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Efficacy of Cognitive Behaviour Therapy on Reducing Maladaptive Behaviour among Students Enrolled in Counselling, Psychology and Sociology of Education (EPSE)

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Abstract

Purpose: The study investigated the efficacy of cognitive behaviour therapy (CBT) in the reduction of on maladaptive behaviour of undergraduate students. The purpose for the study came as a result of the increasing rate of maladaptive behaviour to which the researchers sought to find solutions. Pre-test-post-test randomized control trial experimental design was adopted by the researchers for the study.

Methodology: Sixty-four (64) maladaptive undergraduate students who were drawn through proportionate stratified random sampling technique constituted the sample for the study. The maladaptive students were randomly assigned to experimental (34) and control (30) groups. Maladaptive Assessment Scale for Students (MASS) and Maladaptive Behaviour Scale (MBS)

were used for data collection. MASS and MBS were properly validated by experts in test development and the internal consistency reliability indices of the items estimated as 0.79 and 0.81 respectively using cronbach alpha method. Before the commencement of the testing and treatment package, the researchers assured the participants of confidentiality of interactions and personal information as they work together in self-disclosure. Thereafter, pre-treatment assessment (pre-test) was conducted using the MASS and MBS in order to collect baseline data (Time 1). After that, the experimental group was exposed to 90 minutes of the CBT programme twice a week for a period of 6 weeks. The treatment took place between September and November 2019. Post-test (Time 2) assessment was conducted 1 week after the last treatment (Time 3). Data collected were analyzed using repeated measures analysis of variance.

Results: The findings of the study revealed that the effect of cognitive behavioural therapy on reducing the maladaptive behaviour of undergraduate students was significant at post-test and follow-up measures. One of the contributions of the findings is that if undergraduate students are not properly counselled, their maladaptive behaviours will continue to increase.

Unique contribution to theory, policy and practice: Based on the findings, it was recommended among others that Federal Government or relevant education authorities should provide enough guidance counsellors in the various institutions of higher learning who will assist in the counselling of the students on the dangers of maladaptive behaviours using CBT. It is also recommended that counselors, psychologists among others should adopt cognitive behavioural therapy for handling maladaptive behaviour.

Keywords: *Cognitive, Behaviour therapy, Maladaptive behavior.*

1.0 INTRODUCTION

Twenty-first century world has ushered so many distractions to the society especially to the students in various institutions of learning. This phenomenon has made so many students especially those in tertiary institutions to exhibit maladaptive behaviours in school activities. This act of shifting away from age long appropriate behaviour is termed maladaptive behaviours. Maladaptive is one who is poorly adapted to his environment that include his home, friends, family, society and the people he mixes around with because of physical (sometimes of physical handicap) or psychological reasons (Asogwara, 2009). Maladaptive is the inability to adjust to the demands of interpersonal relationships and the stresses of daily living (Mutekwe & Mutekwe, 2013). It could be further stated that maladaptive is the inability to react successful and satisfactorily to the demands of one's environment (Leo, 2016). Students when exhibiting maladaptive behaviour in school especially tertiary institutions can cause pain to others with cruel and misconduct behaviour (Okorie, 2018). This has negative impact on students causing disruption in their academic activities, like failure to do home work, class work, poor performance in test and lack of concentration when lesson is going on (Blair, 2017).

Maladaptive behaviour may have an effect on student's personality characteristics and their learning. Miahohi (2017) pointed out that maladaptive behaviour affects the self-actualization, self-efficacy, self-control, distractibility and impulsiveness behaviour of the students. Different experts have found a number of problems associated with maladaptive behaviours, example, low achievement of students and their increased physical and psychological problems (Aroh, 2016), anxiety (Asuhiz, 2017; Norton & Glick, 2018), irregularity , confusion, and irresponsibility (George, 2019).

Different factors appear to contribute towards maladaptive behaviours among university students particularly lack of guidance and motivation, emotional stress, social problems, inappropriate time management skills. Weir (2015) posits that irrational believes of students may develop in maladaptive behaviours which expose them to bad behaviours. Maladaptive behaviours appear more frequently demonstrated among university students probably because they are not given counselling. Blair (2017) noted that one out of every three students is maladjusted in one way or another. It has also been estimated that 12 percent of the world's university students are so emotionally upset as to require the services of educational psychologists, sociologists or guidance counsellors (Mutekwe & Mutekwe, 2013).

Maladaptive behaviours in tertiary institutions appear to be on the increase. This is because university students more frequently disobey the teachers, violate the school rules and regulations. These students deviated from the norms and are looked upon as exhibiting maladjusted behaviours which need to be handled appropriately in order to maintain the standard of education for the student and the society at large. In support of the above statement, Avugu (2018); Zuri (2017) and Ritu (2015) noted that, violence has become increasingly the greatest occupational hazard of the teaching profession in recent times and hardly a week passes without news of students' unrest resulting in unwanted destruction of school properties. Ahiauma (2017); Onyechi and Okere (2017) and Danesy (2016) noted that as a result of maladaptive behaviour, student take to hostility,

violence, kidnapping and hostage taking, wanton destruction of lives and property. Agreeing to this, Bronner (2010) posits that the existence of undesirable behaviour has contributed to the allegation and belief that the standard of education is falling. Previous efforts and programmes for correcting these behavioural problems may be defective in inculcating expected desirable behaviour probably because the need techniques to curb the menace are lacking. Research indicates that maladaptive is very common, particularly among university students (Dewitte, 2009; Essau, 2008). According to Steel (2007), approximately 75% of university students are maladjusted and a study by Okeke (2017) found that 50% of university students are maladjusted.

Maladaptive behaviour has caused the country the largest disruption of society. In such situation, there is no stability and this could lead to maladjustment. Based on the above observation, the best option to adopt in the event of any crisis remains a recourse to behaviour modification techniques like bibliotherapy, logotherapy, psychodrama, reinforcement, cognitive restructuring technique among others, have been used for intervention on maladjustment behaviour among divorcees (Okeke, 2017; Anagbogu, 2016; Susswan, 2018).

However, Avugu (2018) has also suggested that psychological principles and the experiences of guidance counsellor and those who have worked with curbing the undesirable behaviours support the following techniques for helping maladjusted students to achieve a place both in the classroom and the society. These techniques include finding special skills, using guidance counsellors, training in skills such as discussion and group guidance (Avugu, 2018). Besides, all the techniques are used in counselling approaches like cognitive behavioural therapy (CBT), hence, the researchers sought to investigate the effect of CBT on reducing maladaptive behaviour among undergraduate students.

Cognitive Behavioural Therapy (CBT) posits that people exhibits maladaptive behaviours because of established ways of thinking, and within this framework, CBT highlights the importance of replacing unrealistic beliefs with realistic ones (Beck, 2011). Numerous experimental studies have focused on the management of maladaptive behaviours (Enofa, 2017; Umah, 2015). According to Parish (2018); Ronald (2016); Sahara (2014) and Undah (2013), lack of effective intervention programmes has been emphasized in both local and international literature. Meanwhile, experimental studies on managing maladaptive behaviours are new and quite limited in developing countries which include Togo (Demir, 2018).

Mostly, existing research focuses on organizing psycho-educational programmes on the management of these maladaptive behaviours, providing counselling and highlighting the need to create and increase awareness through seminars and conferences (Balkis & Duru, 2012; Kandemir, 2010; Ozer and Altun, 2016; Uzun, 2010). In Nigerian situation, there is a dearth of empirical evidence on the effect of CBT on reducing maladaptive behaviours of students in Enugu State, Nigeria.

It is against this background that this study sought to investigate how to use CBT programme in reducing and overcoming the widespread of maladaptive behaviours among undergraduate students, which remains vital as long as it continues to have negative consequences for these students. In the CBT context according to Ozer and Altun (2016), practices in these groups aim to improve students' basic skills at reducing maladaptive behaviours and can be easily applied in the

teaching-learning environment. Because maladaptive behaviour is connected to dysfunctional beliefs such as unrealistic thoughts, low self-esteem, and negative thoughts, the use of cognitive behavioural therapy (CBT) has been suggested as a remedy (Bkoyo, 2015). Andy (2015), Linz (2017); and Zing (2019) posit that in CBT, students are taught to dispute their unrealistic and negative thoughts, develop goal, and develop a mindset that enables them to persist better in doing aversive task. Thus, this study assessed the effectiveness of a CBT-based programme in the reduction of undergraduate students' maladaptive behaviours. The researchers, therefore, tested the hypothesis that there is a significant effect of Cognitive Behavioural Therapy on the reduction of maladaptive behaviours of undergraduate students.

2.0 METHODS

Design of the Study

The pre-test-post-test randomized control trial experimental design was adopted. Participants were randomized into experimental and control groups.

Participants

A total of 64 undergraduate students comprising male (n=34) and female (n=30) from sampled public universities in Enugu State Nigeria, who met the inclusion criteria constituted participants for the study. G-power, version 3.1 gave 0.92 which is an adequate sample size for this study (Faul et al., 2007). Sixty-four (64) Counselling, Psychology and Sociology Education students who were drawn through proportionate stratified random sampling technique constituted the sample for the study. The students were stratified based on their area of disciplines (Counselling, Psychology and Sociology), from where the students were proportionately sampled (18 counselling students, 30 psychology students and 16 sociology students). A total of 273 students showed interest and volunteered to participate in the intervention programme. All the 273 students who volunteered to participate in the study were screened for eligibility criteria set by the researchers, including that: (1) the students must be undergraduate students in counselling, psychology and sociology education; (2) students must have an element of maladaptive behaviour. Volunteers who did not meet all the inclusion criteria were excluded. After that, the 64 undergraduate students who met all the inclusion criteria were randomly assigned to experimental and control groups conditions using a simple randomization procedure (participants were asked to pick 1 envelop with either E-experimental group or C-control group) from a container. The students were randomly assigned to experimental (34) and control (30) groups as shown in Fig. 1.

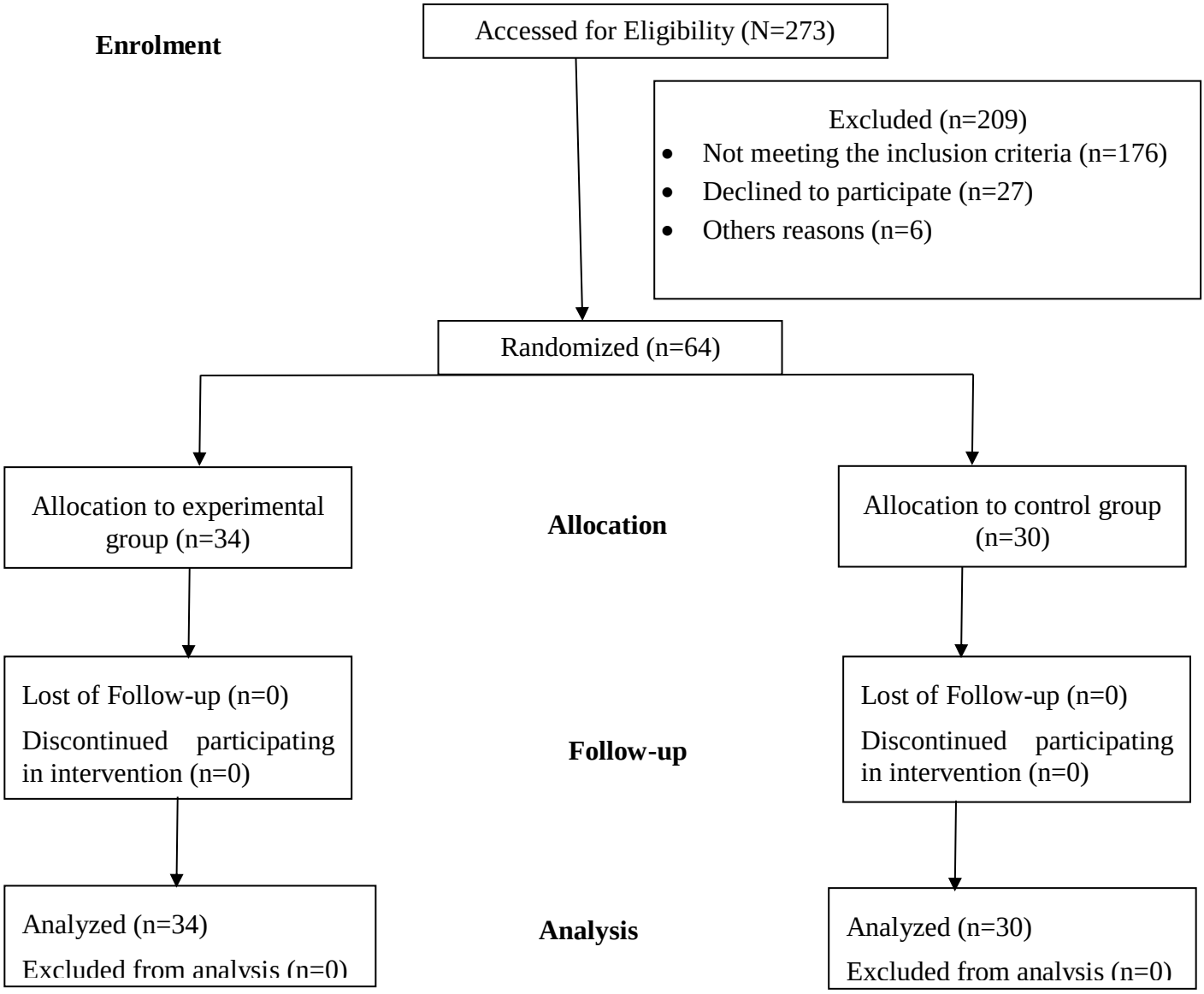

Figure 1: Sampling Distribution for the Study

Measures

Demographic Questionnaire

A demographic questionnaire was administered to the students (participants) in order to obtain their demographic characteristics such as gender, age and location. Each of the participants was instructed to tick the appropriate demographic information that may be applicable to him or her.

Table 1: Demographic Characteristics of the Participants

Demographic Characteristics	CRT Group	No. Intervention	N(%)	X^2	P
Gender					
Male	16	14	30(46.88)		
Female	18	16	34(53.13)	4.52	.002
Age					
30	6	4	10(15.63)		
30-50	26	25	51(79.69)		
>50	2	1	3(4.69)	35.56	.000
Tribe					
Igbo	19	18	37(57.81)		
Others	15	12	27(42.19)	12.05	.000
Religion					
Christian	21	20	21(32.81)		
Moslem	9	10	19(29.69)	9.08	.000

Maladaptive Assessment Scale for Students (MASS)

Maladaptive Assessment Scale for Students (MASS) developed by the researchers was used for data collection. MASS is a 20-item scale with five response options of Not AT All (1), Almost Never (2), Sometimes (3), Nearly Always (4), and Always (5), which was properly validated by three specialists in the area of test development. Example of item statement on MASS is "the use of praise is effective in curbing maladaptive behaviour". A minimum of 20 points and a maximum of 100 points can be earned on the scale, with higher scores indicating greater maladaptive behaviours. However, the initial development of the MASS involved 31 items that after construct validation, the number of the items was reduced to 20. In order words, 11 items of MASS did not survive the construct validation. After that the internal consistency reliability index of 0.82 was obtained using Cronbach Alpha method for the 20 items of MASS that survived the construction validation. Besides, the test-re-test reliability of the MASS was established to be 0.87 using Pearson's Product Moment Correlation Coefficient. This was done by re-administering the MASS after the 2 weeks of first administration.

Maladaptive Behaviour Scale (MBS)

Maladaptive Behaviour Scale (MBS) developed by the researchers is a 10-item scale with five response options of Not AT All (1), Almost Never (2), Sometimes (3), Nearly Always (4), and

Always (5), with lowest and highest scores of 10 and 50 respectively. Example of item statement on MBS is "use of gifts in counselling is effective in curbing maladaptive behavoiur". However, the initial development of the MBS involved 19 items but after construct validation, the number of the items was reduced to 10. In order words, 9 items of MBS did not survive the construct validation. After that, the internal consistency reliability index of 0.84 was obtained using Cronbach Alpha Method for the 10 items of MBS that survived the construct validation. Besides, the test-re-test reliability of the MBS was established to be 0.87 using Pearson' Product Moment Correlation Coefficient. This was done by re-administering the MBS after the 2 weeks of first administration.

Procedure

A demographic questionnaire was administered to the eligible participants to access their age, gender and location as undergraduate students. In order to remove randomization bias, information from demographic questionnaire were not made known to the person who randomized the participants to experimental and control conditions. Before the commencement of the testing and treatment package, the researchers assured the participants of confidentiality of interactions and personal information as they work together in self-disclosure. Thereafter, pre-treatment assessment (Pre-test) was conducted using the MASS and MBS in order to collect baseline data (Time 1). After that, the experimental group was exposed to 90 minutes of the CBT programme twice a week for a period of 6 weeks. The treatment took place between September and November, 2019. Post-test (Time 2) assessment was conducted 1 week after the last treatment session. Besides, a fellow-up assessment (Time 3), data collected from the experimental group at each evaluation were compared to that from the no-intervention control group.

Intervention Programme

The programme that was used in this study was designed by Peter and Felicia (2016) to improve the experimental group's ability to manage their maladaptive behaviour and was based on Beck's Cognitive Therapy and Ellis' REBT (1993). According to Peter and Felicia (2016), Beck (2001) outlined ten fundamental principles of cognitive therapy and these principles guided the development of eight 90 minutes group education session; a general plan for the whole process was prepared as well as specific plans for each session. The experimental programme context focused on realistic thoughts, unrealistic thoughts related to maladaptive behaviours. During each of the treatment as sessions, 30 minutes were spent on the realistic thoughts while the remaining 60 minutes were spent on the unrealistic thoughts and discussion sessions. In addition, based on the cognitive, affective, and behavioural dimensions of maladaptive behaviours, problem-solving, cognitive and behavioural techniques were used together. The contents of the sessions were supported by purposive activities, visual materials (illustrations, diagrams among others).

Each session began with a summary of the previous session (except for the first session) followed by discussing the homework, explaining the current session's agenda, and warm-up activities. The sessions ended with summarizing, giving feedback and homework (except for the eight session), and a closing activity.

The general outlines of the sessions and brief information are provided below:

- To help students become familiar with the basic fundamental principle of the CBT-based psychology educational programme and determine their personal goals.
- To ensure that students were informed about the cognitive-behavioural approach.
- To assist students in recognizing their maladaptive behaviours and maladaptive dangers as well as to help them to begin adjustment tasks by understanding the relationship between the action desired and continuity.
- To help students gain awareness in terms of false attributions of failure ("I failed"), self-esteem beliefs and outcomes, and process-oriented and motivational perspectives.
- To help students develop self-confidence and motivation to study behaviour.
- To help students realize the patterns of negative "thoughts" related to their behaviour and help them develop skills to change these patterns.
- To help students realize possible false realistic thoughts that can occur in their lives and to develop and implement alternative thoughts.
- To help students develop skills for relaxation, and safe place techniques in cases of extreme stress.

The manual as adopted from Peter and Felicia (2016) was written in English Language and can be accessed from Journal of Educational Psychology 2, 20-38, Effects of Cognitive-Behavioural-Therapy-based strategies on Maladaptive Behaviour of University Students.

3.0 DATA ANALYSIS

The effect of Cognitive Behavioural Therapy on the reduction of maladaptive behaviours among undergraduate students in public universities in Enugu State, Nigeria was established statistically using repeated measures analysis of variance (ANOVA). Partial eta squared and adjusted R^2 values were used to report the effect size of the intervention on the dependent measure. The assumption of the sphericity of the test statistic was tested using the Mauchly test of sphericity which was not significant (Mauchly, W=0.768, P=.647), implying that the assumption was not violated. Thus, the variances of the differences between all combinations of the related measures are equal. The analysis was done using statistical package for social sciences version 8.0.

Table 2: Repeated Analysis of Variance for the effect of Cognitive Behavoiur Therapy on the reduction of maladaptive behaviour among undergraduate students

	Time	Measures	Group	Mean (SD)	F	P	n^2	ΔR^2	95%CI
1	Pre-treatment	MASS	Experimental	83.21(6.51)					
			Control	86.14(5.05)	.132	.821	.006	.009	0.01,1.78
		MBS	Experimental	42.55(10.31)					
			Control	41.97(11.52)	.452	.651	.008	.010	0.26,1.88
2	Pre-treatment	MASS	Experimental	20.52(2.44)					
			Control	74.44(9.22)	878.132	.000	.822	.881	804.31,901.14
		MBS	Experimental	16.97(3.52)					
			Control	42.69(6.51)	108.522	.000	.686	.760	100.44,120.72
3	Pre-treatment	MASS	Experimental	21.10(3.01)					
			Control	72.10(8.22)	712.421	.000	.815	.815	.31,694.24
		MBS	Experimental	15.02(1.54)					
			Control	41.97(6.02)	120.674	.000	.805	.805	109.55,146.74

MASS = Maladaptive Assessment Scale for Students

MBS = Maladaptive Behaviour Scale

Mean = (SD), Mean = (Standard Deviation), P= Probability value, CI = confidence interval, n^2 = effect size, ΔR^2 = adjusted R^2

Table 3: Test of within subjects effects for the intervention group

Source	Type III Sum of Squares	DF	Mean Square	F Sig.	Sig.	Partial Etta Square
Measure: MBS						
Time						
Sphericity Assured	94.445	2	47.722	11.623	.000	.780
Greenhouse-Geisser	94.445	1.951	48.641	11.623	.000	.780
Huguh-Feldt	94.445	2.000	47.722	11.623	.000	.780
Lower-bound	94.445	1.000	95.445	11.623	.000	.780

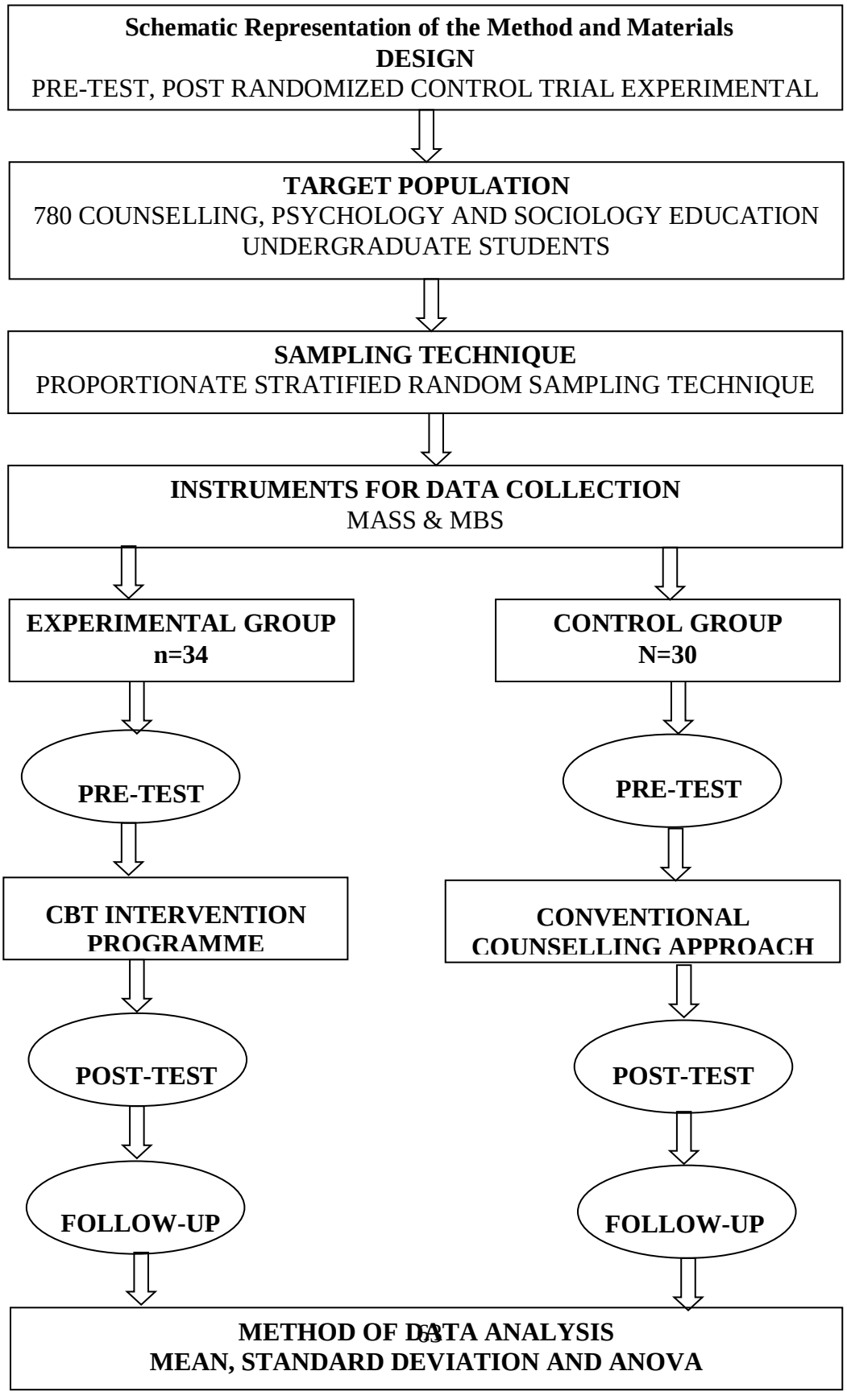
Schematic Representation of the Method and Materials
DESIGN
PRE-TEST, POST RANDOMIZED CONTROL TRIAL EXPERIMENTAL
TARGET POPULATION
780 COUNSELLING, PSYCHOLOGY AND SOCIOLOGY EDUCATION UNDERGRADUATE STUDENTS
SAMPLING TECHNIQUE
PROPORTIONATE STRATIFIED RANDOM SAMPLING TECHNIQUE
INSTRUMENTS FOR DATA COLLECTION
MASS & MBS
EXPERIMENTAL GROUP
n=34
CONTROL GROUP
N=30
PRE-TEST
PRE-TEST
CBT INTERVENTION PROGRAMME
CONVENTIONAL COUNSELLING APPROACH
POST-TEST
POST-TEST
FOLLOW-UP
FOLLOW-UP
METHOD OF DATA ANALYSIS
MEAN, STANDARD DEVIATION AND ANOVA

Table 4: Post hoc test for the significant effect of time

(1) Time	(J) Time	Mean difference (I-J)	Std. error	Sig.
Pre-treatment	Post-treatment	62.551	.008	.000
	Follow-up	62.125	.007	.000
Pre-treatment	Pre-treatment	-62.551	.008	.000
	Follow-up	-.435	.008	.000
Follow-up	Pre-treatment	-62.125	.007	.000
	Post-treatment	.435	.008	.000

Table 2 reveals that there was no significant difference between the experimental and control groups in initial maladaptive behaviour among counselling, psychology and sociology undergraduate students as n^2=.006, ΔR^2=.009. At the post-treatment and follow-up measures, the efficacies of cognitive behaviour therapy on the reduction of maladaptive behaviour among counselling, psychology and sociology undergraduate students were significant, F(1, 63)=878.132, P=.000, n^2=.686, ΔR^2=.881; and F(1,63)=712.421, P=.000, n^2=.801, ΔR^2=.815.

Similarly, using MASS as a measure, there was no significant difference in the initial maladaptive behaivour of the participants, F(1,63)=.452, P=.651, n^2=.008, ΔR^2=.010. At the post treatment and follow-up measures, the efficacies of cognitive behaviour therapy on the reduction of maladaptive behaviour among counselling, psychology and sociology undergraduate students were significant, F(1, 63)=108.522, P=.000, n^2=.686, ΔR^2=.760 and F(1,63)=120.674, P=.000, n^2=.796, ΔR^2=.805.

Table 3 revealed that the mean maladaptive behaviour or scores of the intervention group were significantly different at pre-treatment, post-treatment and follow-up measures, F(2, 33)=47.722, P<0.05, n^2=.780.

Table 4 gives us the significance level for differences between the individual time points. It shows that there were significant differences in maladaptive behaviours of the undergraduates between post-treatment and pre-treatment (P=0.000), and between pre-treatment and follow-up (P=0.000). This implies that the maladaptive behaviours of the undergraduates drastically reduced after the intervention programme.

4.0 DISCUSSION OF THE RESULTS

The findings of the study revealed that at the post-treatment and follow-up measures, the effect of cognitive behaviour therapy on the reduction of maladaptive behaviour among counselling, psychology and sociology undergraduate students were significant. This finding has shown the superiority nature of the CBT over the conventional counselling approach in the reduction of maladaptive behaviours among the students of higher learning. The students who were counselled on the dangers of maladaptive behaviours using CBT were motivated during the intervention

sessions and that led to the drastic reduction in their maladaptive behaviour after the intervention and even at the follow-up measure. This finding is similar to the findings of Peter and Felicia (2016) whose quantitative findings indicated that university students' maladaptive behaviours scores decreased and that the decline was still observed on a retention test after the students participated in a programme based on CBT, which aimed to reduce their maladaptive behaviours. According to Peter and Felicia (2016), there was significant change in the control group's scores, which indicated that the applied programme was effective and that the decline in the experimental group's maladaptive behaviour scores occurred as a result of the programme. Corroborating these findings are the findings of Enofa (2017); Umah (2015); Parish (2018); Ronald (2016); Sahara (2014) and Undah (2013). Lack of effective intervention programmes have been emphasized in limiting managing maladaptive behaviour. Researchers have focused on organizing psycho-educational programmes on the management of maladaptive behaviours (Balkis & Duru, 2012; Kandemir, 2010; Ozer and Allun, 2016; Uzun, 2010). Bkoyo (2015) found that CBT is a remedy for maladaptive behaviours. Andy (2015); Linz (2017) and Zing (2019) noted that in CBT, students are taught to dispute their unrealistic and negative thoughts, develop goals, and develop a mindset that enables them to persist better in doing aversive task. The above findings validated the effect of the CBT intervention for reducing maladaptive behaviours among undergraduate students in public universities in Enugu State, Nigeria. The implication of these findings is that if undergraduate students are not properly counselled, their maladaptive behaviours will continue to increase.

Strength of the Study

This study explored an area which addresses the contemporary problems among students in Nigerian universities. The intervention is considered timely, given the potential impacts of maladaptive behaviour on students achievement in universities. The intervention successfully validated the effectiveness of CBT in reducing maladaptive behaviour among undergraduate students using a randomized control trial. The use of experimental and control groups enabled the researchers to compare both within-group factors and between-group factors.

Limitations

This present study, like other empirical-based studies has some limiting factors. The study utilized data from the criterion-referenced point of view to evaluate the effectiveness of CBT on the reduction of maladaptive behaviour among students, without considering the moderating effects of demographic variables like ethnicity, gender, and some personality characteristics.

The intervention used by the experimenters was effective for helping the experimental group to begin adjustment task even when they did not feel like working and to avoid focusing on perfectionism. However, the experimental group in this study reported disobeying their teachers, violate the school rules and regulations, and bullying their fellow students as causes of their maladaptive behaviours. These may have affected the outcome of the study.Also, the researchers did not target a specific disorder associated with undergraduate education students during the intervention.

With these limitations, the generalizability of the findings should be done with care. However, future studies should explore how these demographic variables could moderate the effectiveness of CBT on the reduction of maladaptive behaviours among undergraduate students.

Conclusion

Based on the findings of the study, the researchers concluded that CBT is efficacious in the reduction of maladaptive behaviours among undergraduate students in public universities.

Recommendations

Based on the findings of the study, it was recommended that:

(1) Federal Government or rather relevant education authorities should provide enough guidance counsellors in the various institutions of higher learning who will assist in the counselling of the students on the dangers of maladaptive behaviours using CBT.

(2) Available guidance counsellors in institutions of higher learning should be properly trained on how to use CBT in reducing maladaptive behaviours among undergraduate students.

Compliance with Ethical Standards

Conflict of Interest: The authors declare that they have no conflict of interest.

Ethical Approval: Faculty of Education Ethical Committee on Research at the University of Nigeria, Nsukka, Nigeria (REC/FOE/18/0081) granted approval to conduct this study. The authors adhered to the ethical standard specification of the American Psychology Association APA (2017), and with that of the World Medical Association (2013).

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