# Predicting Academic Valuing and Engagement through Basic Needs Satisfactions among Adolescent Students in Insecure Locations in Plateau State, Nigeria

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## **Abstract**

This research examines the educational consequences of threats, and tests the prediction of basic needs (physiological and safety) satisfaction outlined in Maslow's Hierarchy of Needs theory on academic engagement of adolescent students in Plateau State, Nigeria. An ex post facto research design was employed for the study. Adolescents attending public schools in high-risk (n = 279) and lower-risk locations (n = 203) in Plateau State completed Students Basic Needs Satisfaction Scale (SBNSS,  $\alpha$ =0.92); Academic Valuing Scale (AVS,  $\alpha = 0.86$ ), and Students Academic Engagement Scale (SAES,  $\alpha = 0.80$ ). Descriptive statistics, MANCOVA (with age and gender as covariates), and regression statistical techniques were used to analyze the data. Results showed, among others, that adolescents in high-risk locations had lower levels of basic needs satisfaction, valued academic achievement less, and had lower academic engagement than their peers in lower-risk locations; basic needs satisfaction showed strong correlation with both academic valuing and academic engagement among students in high-risk locations. It was recommended, among others, that academic planning should be directed towards fostering academic values and engagement of students through enhancing basic needs satisfaction, especially in risky locations of the country.

Keywords: adolescence, high-risk, academic, valuing, engagement

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#### Introduction

Insecurity characterizes the context of development for the millions of children in low-and middle-income countries who experience ongoing threats from war, terrorism, community violence, or kidnapping. During the past decade, Northern Nigeria has been the site of highly publicized mass kidnapping of school children and terrorist attacks. More than 2 million people were displaced, and more than 1,000 school children abducted by armed bandits, with an estimated 600 schools forced to close down in 2021 resulting in disengagement of children from classes and severe disruption of health services (Adeniran, & Castradori, 2021; Global Centre for the Responsibility to Protect, 2022; Iwara, 2021). International Organisation for Migration (IOM, 2023) reported that clashes between herders and farmers in Mangu LGA in Plateau State affected 1,535 individuals and displaced 1,125 individuals. However, most past research has focused on survivors or witnesses, neglecting the much larger number of young people who live under the prolonged threat of violence (Shockden et al., 2023).

As a result of security threat, in-school adolescents and teachers, especially females, are faced with numerous abuses and suffered most during an attack on their schools in Nigeria. The outcomes of the attacks increased early marriage, and early pregnancy and many of them lost opportunities for personal autonomy, employment, and economic independence (Adeniran, & Castradori, 2021; Global Coalition to Protect Education from Attack, 2018). Specifically, Plateau State is a setting where schools have been burned and teachers have been murdered (Akinwotu & Uangbaoje, 2021). However, the most distinctive form of collective violence directed toward schools is the kidnapping of students. Although some raids have targeted boys (Amusan & Ejoke, 2017), most have targeted girls where over 100 of the girls remain missing (Aljazeera, 2022). Such abductions continue across Northern Nigeria. In 2021, there were 25 attacks on Nigerian schools in which 1,440 children were kidnapped, and 16 children were killed (UNICEF, 2022). Initially, such raids were almost exclusively instigated by jihadists. Recently, armed bandit groups seeking ransom payments are responsible for most students' abductions (Verjee & Kwaja, 2021).

Many students have shown some signs of suffering from mental and physical health problems because of the experience of insecurity threats in Nigeria. Some of them lament severe bleeding and other serious gynecological problems as a result of rape (Global Coalition to Protect Education from Attack, 2018). Many of the students, as well as some of the teachers, reported recurring nightmares, anxiety, being easily frightened, an inability to focus, and other signs commonly associated with trauma (Global Coalition to Protect Education from Attack, 2018). The students who went through these traumatic experiences may show less value to schooling and interest to pursue their education. Many

of the students could not actively engage in most school activities with passion and enthusiasm due to the negative impact of the violence.

Empirical shreds of evidence showed that 63.07% of secondary school students in some conflicts communities in Plateau State, Nigeria were highly disengaged behaviourally, whereas 62.5% of students were highly disengaged cognitively. Similarly, 61.93% of secondary school students were highly disengaged socio-emotionally (Bahago et al., 2017; Shockden, 2017). Although poor school development and teacher factors have been identified as few influential factors of academic valuing and engagement, the prediction of their outcomes from basic need satisfaction is important for education policy formulation and theoretical practices.

Academic valuing is the worth and importance that students attach to schooling, learning experiences, school goals, and other people (staff and students) who are connected to the school system. Linnenbrink-Garcia et al. (2013) suggested that task valuation seems to be the strongest predictor of behaviours associated with motivation, such as choosing topics and making decisions about participation in training. Academic engagement is a multidimensional construct in psychology that is construed to have three components, including affective (socio-emotional), behavioural, and cognitive which are conceptually separate although related (Ben-Eliyahu et al., 2018). Affective engagement comprises students' identification with school, sense of belonging and school connectedness. It is the feelings about the educational institutions, teachers, and peers which include positive sense towards peers (Tang & Hew, 2022). Behavioural engagement of students refers to students' participation in academics, their motivation, efforts, attendance in classes, and participation in class activities (Gunuc & Kuzu, 2014). Cognitive engagement on the other hand refers to students' investment in learning, valuing learning, learning goals, selfregulation, and planning (Gunuc, 2014). It involves students paying attention, thinking, and intently learning a new phenomenon, as well as synthesizing, analyzing, and organizing academic tasks.

It is anticipated that satisfaction of basic needs can trigger positive behaviour of students, who are experiencing threat, to value school and engage highly. Taormina and Gao (2013) explored Maslow's motivational hierarchy (physiological, safety—security, belongingness, esteem, and self-actualization) and found that the more each lower-level need was satisfied, the more the next higher-level need was satisfied. Also, the satisfaction of each higher-level need was statistically predicted by the satisfaction of the need immediately below it in the hierarchy, as expected from Maslow's theory. The assumption is that students in high-risk locations may be dissatisfied with basic needs and

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consequently, devalue schooling and engage less in academic activities compared to their counterparts in low-risk locations.

A previous study reported that family support, traditional values, and life satisfaction had significant positive correlations with the satisfaction of all the five needs, whereas the anxiety facet of neuroticism had significant negative correlations with the satisfaction of all the needs (Taormina & Gao, 2013). Students with high initial motivation tend to benefit most from information on the relevance of the learning material, while students with lower motivation tend to benefit more from being encouraged to self-generate learning strategies (Durik et al., 2015). Also, different motivation strategies have been used to foster academic tasks among students where most of them are targeted at improving learning materials to encourage students to value the system of the academic activities (Gaspard et al., 2016). The psychological needs satisfaction at school equally determined school satisfaction among the students (Orkibi & Ronen, 2017).

Furthermore, basic needs satisfaction was found to be positively related to intrinsic motivation and negatively associated with amotivation; but they could not significantly mediate the relationship between basic psychological needs satisfaction and academic performance (Malu & Reddy, 2017). It has been revealed that life satisfaction and engagement have a dual linkage, which explains that happier students had higher levels of engagement while those with lower socio-emotional well-being are more likely to experience psychological disengagement (Adigun et al., 2021; Datu & King, 2018). Although academic difficulties encountered by the students such as lack of technical skills; adjustment, mental health difficulties; domestic conflict; as well as institutional and community barriers were identified as threats to academic engagement and psychological well-being (Baticulon et al., 2020), academic engagement was found to be directly and indirectly linked to higher levels of satisfaction among learners (Montano, 2021). It was also discovered that the fulfillment of the needs for autonomy, competence, and relatedness explained how engagement led to well-being (Montano, 2021).

Another investigation revealed that academic integration partially mediated the relationship between basic psychological needs satisfaction and intrinsic motivation of the students (Vergara-Morales & Del Valle, 2021). However, the need for autonomy and competence were higher in students, and these needs were positively related to academic performance but inversely related to age and grade (Chacón-Cuberos et al., 2021). Consequently, the basic needs when satisfied, encourage the use of the deep approach to learning and, in turn, decrease students' avoidance strategies. Likewise, when these needs are not satisfied, the use of the surface approach to learning is encouraged and consequently leads to an increase in students' avoidance strategies and achievement

(Betoret & Artiga, 2021). In a collective violence dominated areas, Shockden et al. (2023) found that well-being accounted for large percentage of variance in the perceived value of academic learning. Also, the associations between multi-dimensional well-being and both persistence and engagement were partially mediated by the perceived value of academic learning.

Most research studies have focused on children for whom insecurity threats are fulfilled (such as refugees), while others devoted attention to psychological needs (postulated by self-determination theory), as well as academic engagement of students. Little attention has been paid to the basic needs satisfaction, academic valuing, and engagement of a larger number of children who are indirectly or directly affected by an ongoing threat of violence. This research examines the educational consequences of these ongoing threats; and tests the prediction that persistent danger undermines adolescents' ability to satisfy the basic needs (physiological and safety) outlined in Maslow's Hierarchy of Needs, hence influencing academic valuing and engagement.

## Objectives of the study

The study aimed to investigate the basic needs (physiological and safety security needs) satisfactions as predictors of academic valuing and engagement of adolescent students in risky areas in Plateau state, Nigeria. The specific objectives were:

- 1. Determine the level of basic needs satisfaction, academic valuing, and engagement of adolescent students in high-risk areas compared to those in lower-risky areas when gender and age are being controlled.
- 2. Ascertain the extent to which physiological and safety security needs satisfaction determines the academic valuing and engagement of adolescent students in high-risky areas.

## **Hypotheses**

**Ho1**: There is no significant difference between the basic needs satisfaction, academic valuing, and engagement of students in high-risk areas and those in low-risk areas when gender and age are controlled.

**Ho2**: Physiological and safety security needs satisfaction does not significantly determine the academic valuing and engagement of adolescent students in high-risky areas.

## Methodology

An ex post facto research design was adopted for the study. Participants included 279 adolescents (47.5% males & 52.5% females; mean age = 16.4) attending public schools in high-risk locations, and 203 adolescents in lower-risk locations (50.1% males & 49.9%

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females; mean age = 16.3). A 23-item Students Basic Needs Satisfaction Scale (SBNSS,  $\alpha$  = .92; sample items as "I'm satisfied with the amount of food that I eat every day"), a 7-item Academic Valuing Scale (AVS,  $\alpha$  = 0.86; example, "Learning at secondary school is important"), and a 14-item Students Academic Engagement Scale (SAES,  $\alpha$  = .80; for example, "I pay attention in class") were used for data collection.

The researchers first identified and made contacts with the participating students and schools authority through consent letter. The approval was obtained before embarking on the study. Participants were contacted during break time and presented the instruments, using face to face method of administration. Participants were guided and encouraged to complete the questionnaire independently, after reading the introductory letter and instructions. They were instructed to complete the questionnaire within 40 minutes and return directly to the researchers. The responses of the participants were assured of and treated with utmost confidentially.

Descriptive (mean and standard deviation), and inferential statistics including Pearson Production Moment Correlation, Multivariate analysis of covariance (MANCOVA, gender and age as covariate), and regression analysis were used for data analysis. Also, hypotheses were tested at 0.05 level of significance. All analyses were carried out via SPSS version 24.

### **Presentation of results**

**Ho1**: There is no significant difference between the basic needs satisfaction, academic valuing, and engagement of students in high-risk areas and those in low-risk areas when gender and age are controlled.

**Table 1:** MANCOVA result indicating level of basic needs satisfaction, academic valuing, and engagement based on locations with gender and age as covariance (N = 482)

Source	Variable	Mean	SD	MS	F(df) =	р
					(1,481)	
Gender	Academic Valuing	1.62	.49	413.73	5.49	.020*
	Academic Engagement			1520.43	33.05	$.000^{*}$
	Basic Needs Satisfaction			206.20	27.02	.000*
Age	Academic Valuing	16.05	1.02	37.35	.50	.482
	Academic Engagement			1.521	.03	.856
	Basic Needs Satisfaction			33.48	.54	.464

Location	Safaty Sagurity Naods					
Location	Safety-Security Needs					
	Satisfaction					d.
	High-Risk	22.86	2.91	132.37	24.24	$.020^{*}$
	Lower-Risk	34.33	3.72			
	Physiological Needs					
	Satisfaction					
	High-Risk	21.06	5.25	115.82	31.13	$.001^{*}$
	Lower-Risk	40.25	7.40			
	Academic Valuing					
	High-Risk	41.05	5.75	341.50	64.53	$.000^{*}$
	Lower-Risk	82.70	8.67			
	Behavioural					
	Engagement					
	High-Risk	32.42	4.06	256.21	55.57	$.000^{*}$
	Lower-Risk	43.76	6.91			
	<b>Cognitive Engagement</b>					
	High-Risk	24.08	4.27	110.19	21.77	$.030^{*}$
	Lower-Risk	53.10	7.31			

**NB:** SD = standard deviation; MS = Mean Square; p-value with asterisk indicating significant

A MANCOVA (with age and gender as covariates) in table 1 showed that adolescents in high-risk locations had lower levels of both physiological and safety security needs satisfaction ( $\bar{x}$ = 22.86, SD = 2.91, and  $\bar{x}$ = 21.06, SD = 5.25 respectively), less academic valuing ( $\bar{x}$ = 41.05, SD= 5.75), and lower behavioural and cognitive engagement ( $\bar{x}$ = 32.42, SD = 4.06 &  $\bar{x}$ = 24.08, SD = 4.27 respectively). Whereas, adolescents in lower-risk locations tend to have higher levels of both physiological and safety security needs satisfaction ( $\bar{x}$ = 34.33, SD = 3.72 &  $\bar{x}$ = 40.25, SD = 7.40 respectively), high academic valuing ( $\bar{x}$ = 82.70, SD= 8.67), and higher behavioural and cognitive engagement ( $\bar{x}$ = 43.76, SD = 6.91 &  $\bar{x}$ = 53.10, SD = 7.31 respectively). All the factorial values are statistically significant, with F-values ranging from 21.77 to 64.53, and p< .05. Scheff Post-hoc analysis further confirmed significant differences between the components of basic needs satisfaction, and that of academic engagement.

**Ho2**: Physiological and safety security needs satisfaction does not significantly determine the academic valuing and engagement of adolescent students in high-risky areas.

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**Table 2:** Pearson Product Moment correlation among the study variables

S/N	Variable	Mean	SD	1	2	3	4	5
1	Safety Security			1				
	Needs	13.06	2.84					
	Satisfaction							
2	Physiological							
	Needs	11.14	2.32	.53**	1			
	Satisfaction							
3	Academic	81.75	8.75	.62**	.60**	1		
	Valuing	01./3	6.73	.02 · ·	.00	1		
4	Behavioural	42.98	7.02	.84**	.74**	.68**	1	
	Engagement	42.98	7.02	.84***	./4***	.08***	1	
5	Cognitive	53.67	7.89	19**	15**	25**	19**	1
	Engagement	33.07	7.89	19***	13***	23****	19***	1

Note: \*\* Correlation is significant at the 0.01 level (2-tailed); N = 482

In table 2, each of the two basic needs were associated with academic valuing, and with both behavioural and cognitive dimensions of engagement. Specifically, safety security needs satisfaction showed strong positive correlation with academic valuing (r = .62, p < .01) and behavioural engagement (r = .84, p < .01), but indicated weak negative correlation with cognitive engagement (r = -.19). Physiological needs satisfaction also strongly correlated with academic valuing (r = .60, p < .01), behavioural engagement (r = .74, p < .01), and weakly (negatively) associated with cognitive engagement (r = -.15). Generally, basic needs satisfaction showed strong correlations with both academic valuing and academic engagement among adolescent students.

**Table 3:** Multiple regression of basic needs satisfaction on academic valuing (N = 482)

Model	Variable	В	β	t	p	R	$\mathbb{R}^2$	Adj. R	F
1	Constant	49.018		31.29	.000				
	PNS	1.284	.417	10.77	.000	.697	.486	.484	226.78
	SSNS	1.433	.379	9.79	.000				

**NB**: Dependent variable: Academic valuing; PSN=physiological needs satisfaction, SSNS= safety security needs satisfaction.

Table 3 result showed significant model fit of the data (F = 226.78, p< .05). Multiple regression model indicated that both physiological and safety-security needs satisfaction significantly predicted academic valuing ( $\beta$ = .417, P < .05 and  $\beta$ = .379, P< .05 respectively). Additional units of 128.4 and 143.3 of physiological and safety-security

needs satisfactions respectively accounted for 48.6% change in academic valuing with a very strong positive relationship (r = .697).

**Table 4:** Multiple regression of basic needs satisfaction on academic engagement (N = 482)

Model	Variable	В	β	t	p	R	$\mathbb{R}^2$	Adj. R	F
1	Constant	70.896		34.504	.000				
	PNS	1.147	.342	7.338	.000	.507	.275	.254	82.96
	SNS	.966	.235	5.037	.000				

**NB**: Dependent variable: Academic engagement; PSN = physiological needs satisfaction; SSNS = safety security needs satisfaction.

The analysis in table 4 indicated significant fitness of the data to the model (F = 82.96, p < 0.05). Multiple regression model showed that physiological and safety-security needs satisfaction significantly enhanced students' academic engagement ( $\beta$ = .342, P< .05, &  $\beta$ = .235, P< .05 respectively). Both physiological and safety-security needs satisfaction jointly accounted for 27.5% variation in academic engagement with a strong joint relationship (r = 501).

## Discussion of the findings

The study ascertained basic needs satisfaction as predictors of academic valuing and engagement among adolescent students in both high-risk and low-risk locations in the North Central part of Nigeria. A MANCOVA (with age and gender as covariates) showed that adolescents in high-risk locations had lower levels of both physiological and safety security needs satisfaction, less academic valuing, and lower behavioural and cognitive engagement than their peers in lower-risk locations. The nature of the ongoing violence in this part of the country incurs serious devastation on education resulting in killings of students, destruction of properties, food shortage, and detachment of students from their family members, as well as disengagement from school activities. Almost consistent, low satisfaction of basic needs and academic engagement have earlier been reported among students in conflict parts of Nigeria (Shockden, 2017; Bahago et al., 2017). In contrast, autonomy and competence were higher in students, and these needs were positively related to academic performance but inversely related to age and grade (Chacón-Cuberos et al., 2021). The different findings are attributed to the variables and the context of the study. While the present study focused on Maslow's hierarchy of needs, the latter examined elements of psychological needs postulated in self-determination theory.

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Correlation analysis indicated that basic needs satisfaction showed strong correlations with both academic valuing and academic engagement among adolescent students. Students who indicated high satisfaction with basic needs tend to develop high value in schooling and engage highly in school schedules than their peers who did not highly satisfy their basic needs. Almost corroborating, basic needs satisfaction was found to be positively related to intrinsic motivation and negatively associated with amotivation, but did not significantly mediate the relationship between basic psychological needs satisfaction and academic performance (Malu & Reddy, 2017). It was also reported that the fulfillment of the needs for autonomy, competence, and relatedness explained how engagement led to well-being (Montano, 2021).

Multiple regression analysis showed that physiological and safety-security needs satisfaction accounted for significant change in academic valuing with a very strong positive relationship. When students are satisfied with the amount of food, clothes, shelter, and protection from harm, threat, and other sorts of violence, they will value school, show strong interest, and get motivated to school. In line with previous discoveries, different motivation strategies have been used to foster academic tasks among students where most of them targeted improving learning materials to encourage students to value the system of the academic activities (Gaspard et al., 2016). More so, the satisfaction of the psychological needs at school has determined school satisfaction among the students (Orkibi & Ronen, 2017).

Furthermore, physiological and safety-security needs satisfaction significantly enhanced students' academic engagement. Both physiological and safety-security needs satisfaction jointly accounted for significant change in academic engagement with a strong relationship. The more students are satisfied with the provision of food, quality of clothes and shelters, the weather of the environment, as well as the level of security such as assurance of not being exposed to the threat of kidnappers, bandits, and terrorists, among other violence, the more they will participate fully in school activities and respond cognitively to classroom instructions. In tune with the past outcome, students with high initial motivation and satisfaction tend to be encouraged to self-generate learning strategies (Durik et al., 2015). More so, happier students had higher levels of engagement while those with lower socio-emotional well-being are more likely to experience psychological disengagement (Adigun et al., 2021; Datu & King, 2018).

#### Conclusion

The findings indicated that several dimensions of one of the key developmental tasks of adolescence (basic needs satisfaction, academic valuing, and engagement) are disrupted by ongoing threats. Persistent satisfaction of basic needs (physiological and safety-

security) are significant predictors of academic valuing and engagement among adolescent students in risky locations. Thus, the classic psychological theory continues to provide insights into the mechanisms that may underlie this disruption.

#### Recommendations

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

- 1. Adequate security and several interventions, in form of food, cloth, shelter, and quality of life among many others, should be provided to students in high-risk parts of Nigeria.
- 2. Academic planning should be directed towards fostering academic values and engagement of students through enhancing basic needs satisfaction, especially in risky locations of the country.
- 3. Stakeholders in the education sector should focus their actions and functions toward meeting the basic needs satisfactions of secondary school students in risky locations to get them to value and engage in academic learning despite the threat of violence.

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