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Predictive Influence of Psychological and Educational Adjustments on Internally Displaced Students' Physics Ability

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Abstract

Purpose: This study investigated the predictive capacity of psychological and educational adjustments on the cognitive ability levels in Physics among internally displaced students in Nigeria. **Methodology:** Grounded in the social exclusion theories of Pacione (1997) and Walker (1997), the research employed a correlational survey design. The target population comprised internally displaced persons (IDPs)—including women, adolescents, and children—in Adamawa State. A systematic sampling technique was utilized to select a representative sample of 900 respondents. Data collection instruments included the Ability Group Test (AGT), Literacy and Numeracy Scale (LNS), Communal Trauma Event Inventory (CTEI), Satisfaction with Life Scale (SWLS), and the Internally Displaced Persons Self-Esteem Questionnaire (ISEQ). All instruments were validated, and internal consistency was established using Cronbach's Alpha, yielding coefficients of 0.73 for LNS, 0.88 for CTEI, 0.76 for SWLS, and 0.82 for ISEQ. The instruments were administered by the researcher in collaboration with trained research assistants. Data were analyzed using regression analysis. **Findings:** The results indicated that both psychological and educational adjustments significantly predicted the cognitive ability levels of internally displaced students in Physics. Furthermore, their combined predictive effect was also found to be statistically significant. **Significance:** Based on these findings, it was recommended that science educators tailor instructional content to align with the current cognitive and emotional needs of internally displaced learners, thereby facilitating improved psychological adjustment and academic performance. **Keywords:** Cognitive Ability, Educational Adjustment, Internally Displaced Students, Internally Displaced Persons (IDPs), Psychological Adjustment.



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Introduction

One of the contemporary challenges facing the Nigerian State is how to provide succor to the plights of the Internally Displaced Persons (IDPs), occasioned by incessant violent attacks perpetrated by the Boko Haram insurgents in north eastern part of the country (Okeke-Ihejirika et al., 2020). Obviously, the most affected persons are vulnerable groups such as children and women who are exposed to severe psychological, socioeconomic and political challenges. Though government and other donor agencies have made efforts to address their plights there is evidence of neglect of rehabilitating the individuals, so IDPs still face severe socio-economic, health and environmental challenges such as inadequate education, psychological trauma and poor sanitation in their camps in Adamawa State. The extant studies have not shown effective policy framework on how the individual IDP could be rehabilitated and re-integrated into the society after departure from camp, rather focused on how to provide temporary measures that would alleviate their plights. The question therefore is, can't the level of education, psychological and emotional trauma experienced by individual IDP be ascertained and addressed?

As of the end of 2022, over 71 million individuals were internally displaced across 120 countries worldwide, primarily as a result of conflict, violence, and disasters (Tesfaye et al., 2024). Internally displaced persons (IDPs) are among the most vulnerable people in the world today (United Nation High Commission for Refugee, 2017). Internal displacement arises in diverse contexts—including armed conflicts, environmental disasters, and the adverse effects of climate change—and is both a consequence and a catalyst of multiple human rights violations (Cantor et al., 2021). The number of IDPs suffering globally stands over 26.4 million with the majority living in low-income countries (Thepa & Hauff, 2012; Elijah et al., 2015). At least two-thirds of the countries in Africa have experienced conflict leading to displacement of millions of people (Burke et al., 2009). For instance, Nigeria, a low-income, food-deficient country is ranked 3rd amongst countries with high numbers of IDPs in Africa due to forced migration resulting from cultural inter-clan conflicts, social/communal tensions, politically influenced violence, and religious crisis (Elijah, et al., 2015). One of such examples is factored around increase in Boko Haram's terror act in recent years. One of the contemporary challenges facing the Nigerian state is how to provide succor to the plights of the IDPs, occasioned by incessant violent attacks perpetrated by the Boko Haram insurgents in northeastern part of the country. Since Boko Haram insurgents began their campaign of terror against the Nigerian state in the northeast in 2009, many lives have been lost while properties worth millions of naira have been destroyed, forcing many people to flee their homes for safety areas. Obviously, the most affected persons are vulnerable groups such as children and women who are exposed to severe socioeconomic and political challenges. Even though Nigerian government has made efforts to address the plights of IDPs by providing IDPs camps, there are still challenges of rehabilitating individual, overcrowding, poor sanitation, joblessness and insecurity among others in the IDPs camps across the states of North East. This situation has in some occasions forced the IDPs to even flee the IDPs camps for their safety, an action that worsens their predicaments.

School and society in general, tend to assign cognitive abilities the preponderant role when defining school curricula or when explaining and evaluating student's success or failure, although the importance of the affective domain in education is acknowledged for a long time (Kahveci, 2015). Newer approaches to the comprehension of learning processes include a broader range of relevant variables at the personal level such as meta-cognitive knowledge and skills, perceptions of how good is the performance in learning, attitudes, emotions, and motivation (Efklides, 2011). The relational aspects of school living, in particular the importance of positive and supportive teacher-student relationships is another

area including relevant variables to understand ability level of women with both typical (Longobardi et al., 2016) and atypical development (Prino et al., 2016). Nieswandt (2007) found that these set of variables play a relevant role in women's process of developing a meaningful understanding of scientific concepts via psychological and educational adjustment. Therefore, this study determined the predictive power of psychological and educational adjustment of internally displaced students on cognitive ability level in Physics which are potent factors affecting self-esteem levels and level of satisfaction to life of the students in IDPs.

The rate of internally displaced persons in the North East Nigeria occasioned by the violent attacks perpetrated by the Boko Haram insurgency is alarming. Though the government and other donor agencies have made efforts to address the plights of IDPs the needed remedial measures for effective psychological and educational adjustment of the individuals involved appears neglected. Thus, IDPs face challenges such as joblessness, poor education, psychological adjustments and poor sanitation in their camps. The situation becomes more worrisome when weighed against the backdrop of the fact that those displaced persons are predominantly the vulnerable groups such as women and children. This situation constitutes serious sources of worry to the governments, humanitarian organizations, academics and other critical stakeholders in and outside Nigeria. Therefore, the objectives of the study are to:

1. Determine the predictive power of psychological adjustment of internally displaced students on cognitive ability level in Physics.
2. Determine the predictive power of educational adjustment of internally displaced students on cognitive ability level in Physics.
3. Determine the joint predictive power of psychological and educational adjustment of internally displaced students on cognitive ability level in Physics.

Literature Review

Insurgency is a predominant occurrence in North East Nigeria including Adamawa State and a major cause of this is Boko Haram attack. Boko Haram is called Jama'atu Ahlis Sunna Lidda'awati Wal-Jihad which in Arabic means "People Committed to the Propagation of the Prophet's Teachings and Jihad. The group which is better known by its Hausa name 'Boko Haram' was a local radical Salafist group which transformed into a Salafijihadist terrorist organisation after 2009. Loosely translated from the local Hausa language, Boko Haram means, 'Western education or civilization is forbidden.' Put differently, 'Western education or civilization is a sin. Boko Haram is believed to have started in far back 1995 with the name 'Sahaba' and it was led by one Abubakar Lawan and with time the leadership was conceded to a Nigerian, Mohammed Yusuf. Yusuf was said to have abandoned the old cleric doctrines thus re-organizing and coming up with what became, Boko Haram in 2002 at the Northern city of Maiduguri, which was its headquarters.

In the words of Kilcullen in Elijah et al. (2015) insurgency is a struggle to control a contested political space, between a state (or a group of states or occupying powers), and one or more popularly based, non-state challengers. Similarly, the Oxford English Dictionary defines insurgency as an armed rebellion against a constituted authority (for example, an authority recognized as such by the United Nations, Nigerian government) when those taking part in the rebellion are not recognized as belligerents (e.g., Boko Haram). On the other hand, displaced persons under international law are persons or groups of persons who have been forced or obligated to flee or to have cause to leave their homes or place of habitual residence in particular, due to or in order to stay off the effect of armed conflict, violations of human rights, situations of generalized violence, natural or manmade disasters (in this case Boko Ha-

ram), to another place considered relatively safe either within their own national borders (as internally displaced persons) or travel across an internationally recognized state border (as refugees) (Ladan, 2006).

This study is anchored on the social exclusion theory which argues that social exclusion subject individuals and groups to discriminatory practices that expose them to humiliations and deprivations. It avers that social exclusion detaches and alienates some groups of individuals from the mainstream of society with resultant negative effects on their citizenship and other socio-economic rights. The theory is associated with the works of scholars such as Pacione (1997) and Walker (1997) among others.

Method

The study adopted a correlational survey research design. The area of the study is Adamawa State. The population comprises all internally displaced students (IDS) (women, adolescents and children) in Adamawa State. A systematic sampling technique was used to select 900 respondents for the study. Ability Group Test (AGT), Literacy and Numeracy Scale (LNS), Communal Trauma Event Inventory (CTEI), Satisfaction with Life Scale (SWLS) and IDPs Self Esteem Questionnaire (ISEQ) were developed by the researcher and used for data collection. Ability Group Test (AGT) was used to determine the cognitive ability levels of the respondent. The AGT is a 20-item multiple choice tests adapted from Test Booklet General Ability Test (TBGAT). The test questions were read to the women by the research assistant and they were allowed time to provide answers to each question. All the instruments were subjected to validation.

The internal consistency was obtained through Cronbach Alpha. The internal consistency estimate was found to be 0.73 for LNS, 0.88 for CTEI, 0.76 for SWLS and 0.82 for ISEQ respectively. The instruments were administered by the researcher and the research assistants. Four weeks was used for data collection. Regression analysis was applied in the present study since it has the capacity of predicting outcomes. The reason is that, if a regression model can be generalized, then it must be capable of accurately predicting the same outcome variable from the same set of predictors with different group of people. If the regression model is applied to a different sample and there is severe drop in its predictive power, then the regression model clearly does not generalize. Regression analysis also shows how strong the relationship being measured and how much predictive power is been detected. To draw conclusion about a population based on a regression analysis done on the sample of the present study, the following assumptions were found to be true: variable types, non-zero variance, no perfect multicollinearity, predictors are uncorrelated with external variance, homoscedasticity, independence error, normality of distributed error, independence, linearity. The decision rule was that null hypotheses were rejected if the P-value was less than or equal to 0.05 and not rejected if otherwise.

Results and Discussions

Table 1

Stepwise Regression Analysis of Psychological and Educational Adjustment of Internally Displaced Students on Cognitive Ability Level in Physics

Variables	R	Regression Square (R ²)	B	β(Reg. Weight)	t	Sig.
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Variables		R	Regression Square (R ²)	B	β(Reg. Weight)	t	Sig.
Psychological justment	ad-	0.486	0.236	58.651	0.286	0.067	0.000
Educational ment	adjust-	0.594	0.353	77.973	0.494	0.442	0.003

Table 1 shows the summary of stepwise regression analysis of psychological and educational adjustment of internally displaced students on cognitive ability level in Physics. The table reveals that the correlation between psychological adjustment of internally displaced students and cognitive ability level in Physics is 0.486 with a coefficient of determination 0.236. This implies that 23.6 percent of the variation in cognitive ability level can be accounted for by psychological adjustment of internally displaced students. The table further shows that the predictive power of psychological adjustment of internally displaced students is 0.286. The probability associated with the calculated value of $t(0.067)$ is 0.000. Since the probability value of 0.000 is less than 0.05 level of significance, the psychological adjustment of internally displaced students had significant predictive power on cognitive ability level in Physics.

Similarly, the table reveals that the correlation between educational adjustment of internally displaced students and cognitive ability level in Physics is 0.594 with a coefficient of determination 0.353. This implies that 35.3 percent of the variation in cognitive ability level can be attributed to educational adjustment of internally displaced students. The table further shows that the predictive power of educational adjustment of internally displaced students is 0.494. The probability associated with the calculated value of $t(0.442)$ is 0.003. Since the probability value of 0.003 is less than 0.05 level of significance, the educational adjustment of internally displaced students had significant predictive power on cognitive ability level in Physics.

Table 2

Regression Analysis of the Combination of Psychological and Educational Adjustment of Internally Displaced Students on Cognitive Ability Level in Physics

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.603 ^b	.364	.600	.39427

Table 2 shows the regression analysis of the combination of psychological and educational adjustment of internally displaced students on cognitive ability level in Physics. The table shows that, the correlation between cognitive ability level and the combination of psychological and educational adjustment of internally displaced students is 0.603 with a coefficient of determination of 0.364. This implies that 36.4 percent of variation in cognitive ability level can be explained by the combination of psychological and educational adjustment of internally displaced students.

Table 3

Analysis of Variance of Combination of Psychological and Educational Adjustment of Internally Displaced Students on Cognitive Ability Level in Physics

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	153.217	1	153.217	1.373	.046 ^b
	Residual	6917.721	899	111.576		
	Total	7070.937	900			

Table 3 shows that the probability associated with the calculated value of $F(1,900) = 1.373$ is 0.05. Since the probability value of 0.046 is less than 0.05 level of significance, the joint predictive power of psychological and educational adjustments of internally displaced students on cognitive ability level in Physics is significant.

A strength of the current study lies with the inclusion of the measure of psychological and educational adjustments of internally displaced students alongside cognitive ability level in Physics. This allows for a more in-depth investigation of the contribution of different facets of psychological and educational adjustments as well as conceptual understanding of contents in Physics class due to cognitive ability in relation to self-esteem levels and level of satisfaction to life of the students in IDPs camps.

A. Predictive Power of Psychological Adjustment on Cognitive Ability Level in Science

The finding of the study revealed that psychological adjustment of internally displaced students had significant predictive power on cognitive ability level in Physics. This implies that psychological adjustment of internally displaced students is a determinant of their cognitive ability level in Physics. This might result from women's action planning, protecting the pursuit of current goal from distractions and temptations, as well as switching from one task to another. The necessary ingredients of cognitive ability is the intentional selection of the contents of working memory, controlled by mechanisms of filtering out irrelevant stimuli and removing no longer relevant representations from working memory. This is because within working memory contents, a single item is often selected into the focus of attention for processing. The finding agrees with Irozuru (2018) that single parenting and family type significantly influence social adjustment of secondary school students. The finding also agrees with Akpan-Ikioke and Ackley (2018) who found significant influence of family type as well as structure on student's social development. The finding concurs with Sani (2019) that broken home has significant influence on senior secondary school students' emotional and social adjustments.

B. Predictive Power of Educational Adjustment on Cognitive Ability Level in Science

The finding of the study further showed that the educational adjustment of internally displaced students had significant predictive power on cognitive ability level in Physics. This means that educational adjustment of internally displaced students is a determinant of cognitive ability level in Physics. This might be due to the fact that academic potentiality is a factor that determines the capacity of women to engage in educational task which requires higher cognitive functioning meaningfully. A students' ability level is an important parameter in measuring her attainment in and out of IDPs. Observation revealed clearly that no two women are exactly the same in overall personality. This means that no individuals have equal potentials as far as learning is concerned because women may not have the same level of cognition. That is why teachers use different forms of assessment in order to classify students

into different ability levels based on their academic potentialities. The finding concurs with [Ngozi and Ugochi \(2015\)](#) that home, school and culture are some of the environmental factors that strongly influence the moral behavior of secondary school students. The finding agrees with [Mahwish and Abid \(2018\)](#) that there was a significant relationship between moral atmosphere of school and moral development of students and that the role of schools' moral atmosphere is significant in the development of students' morality. The finding agrees with [Ebute et al. \(2020\)](#) that the parents of secondary school students are more autocratic than other parental styles and the status of moral development of students are appreciably high.

C. Joint Predictive Power of Psychological and Educational Adjustments on Cognitive Ability Level in Science

The finding of the study further revealed that the joint predictive power of psychological and educational adjustments of internally displaced students on cognitive ability level in Physics is significant. This implies that the combination of psychological and educational adjustments of internally displaced students is a determinant of cognitive ability level in Physics. The joint significant predictive power of psychological and educational adjustments of internally displaced students on cognitive ability level in Physics found in the present study suggests that performance is also enhanced by an increase in germane cognitive load capacity. The study found support for selecting information to be held in working memory, but that it is not necessarily selection of one piece of information at the exclusion of all others. The students' ability level is improved by one's own goals and mental or overt actions, including response selection, action planning, protecting the pursuit of current goal from distractions and temptations, as well as switching from one task to another via proper adjustment.

Conclusions

Based on the findings of this study, it was concluded that psychological adjustment, educational adjustment as well as the combination of psychological and educational adjustments of internally displaced students are determinant of cognitive ability level in Physics. The successful leveraging of psychological and educational adjustments in this study suggests a possible pathway to develop the framework needed for successful enhancement of self-esteem levels as well as level of satisfaction to life of the individual in and out of IDPs camps in Nigeria.

Based on the findings of the study, the following recommendations were made:

1. The State Government should make conscious effort in providing modalities for addressing the plights of internally displaced students, with a view to ameliorate their sufferings and repositioning them to contribute meaningfully to socio-economic development of the country via proper educational adjustment.
2. Physics teachers should ensure that information selected for internally displaced students is relevant to the current objectives of instructional delivery. That may enhance their psychological adjustment.
3. Internally displaced students should be helped by Physics teachers by providing effective framework to address the rehabilitation and reintegration via adequate educational, psychological and emotional therapy in the class.
4. Interventions and accommodation should be designed by school administrators to ensure that teaching focuses on building connections between scientific ideas, rehabilitation and reintegration

of the individuals involved, so that appropriate resources can be readily activated for enhance cognitive ability level in science.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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