Relationship between Cultural Transition and Academic Adjustment among First Year Undergraduate Students in Public Universities in Kenya

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Abstract
Background: Transition in education mirrors the phase when students transfer from one level of education to another. Some students adjust easily and are set up for successful university study whereas others become disoriented from their studies, underperform academically or drop out completely. The purpose of this study was to explore the relationship between cultural transition and academic adjustment among first year undergraduate students (FYUS) with focus on their feeding habits. The study was guided by Person-Centred and Schlossberg's Transition Theory[1].
Materials and Methods: The study population comprised 1,539 first year undergraduate students admitted at a public university main campus for the 2020/2021 academic year and 45 service providers. Stratified random sampling was used to select 306 students while purposive sampling was used to select 40 service providers for the study. Concurrent Triangulation Design was used within Mixed Methods Approach whereby data was collected using both quantitative and qualitative methods. Questionnaires for students and service providers together with interview schedules for service providers were employed. Focus Group Discussions were also held for 13 students divided into two groups. Validity of data instruments was established by presenting the instruments to experts in the Department of Psychology and Educational Foundations. Reliability was verified using pilot study. Internal consistency of the questionnaire yielded a Cronbach's alpha $\alpha = .769$. Quantitative data analysis was conducted using descriptive statistics namely percentages and inferential statistics which included Pearson's correlation and regression analyses using SPSS computer programme. Thematic Analysis approach was employed to analyse qualitative data for interviews and Focus Group Discussions.
Results: There was a negative correlation between unhealthy feeding habits and academic adjustment.
Conclusion: Unhealthy feeding habits interfere with academic adjustment for first year undergraduate students. The study recommended that first year undergraduate students should be given accommodation on campus before they learn to budget for their daily meals.
Key words: First year undergraduate students (FYUS), cultural transition, Academic adjustment, feeding habits

I.   Introduction

Transition is the process, phase or period when students transfer from one level of education to another. It is characterised by an internal process which occurs in the mind when individuals undergo change and pass from the familiar to the unknown, responding to physical, cultural, social, emotional and cognitive challenges[2]

Clinic, cafeteria, library and hostels were identified as significant factors influencing first year students' persistence in Nigeria[3]. The study concluded that improving on the quality of the facilities identified can lead to greater retention of freshmen by universities.

Other studies also concur that students joining universities in Kenya undergo personal challenges in diverse areas including autonomy, social adjustment, compatibility among roommates, feeding habits, access to support services and adjustment to academic programs[4].

The human brain needs sufficient energy and a variety of micro- nutrients to perform cognitive functions. A long-term deficiency of any or numerous macro- or micro-nutrients causes malnutrition and

consequently cognitive impairment, the level of which depends on the duration and degree of the malnourishment and the timing of its occurrence in one's developmental stage[4]. Improvements in the nutritional quality of students' diets are associated with gains that are academically beneficial, but have not been repeatedly and causally correlated to increased academic achievement[5].

Given that more focus is being placed on grade point average (GPA) and overall academic performance in college, it is vital to examine how life style factors, particularly eating behaviour, can influence students' academic success. As high school students transition to college, their health related habits will often change as they adjust to new resources, lack of parental guidance, and a different environment. It has been widely acknowledged that university students are far below the public, national, and global health recommendations in terms of dietary patterns[6]

In a study conducted in Abu Dhabi to explore breakfast consumption habits among female high schoolers aged 15-19 years, researchers found a positive correlation between intake of breakfast and students' scores. The researchers reported that regular breakfast intake improved students' academic performance while the performance of students who frequently skip breakfast was lower[7].

In Korea, a web-based survey involving 359,264 participants aged between 12 and 18 years concluded that dietary habits are associated with academic performance among adolescents. The study confirmed previous studies of school performance and dietary habits that found a positive correlation with eating breakfast and consuming fruits and milk and a negative correlation with soft drinks, instant noodles, fast foods, and confections[8].

A related study conducted in Canada to establish influence of physical environment on university student eating behaviours concluded that there was a statistically significant relationship between the living and eating arrangements and intake of grains, meat and some foods[8]. The researchers reported that those living off campus tended to have higher body mass indexes and practiced less healthy lifestyle behaviours than those living on campus or with their parents. However, it was further noted that generally students do not avoid unhealthy food choices, regardless of their living arrangements[9].

In India, a study concluded that daily consumption of fast food among undergraduate medical students was a risk factor for poorer academic performance[10]. Similarly, in the USA, a study conducted among university students indicated that women with better academic performance exhibited greater ability to control their food intake while those with lower academic performance included the obese and had memory impairment[11].

Similarly, a review of studies was conducted in the USA, Belgium and 26 universities from both developed and developing nations where a total of 20,107 participants with an average age of 19.7 years were involved. Eight electronic databases were searched for studies among college and university students. Five studies reported small to moderate significant positive correlation between diet and academic achievement, while two studies found that students regularly consuming French fries, soda or meals at university restaurants were less likely to attend examinations[12].

According to studies in South Africa, certain overlooked socio-economic and food security factors affect academic performance within universities. The study investigated the prevalence of food insecurity and factors affecting academic performance in the context of underperforming first year students[13]. Results indicated that a majority of students lacked skills in grocery listing and financial management. Affordability and storage challenges dictated what students consumed. Overall results indicated that students' diet lacked diversity as they resorted to energy-rich low cost foods.

A study conducted among college students in Zimbabwe concluded that students who follow proper dietary patterns record good performance in their studies[14]. A sample of 102 participants was purposively selected from a population of 206 students. Findings indicated that intake of starchy and fatty foods had a negative correlation with students' achievement in Theories of Education and a positive correlation with performance in Physical Education and Home Economics. Intake of fruits and vegetables had appositive correlation with performance in all the three subjects. The study further reported that inadequate food consumption led to lack of concentration and poor academic performance. The study concluded that both resident and non-resident students at the college had unbalanced diets.

Researchers in Nigeria conducted a study to investigate the effect of eating habit on the academic performance of secondary school students in selected secondary schools in one state in Nigeria. The findings showed that eating habit significantly determined the academic performance of secondary school students[15].

In Ghana, a study investigated the prevalence of malnutrition and its influence on the academic performance of students of a junior high school and concluded that there was lesser degree of prevalence of malnutrition among students[16].

A report on the state of education in Uganda by found out among other factors that school students who ate more meals per week were estimated to perform better in mathematics than students who ate fewer meals per week. Additionally, students in schools with feeding programs performed better academically compared to students in schools without such programs[17].

Another study was conducted in Tanzania investigated nutrition knowledge and eating habits for 138 youth who were in education institutions, from primary schools, secondary schools, colleges and universities in Dar es Salaam region. Results indicated a positive association between nutrition knowledge and eating behaviour and the consequences of malnutrition[18].

In Kenya, it was reported that a majority of first year undergraduate male and female students had challenges in managing their finances and particularly setting priorities in budgetary needs to cater for meals properly[4]. The study found further out that geographical and socio-economic diversity of students determined what students would eat or not eat. In a later study in Kenya, administrators and faculty at the non-urban universities in Kenya reported that hunger, especially late in the semester, was an ongoing problem for students who mismanaged their loans. As final examinations approached, deans reported students not eating for several days and begging for food money, prompting deans to develop budgeting workshops and offer small financial aid scholarships to cover for basic food costs but with little success[19].

A separate study found a significant positive relationship between nutrition and academic performance of pre-school children as indicated in a study carried out in Kisumu County, Kenya. The study also found a significant difference in academic performance between schools with feeding programmes and those without[20].

II.   Materials and Methods

The study was conducted among first year undergraduate students enrolled for the 2020/2021 academic year in one public university in Kenya
Study Design: Concurrent Triangulation Design was used within Mixed Methods approach
Study Location: The study was conducted at one public university in the Western part of Kenya.

Study Duration: January 2020 to January 2021.
Sample Size: 306 first year undergraduate students and 40 service providers.
Sample Size Calculation: This was done using the table for determining sample size for a finite population[22] while purposive sampling technique was used to select 40 service providers for the study.
Subjects and Selection Method: Information on enrolment of FYUS for 2020/2021 academic year was obtained from the office of the Deputy Vice Chancellor in charge of academics. There was a total of 1,539 student from all the eight schools of the university, out of whom 1,019 were male and 520 were female. The eight schools were then listed with the number enrolled for each gender. The number of selected respondents was then calculated as 306/1539 x number enrolled in each course by gender.
Inclusion Criteria: All students enrolled for first year undergraduate study for the 2020/2021 academic year aged 18 years and above.
Exclusion Criteria: All first year undergraduate students aged below 18 years.
Procedure Methodology:
After obtaining written informed consent from the prospective respondents, survey data was collected using questionnaire for student respondents and questionnaire for service providers. The service providers included dean of students, library staff, catering and accommodations staff and staff in the offices of the eight deans of schools.   Qualitative data was collected using interview schedule for service providers together with Focus Group Discussion (FGD) for student respondents.
Internal consistency of the students questionnaire was established through a reliability analysis using Cronbach's alpha which yielded alpha α value of .769 from the 77 items presented to the 30 respondents in the pilot study.
Piloting was conducted on participants comprising 10% of the sample that did not participate in the final study[21], yielding 30 student respondents and four service providers.

Statistical Analysis:

All quantitative data analysis was done using SPSS version 22 computer programme. The questionnaires presented to the respondents were rated using Likert's scale to allow a range of scores to be obtained. The ranges of scores were then used to determine the extent of feeding habits adopted and the level of academic adjustment. Percentages of respondents whose scores fall within the given ranges were then tabulated for comparison. The study also used correlation and regression analyses. Pearson's product moment correlation coefficients were determined to show the strength of relationship between feeding habits and academic adjustment. Qualitative data analysis adopted the six steps of qualitative data analysis[22]

III.   Result

The study measured the feeding habits of FYUS using students' and service providers' questionnaires to generate quantitative data. Qualitative data was generated using students' FGDs and service providers' interview schedules.

The feeding habits of the student respondents were measured using a set of nine statements which sought to find out the determinants of the choices they made for their preferred meals and the sources of their meals. The statements were later categorized into five main reasons for the respondents' choice of meals namely; nutritional value, cost, time saving, taste and peer influence. The five reasons were each scored on a five-point Likert's scale with values ranging from one and five. The findings are given on Table 1

Table no 1: Shows Student Respondents' Self-reported Reasons for Choice of Meals

Reason for meal choice	Frequency of Respondents by Percentage						
	Strongly agree	Agree	Undecided	Disagree	Strongly disagree	No response	Total
Nutritional value	7.17%	34.81%	26.96%	22.53%	8.53%	0%	100%
Cost	41.30%	26.28%	9.56%	13.99%	7.17%	1.71%	100%
Time saving	25.94%	28.33%	29.69%	11.26%	4.44%	0.34%	100%
Taste	12.63%	23.21%	23.55%	27.65%	12.97%	0%	100%
Peers	9.56%	17.75%	8.87%	26.28%	36.86%	0%	100%

(Source: Field data, 2021)

Table no 1 displays the student respondents' self-reported reasons for choice of meals. Findings indicate that the choice of meals taken by the respondents was informed by different reasons. A large proportion (41.98%) of the respondents strongly agreed or agreed that they chose their meals for nutritional value, 31.06% either disagreed or strongly disagreed while 26.96% were undecided. Those who strongly agreed or agreed that their choice of was meals based on cost constituted 67.58%. A total of 54.27% agreed or strongly agreed that their choice was based on time saving. A smaller percentage agreed or strongly agreed that their choice of meals was based on taste (35.84%) or peer influence (27.31%). Therefore from the self-report the reasons for choice of meals in order of priority are; cost, time saving, nutritional value, taste and lastly choice by peers. From the perspective of service providers, they were asked their opinion on the statement that FYUS preferred fast foods compared to balanced meals. Their responses are presented on Table 2.

Table no 2: Shows Findings from Service Providers on Student Feeding Habits

	Frequency Distribution and Percentage of Respondents						
	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	No response	Total
FYUS prefer fast foods compared to balanced meals	11 28.9%	6 15.8%	17 44.7%	2 5.3%	0 0%	2 5.3%	38 100%

(Source: Field data, 2021)

Table no 2 gives the findings from service providers on student feeding habits. Results indicate that 28.9% strongly agreed, 15.8% agreed while 5.3% disagreed that FYUS prefer fast foods compared to balanced meals. The undecided respondents constituted 44.7%. None of the respondents strongly disagreed with the statement that FYUS prefer fast foods to balanced meals.

Academic adjustment parameters used included the student respondents' self-report on their view of current lecture timetable, attendance of lectures, course content difficulty level, number and difficulty level of assignments given, online lectures and examinations and preparedness for continuous assessment tests and examinations. The outcomes are displayed on table 3.

Table no 3*: Shows Percentage Frequency Distribution of Student Participants' responses on Academic Adjustment

Academic factors	Percentage Frequency Distribution					
	SA	A	U	D	SD	Total
I feel comfortable with my lectures timetable and number of courses offered this semester	21.84	25.60	5.12	31.40	16.04	100
I have been attending lectures regularly without fail	9.90	47.78	37.20	3.75	1.02	100
The content of the courses taught is simple and easy to understand	7.51	47.44	35.15	7.51	2.04	100
The number of assignments we are given is manageable	6.14	21.84	41.64	26.62	3.75	100
The assignments we are given are easy to follow and do	8.87	46.76	36.52	9.90	1.37	100
I have no challenges in attending online lectures	19.45	9.56	3.41	25.26	42.32	100
I have no challenges in taking online exams	19.45	14.33	2.73	23.55	39.93	100
I feel adequately prepared for the next series of CATs and exams	7.17	21.84	46.76	21.16	2.39	100

(Source: Field data, 2021)

Table no 3 findings show that the students reported good adjustment to the first five aspects of academic adjustment. It is however notable a high proportion of 43.32% and 25.26% strongly disagreed and disagreed respectively that they had no challenges with online lectures. Similarly, 39.93% strongly disagreed while 23.55% disagreed that they had no challenges taking online examinations. Response on preparedness for CATs and examinations revealed that 46.76% were not sure while 21.16% disagreed that they were adequately prepared for CATs and examinations. These findings reveal that the most challenging areas of academic adjustment among the FYUS were online lectures, online examinations and preparedness for CATs and examinations.

From the students' responses, the relationship between each reason for choice of meals and each item of academic adjustment was established using Pearson's correlation coefficients (see Table no 4).

Table no 4: Shows Pearson's Correlation Coefficients between Feeding Habits and Academic Adjustment

		TAC	LEATT	CONL	ASSN	ASSL	ONLEC	ONEX	CAEX
NUTVAL	Pearson Correlation	-.121*	-.106	-.062	-.001	-.051	.002	.022	-.004
	Sig. (2-tailed)	.039	.069	.292	.988	.383	.000	.000	.947
	N	293	293	293	293	293	293	292	292
COST	Pearson Correlation	-.039	-.024	-.086	-.060	-.059	-.101	-.034	.033
	Sig. (2-tailed)	.511	.679	.147	.307	.318	.087	.571	.572
	N	288	288	288	288	288	288	287	287
TISA	Pearson Correlation	-.076	.039	.118*	-.141*	.102	.108	.052	-.032
	Sig. (2-tailed)	.198	.504	.044	.016	.080	.065	.381	.584
	N	292	292	292	292	292	292	291	291
TASTE	Pearson Correlation	**-.330****	-.139*	-.173**	-.135*	-.194**	.208**	.127*	-.099
	Sig. (2-tailed)	.000	.018	.003	.021	.001	.000	.030	.092
	N	293	293	293	293	293	293	292	292
PEER	Pearson Correlation	**-.368****	-.149*	-.231**	**-.273****	-.215**	.273**	.176**	-.092
	Sig. (2-tailed)	.000	.011	.000	.000	.000	.000	.003	.119
	N	291	291	291	291	291	291	290	290

(Source: Field Data, 2021)

Note:

NUTVAL = Choice of meals is determined by nutritional value
COST = Choice of meals is determined by cost
TISA = Choice of meals is determined by need to save time
TASTE = Choice of meals is determined by taste
 PEER = Choice of meals is determined by choices of peers

Table no 4 gives Pearson's correlation coefficients between feeding habits and academic adjustment among FYUS.

The results revealed no significant correlation between choice of meals based on nutritional value or cost and adjustment to any of the academic aspects. There was however a moderate negative correlation between choice of meals based on taste (r = -.330; n=293; p<0.01) and peer influence (r = -.368; n=293; p<0.01) and adjustment to lecture timetable and number of courses offered. The rest of the correlations were either insignificant or weak. It can therefore be observed that choice of meals based on its nutritional value had no influence on academic adjustment whereas choice of meals based on its taste and peer influence had a low to moderate negative influence on academic adjustment

Qualitative Findings on Student feeding Habits were obtained from the FGD respondents. When asked about the most popular meal among the FYUS, they responded that the choice depended on whether one resided within or outside campus. For campus residents, their favorite meal was chapatti and beans due to affordability. For students residing outside campus, the most popular meal was kales and Silver cyprinid fish due to its affordability.

The participants further stated that the most important factors considered by FYUS when choosing their meals, was quantity and cost of the food which, in their opinion, mattered more than any other factor. The statement confirmed what was reported from the students' questionnaire that the cost of food was the most important factor considered when deciding on meals to take.

Findings from service providers on student feeding habits indicated that 13 out of 15 interviewees noted that there were some FYUS who were not taking nutritionally balanced meals. The reasons given predominantly pointed on financial constraints and unaffordability of the balanced meals. For instance one participant said;
They cannot afford a fully balanced diet throughout the semester due to insufficient pocket money. [SPIS 8]

The opinion of SPIS 8 was echoed by SPIS 2, 6, 9, 11 and12. However, it also emerged that a significant number of FYUS were not taking nutritionally balanced meals due to their preference for fast foods which appeared trendy among their peers as noted by some respondents that;
Fast foods are perceived to be classier for those who can afford. [SPIS 5]

Most of them like fast foods and some of them lack money to buy balanced meals.
Ladies do not want to lose their shape, so they opt to eat very little unbalanced meals [SPIS 7]

They prefer chips from outside campus. Very few care about balanced diet. [SPIS 15]

From the report by service providers, it was evident that financial constraints greatly contributed to the meals taken by FYUS. It should be noted that part of the financial constraint was the creation of the students who decided to divert the Higher Education Loans Board (HELB) money given to them for upkeep to other uses as indicated by a section of the interviewees. On the other hand, some may have preferred fast foods because it appeared classy. It also emerged that female students may be taking unbalanced meals to watch their body weight.

IV.   Discussion

A similar study in Zimbabwe found reasons for choice of meals by students as cost of food (90%), favorite meals (88%), food availability (45%) and nutritive value (16%) implying that cost of food was the most important determinant while nutritive value of food was the least important determinant of student dietary patterns[14]. In a separate study in Kenya, researchers found out that geographical and socio-economic diversity of students determined what students would eat or not eat[4].

In a related study conducted in Abu Dhabi among female high school students aged 15-19 years a positive correlation between breakfast intake and students' academic grade scores was found[6]. In Korea a study concluded that dietary habits are associated with academic performance among adolescents in a study conducted among learners aged 12-18 years[8]. A similar study also reported statistically significant positive association between dietary intake and academic achievement[11]. In a closely related study conducted among 8th grade

students aged 12-14 in Northern California, it was reported that healthy dietary intake improves students' GPA since learners with better nutrition have an easier time focusing and maintaining academic performance[24].

The finding of the current study was in tandem with that of other researchers who noted that it has been widely acknowledged that university students are far from reaching the public, national, and global health recommendations when it comes to dietary patterns[6]. Amoa (2019) also found a degree of prevalence of malnutrition among junior high school students in Ghana. A related study conducted among underperforming first year undergraduate students at the University of KwaZulu-Natal found that affordability and storage facility challenges led to students consuming nutritionally poor foods which compromised their health status. The individual dietary diversity score (IDDS) showed that 92% of the students consumed bread, rice and maize; 70% ate foods with high sugar levels, 71% ate oily foods; 66% ate meat; 58% ate vegetables while 50% ate fruits. This indicated that students' diet was lacking in diversity as they resort to rich, energy-dense and cheap foods found at cheap prices, robbing them of essential nutrients[13].

V. Conclusion

The reasons for choice of meals, in order of priority, as given by the first year undergraduate students were; cost, time saving, nutritional value, taste and peer influence.

There was no significant correlation between choice of meals for nutritional value, cost or time saving and any aspect of academic adjustment. There was, however, weak to moderate negative correlations between choice of meals for taste and peer influence and various aspects of academic adjustment.

The study recommended that; personal finance management be part of orientation of first year undergraduate students to avoid cases of mismanagement of the HELB loans and other finances at their disposal and that the first year undergraduate students should all be accommodated within university premises as far as possible, and only allowed to move out later after acquiring basic skills on financial management to manage their meals.

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