



**IMPACT OF COGNITIVE BEHAVIOR THERAPY ON INTELLECTUAL
ACHIEVEMENT RESPONSIBILITY AMONG STUDENTS OF SCHOOL OF HEALTH
AND TECHNOLOGY JEGA-KEBBI STATE, NIGERIA**

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ABSTRACT

This research was carried out to investigate the impact of cognitive behavior therapy on intellectual achievement responsibility among students of School of Health and Technology, Jega - Kebbi state Nigeria. The population of the study includes all the students of 2018/2019 session which was summed up to three thousand and twenty five (3025) students out of which sixty (60) participants were selected for the study by employing stratified sampling technique. Pre-test Post-test quasi experimental research designed was used in the research and two null hypotheses were raised in line with the objectives of the study as a guide. Cognitive behavior therapy treatment package was adapted and the training lasted for eight weeks. Data were collected by administration of the instruments at pre-test and post-test. Crandall's Model of Intellectual Achievement Responsibility scale adapted and modified was used for the data collection. Descriptive statistics and inferential statistics (t-test) were employed to analyze the data collected and the results revealed that Cognitive Behavior Therapy has significant effect on both internal and external intellectual achievement responsibility with ($t=7.226, P=.000$) and ($t=2.252, p=.0241$) respectively. It was therefore, recommended that School of Health and Technology Jega should give psychological intervention such as Cognitive Behavior Therapy to all students to improve their IAR.

Keywords: Cognitive, Intellectual, Achievement, Behavior and Therapy

INTRODUCTION

Some students have the attitude of blaming others when it comes to failure in their examinations and attributed their success to themselves. According to Piper (2016) students are supposed to contribute a lot to their examination fortunes

and therefore, a student should be blamed for his/her success or failure in school examinations. However, on the side of the students, a collection of responses in Mellon (2008) states that a good number of students attribute the causes of their poor performance in examinations to difficult examination questions. Some of them put blame to examination questions which have ambiguous direction while others complained that teachers are fond of setting assessments and examination questions out of syllabus. In a nutshell, more of the students' responses show that students indulge in putting the blame of their examination failure to other persons without looking inward to see their own contributions to the problem. This behavior of blaming others to be responsible for one's academic success or failure may serve as one of the factors affecting student's achievement and their school academic performance.

Therefore, since students keep failing in their various assessments and their examinations, especially in the School of Health and Technology Jega and continue to put blame on external factors without seeing anything wrong on their part, it is likely to be a problem because it tends to make an individual omit his/her own roles in contributing to the desired educational fortunes (Yohanna, 2018). In other words, it is a relevant variable which is capable of discouraging hard work among students. In short, this factor can be best described as Intellectual Achievement Responsibility (IAR). Though several scholars have reviewed on some related factor as being responsible for school achievements such as self-esteem, self-efficacy (Pajares, 1997 & Tukur, 2000) but little has been done on Intellectual Achievement Responsibility and how it can be affected by Cognitive Behavior Therapy (CBT).

It is worthy of note that though mental ability is no doubt a predictor of academic performance, it appears that the factor of Intellectual Achievement Responsibility (IAR) has influence on the mental effort expended to learn academic tasks (Yohanna, 2018). Intellectual Achievement Responsibility as seen by Mannarini (2008) is the degree to which students believe they are responsible for the outcome of their academic situations. According to Colman (2009) it was Rotters who first came up with the factor of Intellectual Achievement Responsibility from her concept of locus of control on a broader sense before Bialer also worked on locus of control and came up with a scale on it. Many researchers since then have continued to write on the topic.

According to Solomon, Houlihan and Perelius (2000) Intellectual Achievement Responsibility is a dimension of locus of control they describe as a variable closely related to locus of control and the Intellectual Achievement Responsibility (IAR) Scale was constructed by Crandall, Katkovsky, and Crandall (1965) which

differs from the locus of control in that it is limited to intellectual-academic situations and focuses on significant persons in the school environment: parents, teachers and peers as reinforcing agents, while the locus of control measure attempts to be general.

In each of the variables stated above, it is believed that a student who attributes the cause of his success and failure to himself tends to improve than the one who attribute it to other factors, situations or events. Therefore, in school, those that the IAR scale rates low are likely to be those students who have external Intellectual Achievement Responsibility that is, those who believe they are not responsible for their situation. On their part, those who have little or no Intellectual Achievement Responsibility lack mental motivation to control events. They therefore, depend on luck, fortunes, chance and help from other people. Those who have the tendency to make excuses for their deficiencies, inadequacies, and laziness and would like to make such expressions like: "I can do nothing, I have no choice, I was not lucky", etc. On the other hand, there are students who feel they are responsible for their situations and are likely to be rated high by the IAR scale (Yohanna, 2018).

One other important factor that is likely to affect both Intellectual Achievement Responsibility and academic performance is the Cognitive Behavior Therapy (CBT). According to Mayor Clinic Staff (2016) as cited by Yohanna, (2018) CBT is a common type of talk therapy in which the students walk with the therapist in a structured way, attending a limited number of sessions to overcome the challenge of negative and inaccurate thinking and to be able to interpret situation and act accurately. Ellis, (1957) puts that Cognitive Behavior Therapy is based on the idea that how we think (cognition) and how we feel (emotion) and how we act (behavior) all interact together.

That is to say that our perceptions can influence our behavior and if those perceptions are negative or inaccurate, it tends to distress students. Elis in Solomon, Houlihan and Perelius (2000) states that Cognitive Behavior Therapy is based on changing the following assumptions which he called irrational thoughts:

- i. The idea that it is catastrophic when things are not working in the desired way
- ii. The idea that people have no control over their happiness
- iii. The idea that the past history has influence over ones present life
- iv. The idea that you need someone greater than you to depend upon

There appears a link between cognitive behavior therapy and Intellectual Achievement Responsibility. Since the Cognitive Behavior Therapy aims at

helping one to change his/her irrational thoughts to the rational thought and from inaccurate interpretations to the more accurate interpretation of self, others, events, situation and the world, and Intellectual Achievement Responsibility has to do with feelings and thoughts of students of being responsible for their academic failure or success, it is likely that the two variable affect each other (Yohanna, 2018).

Powers (2006) states that, sometime some students may think of themselves as people who cannot control their destiny and therefore imagine that they are victims of the system and it can lead to poor academic performance. These can lead to low self-confidence that make students render themselves to be incapacitated by having those impressions of being incapacitated.

When a student is in that condition, the options are unlikely for him/her to work hard for the success but to depend on some chances or indulge in an examination malpractice. Therefore, this research intended to look into the impact of Cognitive Behavior Therapy on Intellectual Achievement Responsibility and academic performance among students of School of Health and Technology Jega-Kebbi state.

Statement of the Problem

By random interaction with some students of School of Health and Technology Jega, preliminary investigations showed that a relevant pleasure seeking activities exist among and it could be that these students have a type of tendency to feel that they are not responsible for their failed or passed courses during assessment or examination and that someone must always help to change things for the better. This might have caused students to indulge in complaints and consequently attribute the cause of their failure in assessments and examinations to the difficulty of the course of study, too much course work load, wickedness of lecturers, poor learning environment, strict examination invigilators, their health condition, mistake in marking and calculation of marks by the lecturers, or error in computation of CGPA by the Examination Officers (EOs) and Management Information System Units (MIS) and frustration by the entire school management. Therefore, the researcher assumed the factor of Intellectual Achievement Responsibility might be one of the root causes of the problem and it could negatively affect students academic performance in school. Therefore, the researcher wondered what factor could be used to improve the Intellectual Achievement Responsibility. To change the feelings of students the researcher thought that Cognitive Behavior Therapy might have a role to play and go a long way in helping the students understand the nature of the problem and a way out

of the problem for better academic performance. Therefore, this research was set to investigate the influence and impact of Cognitive Behavior Therapy on Intellectual Achievement Responsibility, among students of School of Health and Technology, Jega-Kebbi state

Objectives of the Study

In this research work, the researcher aimed at achieving the following objectives:

1. To find out the difference in the impact of Cognitive Behavior Therapy on pre-test and post-test mean score of internal Intellectual Achievement Responsibility among students of School of Health and Technology, Jega-Kebbi state
2. To examine the difference in the impact of Cognitive Behavior Therapy on pre-test and post-test score of external Intellectual Achievement Responsibility among students of School of Health and Technology, Jega-Kebbi state

Hypotheses

The following null hypotheses were raised by the researcher.

H₀₁ There is no significant difference in the pre-test and post-test mean score of internal Intellectual Achievement Responsibility among students of School of Health and Technology, Jega-Kebbi state

H₀₂ There is no significant difference in the pre-test and post-test mean score of external Intellectual Achievement Responsibility among students of School of Health and Technology, Jega-Kebbi state

METHODOLOGY

In this research work, quasi experimental research design was adopted. The design took the pattern of pre-test and post-test research design. According to Williams (2006), 'quasi experimental design is a research design similar to the true experimental design except that it has no random assignment'. It is a research most suitable for the establishment of cause and effect and it involves the manipulation of independent variable as the treatment of the psychological phenomena under study (Kowalczyk, 2003).

Population and sampling technique

The population for this study is the entire students of School of Health and Technology Jega. The School is made up of all the programs as shown in table 1 below. Sixty (60) students were selected as Lazzarro (2012) states that for as

high degree of confidence as .95, the sample should be at least 40 or above. Therefore, to enable equal representation between male and female participants the techniques employed for selection of the participant was stratified sampling technique. Donald, (2002) stated that when selecting a sample from any research population that is made up of subjects with different attributes, stratified sampling technique is appropriate.

Table 1 showing population distribution and sample size

DEPARTMENTS	POPULATION	SAMPLE	PERCENT(%)
	N	SIZE	
Environmental	1319	24	44
Pharmacy	170	4	6
Community	620	12	20
Laboratory Tech.	186	4	6
Health Inf. Mgmt	450	10	15
Health Education	280	6	9
Total	3025	60	100.0

Source: primary data (2019)

The table 1 above shows that most of the students who responded to this study were from the Environmental science with 1319 (44%), this was followed by those from the Community with 620 (20%), then Health information Management with 450 (15%), those from Health education were 280 (9%), then Laboratory tech. with 180 (6%) and lastly Pharmacy with 170 (6%).

Instrumentation

The quality of instruments used in research determines quality of the data of the research and the instruments used for data collection were adapted, modified and used. The instruments include the Rasch Model Intellectual Achievement Responsibility Scale and the Cognitive Behavior Treatment Package.

Rasch Model Intellectual Achievement Responsibility Scale

According to Mannarini, (2008) the 34 items Rasch Model Intellectual Achievement Responsibility scale was developed by Crandall, Katkovski and

Crandall, (1965) and it was adapted by the researcher so as to take care of cultural diversities. It has 34 items with reliability index ranges from 0.84 and 0.97 (Mannarini, 2008). The scale has the highest possible scores of 170 while 68 and below (<40%) is low IAR, 69-118 (41-69%) scores is moderate and 119 and above (70-100%) is high. Generally, less than 50% (below 84) score is considered external IAR because it represents the external proportion of scores on the Rasch Model IAR scale. Scores of 84 and above is considered internal IAR. The instrument is in form of 5- points Likert scale Instrument Scoring System

Table 2: Scoring and Determining Intellectual Achievement Responsibility

IVR	SCORES RANGE	PERCENT RANGE(%)
External	Less than 84	Less than 50
Internal	84-170	50-100

Source: Solomon, Houlihan and Perelius (2000)

Validity of the Instrument

To ensure that the Rasch Model Intellectual Achievement Responsibility instrument is valid both in terms of face and construct validity, it was validated. This was ensured by experts from the Department of Education, Kebbi state university, Aliero.

Reliability of the Instrument

The psychometric property of the instrument was established through a conducted pilot study and the Rasch Model Intellectual Achievement Responsibility scale recorded a reliability coefficient of .91 (within the original .84 to .97 reliability of the scale). This reliability coefficient is high and it confirms the original reliability of the instrument.

Procedure for Data Collection

In this study, Intellectual Achievement Responsibility (IAR) scale was used for data collection. There was first a discussion with the sixty (60) participants so as to establish rapport with them before the pre-test. The administration was personally done by the researcher. Being a pre-test and post-test quasi experimental research, the Rasch Model Intellectual Achievement Responsibility instrument was administered before the treatment (pre-test) and after the treatment (post-test) to collect the desired data. The instrument was administered at the pre-test for the identification of the students with internal and those with external Intellectual Achievement Responsibility, and was later

used as the post-test after the subjects had been exposed to the therapeutic treatment and the difference between the pre-test result and post-test result helped the researcher to evaluate the effectiveness of the treatment package.

Procedures for Data Analyses

This researcher made use of descriptive statistics such as simple percentage to determine the mean and standard deviation in the analysis of the bio-data of the respondents while inferential statistics (t-test) was used to analyze all the null hypotheses. All the hypotheses were tested at .05 level of significant.

RESULTS

Testing of Hypotheses

Hypothesis One: There is no significant difference in the pretest and posttest score of internal Intellectual Achievement Responsibility among students of School of Health and Technology Jega.

Table 3: t-test Difference between Pretest and Posttest of Students' Internal IAR

INTERNAL IAR	N	MEAN	STD. DEVIATION	DF	T-CAL	T-CRIT	P-VAL	DECISION
PRETEST	21	94.4712	11.59054	20	7.226	1.741	.000	SIGNIFICANT
POSTTEST	21	122.8501	21.08147					

p-value<.05 at 20 df 2-tailed

Table 3 reveals the pretest mean of 94.4712 and the posttest mean of 122.8501 indicating a difference between the posttest and the pretest result attributed to treatment. The analysis also reveals the t-calculated value of 7.226, and the t-critical value of 1.741 at .05 level of significant. Since the t-calculated is greater than the t-critical, it also supports that there is difference between the pretest and the posttest of internal Intellectual Achievement Responsibility of the participants. More so, the p-value of .000 is less than .05 in the analysis denoting that significant difference exists between the pretest mean score and posttest mean score. From the above evidence, the null hypothesis which states that there is no significant difference in the pretest and posttest score of internal Intellectual Achievement Responsibility among students of School of Health and Technology Jega is hereby, rejected. This implies that the treatment of Cognitive Behavior Therapy has effect on IAR of students by increasing the internal IAR

Hypothesis Two: There is no significant difference in the pretest and posttest score of external Intellectual Achievement Responsibility among students of School of Health and Technology Jega.

Table 4: t-test Difference between Pretest and Posttest of Students' External IAR

EXTERNAL IAR	N	MEAN	STD. DEVIATION	DF	T-CAL	T-CRIT	P-VAL	DECISION
PRETEST	39	62.5773	11.59054	38	2.252	1.648	.0241	SIGNIFICANT
POSTTEST	39	51.5444	18.97316					

p-value<.05 at 38 df 2-tailed

Table 4 above shows the pretest mean score of 62.5773 and posttest mean score of 51.5444. The difference of 11.03 indicates a reduction in the external Intellectual Achievement Responsibility accountable to treatment. The t-Calculated value of 2.252 is higher than the t-Critical value which is 1.648 at .05 level of significant which suggests difference between the post-test and the pre-test results. Supporting it, the p-value is .0241 which is less than .05 to prove that a significant difference exists between the pre-test and post-test of external Intellectual Achievement Responsibility. It is evident that CBT has effect on IAR by decreasing the external IAR of students. This justifies the rejection of the null hypothesis which states that there is no significant difference in the pre-test and post-test score of external Intellectual Achievement Responsibility among students of School of Health and Technology Jega.

Summary of the Findings

The summary of the major findings of this research work is as follows:

1. Significant difference exists between pre-test and post-test of internal IAR which means that CBT has significant effect on IAR by decreasing the internal IAR with (t=7.226, p=.000).
2. It was also revealed that CBT has significant effect on IAR by decreasing the external IAR of the students as the mean of pretest internal IAR with (t= 2.252, p= .0241).

DISCUSSIONS

The discussions of this finding cover all the hypotheses and the analyses of the research results. The results of this research in table 3 shows a significant

difference between the means scores of Internal Intellectual Achievement Responsibility before and after cognitive behavior treatment.

This represents a significant effect of Cognitive Behavior Therapy on the Intellectual Achievement Responsibility of the participants. This result is in agreement with the findings of Hussain, et' al, (2015) which reveals that, Cognitive Behavior Therapy improved the internal IAR of the students. Also confirmed the results of this study are the research works of TARRIER, et' al, (2000) Cardiac, (2009) and Gerontol, (2010) who also found significance effect of cognitive Behaviour Therapy of participants. That means that at any level of internal IAR, a student can improve on his/her internal IAR through the right Cognitive Behavior Therapy.

Under hypothesis two, table 4 also shows a significant effect of Cognitive Behavior Therapy on the post-test external Intellectual Achievement Responsibility. This means that Cognitive Behavior Therapy significantly affects students' Intellectual Achievement Responsibility external. Supporting these discoveries is the finding of Weinberg (2000) whose study also reveals that Cognitive Behavior Therapy has effect on the Intellectual Achievement Responsibility of students on both the internal and the external responsibility. This result is not contrary to the findings of Basavarajappa, (2015) which found that cognitive training has significant effect on external Intellectual Achievement Responsibility. This suggests that cognitive training is capable of improving the Intellectual Achievement Responsibility from external to internal.

CONCLUSION

Based on the finding of this study which has been discussed above, the following conclusion has been drawn.

Cognitive Behavior Therapy increases Intellectual Achievement Responsibility internal and reduces the external Intellectual Achievement Responsibility among students. Thus, CBT has positive effect on IAR by increasing internal IAR and decreasing external IAR.

RECOMMENDATIONS

From the findings of this study and conclusion made, the researcher recommends the following:

1. Cognitive Behavior Therapy should also be used in reducing external Intellectual Achievement of students.

2. Lecturers in school should use psychological intervention such as Cognitive Behavior Therapy in promoting internal Intellectual Achievement Responsibility of students

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