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Associating Basic Needs Insecurities with Academic Progress and Subjective Well-Being among Undergraduates

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Abstract

Despite Nigeria's economic challenges, less research has been conducted on the several dimensions of students' Basic Needs Insecurities (BNI). Economic instability and uncertainty can worsen existing vulnerabilities, burden households, and hinder young individuals' ability to afford necessities such as food, shelter, and education. This study assessed the burden of university students' food, housing, and financial insecurity. Additionally, it investigated the relationship between these components of basic needs insecurity and self-reported academic progress, and subjective well-being. Cross-sectional data from 740 undergraduate students were acquired through an online survey in one public and one private university in Edo state, Nigeria. The findings reveal that 57.3% of participants experienced food insecurity, 42.8% reported housing insecurity, and 21% were financially insecure. Older age, male gender, enrolment in a public institution, living off-campus, dependents, lack of financial support from family, and a history of household food insecurity are all significant predictors of basic needs insecurity among surveyed students. Basic needs insecurities were inversely related to participants' academic success and subjective well-being. This study enhances comprehension of the intricacies of basic needs insecurities among undergraduates in Nigeria and emphasizes the significance of systemic interventions to tackle underlying inequities. To promote equitable access to education and support sustainable development in higher education, governments need to address the fundamental needs of students. These findings emphasize the significance of tackling systemic disparities and offering focused assistance to susceptible student populations.

Keywords: University students, academic achievement, subjective well-being, basic needs insecurities, food insecurity

Introduction

Over the past few years, the higher education sector in Nigeria has witnessed significant expansion and evolution, with institutions playing a pivotal role in fostering intellectual advancement and societal advancement. Nevertheless, notwithstanding these developments, a substantial percentage of university students still encounter many problems that profoundly impact their overall quality of life. Within this set of issues, the matter of basic needs insecurities surfaces as a pivotal concern, necessitating examination and comprehension.

Vital goods, infrastructure, services, or resources needed on a seasonal or regular basis to sustain continuous existence and minimum living standards are known as basic needs (Goldrick-Rab et al., 2019). The Universal Declaration of Human Rights covers these fundamental requirements, yet they are frequently unmet (Cargas & Thomas, 2024). This research focuses on three indicators of basic needs insecurity: food insecurity, housing insecurity, and financial insecurity.

Regardless of the location or institution, studies show that university students have high rates of BNI which includes difficulties with food, accommodation, and financial resources (Lueng et al., 2021; Coakley et al. 2022; Robbins et al., 2022; Sholeye et al., 2021, 2022; Andrew et al., 2023). With the increasing cost of higher education worldwide, together with economic difficulties and changing social dynamics, several students are facing unstable socioeconomic conditions that have a negative impact on their general well-being and academic achievements.

According to studies conducted in the United States, the prevalence of food insecurity ranges from 26% to 48.5% (Coakley et al. 2022; Hagedorn & Olfert, 2018; Olfert et al., 2021; Lueng et al., 2021; Robbins et al., 2022). Research from Nigeria puts the prevalence of food insecurity between 35.7% - 81.2% (Ukegbu et al., 2019; Sholeye et al., 2021, 2022). From Malaysia, Ahmad et al. (2022) reports the prevalence at 62.8%. Similarly, a large number of students (17% - 66.1%) experience difficulties associated with housing instability, such as being homeless, couch-surfing, or living in substandard conditions (Lueng et al., 2021; Coakley et al., 2022; Robbins et al., 2022; Eteng et al., 2022). Many university students also face financial insecurity, finding it difficult to pay for necessities like tuition, books, and transportation (Broton & Goldrick-Rab, 2016; Lueng et al., 2021; Andrew et al., 2023).

According to previous research, BNI does not have a uniform impact on students; correlations with employment, off-campus living, prior food insecurity, public school attendance, low maternal education, gender, age, and inadequate family financial support have been identified in the literature (Borton et al., 2018; Olfert et al., 2021; Robbins et al., 2022; Sholeye et al., 2021; Andrew et al., 2023).

The lack of access to fundamental necessities has extensive ramifications for the mental, physical, and academic welfare of college students. Existing research indicates that there is a positive correlation between food insecurity and decreased academic achievement, anxiety, and stress levels, as well as depression, among students (Ahmad et al., 2021; Coakley et al., 2022). In a similar vein, there exists a correlation between housing insecurity and heightened vulnerability to mental health issues, diminished academic motivation, and high school dropout rates (Lueng et al., 2021).

In addition, students who experience financial instability find it difficult to devote themselves entirely to their studies, which results in lower retention rates and longer time to degree completion

(Lueng et al., 2021; Andrew et al., 2023). Abbott et al. (2021) found that the growing financial burdens on students compel them to prioritize employment over their academic endeavors. Students who are struggling to meet their basic needs may also experience social isolation and stigma, which worsens their difficulties. The apprehension of being judged or experiencing embarrassment due to a lack of food or secure shelter may hinder students from seeking assistance or utilizing the services that are accessible to them (Payne-Sturges et al., 2018). In addition, the stress and anxiety linked to BNI might have adverse consequences on students' mental well-being, thereby affecting their overall quality of life (Martinez et al., 2021; Broton et al., 2022).

Theoretical Background

The present study is guided by Abraham Maslow's (1943) Hierarchy of Needs theory which posits that human needs are arranged in a hierarchical manner. The lowest level of the hierarchy consists of the physiological demands, including food, water, and shelter, which are necessary for basic survival. After fulfilling their basic needs, individuals prioritize their want for protection and security. This is then followed by their need for love and belongingness, which encompasses partnerships, friendships, and social ties. As individuals go up the hierarchy, they strive for esteem and recognition, both internally and outside. These encompass emotions of achievement, self-assurance, and admiration. Self-actualization is the highest level in the hierarchy, symbolizing achieving one's full potential, pursuing personal development, and realizing individual qualities and abilities. As to Maslow's (1943) theory, humans give priority to fulfilling their lower-level needs before striving for higher-level ones: Nevertheless, the hierarchy does not adhere completely to a linear structure, and individuals have the ability to transition between levels based on their circumstances and life experiences.

As applied to this study, Maslow's theory suggests that BNI may hinder students' academic progress and social connections because of its detrimental effects on their scholarly pursuits (Meza et al., 2019). Academic success can represent a higher-order need, as it delivers a sense of competence, accomplishment, and social acknowledgment. The pursuit of higher education is considered a mechanism for upward social mobility and the disruption of intergenerational poverty. However, BNI can impede academic progress by eroding students' sense of safety and belonging, restricting their capacity to concentrate on studying, and lowering their confidence and self-esteem. This exacerbates existing socio-economic inequities and imposes limitations on disadvantaged students, impeding their ability to enhance their situations.

When the most basic needs, food and shelter, are inaccessible, meeting other wants becomes difficult. For students, having food, financial stability, and a place to live is critical to their capacity to focus and achieve in the classroom (Henry, 2017). University students who lack basic necessities may find it difficult to concentrate on their academic goals because they are preoccupied with satisfying these fundamental demands. Lack of sufficient access to food, secure housing, and financial resources can lead to increased tension, anxiety, and lack of focus among students, so

adversely affecting their academic performance and general welfare (Ahmad et al., 2022; Lueng et al., 2021; Coakley et al., 2022).

Therefore, it is important to carry out empirical research investigating the relationships between BNI, academic progress and the subjective well-being of Nigerian university students. This

research will help develop comprehensive interventions, policy reforms, and support systems that assist students in overcoming these challenges and achieving their full potential.

Present Study: Few studies have examined BNI among Nigerian students, and most focus on single components of insecurity (Ukegbu et al., 2019; Eteng et al., 2022; Sholeye et al., 2021, 2022; Andrews et al., 2023). While food, housing, and financial issues are all associated, additional research is needed to determine how they affect students' academic performance and well-being in Nigeria. Only one study in the United States (Lueng et al., 2021) has investigated the consequences of multifaceted insecurity on university students, including food, housing, and finances. This study aims to fill the existing knowledge vacuum by investigating the combined impact of BNI on university students' subjective well-being and academic performance. Moreover, unlike previous Nigerian studies, the present study samples students from a public and private university to ensure a unique perspective that captures the diversity of experiences across different types of institutions.

Nigeria's economy in recent years has seen rising inflation, currency depreciation, high youth unemployment, crumbling infrastructure, high-income inequality, and socio-political crises (Edeme & Nkalu, 2019; Okunade & Awosusi, 2023). Economic instability and uncertainty may exacerbate pre-existing vulnerabilities, strain households, and harm young people's capacity to afford food, shelter, and education. Moreover, given Nigeria's young population and rising tertiary education costs, studying the prevalence of insecurity in university students' basic needs is essential. As Nigeria's future leaders, students' well-being and academic success are crucial to social mobility, economic growth, and sustainable progress. BNI's cumulative effects on university students' academic progress and well-being must be assessed.

The objectives of this study were to (1) assess the prevalence of BNI among students attending university in Edo state, (2) identify socio-demographic factors that are associated with experiencing BNI among students attending university in Edo state, and (3) determine the association of BNI to academic progress and subjective well-being among students attending university in Edo state.

METHODS

This study employed an online cross-sectional survey to analyse data collected from a sample of university students at a specific time. Cross-sectional study designs are commonly employed to assess the prevalence of outcomes, ascertain associated factors, and depict characteristics of a population (Wang & Cheng, 2020). The participants were currently enrolled in undergraduate programmes. Before taking part in the study, all participants gave their informed consent to be included by initiating the survey. The study was carried out following the guidelines set forth in the Declaration of Helsinki, and the research methodology was approved by the Institutional Review Board of the authors' institution.

Participants: The minimal sample size for this investigation was established using the Cochran (1977) formula for an indeterminate population size:

$$n = \frac{Z^2pq}{e^2}$$

where;
Z is 95% confidence = 1.96
e^2 is the margin of error 5% = 0.05
P: estimated population proportion = 0.5
q = 1 - p: 1 - 0.5 = 0.5
n = $(1.96)^2$ * (0.5)(0.5) ÷ $(0.0.5)^2$
n = 385

A final sample of 352 students from the University of Benin and 388 students from Benson Idahosa University were recruited from the undergraduate population of both schools using multistage sampling strategy. First, the two universities were purposively selected the pool of higher institutions in Edo state due to ease of access for the researchers. University of Benin is a public university established by the federal government of Nigeria while Benson Idahosa University is a private faith-based university. The two universities are located in Edo state, in the southern region of Nigeria.

A total of 740 non-probability sample of students was recruited from the undergraduate population of the University of Benin (n = 352) and Benson Idahosa University (n = 388). An online survey link was provided to lecturers teaching large classes, with instructions to share it with their enrolled students. The survey was open to students from all fields of study and academic levels. Interested students clicked on the hyperlink, which directed them to the Google Forms platform, where the questionnaire was created by the researchers. Participants were directed to read the informed consent, and only those who agreed to the terms were permitted to proceed with the survey. Data collection was carried out in April 2023.

The sample of students included 509 (68.8%) females and 231 (31.2%) males. The students' ages ranged from 16 to 30 years, with a majority being in the 20-24 age group (40%). As reported by the students, 81.6% belonged to two-parent families, 592 live on campus, approximately 21% have dependents, and only about 36% work for pay.

Survey Components

Socio-demographic elements: The following demographic data were gathered from the participants: age, gender, academic year, marital status, number of dependents, employment status, sources of financial support, and type of domicile. Educational and employment status of the parents were also

gathered as data. The participants additionally disclosed the food security status of their households and their subjective socioeconomic status.

The researchers gathered information on the participants' family food security status using two questions modified from prior studies (Hager et al., 2010; Poblacion et al., 2021). Two statements were used to question if household members had to limit meal sizes or skip meals due to food insecurity in the past year. Response options were 0 (never), 1 (occasionally), and 2 (frequently). Scores were continuous and also dichotomized into food secure and food insecure (response options 1 and 2).

Furthermore, students responded with a yes/no response to whether their families provided them with financial support (Forman et al., 2018).

Dependent Variables: Subjective Well-Being: The WHO-5 Well-Being Index, consisting of five items, was used to assess students' subjective well-being. The scale assesses subjective well-being during the past two weeks (Bech et al., 2003). Responses to each item were assessed on a six-point likert scale ranging from 0 (At no time) to 5 (All of the time). The raw score is computed by adding the figures from all five responses. The raw score goes from 0 to 25, with 0 being the worst and 25 signifying the best quality of life. A Cronbach alpha of 0.87 indicated that this scale had good reliability in the present investigation.

Academic Status: Academic status was assessed using the 5-item Academic Progress Scale (Hagedorn & Olfert, 2018), on which students rated their perceived academic success. Students answered questions about class attendance and attention span, grasping the subjects taught in class, and progressing towards graduation on schedule. The items were evaluated using a 4-point scale, where an "excellent" response was assigned 4 points, a "good" response was assigned 3 points, a "fair" response was assigned 2 points, and a "poor" response was assigned 1 point. Thus, the potential score range on the APS is 5–20, where higher scores indicate a more favourable evaluation of academic behaviours. The scale in the present investigation exhibited a high degree of internal consistency ($\alpha = 0.93$).

Independent Variables: Food Insecurity: Food security was measured using the ten-item USDA food security survey module (USDA, 2012). The questions evaluate the experiences and behaviours related to a lack of resources to obtain food within the last 30 days. Food insecurity was defined as a score of ≥ 3. An additional score for food insecurity was computed by adding the cumulative number of affirmative responses to the ten inquiries, with a range of 0 to 10. The present study observed adequate reliability for the scale, as evidenced by its Cronbach alpha coefficient of 0.83.

Housing Insecurity: A 6-item questionnaire was employed to evaluate the state of housing insecurity (Robbins et al., 2022). The survey included questions regarding any rent increase that caused financial strain, temporary cohabitation due to financial difficulties, and exceeding the intended occupancy of the student's residence. Each of the six questions elicited a binary response of 'yes' or 'no.' Students who responded positively to any of the six housing insecurity questions were

categorized as "housing insecure." In contrast, those who provided negative responses to all six HI questions were classified as "housing secure." In this research, the scale indicated an acceptable internal consistency of 0.75.

Financial Insecurity: Students' perceived financial security was measured using the 8-item In-Charge Financial Distress/Financial Well-Being Scale (Prawitz, et al., 2006). The construct depicts a spectrum that ranges from negative to positive emotions and responses related to an individual's financial situation. The scale combines all responses to obtain a continuum of scores (1 – 10) with higher mean scores corresponding to higher levels of financial well-being. As of the present research, the Cronbach alpha for the scale was 0.82.

Data Analysis

Descriptive statistics were calculated for all relevant socio-demographic variables and levels of food, housing, and financial security respectively. Categorical variables are displayed in terms of their frequency and proportion. Continuous variables are represented by their mean and standard deviation. For the inferential studies, the researchers constructed three distinct multivariable linear regression models to predict food, housing, and money insecurity separately. The scales were retained in their continuous form for data analysis. The predictor variables comprised the age, gender, family type, type of institution, presence of dependents, work status, and subjective family social and food security status of the participants.

Finally, two multiple linear regressions examined relationships between food, housing, financial stability, and students' academic progress and subjective well-being. Students' academic achievement and subjective well-being were adjusted for corresponding models. The collinearity assumptions were evaluated for the regression models, and none of the variables presented a variance inflation factor (VIF) over 4 or a tolerance value exceeding 0.25 (Tabachnick & Fidell, 2013). The analyses were performed using SPSS version 21, with statistical significance set at an alpha level of less than 0.05

Results

This section summarizes participants' socio-demographics. The majority of participants (52.4%) are enrolled in private universities, with 68.8% being female and 91.2% being unmarried (Table 1). The largest age group among the participants is 20-24 years old, accounting for 40.0% of the total. Regarding academic status, 46.2% of the participants are at the 100 level. In terms of family composition 81.6% of students are from two-parent homes, while the majority live on-campus (80.0%) compared to off-campus (20.0%). Seventy percent have no dependents and about 32% are engaged in income generating activities.

BNI prevalence indicates that 57% students experienced food insecurity; housing insecurity, 42.8%, and financial insecurity, approximately 21% reported high distress. According to the data on family food insecurity, that 67.4% of student families are classified as secure, while 32.6% are classified as insecure. Additionally, the participants' self-reported levels of subjective social status

(SSS) were generally higher than the midpoint of the scale, with a mean of 7.30 and a standard deviation of 1.60.

Overall, approximately 32% (n = 236) of students experienced one insecurity, 20% experienced just one insecurity, about 26% experienced two insecurities, and 22% experienced all three insecurities. Details are presented in Table 1:

Table 1 ***Frequency Distribution showing Respondents' Social Demographics (N = 740)***

Variables	Distribution	Frequency (n)	% (Percentage)
Institution	Private University	388	52.4
	Public University	352	47.6
Gender	Male	231	31.2
	Female	509	68.8
Age	15-17 Years	211	28.5
	18-19 Years	179	24.2
	20-24 Years	296	40.0
	25+ Years	54	7.3
Academic Level	100 Level	342	46.2
	200 Level	79	10.7
	300 Level	130	17.6
	400 Level	162	21.9
	500 Level	27	7.2
Family Type	One Parent Family	136	18.4
	Two Parent Family	604	81.6
Residence Type	On Campus	592	80.0
	Off Campus	148	20.0
Marital Status	Single	675	91.2
	Married	65	8.8
Dependents	None	517	70.0
	Yes	223	30.0
Working for pay	No	507	68.5
	Yes	223	31.5
Student food security status	Secure	316	42.7
	Insecure	424	57.3
Student housing status	Secure	423	57.2
	Insecure	317	42.8
Student financial status	High distress	155	20.9
	Moderate distress	437	59.1
	Low distress	148	20.0
No. of insecurities experienced	None	236	31.9
	1	148	20.0
	2	194	26.2
	3	162	21.9
Family food insecurity	Secure	499	67.4
	Insecure	241	32.6
Family subjective social status	Mean: 7.30 Standard deviation: 1.60		

Factors predicting food, housing, and financial insecurity: Table 2 displays the outcomes for multiple regression models predicting the food, housing, and financial insecurity scores using different predictor variables. Across all models, students' age is significantly positively correlated with the outcome variables, suggesting that older students' were more likely to experience all forms of BNI. Compared to females, food insecurity is significantly less prevalent among males (B = -0.51, p = 0.032). There is a statistically significant reduction in food insecurity associated with attending a private institution as opposed to a public one (B = -0.74, p = 0.010), while students enrolled in the public university reported higher levels of housing and financial insecurity respectively compared to those in the private university (B = 0.88, $p < 0.001$; B = 0.77, p = 0.040).

There is a significant correlation between on-campus living and a reduction in food insecurity (B = -0.66, $p < 0.001$), whereas housing insecurity was significantly predicted by off-campus living (B = 0.92, $p < 0.001$). A positive correlation exists between the presence of dependents and both food and financial insecurity. Belonging to a family with two parents, as opposed to other families, is linked to reduced housing insecurity (B = 0.28, p = 0.007) and financial insecurity (B = 0.89, p = 0.017). Receiving financial support from one's family is linked to a notable reduction in food and financial insecurity (B = -0.54, p = 0.001; B = -1.67, $p < 0.001$). In addition, students who indicated that their household food security status was insecure were more prone to reporting elevated levels of all types of BNI.

Table 2 *Multiple regression models predicting food insecurity score, housing insecurity score, and financial insecurity score*

Variables (reference category[a])	Food Insecurity		Housing Insecurity		Financial Insecurity	
	B	*p* value	B	*p* value	B	*p* value
Age	.33	**.015**	.10	**.042**	.83	**.000**
Gender (female)						
Male	-.53	**.025**	-.04	.634	-.02	.950
Family type (Others[b])						
Two-parent	-.01	.968	.28	**.007**	.89	**.017**
Institution (Public)						
Private	-.74	**.010**	.88	**.000**	.77	**.040**
Residence (Off campus)						
On campus	-.66	**.036**	.92	**.000**	-.002	.997
Dependents (No)						
Yes	2.20	**.000**	-.004	.963	1.11	**.001**
Work for pay (Yes)						
No	.40	.098	-.01	.874	.37	.249
Family fin. support[c] (No)						
Yes	-.54	.001	.10	.083	-1.67	**.000**
Family food security	3.70	**.000**	.91	**.000**	2.82	**.000**
R	.64		.71		.62	
R^2	.40		.50		.38	
df	9, 730		9, 730		9, 730	
F	55.05*		81.19*		49.67*	

*$p < 0.05$, significant values in bold letters.

[a] Reference category for categorical variables.

[b] Categories include single parent, grandparents, relatives.

[c] Family financial support.

Dimensions of BNI, student's academic progress and subjective well-being

Table 3 presents the outcomes of multiple linear regression analyses that examined factors that could predict students' academic progress and subjective well-being. A significant negative effect of food insecurity on academic progress is observed (B = -0.08, $p = 0.012$), suggesting that increased food insecurity levels correlate with diminished academic progress. Additionally, housing insecurity shows a statistically significant negative effect (B = -0.33, $p < 0.001$), indicating that elevated housing insecurity levels correlate with diminished academic advancement. Financial insecurity negatively impacts academic progress to a lesser but still significant degree (B = -0.05, $p = 0.023$). Furthermore,

academic progress is positively predicted by subjective well-being (B = 1.95, p < 0.001), indicating that a higher subjective well-being is correlated with improved academic achievement.

In terms of students' subjective well-being, there are significant negative effects of food insecurity (B = -0.25, p = 0.002) and financial insecurity (B = -0.25, p < 0.001). This means that higher levels of food and financial insecurity are linked to lower subjective well-being. Moreover, academic progress is positively associated with higher levels of students' subjective well-being.

Table 3 *Multiple linear regression analyses examining predictors of students' academic progress and subjective well-being (N = 740)*

Variables	Academic Progress		Subjective Well-being	
	B	*p* value	B	*p* value
Food Insecurity	.-08	**.012**	-.25	**.002**
Housing Insecurity	-.33	**.000**	-.26	.165
Financial Insecurity	-.05	.023	-.25	**.000**
Subjective Well-being	.21	**.000**	-	-
Academic Progress	-	-	1.95	**.000**
R	.73		.74	
R^2	.53		.55	
df	4, 735		4, 735	
F	211.75*		223.57*	

Significant values in bold letters ($p < 0.05$).

Discussion

Among the group of undergraduate students (n = 740) in the present study, 57.3% experienced food insecurity, 42.8% experienced housing insecurity, and 21% experienced financial insecurity. In total, almost 26% (n = 194) of participants experienced two kinds of BNI, while around 22% (n = 162) experienced three forms of BNI. Comparatively, the prevalence of food insecurity in this research is lower than in other Nigerian studies. According to Ukegbu et al. (2019), an estimated 80% of the students (n = 398) in their study suffered food insecurity in some capacity. In contrast, Sholeye et al. (2022) documented a prevalence of 81.2% among the students (n = 250) in their study.

There are no comparable Nigerian data on housing and financial insecurity among university students. However, the difference in the estimates of BNI in our study and the cited Nigerian studies may be attributed to the fact that the other Nigerian sampled students from public universities as opposed to our study participants who were enrolled in a private and public university. Anecdotal evidence suggests that a number of students enrolled in private universities belong to much more comfortable socioeconomic backgrounds which may not be the case for students in public universities.

The prevalence of BNI reported in Western studies ranged between 26% - 62.8% (Coakley et al. 2022; Hagedorn & Olfert, 2018; Olfert et al., 2021; Lueng et al., 2021; Robbins et al., 2022; Ahmad et al., 2022). However, it might be challenging to compare rates across studies due to inconsistencies in the instruments used to quantify BNI among research. Accordingly, discrepancies across research may be attributable to variations in the timing of the study, methods, and instruments utilized to measure BNI. Additionally, it may be necessary to modify measurement instruments to suit the local environment to accurately capture culturally unique elements of BNI while ensuring consistency for the sake of comparison.

The findings from the first regression model provided insight on the correlates of BNI in the present study. Older students had greater levels of all types of BNI. This could imply that as students

proceed through their academic careers, they face more financial responsibilities or obstacles. Furthermore, the fact that males are less likely to experience food poverty shows that there may be gender discrepancies in access to resources or financial support. In comparison to public institutions, food insecurity is comparatively less prevalent among students enrolled in private institutions. This outcome may be the result of variations in financial aid accessibility, resource disparities, or the socioeconomic status of students enrolled in distinct categories of educational institutions. In a similar vein, it was found that students who were registered in public universities encountered greater levels of housing and financial insecurity. This finding suggests the existence of possible discrepancies in the resources or support structures offered by public and private universities.

Furthermore, having dependents increases food and financial insecurity, reflecting the additional strain of providing for relatives. A two-parent family reduces housing and financial insecurity, while family financial support lessens food and financial insecurity in students, demonstrating the protective impact of family support. In addition, students belonging to households where food security is uncertain are confronted with heightened levels of all forms of BNI. This finding highlights the interdependence of food security and housing and financial issues more generally, as well as the critical nature of addressing food insecurity in households, as it may serve as a precursor to other types of insecurity among students. Associations between BNI with covariates is consistent with some previous findings (Borton et al., 2018; Olfert et al., 2021; Ahmad et al., 2021; Robbins et al., 2022; Sholeye et al. 2022).

Results from the second multivariate regression analyses indicated food insecurity is a strong indicator of both academic advancement and participants' subjective well-being. This study supports

other research showing the negative impact of inadequate food on students' physical well-being, cognitive abilities, focus, academic achievements, social connections, and general happiness (Hagedorn & Olfert, 2018; Meza et al., 2019; Lueng et al., 2021; Ahmad et al., 2021; 2022; Coakley

et al., 2022). The factors contributing to this correlation can be paralleled by the adverse effects of food insecurity on sleep quality, mental health, and physical health (Martinez et al., 2019).

The correlation between academic performance and mental health has been specifically mentioned. Research has established a correlation between food insecurity and diminished mental health, which in turn is associated with subsequent declines in grade point average (Martinez et al., 2019; Broton et al., 2022). According to Meza et al. (2019), students have reported optimal academic performance require significant mental effort, and food insecurity results in academic difficulties such as lack of concentration. Additionally, the physical sense of hunger might contribute to weariness and reduced endurance, further affecting educational performance.

Moreover, previous studies have shown that housing instability is a strong indicator of academic advancement, confirming the negative impact of unstable living conditions on students' educational achievements (Broton, 2021; Kornbluh et al., 2024). Nigerian state-funded tertiary institutions have a notable shortage of on-campus student housing due to the increasing number of students seeking higher education and limited financial support from the government. Student hostels in many public institutions commonly face significant issues such as overcrowding, moisture and moulds, and inadequate sanitation (Aluko, 2011). Students who cannot obtain housing on campus must look for other options off campus. This forces them to contend with escalated expenses due to exorbitant rents, transport fares, and the unforeseen risks of living off-campus (Olanrewaju et al., 2022).

These difficulties outlined above have direct consequences for the well-being and academic performance of students. Instability and inadequacies in housing might hinder students' capacity to

focus on their academics, uphold consistent attendance, and participate in extracurricular activities, thereby obstructing their academic progress. In addition, students who are housing insecure are more likely to express a sense of depression or anxiety and to rate their health as fair or bad, according to research by Leung et al. (2021).

Despite having a slightly smaller impact than food and housing instability, financial insecurity still strongly predicts academic success and subjective well-being. This observation aligns with the literature that highlights the broad effect of financial limitations on students' ability to access educational resources, including textbooks, technology, and transportation, as well as their capacity to afford essential needs and recreational pursuits (Abbott et al. 2021; Lueng et al., 2021; Andrew et al., 2023). Furthermore, the inverse correlation between financial insecurity and subjective well-being highlights the psychological anguish and reduced life contentment that students face when dealing with economic adversity.

However, the findings indicate that academic advancement and subjective well-being have a significant positive association. The interconnectedness of students' well-being and educational outcomes emphasizes the need for initiatives that improve students' well-being, such as providing affordable and satisfactory accommodation and food, financial assistance, and social support networks. These interventions may help students succeed academically and improve their quality of life.

This study has various limitations that should be considered when evaluating results. First, data were obtained from undergraduates in one state. Thus, the findings may not apply to other schools. In future studies, more diversified sampling procedures could catch a larger pool of undergraduate and postgraduate students from different educational institutions and geographic locations. This would make findings more generalizable and enable student population comparisons. Second, self-

reported BNI evaluations could induce response bias or underreporting, especially for such a sensitive topic. The cross-sectional study design also makes causality and temporal correlations challenging to establish. Longitudinal studies would show the temporal associations between basic needs insecurity and students' academic performance and subjective well-being. By observing students over time, researchers can gain a better understanding of the trajectories of BNI and identify crucial intervention opportunities to support students throughout their academic careers.

Furthermore, qualitative research approaches such as interviews or focus groups may provide more in-depth insights into students' lived experiences with basic needs insecurity. Understanding students' varied issues and coping methods would help to build customized interventions and support services. Notwithstanding these limitations, this study is notable in that it offers insights that can guide future research endeavours and suggest potential policies and programs to ensure that the fundamental needs of higher education students are met. The present study has several additional strengths. Firstly, it applies BNI measures used in previous local and international research. Secondly, it samples public and private institutions, a unique approach that other Nigerian studies have not used.

Conclusion

This study concludes that a significant proportion of university students in Edo state are food, shelter, and money insecure. While the rate of food insecurity is lower than in prior Nigerian studies, the findings show the intricate interaction of socioeconomic factors and educational contexts on students' BNI. Moreover, the study illustrates the negative effect of BNI on academic progress and subjective well-being, highlighting the necessity for holistic interventions to cater to students' material, psychological, and social need and tackles systemic inequalities. The study's findings can provide valuable insights for university administrators, legislative officials, and public health specialists to develop focused initiatives to enhance academic standards and performance.

This study recommends policies that target the underlying factors contributing to BNI. This encompasses advocating for enhanced financing for student support services, expanded availability of inexpensive housing options, and improved financial assistance packages. Other recommendations encompass enhancing the availability of accommodation assistance programmes, financial aid, and food banks within academic institutions and establishing easily accessible routes for students to utilise these resources. In addition, to assist students in coping with the psychological effects of BNI, institutions should bolster their mental health and counselling programs. Academic support, stress

management, and financial counselling should be included in these services. Furthermore, educational institutions may partner with local businesses, communities, and non-profit organisations to provide students with additional resources and support. Community participation can assist in bridging institutional support disparities. Moreover, to develop a unified strategy to combat BNI, collaboration and data sharing between higher education institutions must be encouraged; the insights gained from this can result in more effective policies and interventions.

Abbreviation--BNI: Basic Needs Insecurity

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