

**EFFECTS OF MINDFULNESS-BASED COGNITIVE AND REALITY
THERAPIES ON PSYCHOLOGICAL PROBLEMS PRECIPITATING
SUBSTANCE ABUSE AMONG ADOLESCENTS IN IFAKO
IJAYE LOCAL GOVERNMENT, LAGOS STATE, NIGERIA**

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Abstract

Substance abuse among adolescents and some adults is increasing, which needs to be addressed, because its effects are devastating among the adolescents in the society. Thus, this study examined the effects of mindfulness-based cognitive and reality therapies on psychological problems precipitating substance abuse among adolescents. The quasi-experimental pretest-post-test control group method was used in the research paper. The case in point comprised 75 adolescent students selected from the population of senior secondary schools in Lagos State, Nigeria through a multi-stage sampling process. The mindfulness-based cognitive and Reality Therapies were interventions in the treatment groups while the control group was given dummy treatment to keep them busy throughout the treatment period. CRAFFT Screening test was conducted to identify the adolescents who are involved in substance abuse. The research instruments were adapted and revalidated for appropriate data collection for the study namely: The Adolescents-Aggression Questionnaire (AAQ) and Self-Esteem Scale (SES) with 0.77 and 0.74 reliability values respectively. Four research hypotheses were tested in this research work, data were analyzed using ANCOVA. The study revealed that aggression will not significantly differ among adolescents who are involved in substance abuse, as a result of being exposed to mindfulness-based cognitive and reality therapies and the control group. After being exposed to the experimental conditions and control group, there is no significant difference in post-test mean scores on self-esteem among adolescents and after being exposed to the experimental circumstances and control group, there is no significant difference in post-test mean anxiety levels among adolescents who engaged in substance misuse. It was recommended that Counsellors should organise regular school counselling programmes for this set of adolescents to abstain from substance abuse completely.

Keywords: Anxiety, aggression, self-esteem, substance abuse, mindfulness-based cognitive therapy and Reality therapy,

Introduction

The illicit intake of unusual substances such as alcohol and opioids is known as substance abuse (WHO, 2014). Vulnerability syndrome is a group of behavioural, cognitive, and physiological issues that develop after repeated substance use and include an active desire to take drugs, inability to control their use, insistence on using despite harmful health consequences, a higher priority given to substance in-take than other activities and duties, increased tolerance, and, on rare occasions, a physical withdrawal tendency (WHO, 2014).

The rate at which adolescents are involved in substance misuse is alarming; it is a global problem that everyone, particularly youngsters, is dealing with. Increased use of psychoactive substances has increased mental problems, emotional disorders, criminal acts, and cult activities in both secondary and higher education institutions. Substance addiction has also been identified as a big concern in schools, according to the Nigerian National Drug Law Enforcement Agency (NDLEA, 2010). According to research done in Lagos State, 20% of the school population had used a psychoactive drug at least once in their lives. Individuals who abuse substances frequently misbehave in society. Not only does the individual have physical and psychological difficulties, but he or she may lose the ability to communicate with family, peers and society.

Different drugs can be abused even water, and taking in excess can be abused. The drugs abused mostly both legal and illegal have chemicals that can change how the body and mind work, they may give a pleasurable high case of stressful events in life. Substance use and misuse represent one of the most important health problems in western societies. The term 'substance' is used to refer to anything that can be abused whether or not they have been generally or internationally accepted as drugs (Agwogie, 2011). Some of the commonly abused drugs are stimulants, depressants, hallucinogens, and opium-related pain killers, among others.

In Nigeria, the population's lifetime cannabis usage is estimated to be 10.8%, followed by stimulants (10.6%), heroin (1.6%) and cocaine (1.4%) (UNODC, 2011). A study on the pattern of substance abuse among adolescent students in a South-western city, Nigeria revealed that the commonly abused substances were analgesics (46.7 %), cannabis (16.7 %), tobacco (14.3 %), and inhalers (14.0 %) were the most commonly abused substances among adolescent students in a Nigeria city in the south-west, while alcohol, sedatives, and solvents were used by 8.3 percent, 7.4 percent, and 6.4 percent of the respondents respectively (Atoyebi & Atoyebi, 2013). In addition to excessive alcohol use, age, gender, family history, and the existence of co-occurring psychiatric issues all influence the use of illicit substances (Oshodi, Aina & Onajole, 2010). People are predisposed to drug users based on their race, geographical region, arrest history, and age at first use (Staff, 2012). Most adolescents keep solace in taking substance abuse to compensate for their poor self-esteem, anxiety and aggression.

The adolescence stage itself is the most critical stage before adulthood. Adolescents are disposed to different vices, such as alcohol and other substance abuse across the globe. The word adolescence comes from the Latin verb *adolescere* which means 'to grow'. Adolescence is a period of transition and change in a person's life. During the adolescence stage, physical changes in distinct parts of the maturing brain cause individual cognitive and behavioural changes (Casey, Getz & Galvan, 2008). Adolescent development includes numerous stages during which they are vulnerable and at high risk of beginning substance abuse. Substance abuse prevalence rises from early to late adolescence,

peaks during the transition to early adulthood, and then gradually falls throughout adulthood (Griffin & Botvin, 2010). Sometimes, adolescents may not explain why they act the way they do; they are just confused about it or simply view antisocial or psychosocial behaviour as normal ways to deal with what they experience. Some influencing and critical factors include marital crisis between parents; frequent fights and or hostility among the family members. Many adolescents today are being confronted with a lot of psychological problems related to substance abuse which resulted in poor self-esteem, anxiety and aggression problems (Connor, 2012; Samm *et al.*, 2010).

Self-esteem is one of the main concerns of researchers during adolescence, and it is considered fundamental to understanding adolescents' behaviour. Coopersmith (1967) opined that Self-esteem is defined as an individual's assessment of oneself or herself that he or she maintains. That is, it displays an attitude of acceptance or rejection and it shows how much a person thinks of himself to be capable, significant and deserving. Coopersmith also claims that a person's self-esteem is influenced by the quantity of attention he or she receives from others, as well as the level of acceptance and respect he or she feels. When engaging with the environment, a person with high self-esteem is more effective, happy, successful, and confident. As a result, an individual's self is made up of abstractions that the individual forms about the objects, qualities, capacities, and activities that he or she owns and pursues, all of which are linked to personal happiness and efficient functioning (Coopersmith, 1967). The existence of positive self-esteem growth is determined by the quality of parent-child connections. Parental egocentrism, isolation, criticism, lack of respect, discrimination, apathy, appreciation, and warmth are some of the parenting behaviours that Coopersmith believes have an impact on self-esteem development.

Aggression is another most common phenomenon among adolescents as a sign of feeling superior over others, which is an act that is intended to harm another person (Bushman & Huesmann, 2017, DeWall, Anderson, & Bush, 2018). This harm could take various forms such as physical injury, hurt feelings, or damaged physical relationships (Anderson & Bush, 2018).

Most cases of aggression, anxiety and substance abuse, oftentimes, emerge during adulthood, making post-secondary school students addicts (Auerbach, Alonso, & Aximn, 2016). Aggression symptoms have been demonstrated to raise the probability of later substance use, while beginning symptoms increase the risk of acquiring dependence, anxiety, and peer pressure directly or indirectly.

Various attempts have been made to alleviate the psychological problems of adolescents who abuse substances and the results have not been adequately captured. For this study, reality and mindfulness-based cognitive therapies will be adequately used to deal with the psychological challenges among these adolescents who abuse substances. The therapies have been gaining momentum in recent years in solving some psychosocial problems.

Mindfulness-based cognitive therapy (MBCT) for substance abuse reduction and management combines features of cognitive behaviour therapy. It is a counselling technique for the prevention of psychological problems such as self-esteem, anxiety and aggression. It had been used to treat a variety of mental illnesses. Rather than modifying or tackling specific ailments, the MBCT encourages patients to adopt a new way of life and relate to their ideas and feelings.

Reality therapy was developed by Williams Glasser around the 1960s. Glasser (1998) believed that we are the architects of whatever becomes of us. According to reality therapy, psychological symptoms are caused by people's irresponsible behaviour to meet their current demands, not by mental illness. Adolescents that involve in the use of substances due to some psychological problems should find a way of coming out of the challenge rather than thinking of the effects. Reality therapy teaches decision-making whereby the affected clients or adolescents focus on how to come out of the present situation and become better people. This therapy is highly effective and reliable in solving problems and setting goals for oneself to achieve in the end. This therapy can be used to treat some psychological problems of adolescents such as addictions, eating disorders, substance abuse, anxiety and other behavioural and emotional issues. Hence, this study examined mindfulness-based cognitive and reality therapies on psychological problems precipitating substance abuse among adolescents in Lagos State.

Hypotheses

1. Aggression will not significantly differ among adolescents who are involved in substance abuse as a result of being exposed to mindfulness-based cognitive and reality therapies and the control group.
2. After being exposed to the experimental conditions and control group, there is no significant difference in post-test mean scores on self-esteem among adolescents.
3. After being exposed to the experimental circumstances and control group, there is no significant difference in post-test mean anxiety levels among adolescents who engaged in substance misuse.
4. Due to gender, there will be no significant differences in self-esteem among adolescents who engaged in substance misuse when they are exposed to the three experimental settings.

Methodology

The quasi-experimental pretest/post-test control group method was used in the research paper. Because it deals with human behaviour, where adequate randomisation of subjects may not be possible, the quasi-experimental approach is acceptable. The study's target group was adolescents in Lagos State, Nigeria, who were involved in substance misuse at public Senior Secondary School two (SS II). The SS II adolescent students were considered for this research work because they were not participating in the senior secondary school examination (SSCE). The multi-stage sampling process was adopted for the study. The first part of the multi-stage procedure involved selecting three local government areas in Lagos State from a total of 20 using a basic random sampling methodology including a hat and a draw. The second phase needed systematic random sampling to pick a senior secondary school in each of the three Local Government Areas. The third stage involved the CRAFFT Screening Test to identify substance-abusing adolescents from senior secondary school two (SS II) students from the three Local Government Areas. A total of 75 were identified as substance-abusing adolescents, and the Kessler Psychological Distress Scale was administered to them after establishing the fact (through screening) that they have psychological problems (those who score above 25). The participants were assigned to three experimental conditions namely: Mindfulness-based cognitive and reality therapies and a control group. The latter group was not treated during the experiments, though was given assertiveness training. The tools were utilized to collect pertinent data for the paper namely: Adolescents-Aggression Questionnaire (AAQ) and Self-Esteem Scale (SES). Public senior secondary schools were used for the research to get a larger number of students from the SS II class, which may not be possible in private secondary schools with

fewer students from classes. The instrument was administered to get relevant data for the study which contained 20-items each. The scale was adapted and re-validated to collect relevant data for the study. The instrument was divided into two (2) parts; part 'A' and 'B' portion Part 'A' includes the respondents' biographical information, such as their gender, age, school, religion, and social class. Then there were twenty (20) elements in portion 'B.' The response structure was a four-Likert scale with Strongly Agree (S.A), Agree (A), Disagree (D), and Strongly Disagree (S.D) being the options (SD). A pilot study was conducted in a senior secondary school to test the experimental conditions prior to the main study, with a sample of 20 adolescent students (10 males and 10 females) chosen at random to participate in the studies to determine the instrument's degree of reliability, with a score of 0.74 using the test-retest method. The hypotheses were tested at a significance level of 0.05 and the data were analysed using Analysis of Covariance (ANCOVA).

Administration of Instrument and Data Collection

The treatment packages lasted for eight weeks. Each of the treatment sessions lasted for one and half hours, twice a week for the participants. This was so to expose the participants to the Counselling interventions (Mindfulness-Based Cognitive and Reality Therapies).

In the pre-treatment phase, baseline data were obtained for the study two weeks before the treatment phase to ascertain those who qualified for the treatment and a CRAFFT screening test was conducted on the adolescent students for the three schools. In all the three schools, the following respondents were adjudged to qualify for the treatment: 29 respondents in the first group, 24 in the second group and 22 in the control group totalling 75 respondents respectively.

In the treatment session, the researchers had two experimental settings with a single control group. The selected schools were randomly assigned to treatments and the control group. The first group was assigned to Mindfulness-based cognitive technique (MBCT), the second group was treated with reality therapy (RT) while the last Group while the control group received dummy treatment on how to achieve academic excellence to keep them busy throughout the study to avoid “John Henry” effect on the main experimental groups. For eight weeks, the researchers met with the two therapy groups individually twice a week.

The trial's final step was the post-treatment period. When the treatments are finished, the same research instruments administered in the pre-treatment phase were re-conducted to the same set of adolescents (i.e. the experimental and the control groups), under the same condition.

Inclusive Criteria

1. The participants are adolescents who are addicted to substance abuse
2. They are adolescents that have psychological problems due to substance abuse

Results

Hypothesis 1: Aggression will not significantly differ among adolescents who are involved in substance abuse as a result of being exposed to mindfulness-based cognitive and reality therapies and the control group.

Table 1: ANCOVA Result of Experimental Conditions on Aggression

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	13875.086	3	4625.029	79.750	.000
Intercept	318.213	1	318.213	5.487	.022
Covariate	919.013	1	919.013	15.847	.000
Group	12539.529	2	6269.765	108.110	.000
Error	4117.581	71	57.994		
Total	204993.000	75			
Corrected Total	17992.667	74			

Observations from Table 1 show that an F-calculated value of 108.11 was derived as the difference in aggression post-test mean scores among adolescents who are involved in substance abuse as a result of being exposed to mindfulness-based cognitive and reality therapies and the control group. Given 2 and 71 degrees of freedom at a 0.05 level of significance, the observed result was higher than the calculated figure of 3.13. As a result, the null hypothesis was rejected, leading to the conclusion that, aggression will not significantly differ among adolescents who are involved in substance abuse as a result of being exposed to mindfulness-based cognitive and reality therapies and the control group.

A multiple comparison analysis was further computed to determine the significant pair. The results of the analysis were explained in Table 2.

Table 2: Multiple Comparisons Analysis of Aggression based on Experimental Groups

(I) Experimental group	(J) Experimental group	Mean difference (I-J)	Sig. ^b
Mindfulness-Based Cognitive Therapy	Reality therapy	-10.226*	.000
	Control group	-31.006*	.000
Reality therapy	Mindfulness-Based Cognitive Therapy	10.226*	.000
	Control Group	-20.780*	.000
Control group	Mindfulness-Based Cognitive Therapy	31.006*	.000
	Reality therapy	20.780*	.000

Based on estimated marginal means

a. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Analysis from Table 2 shows that, Mindfulness-Based Cognitive Therapy group had significant difference when compare to the counterpart in the Reality Therapy ($t = -10.226$; $p < 0.05$) and

Control Group ($t = -31.006$; $p < 0.05$). Also, Reality Therapy was found to significantly differ from their counterpart in the Control Group ($t = -20.78$; $p < 0.05$).

Hypothesis 2: After being exposed to the experimental conditions and the control group, there is no significant difference in post-test mean scores on self-esteem among adolescents.

Table 3: *ANCOVA Result of Experimental Conditions on Self-Esteem*

Source	Sum of squares	df	Mean square	F	Sig.
Corrected Model	14983.237	3	4994.412	134.705	.000
Intercept	3939.544	1	3939.544	106.254	.000
Covariate	8.076	1	8.076	.218	.642
Group	14826.250	2	7413.125	199.940	.000
Error	2632.443	71	37.077		
Total	254836.000	75			
Corrected Total	17615.680	74			

Table 3 demonstrates that an F-calculated value of 199.940 was derived as the differences that exist in self-esteem post-test mean scores amongst adolescents who are involved in substance abuse as a result of being exposed to mindfulness-based cognitive and reality therapies and the control group. The value observed was higher than the tabulated value of 3.13 given 2 and 71 degrees of freedom at a 0.05 level of significance. Consequently, the null hypothesis was not upheld it was concluded that after being exposed to the experimental conditions and the control group there is no significant difference in post-test mean scores on self-esteem among adolescents.

In addition, a multiple comparison analysis was further computed to determine the significant pair. The outcome of the analysis was explained in Table 4.

Table 4: *Multiple Comparison Analysis of Self-Esteem based Experimental Groups*

(I) Experimental Group	(J) Experimental Group	Mean Difference (I-J)	Sig. ^b
Mindfulness-Based	Reality Therapy	5.670*	.002
Cognitive Therapy	Control Group	32.135*	.000
Reality Therapy	Mindfulness-Based	-5.670*	.002
	Cognitive Therapy		
	Control Group	26.465*	.000
Control Group	Mindfulness-Based	-32.135*	.000
	Cognitive Therapy		
	Reality Therapy	-26.465*	.000

Based on estimated marginal means

a. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Evidence from Table 4 shows that Mindfulness-Based Cognitive Therapy group had significant difference when compared to the counterpart in the Reality Therapy ($t = 5.67$; $p < 0.05$) and Control Group ($t = 32.135$; $p < 0.05$). Also, Reality Therapy was found to significantly differ from their counterpart in the Control Group ($t = 26.465$; $p < 0.05$).

Hypothesis 3: After being exposed to the experimental circumstances and control group, there is no significant difference in post-test mean anxiety levels among adolescents who are involved in substance misuse.

Table 5: ANCOVA Result for Aggression and Gender-Based on Experimental Conditions

Source	Sum of squares	df	Mean square	F	Sig.
Corrected model	14060.791 ^a	6	2343.465	40.529	.000
Intercept	260.674	1	260.674	4.508	.037
Covariate	997.375	1	997.375	17.249	.000
Group	12500.448	2	6250.224	108.095	.000
Gender	36.090	1	36.090	.624	.432
Group * Gender	146.805	2	73.403	1.269	.288
Error	3931.875	68	57.822		
Total	204993.000	75			
Corrected Total	17992.667	74			

Table 5 shows that, given 2 and 68 degrees of freedom at a 0.05 level of significance, an F-calculated value of 1.269 was less than the critical value of 3.15. The null hypothesis was thus maintained. The following conclusion was reached: After being exposed to the experimental circumstances and the control group, there is no significant difference in post-test mean anxiety levels among adolescents who engaged in substance misuse.

Hypothesis 4: Due to gender, there will be no significant differences in self-esteem among adolescents who are involved in substance misuse when they are exposed to the three experimental settings.

Table 6: ANCOVA Result for Self-Esteem and Gender-based on Experimental Conditions

Source	Sum of squares	df	Mean square	F	Sig.
Corrected model	15147.915 ^a	6	2524.653	69.568	.000
Intercept	3732.782	1	3732.782	102.858	.000
Covariate	16.581	1	16.581	.457	.501
Group	14828.278	2	7414.139	204.299	.000
Gender	91.147	1	91.147	2.512	.118
Group * Gender	78.727	2	39.363	1.085	.344
Error	2467.765	68	36.291		
Total	254836.000	75			
Corrected Total	17615.680	74			

Figures from Table 6 show that, given 2 and 68 degrees of freedom at a 0.05 level of significance, an F-calculated value of 1.085 was less than the critical value of 3.15. As a result, the null hypothesis was upheld. It was determined that, due to gender, there will be no significant differences in self-esteem among adolescents who are involved in substance misuse when they are exposed to the three experimental settings.

Discussion of findings

From the findings, it was reported that aggression will not significantly differ among adolescents who are involved in substance abuse as a result of being exposed to mindfulness-based cognitive and reality therapies and control groups. This implied that there is a difference in the aggression among the participants as a result of exposing their experimental conditions. The result was in line with the assertion of Auerbach, Alonso and Aximn (2016) who asserted that the majority of cases of aggression, anxiety, and substance abuse occur in young adulthood, disproportionately affecting post-secondary students, and aggression symptoms have been demonstrated to raise the chance of later substance abuse, with clinical manifestations raising the risk of developing dependency and other psychiatric difficulties directly or indirectly.

According to the findings, after being exposed to the experimental conditions and control group, there is no significant difference in post-test mean scores on self-esteem among adolescents as a result of being exposed to the experimental settings. This implied that there exist differences in the self-esteem among the participants as a result of exposing them to experimental conditions. The result was in line with the assertion of Ormrod (2014) who posited that the sense of self-esteem of drug addict adolescents influence their personal goals or careers, activities, and effort in interacting with others. The findings of a comprehensive review on the relationship between self-esteem and learning outcomes found that self-esteem was positively associated with the learner's academic achievement (Bartimote-Aufflick, 2017). As a result, having strong self-esteem can boost a student's academic performance and encourage them to make decisions that make them feel more capable, leading to positive outcomes. The reports revealed that, after being exposed to the experimental circumstances and control group, there is no significant difference in post-test mean anxiety levels among adolescents who are involved in substance misuse. This showed that the gender of this set of adolescents is not a determinant of their aggression as a result of their involvement in substance

abuse. This finding was in line with the submission of Krahe (2013) who revealed that substance abuse by both male and female adolescents can be linked with aggression, anxiety and mood disorders e.t.c which can affect adolescents' growth and well-being. In a similar vein, Parrot and Giancola (2017), Substance abuse is a problem because it can prevent both male and female adolescents from completing developmental tasks such as establishing a career, dating, marrying, bearing and raising children, and developing rewarding personal relationships. Because substance abuse alters how people interact, the adolescent's psychological and social development, as well as the formation of a strong self-identity, is jeopardised.

The findings revealed that due to gender, there will be no significant differences in self-esteem among adolescents who are involved in substance misuse when they are exposed to the three experimental settings. This showed that the gender of this category of adolescents is not a determinant of their self-esteem as a result of involvement in substance abuse. This finding was in line with the assertion of Ormrod (2014) who stated that The scholar's self-made decision about his or her ability to achieve specific goals or perform certain behaviours is referred to as self-esteem. Self-regulation, on the other hand, is self-controlled behaviour that leads to the achievement of one's constructed goals and standards. As a result, a kid with high self-esteem will be able to engage in self-controlled activities at school and society.

Conclusion

The study focused on the effects of mindfulness-based cognitive and reality therapies on psychological problems precipitating substance abuse among adolescents. The findings from this research revealed that aggression will not significantly differ among adolescents who are involved in substance abuse, as a result of being exposed to mindfulness-based cognitive and reality therapies and control group; after being exposed to the experimental conditions and control group, there is no significant difference in post-test mean scores on self-esteem among adolescents as a result of being exposed to the experimental settings, after being exposed to the experimental circumstances and control group, there is no significant difference in post-test mean anxiety levels among adolescents who are involved in substance misuse and due to gender, there will be no significant differences in self-esteem among adolescents who are involved in substance misuse when they are exposed to the three experimental settings.

Recommendations

The following recommendations were put forward for consideration based on the findings from this study:

1. Counsellors should organise regular school counselling programmes for this set of adolescents to abstain from substance abuse completely.
2. Counsellors should impart mindfulness-based cognitive therapy skills to this category of adolescents who have poor self-esteem with a view to resolving psychological problems.
3. Both mindfulness-based cognitive and reality therapies should be employed by Counsellors in managing the psychological problems of this category of adolescents.
4. There should be a follow-up programme for these adolescents to ascertain that they are better individuals.

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