>
</tr>
<tr>
<td>Error</td>
<td>8403.880</td>
<td>101</td>
<td>83.207</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The F test showing the effect of gender, this test is based on the linearly independent pairwise comparisons among the estimated marginal means

Above result in Table 2 reveals no interactive effect of gender (F(1,101) = .121; p > 0.05) on the secondary school students bullying behaviour. Hence, the hypothesis of no significant difference in the interaction effect of gender on the secondary school students peer victimization was accepted by this finding. This means that gender will not have effect on general bullying behaviour.

6. DISCUSSION

The result in Table 1 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. This
has been well documented by various researchers [27]; (Gardner, 2003). Also, Justin [28] and Ghafoori [29] stated that thoughts that come from the mind play an important role in acquiring new behaviour. Also, the finding of this result further proved that cognitive self-instruction is a skill that helps individual to reshape behaviour. (Landenberger & Lipsey, 2005). This was further buttressed by the findings of Obalowo (2004) who used cognitive self-instruction and contingency management to treat stealing behaviour. Cognitive self – instruction was found to be more effective than the contingency management therapy. Similarly, Okwun [30] used cognitive self – instruction and communication skills training and found out that cognitive self – instruction is more effective than communication skills training in the treatment of conflict among couples. Also, Osinowo, Olley & Adejumo [31] found out that cognitive self-instruction is effective in the treatments of health disorders.

The result in Table 2 and Fig. 1 indicated the direction of the differences in the effect of the treatment on bullying. The result shows that, a significant difference existed between the effect of cognitive self-instruction and contingency management. Also, there existed a significant difference between the effect of cognitive self-instruction, contingency management and control in the bullying behaviour. This result is not surprising since both cognitive self-instruction and contingency management skill have been proved to assist individual in overcoming anti-social behaviours. Also, contingency management was found to be less effective than cognitive self-instruction in this study. Although, it showed a significant difference in comparison to control group. Olmstead, Petry, Sindelar (2007) found out contingency management is effective in the treatment of patient with disorder. Similarly, Oluremi [32] established that contingency management is effective in the leadership behaviour among principals.

The second hypothesis which states there is no significant difference in the effect of gender on the secondary school students’ bullying behaviour is upheld. The result of this study laid credence to what has been observed all over the globe. Although, some studies were of the opinion that bullying behaviour is prevalent among females than males when considering specific bullying types in Nigerian secondary schools (Omotosho, 2010). Adeoye [33], Felix & McMahon (2006) and Turkel, (2007) found out that males were more involved in bullying behaviour than their female counterparts. While other researches conducted indicated that males and females are involved in bullying behaviour, but the extent depends on the bullying type. The females are more involved in social bullying like ignoring, ostracism, sabotaging relationship, and teasing [34,35]. While, the males’ exhibit physical and verbal bullying behaviour than the females [36,37]. In view of the fact that general bullying behaviour was considered in this research, this might have been the reason for the non-significant difference observed.

7. CONCLUSION

The following conclusions were drawn from the findings of the study;

The two treatment packages are effective in controlling bullying behaviour among secondary students. Cognitive self-instruction seems to be more effective than contingency management. Also, gender will not affect the interaction of Secondary schools students with bullying behaviour.

8. RECOMMENDATIONS

Based on the conclusion of the studies, the following recommendations were made:

The treatment packages (cognitive self-instruction and contingency management) as identified by the study in the treatment of bullying behaviour could be used by Counselling psychologists and any other who are interested in student wellbeing.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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