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Cognitive Distortion as Predictor of In-school Adolescents' Depressive Symptoms and Academic Performance in South-South, Nigeria

Stella Anietie Usen[1] Grace Akaniyene Eneh[2] Inwang Etim Udom[3*]
1. Department of Educational Foundations, College of Education, Afaha Nsit, Akwa Ibom State
2. Department of Primary Education, College of Education, Afaha Nsit, Akwa Ibom State
3. Department of Education Foundations, Guidance and Counselling, University of Uyo, Uyo, Akwa Ibom State, Nigeria

Abstract
The purpose of this study was to ascertain how cognitive distortion could predict in-school adolescents' depressive symptoms and academic performance in the South-South Nigeria. The study adopted a correlation design with a sample of in-school adolescents who showed evidence of cognitive distortion (N=798). In-School Adolescents' Cognitive Distortion Questionnaire (ISACDQ), In-School Adolescents' Depression Inventory (ISADI) and Academic Performance Scale (APS) were used for data collection while linear regression statistics procedure was adopted to analyse the data. Results show that cognitive distortion predicts in-school adolescents' depressive symptoms to a low degree while it predicts academic performance to a high degree. Based on the findings, conclusion, implication and limitations were drawn.
Keywords: Cognitive Distortion, in-school Adolescents, Depressive Symptoms, Academic performance.

Introduction

Cognitive distortions are simply ways that an individual's mind convinces him of something that is untrue. These inaccurate thoughts are often used by individuals to reinforce negative thinking or emotions by telling themselves things that seems rational and accurate, but really only serve to keep them feeling bad about themselves (McGrath & Repetti, 2002). Thus, cognitive distortions refer to negative thoughts and beliefs that affect an individual's perception of reality.

Cognitive theory suggests that negative beliefs about the self, are related to the etiology of depression (Beck, 1967, 1976). Particularly, cognitive theorists such as Aaron Beck and psychologist Albert Ellis believe that the ways individuals interpret negative life events leads to emotional disorders such as depression (Nevid & Rathus, 2005). Two of the most basic assumptions of the theory, (a) that cognition have causal priority over emotions and (b) that depressed children's negative beliefs about the self reflect distortions of reality, have rarely been tested in the childhood depression literature (Garber, Quiggle & Shanley, 1990; Beck, 1973). Furthermore, cognitive theory of depression suggests that depressed children's negative self-perceptions reflect cognitive distortions about the self. This assertion has prompted research for testing whether individuals with distorted patterns of thinking exhibit depressive symptoms (McGrath & Repetti, 2002). The symptom of depression at this stage is different from "normal" adolescent or adult moodiness in several ways. A moody individual may experience levels of sadness and irritability. But, an in-school adolescent experiencing depression will experience these feelings for prolonged amounts of time.

According to Nevid and Rathus (2005), people who are prone to depression tend to see the world through a kind of darkened mental filter that slants or biases how they interpret life experiences, and this is dangerous especially among in-school adolescents whose performance in academic activities may be at stake because of depressive symptoms (Ghaderi & Salehi, 2011). It is even disheartening to mention here that in-school adolescents may be exhibiting negative thinking habit because of the challenges evolving round their developmental stride. Minor disappointment, such as getting a poor grade on a test, becomes blown out of proportion. They expect the worst and tend to focus on the negative aspects of events. But then, due to civilization, psychosocial support services and technological compliances, it appears that in-school adolescents might not actually be depressed when they think negatively.

Several measures (Abdullah, et al., 2011) have failed to show the correlation between cognitive distortion and depressive symptoms as well as academic performance. Meanwhile, (Nasir, et al., 2011) proved that the rate of cognitive distortion is increasing among adolescents and Bahrami and Bahrami (2015) observed that factors correlating with academic performance of adolescents should be interesting area of investigation. Ullah, Jaan and Qamar (2012) observed that individuals tend to develop negative philosophy about life events and about themselves. Thus, the present study therefore focuses on cognitive distortion as predictor of in-school adolescents' depressive symptoms and academic performance to lend credence to or disapprove the claim earlier made by Aaron Beck or Albert Ellis. To this end, the current study tested two hypotheses: cognitive distortion does not significantly predict in-school adolescents' depressive symptoms; and cognitive distortion does not

significantly predict in-school adolescents' academic performance.

Method

Area of the Study

This study was carried out in South-South Nigeria which is a region of Nigeria comprises of six states (Akwa Ibom, Cross Rivers, Rivers, Bayelsa, Delta and Edo) and is strategically located at the point where the Y tail of the river Niger joins the Atlantic Ocean through the Gulf of Guinea. Though a relatively small stretch of land, the south of the country provides the economic mainstay of the economy: oil. In addition to oil and gas, the region equally contributes other key resources, with potential huge investment opportunities in tourism, agriculture and education. There is high demand for students' high academic performance so that persons with high intellectual capacity can be raised to manage the resources of this area. Thus, studies, such as the present one, are relevant in this area to investigate factors that could predict the academic performance of students in the area.

Sample and Procedure

Five secondary schools were purposively selected in each South-South states of Nigeria for the study, making a total of 30 secondary schools. The researchers carried out a pre-survey to identify Senior Secondary Two (SSII) in-school adolescents that had cognitive distortion according to the standard set by American Psychiatric Association (2000) in the 30 selected schools. Those that were willing to take part in the study were given informed consent form to complete and return to the researchers. Out of 2025 SSII in-school adolescents that were identified as having cognitive distortion, 798 returned their informed consent forms and indicated interest to take part in the study. Thus, those that finally took part in the actual study were 798 in-school adolescents.

Table 1: Frequency table for demographic variables

Demographic Variables	N	%
States		
Akwa Ibom	109	14
Cross River	111	14
Rivers	169	21
Bayelsa	101	13
Delta	123	15
Edo	185	23
Total	798	100
Gender		
Male	375	47
Female	423	53
Total	798	100
Age		
10-13	56	7
14-17	345	43
18-20	397	50
Location	798	100
Urban	321	40
Semi-Urban	123	15
Rural	354	44
Total	798	100

Table 1, shows percentage of in-school adolescents who participated in the study in terms of state, gender, age and location. Participants from Akwa Ibom State was 14%, Cross River 14%, Rivers 21%, Bayelsa 13%, Delta 15%, while Edo was 23%. In terms of gender, 47% of male and 53% of female in-school adolescents participated in the study. In terms of age, those between ages 10 to 13 years old constituted 7% while those between ages 14 to 17 years old constituted 43% and those between ages 18 to 20 years old constituted 50 % participation. Urban Area had 40%, Semi-Urban Area had 15% while Rural Area had 44% participants in the study.

Measures

In-School Adolescents' Cognitive Distortion Questionnaire (ISACDQ): The first indicator of in-school adolescents' cognitive distortion was their self-report on ISACDQ with a total of 26 item statements. The first 10 items of ISACDQ were based on the 15 common cognitive distortions identified by Grohol (2015), while the next 10 items were developed by the researchers based on their observable evidences of irrational thinking and belief among in-school adolescents; and the last 6 items were based on a checklist of cognitive distortion developed by Burns (1989). The researchers validated the items before giving it to the respondents to complete

in pen and paper format in the current study. The reliability of the instrument in the current study was 0.87 alpha. The questionnaire item was designed on 5-point scale of: 5=all of the time, 4=often, 3=some of the time, 2=rarely, and 1= none of the time.

In-School Adolescents' Depression Inventory (ISADI): This is a 31-item questionnaire that assesses affective, behavioral, somatic, and cognitive aspects of depressive symptomatology. This scale has good internal consistency (Cronbach's. 89), and test–retest reliability yielded 0.78. Construct validity was performed as a screening measure for depressive symptomatology in nonclinical samples. The items of the instrument were adapted from Beck's Depression Inventory and Hamliton's Rating Scale for Depression.

*Academic Performance Scale (APS)***:** This is a scale showing summary of the average grade points of the students. It was given to form teachers in each of the schools visited to fill the academic scores of the in-school adolescents who participated in the study for the last two school terms. APS was used to determine the academic performance of the participants for the past two terms and has a 6-point response format of: Excellence (6), Very good (5), Good (4), Fair (3), Poor (2) and Fail (1).

Model		Sum of Squares	df	Mean Square	R^2	F	β	Sig.
1	Regression	4075.31	1	4075.31				
	Residual	87542.57	796	109.98	.044	37.06	-.211	.000[a]
	Total	91617.88	797					

Design and Analysis

The current study used a correlation survey design. Data analysis was completed using linear regression analysis to test the hypotheses at 0.05 level of significance.

Results

Table 2: Summary of regression analysis on the Cognitive Distortion as Predictor of In-school Adolescents' Depressive Symptoms

a. Predictors: (Constant), ISACDQ; b. Dependent Variable: APS

The results in Table 1 show that cognitive distortion significantly predicts depressive symptoms among in-school adolescents, $R^2 = .044$, $F(1, 796) = 37.06$, $\beta = -.211$, $p < .05$. Since the exact probability value (.000) is less than the *a priori* probability value (0.05), the null hypothesis which states that cognitive distortion does not significantly predict depressive symptoms among in-school adolescents is rejected. The R^2 value of .044 shows that cognitive distortion accounts for 4% of the variance in depressive symptoms. The Beta (β) weighting of -.211 indicates that for every standard deviation unit change in cognitive distortion, depressive symptoms will arise by -.211(-21%).

Table 3: Summary of regression analysis on the Cognitive Distortion as Predictor of In-school Adolescents' Academic performance

Model		Sum of Squares	df	Mean Square	R^2	F	B	Sig.
1	Regression	82124.249	1	82124.249				
	Residual	115801.430	796	145.479	.415	564.509	.644	.000[a]
	Total	197925.679	797					

a. Predictors: (Constant), ISACDQ; b. Dependent Variable: APS

The results in Table 2 show that cognitive distortion significantly predicts academic performance among in-school adolescents, $R^2 = .415$, $F(1, 796) = 564.51$, $\beta = .644$, $p < .05$. Since the exact probability value (.000) is less than the *a priori* probability value (0.05), the null hypothesis which states that cognitive distortion does not significantly predict academic performance among in-school adolescents is rejected. The R^2 value of .415 shows that cognitive distortion accounts for 42% of the variance in academic performance. The Beta (β) weighting of .644 indicates that for every standard deviation unit change in cognitive distortion, academic performance will arise by .644 (64%).

Discussion

The purpose of this study was to investigate the degree to which cognitive distortion significantly predicts in-school adolescents' depressive symptoms and academic performance. The first test indicated that cognitive distortion predicts in-school adolescents' depressive symptoms. Thus, negative beliefs about self are related to in-school adolescents' depressive symptoms, though to a very low degree (4%). This finding lends credence to Beck's (1967) cognitive theory which suggests that negative beliefs about the self, are related to the etiology of depression.

The second test in the study revealed that cognitive distortion significantly predicts in-school adolescents' academic performance, to a high degree (64%). Thus, negative beliefs the in-school adolescents have about self correlates with academic performance. This finding is in line with McGrath and Repetti (2002)

findings that cognitive distortion is associated with academic performance, among other variables. From the findings of this study, it seems the impact of cognitive distortion is much on academic performance than on depressive symptoms (4% and 64% respectively). The findings further imply that the in-school adolescents have not learnt how to improve their academic performance due to their negative beliefs. It seems that those beliefs are putting them at high risk of academic failures.

Overall, the findings of this study support other researchers': Nevid & Rathus (2005); Nasir, et al., (2011); Ghaderi & Salehi (2011) opinions. If this unpleasant condition is not addressed, the educational pursuit of the in-school adolescents in the South-southern part of Nigeria is at stake. Therefore, the researchers recommend that appropriate measures, including cognitive counseling program should be put in place for the in-school adolescents to achieve both their short-term and long-term educational goals.

Limitations

Considering the weakness of correlation in study, one may argue that we cannot say that the relationships among the variables investigated actually imply causal relationships. However, the researchers employed a robust regression model (e.g. table 2 and 3) to support the evidence of a linear correlation between cognitive distortion and depressive symptoms and academic performance.

Conclusion

The background of the study briefly mentioned the cognitive theorist such as Aaron Beck and Albert Ellis who established that negative beliefs (Cognitive distortion) could results in depressive symptoms. Upon investigation, the present study found out that even though this is true, the degree is not high. But, cognitive distortion has a greater relationship with academic performance of in-school adolescents. To these end, future researchers should focus on the connections between negative beliefs and academic performance.

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Authors Details
First author: Dr. Stella Anietie Usen, Ph.D is a lecturer in the Department of Educational Foundations, Guidance and Counselling Unit, College of Education, Afaha Nsit, Akwa Ibom State.
Second author: Dr. Grace Akaniyene Eneh, Ph.D is a lecturer in the Department of Educational Foundations, Guidance and Counselling Unit, College of Education, Afaha Nsit, Akwa Ibom State.
Third author: Mr. Inwang Etim Udom*, M.ED is a lecturer in the Department of Educational Foundations, Guidance and Counselling, University of Uyo, Uyo, Akwa Ibom State, Nigeria.