



Effect of Self-Instructional Training on the Reflective Thinking of Impulsive Children in Middle Basic Schools in Ilorin, Nigeria

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ABSTRACT

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Children are uniquely vulnerable to poor impulse control. This can therefore develop into a behavioural problem and prevent them from fulfilling their potentials as they transit from childhood to adulthood. This study therefore investigated the effect of self-instructional training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria. The study adopted quasi-experimental design. The study sample comprised of 103 middle basic school pupils in Ilorin, Nigeria. In sampling the research participants, National Institute for Children's Healthcare Quality -Vanderbilt Assessment Scale- Teacher Informant (NICHQ-VAS-TI) were given to class teachers to assess pupils with impulsivity. The research participants were tested before and after training with Matching Familiar Figures Test (MFFT). Training Package with Self-instructional Statement (TPSS) developed by Orjales (2007) was adopted to train children with impulsivity. Percentage was used to describe the demographic characteristics of the participants, while t-test was used to test the formulated hypotheses. This study observed significant effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria. Also, there was no significant gender difference in the effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria.

Keywords:

(impulsivity, reflectivity, self-instructional training, cognitive style, matching familiar figures test)

INTRODUCTION

As a biological organism, humans exhibit a wide range of individual differences in how they process information and react to situations. Some people react quickly, failing to consider alternative responses and making mistakes on tasks, particularly those requiring comparison of alternatives. This disposition can be described as impulsivity in the field of psychology. Impulsivity is a serious behavioural disorder which can prevent learning activities in educational settings if there is no remedy to curb it early in life. (Zhen et al, 2014).

Vanden-Bos (2007) defines impulsivity as a multifactorial behavioural disorder characterized by a tendency to act on a whim, displaying behavior marked by little or no forethought,

reflection, or consideration of the consequences. Impulsivity is also defined as the act of saying or doing things on the spur of the moment, which includes acting quickly without considering the consequences, endangering one's own safety, and frequently interfering in other people's games, activities, and conversations. This behavioural disorder can be a major factor that may dampen the personality of the affected individual which can further thwart his personal and interpersonal relationship most especially when it comes to learning activities in the school.

According to Olson (2005), impulsive behaviors are at the root of the majority of personal and social problems, including alcoholism, drug use, obesity, wasteful spending, dysfunctional relationships, underperformance in school and beyond, smoking, unplanned and unwanted pregnancies, mental issues, and an inability to achieve one's goals.

The negative effect of impulsive behaviours on individual's academic performance has been established in number of studies. Empirical findings by Lynam and Miller (2004) and Spinella (2004) commonly found that impulsivity has been proved to be related to educational underachievement

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However, impulsivity does not develop in a person as a result of a single etiological factor, but rather as a result of various of risk and protective factors that may be biological, physiological, or psychosocial in nature (Shaw, Gardner & Wilson, 2008). Existing researches indicated that individuals differ in the way they evaluate their perceptions, thoughts and tentative solutions before responding. Nkrumah et al, (2015) explained that Individuals who respond quickly but make a lot of mistakes are called impulsive, while those who respond with caution but make fewer mistakes are called reflective. Going by the disposition of an impulsive individual, they tend to show differences in their information processing strategies compared to the reflective ones who possess high problem-solving skills, ability to observe, gather information and ability to analyze a task before attempting it.

Impulsive children are more likely to be behind their peers and achieve lower grades compared to those who exhibit a more rational reflective cognitive style because of their approach in dealing with cognitive task, their impulsivity cause them to guess rather than to think. Impulsive people frequently get into trouble in social situations, such as games and other recreational activities. They have poor impulse control, taking their turn early and incorrectly responding to game stimuli. Their impulsiveness causes them to react to teasing by hitting the people who tease them, for example. They frequently express regret for their actions and can occasionally discuss what they would have done differently if they had taken the time to consider their options. (Ziporli, 2008). The reflective person is less likely than the impulsive child to make a hasty and ineffective attempt to solve a problem, and is more likely to consider or reflect on alternatives before making a decision. Individuals with high impulsivity levels and high academic ability, for example, are more likely to receive poor grades than those with high academic potential but low impulsivity levels (Helmers et al, 1995).

Cognitive psychologist such Barkley (2006) made mention of the importance of reflective approach in problem-solving. They stressed out that reflective individuals take time to consider the correctness of their responses but impulsive individuals respond in a hurry. Reflective approach can be described as a process by which situation is critically analysed and evaluated before decision making. Olasehinde (1994) described it as the tendency to delay response to a problem until the validity of every alternative solution is assessed. It can also be seen as the tendency to act with more forethought and to have adequate thinking before attempting a task.

Children that exhibit reflective approach to problem-solving tend to have better advantage than the impulsive ones. In Nigerian educational system, school pupils are being exposed to standardised examinations in which many of the questions

contained in these examinations are in form of multiple-choice items which might contain distracters, a test in which impulsive pupils are likely to fail and sometimes prevent them from proceeding to next stage in their academics as a result of their irrational judgment.

Empirical studies available showed the effectiveness of Self-instructional training on behavioural modification. Self-instructional Training, as defined by Bambara and Gomez (2001), is a cognitive behavioral technique to self-control in which children are being taught to use covert monologue to modify their own behavior. Carter (2005) further explained that self-instructional training is an evidence based treatment strategy that is usually employed as part of cognitive behavioural intervention. Self-instructional Training focuses on teaching individuals a diverse range of self-statements that children or students might use to control their own behavior or complete specific tasks.

Previous studies have shown varieties of techniques by which impulsive behaviour can be remediated. These methods include modeling with self-instruction (Olasehinde, 1994), (Dejonckheere et al, 2001) and Cognitive modeling (Nkruma, 2013). However, towards remediating impulsivity in young children by being reflective, various researchers have explored the use of Self-instructional Training as an effective tool in remediating impulsivity. In an attempt to increase self-control, Meichenbaum and Goodman (1971) used self-instructional training, which necessitate the impulsive child to talk to himself or herself, first aloud and then with inner talk. River-Flores (2015) also used self-instructional training to reduce impulsivity in children aged 6 to 10 who have attention deficit hyperactivity disorder. The results showed that when self-instructional training was used, impulsive behavior, which is a defining feature of ADHD, decreased significantly.

If poor impulsive control is identified early, it is treatable; however, if not treated, it can merge almost imperceptibly into more severe and persistent disorders as the child grows into adulthood, or manifest itself as different disorders later (Gelford et al, 1988). Impulsivity has been linked to learning disabilities such as attention deficit hyperactivity disorder (Barkley, 1997), depression and anxiety (Lopez, Serrano, & Delgado, 2005), and cluster B personality disorders such as antisocial and borderline personality disorders (Lopez, et al, 2005, Estibaliz & Carmen 2006).

The use of Self-instructional Training in remediating impulsivity in middle basic school is apparently under-explored by educational researchers in Nigeria. Most of the previous studies like Olasehinde (1991), Nkrumah (2013) used other techniques in modifying impulsive behaviour. Also to the best of this researcher's knowledge, most of the studies that have been carried out with the use of Self-instructional Training in remediating impulsive behaviour at middle basic level have been carried out in Europe, America,

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South America. Meichenbaum and Goodman (1971) and River-Flores (2015) are typical examples of such studies. Therefore, there is a missing gap that must be bridged and this research was therefore set to fill the researchable gap by ascertaining the effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria.

RESEARCH QUESTIONS

The following research questions were raised for the study.

1. What is the effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria?
2. What is the gender difference in the effect of Self-Instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria?

RESEARCH HYPOTHESES

The following null hypotheses were postulated and tested to guide this study:

H₀₁: There is no significant effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria.

H₀₂: There is no significant gender difference in the effect of Self-Instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria.

METHODOLOGY

The research design adopted for this study is Quasi-experimental design. The population for this study covered all middle basic school pupils in Ilorin, Nigeria while the target population comprised of middle basic school pupils in the two schools that were randomly selected. A class was randomly selected in each of the school with a population of 50 and 53 pupils respectively. In sampling the research participant, National institute For Children's Healthcare Quality -Vanderbilt Assessment Scale- Teacher Informant (NICHQ-VAS-TI) were given to class teachers in the two schools to assess pupils with impulsivity given that teachers would have noticed their ability to stay in one place, finish class work, obey instructions and accomplish tasks required of their age level. This enabled the researcher to identify thirty nine (39) pupils with impulsivity out of 103 pupils across two classes in the two selected schools and these constituted the sample size for this study. Three instruments were used in collecting data for this study. These instruments are; NICHQ-Vanderbilt Assessment Scale- Teacher Informant (NICHQ-VAS-TI), Matching Familiar Figures Test (MFFT) and Training Package with Self-instructional Statement (TPSS).

The Matching Familiar Figures Test (MFFT) consists a model drawing and six versions of it with only one exact reproduction of the model, this was used for evaluation at pretest and posttest stage. Training Package with Self-instructional Statement (TPSS) was adopted from Self-instructional schema that was developed by Orjales (2007). This instrument contained 6 self-instructional statements. At first, the trainer stated the self-instructional statement aloud, then the participants repeated those instructions aloud to themselves, then the instruction was whispered by the participants and finally inner talk was used. The Self-instructional statements include the following:

- i. First I look and say what I see?
- ii. What do I have to do?
- iii. How am I going to do it?
- iv. I have to pay close attention
- v. Did it turn out right?
- vi. "it turned out"/ "turned out wrong. I won't make that mistake next time.

In this study, self-instructional training was used with matching familiar figure test to train the research participants that were found to be impulsive.

Parents or guardians of children who were identified as impulsive were contacted to seek their permission for the children's/wards' participation in the study. Consent of the children themselves were also sought before the training began. The researcher with the teachers agreed on the time for the training and fixed the period in the school's timetable. Children found to be impulsive were exposed to Self-instructional Training (training procedures). The training lasted for six consecutive weeks. Two meetings were held in a week. (Monday to Tuesday) and each session lasted for an hour. The training had a total number of twelve contact sessions. Data collected for this study was analyzed to determine whether the independent variable of Self-instructional Training had effect on reflective thinking of impulsive children this study was exploring. The analysis covered the effectiveness gender difference in the effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria. The data were analyzed using t-test in analyzing the two null hypotheses at 0.05 significance level.

RESULTS

Two null hypotheses were formulated in the study and were tested using t-Test at 0.05 level of significance.

Research Hypothesis One: *There is no significant effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria.*

In order to determine the effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria, the respondents' scores

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before and after the self-instructional training were compared using t-test and the results are shown in Table 1.

Table 1: t-Test analysis showing effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria

Variables	N	Mean	SD	t	Df	Sig (2 tailed)	Decision
Pre-test	39	8.41	3.41	14.829	38	.000	Reject
Post-test	39	17.44	2.01				

P<0.05

Result from Table 1 shows the t value yielded 14.829 which is significant at 0.05 alpha level because p-value .000 is less than 0.05 (.000 < 0.05). This shows a significant result. Hence, hypothesis one is rejected. This means that there was a significant effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria. Respondents' performance in post-test yielded a mean of 17.44 which is significantly different from their pre-test mean score of 8.41.

Research Hypothesis Two: *There is no gender difference in the effect of Self-Instructional Training on the reflective*

thinking of impulsive children in middle basic schools in Ilorin, Nigeria.

In order to determine the gender difference in the effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria, the male and female respondents' post-test scores in the Matching Familiar Figures Test (MFFT) after they were exposed to self-instructional training were compared using t-test and the results are shown in Table 2.

Table 2: Result of t-Test showing the gender difference in the effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria

Gender	N	Mean	SD	t	Df	Sig (2 tailed)	Decision
Male	21	17.62	1.80	.609	37	.546	Not Rejected
Female	18	17.22	2.26				

P>0.05

Table 2 shows the t value of .609 with a P value .546 which is greater than 0.05 alpha level (.546 > 0.05). Hence, hypothesis two was not rejected since P value .546 is greater than 0.05 alpha level. This implies that there was no significant gender difference in the effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria.

This means that there was no significant difference in the subjects' post-test mean score after being exposed to the treatment. That is, they all performed well and the treatment does not favour a particular group than the other.

DISCUSSION OF THE FINDINGS

This study examined the effect of self-instructional training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria. From the data analysed, the results revealed that there was statistically significant effect of self-instructional training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria. This finding corroborates the finding of Meichenbaum and Goodman (1971) after they carried out experimental research

on the efficacy of self-instructional training procedure in altering the behaviour of impulsive school children. Results from their study indicated that the group that was exposed to self-instructional training improved significantly and self-control was increased among the school children in the group. This means that self-instructional training is effective in reducing impulsivity.

This finding is also similar to that of River-Flores (2015). In the study, Self-instructional Training was used to reduce impulsivity in children with attention deficit and hyperactivity disorder; these children were between ages 6 to 10. Result was that the impulsive behaviour, characteristic of ADHD, decreased significantly after applying self-instructional training. Furthermore, Bornstein and Quevillon (1976) in their finding found self-instructional training to be effective when they conducted a study on effect of self-instructional training package on three overactive preschool boys. Also, this finding is in line with that of Lorrie and Budd (1982) indicating that self-instructional training increased the levels of accuracy of three impulsive preschool children.

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Apart from the above-mentioned supportive findings, this finding also supports other findings like that of Olasehinde (1994), Calderon (2001), Arco and Fernandez (2004) that impulsivity decreased significantly after applying Self-instructional Training.

The result of this study further revealed that there was no significant gender difference in the effect of Self-instructional Training on the reflective thinking of impulsive children sampled in this research. The result affirms the researches of Fagbemi et al, (2010) on the effect of self-instructional computer-based package on social studies achievement on senior primary school pupils. It was discovered from the results of the study that there was no significant difference between the mean scores of male and female students taught social studies with the self-instructional computer based package. This finding also agrees with earlier findings of Ajelabi (1998), Spence (2004), Yawa (2006), Kara and Kahraman (2008) they found that male and female students performed equally on self-instructional package.

The work of Adeoye et al, (2014) on the interactive effect of gender on the effectiveness of cognitive self-instruction and contingency management on bullying behaviour, also agrees with the finding in this research that gender does not have any significant difference on self-instructional training.

However, the finding of this study contradicts the findings of Anyichie and Aloysius (2012) who carried out an experimental study on the effect of self-instructional learning strategy on secondary school students' academic achievement in solving mathematical word problem. The study specifically examined the gender difference on self-instructional learning. The post test score showed better performance of the experimental male group than their female counterparts thereby confirming there is significant gender difference on self-instructional learning. The difference in the two results might be of the fact that the two researches focused on two different variables while considering the gender difference and self-instructional training methods. As Anyichie and Aloysius (2012) targeted secondary school students' academic achievement in solving mathematical word problem while this present study focused on the reflective thinking of impulsive children in middle basic schools.

CONCLUSIONS

Based on the findings of the study the following conclusions were made;

1. There is significant effect of Self-instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria.
2. There is significant gender difference in the effect of Self-Instructional Training on the reflective thinking of impulsive children in middle basic schools in Ilorin, Nigeria.

RECOMMENDATIONS

Based on the conclusions of the study the following recommendation were made;

As a result of the findings in this study, therefore, the following recommendations are considered to be essentially relevant and plausible. In this study, self-instructional training was found to be effective for reducing impulsivity in middle basic school pupils therefore it is recommended that this behavioural therapy should be adopted in all basic schools to assist children and school pupils that exhibit behavioural disorder like impulsivity by exposing them to self-instructional training. Also, parents should be informed about the damaging effect of impulsivity and how self-instructional training can help an impulsive child to be reflective if they are exposed to the behavioral therapy.

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