

# Non-Tuition Expenses and Coping Strategies of Tertiary Students in Jamaica

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## Abstract

For less developed countries to grow and develop there is an urgent need to graduate relevant high-quality students at the tertiary level. But students have cited non-tuition expenses such as housing, food, and transportation as the greatest barrier to tertiary education access, especially since many funding opportunities are geared towards the coverage of tuition costs only. The low access to tertiary education in Jamaica remains a threat to national development. Furthermore, with Jamaica being ranked second on the human flight and brain drain global index, it is critical for policymakers to address the concurrent low access to tertiary education and barriers to completion, through the development of evidence-based policies. This study which explores the often overlooked burden of non-tuition expenses on students and the potential impact on their academic performance is therefore scientifically relevant. The study analysed the non-tuition expenses of housing, transportation, and food in three tertiary institutions. Nine hundred and seventy-nine students completed the questionnaires through a quantitative approach to collect data from students in different disciplines. The study also evaluated the coping strategies of these students. Descriptive and relational analyses were done to determine the association between non-tuition expenses and several variables including hunger and academic performance. Non-tuition expenses among tertiary students in Jamaica are staggering. The key findings were: (1) non-tuition expenses exceeded tuition costs by more than 100% with housing contributing more than 50% to that cost. (2) Approximately 38% of students were found to be suffering from severe hunger and a statistically positive relationship was found between severe hunger and housing expenses. (3) Food insecurity was found to be a consequence of burdensome non-tuition expenses as students reported they skipped meals and reduced food consumption as cost-saving measures. (4) Students who enrolled part-time coped by working full-time jobs to help offset their financial obligations. (5) Despite the high non-tuition burden and innovative coping strategies the study found no statistical relationship between the non-tuition costs and the academic performance, measured by grade point average. The high opportunity cost of attending tertiary institutions in Jamaica is real. The coping strategies employed by students may present challenges for completing tertiary studies and for maintaining good physical and mental health. If left unaddressed, the non-tuition expenses associated with tertiary education may further decline access and reduce the number of graduates and by extension stifle the potential for national development.

**Keywords:** Non tuition expenses, coping strategies, academic performance, Jamaica.

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## 1. Introduction

The Jamaica Government commissioned education report correctly concluded that the funding mechanism for tertiary education needs urgent revision (Patterson, 2022). However, even if that revision is done for government spending on tuition, the burgeoning non-tuition costs remain a major barrier to tertiary education. The report also noted that Jamaica is not on the way to achieving equitable access to tertiary education. This observation further accelerates the need to address non-tuition costs.

Tuition represents only a portion of tertiary education related expenses (Brint, 2022). Once students decide to pursue tertiary studies, there are other nominal expenses that are automatically incurred to support activities that are necessary to make study possible (Ward & Corral, 2022). Students' ability to finance essential living expenses is critical to the successful completion of their higher education. They must be able to come up with money for registration fees, other administrative fees, food, housing, transportation as well as money for course material and other study-related resources and supplies. In the United States it has been noted that non-tuition costs represent

the largest expenses for many students attending public tertiary institutions and are often more expensive (Ordway, 2019; Csac.ca.gov., 2019). If students are unable to fund these expenses, their chances of succeeding can be completely derailed, leading to high rates of attrition.

Students from rural areas, working-class students and those with low socio-economic status find non-tuition expenses burdensome (Eckerson, Roberson & Voight, 2020). Moreover, while the increases in the available funding for tertiary education are generally aimed at increasing access, financial aid programmes have become limited and highly competitive, due to the unmatched demand (Marta, et al., 2017). Tuition policies have shifted away from a government-funded higher education system to a more loan-driven system (Baum & Ma, 2012). Additionally, most of the tertiary assistance available aims to subsidize tuition expenses despite the fact that non-tuition expenses often constitute the majority of the cost of attendance (Mello, 2019).

A major non-tuition expense is the cost of food. Research shows the high prevalence of food insecurity among tertiary students (Smith, 2019). Previous studies in Jamaica also highlighted the aspect of hunger at the tertiary level (Henry 2020, 2022). Tertiary students have applied both food-related and non-food-related coping strategies (Sulaiman, 2013). Cutting back on food intake often reflects low financial resources in the attempt to reduce non-tuition expenses (Bruening, 2017). To cope with non-tuition expenses students often work in addition to the demands of studying. Several studies showed that this coping strategy resulted in compromised academic standards (Reynolds, 2018; El Zein, 2019) and have implications for mental and physical health (Carnevale & Smith, 2018; Kassier & Veldman, 2013; Robert, 2019). Non-tuition costs are substantial therefore the true cost of tertiary education, including non-tuition expenses, should be an area of high priority for students, tertiary institutions, and policymakers. (Giordono & Pugatch, 2017).

In Jamaica a study found that the opportunity cost averaged at approximately J \$520,036.33 which represented 38% of the actual degree cost (King, Johnson & Allen, 2017). However, research is needed to quantify the current problem and coping strategies and assess the real implications for academic success. This study aims to bridge the existing gaps in knowledge and examine the challenges of non-tuition expenses among tertiary students.

## 2. Methods

To determine the non-tuition expenses of students three tertiary institutions participated in this self-reporting study: University of Technology, Jamaica, the University of the Commonwealth Caribbean, and Shortwood Teachers' College. The main non-tuition expenses included were housing, food, and transportation. Based on these expenses a combined variable on non-tuition expenses (NTE) was created. An association between NTE and several variables was sought. Variables included age, gender, employment status, source of financing, weight status and academic performance - measured by grade point average. About 300 students from each of these institutions were randomly selected to participate. Efforts were made to stratify by faculty in each institution. To solicit maximum honesty and confidentiality the students were not required to give their names, identification numbers, or any information that can be traced to them individually. After ethical clearances and permissions from the university authorities, coordinators from each institution were assigned to administer the questionnaire. Student responses were scrutinized for completeness and quality.

## 3. Results

The total number of participants was 979, ranging from 17-55 years of age with a majority (78%) representation by females. Approximately 69% of participants were enrolled as full-time students. In addition to tuition, participants were found to bear other significant expenses associated with attending university including the costs of housing, food and transportation.

Almost 50% of students had transactional housing arrangements. Housing costs ranged from an average of J \$127,000 per annum for students who lived on campus to J \$292,000 for those who boarded off campus. Approximately 38% of the participants depended on their tertiary institution to subsidize their meal costs through welfare assistance programmes. Still, 80% of the students consumed less than three meals each day; 21% ate once daily while 59% had two meals each day. With an average consumption pattern of two meals each day, meal costs averaged at approximately J \$650 daily and 58% of the participants thought that the prices for on-campus food options were unaffordable. This was despite benefitting from welfare assistance programme(s) which subsidized the cost of at least one of their meals. The cost to travel to and from school for tertiary students averaged approximately J \$300 each day with almost half of all participants (48%) spending more than J \$400 each day. The three non-tuition expenses combined add approximately J \$400, 000 annually to the cost of attending tertiary institutions. The cost of lodging surpasses the other expenses. The non-tuition costs are ranked in descending order as shown in Table 1.

**Table 1:** Ranking of non-tuition expenses

Non-Tuition Expense	Estimated Annual Cost (J\$) *
<sup>1</sup> Housing/ Accommodation	\$210,000.00
<sup>2</sup> Food	\$130,000.00
<sup>3</sup> Transportation/Travel	\$60,000.00
<b>TOTAL</b>	<b>\$400,000.00</b>

- J\$150=US\$ 1.

<sup>1</sup>Calculated by taking the aggregated averages of expenses for on-campus and off-campus living

<sup>2</sup>Calculated by finding the product of the average daily cost of food and the average number of days of attendance

<sup>3</sup>Calculated by finding the product of the average daily cost of travel and the average number of days of attendance

About 41% of students self-financed their education while 21% were beneficiaries of student loans. The remaining 38% received support from family (36%) and friends (2%). About 52% of students remained living in the family home while pursuing tertiary studies as a cost-saving strategy. Also, 52% of the students worked either full-time (35%), part-time (10%) or during holidays (7%) to finance their tertiary education. Consequently, some 42% of students attended school on a part-time basis and therefore sacrificed the opportunity to complete their studies in a shorter time, to ensure they could support themselves financially.

While assessing the non-tuition expenses of food, shelter and travel, 71% of the students reported that their weight had changed since starting their tertiary education and more than half (52%) of those who reported this, consistently reported weight loss. Body Mass Index (BMI) assessments revealed that about 51% of students were either below or at normal weight. In all instances statistical significance was found between the non-tuition expenses (food, transportation, and accommodation costs) and low body mass as shown in Table 2.

**Table 2:** Association between weight status and various non-tuition expenses

Non-Tuition Expense		Underweight/Normal	Overweight	Obese	p-value
<b>Accommodation Expenses</b>					
	<i>N</i>	<b>363</b>	<b>181</b>	<b>156</b>	
J\$0		23.7	12.4	9.1	p<.05
J\$1-25,000		17.0	6.0	5.7	
J\$25,001 - \$45,000		8.4	6.4	5.3	
J \$45,000+		2.7	1.0	2.1	
<b>Food Expenses</b>					
	<i>N</i>	<b>451</b>	<b>246</b>	<b>194</b>	
<\$501		<b>22.4</b>	<b>11.1</b>	<b>6.6</b>	p<.05
\$501-\$1000		<b>23.0</b>	<b>12.9</b>	<b>11.4</b>	
\$1000-1500		<b>2.6</b>	<b>1.5</b>	<b>2.0</b>	
>\$1,500		<b>2.6</b>	<b>2.1</b>	<b>1.7</b>	
<b>Travel Expenses</b>					
	<i>N</i>	<b>468</b>	<b>251</b>	<b>200</b>	
\$0		<b>12.6</b>	<b>4.7</b>	<b>2.7</b>	p<.001
\$200		<b>7.6</b>	<b>2.2</b>	<b>1.4</b>	
\$201-400		<b>10.2</b>	<b>5.4</b>	<b>4.7</b>	
>\$400		<b>20.5</b>	<b>15.0</b>	<b>12.9</b>	
<b>Education Financing</b>					
	<i>N</i>	<b>399</b>	<b>205</b>	<b>171</b>	
Self – finance		16.5	12.9	11.9	p<.001
Family		21.5	8.8	6.2	
Student Loan		13.0	4.3	3.5	
Friend		0.4	0.5	0.5	

Approximately 38% of respondents were found to be experiencing severe hunger. While there was statistical significance between severe hunger and the money spent on living arrangements (p<.001) as well as education financing (p<.001), none was found between money spent on food or transportation (Table 3).

**Table 3:** Association between hunger status and various tertiary-related expenses

Non-tuition Expense	No/Mild Hunger	Moderate Hunger	Severe Hunger	Statistical Significance
<b>Accommodation Expenses</b>				
	<i>N</i>	<b>203</b>	<b>244</b>	<b>289</b>
J\$0		15.1	15.2	15.8
J\$1-25,000		4.8	10.6	12.9
J\$25,001 - \$45,000		5.3	5.6	9.1
J \$45,000+		5.4	1.8	1.5
<b>Education Financing</b>				
	<i>N</i>	<b>239</b>	<b>264</b>	<b>309</b>
Self – finance		13.7	13.9	13.7
Family		12.3	11.7	12.3
Student Loan		3.2	6.8	11.1
Friend		0.2	0.1	1.0
<b>Food Expenses</b>				
	<i>N</i>	<b>267</b>	<b>304</b>	<b>360</b>
<\$501		11.3	11.7	17.1
\$501-\$1000		12.7	16.8	17.6
\$1000-1500		2.4	1.9	1.8
>\$1,500		2.4	2.3	2.1
<b>Travel Expenses</b>				
	<i>N</i>	<b>280</b>	<b>312</b>	<b>369</b>
\$0		6.0	6.1	8.0
\$200		2.8	2.9	5.6
\$201-400		6.0	6.5	7.9
>\$400		14.3	17.0	16.9

Despite the high non-tuition expenses, the students' academic performance did not reflect an associated negative impact (Table 4).

**Table 4:** Association between non-tuition expenses and students' grade point average (GPA)

Non-Tuition Expense		GPA			Statistical Significance
		<2.5	2.5-3.2	>3.2	
<b>Accommodation</b>					
	<i>N</i>	<b>121</b>	<b>331</b>	<b>246</b>	
J\$0		15.5	44.5	40.1	
J\$1-25,000		18.5	51.5	30.0	p>.05
J\$25,001 - \$45,000		22.0	46.1	31.9	
J \$45,000+		10.0	55.0	35.0	
<b>Food Bill</b>					
	<i>N</i>	<b>130</b>	<b>419</b>	<b>376</b>	
<\$501		11.0	49.7	39.3	
\$501-\$1000		17.0	42.8	40.2	p>.05
\$1000-1500		13.6	40.7	45.8	
>\$1,500		12.9	40.3	46.8	
<b>Transportation</b>					
	<i>N</i>	<b>133</b>	<b>429</b>	<b>394</b>	
\$0		10.3	41.8	47.9	
\$200		19.0	44.8	36.2	p>.05
\$201-400		14.3	49.0	36.7	
\$400		14.1	44.5	41.4	

Table 5 shows statistically significant relationships between the extent of non-tuition expenses (NTEs) and several variables. These are age, employment status, type of accommodation arrangement, study mode, source of educational financing and body-mass index. There is no statistical significance between NTEs and gender or other variables such as weight changes and GPA.

**Table 5:** Association between the combined Non-Tuition Expenses (NTE) and various factors

Variables	Burden of Non-tuition Expenses (NTEs)			p-Value	
	Low	Medium	High		
<b>Age Group</b>	<i>N</i>	<b>190</b>	<b>340</b>	<b>182</b>	
< 22 years old		54.7	28.9	16.3	p<.001
22-28 years old		37.1	43.5	19.4	
> 28 years of age		25.8	33.5	40.7	
<b>Gender</b>	<i>N</i>	<b>189</b>	<b>340</b>	<b>182</b>	
Male		21.7	20.6	21.4	p>.05
Female		78.3	79.4	78.6	
<b>Employment Status</b>	<i>N</i>	<b>190</b>	<b>340</b>	<b>182</b>	
Full Time		29.5	34.1	53.3	p<.001
Part Time		15.3	20.0	14.3	
Unemployed		55.2	45.9	32.4	
<b>Accommodation Arrangement</b>	<i>N</i>	<b>190</b>	<b>340</b>	<b>182</b>	
Boarding off campus		6.8	39.4	36.8	p<.001
Family home		88.4	52.4	47.8	
With Friend		4.2	6.8	11.0	
Other		0.6	1.4	4.4	
<b>Study Mode</b>	<i>N</i>	<b>190</b>	<b>340</b>	<b>182</b>	
Full Time		73.7	69.7	50.6	p<.001
Part Time		26.3	30.3	49.4	
<b>Source of Financing</b>	<i>N</i>	<b>169</b>	<b>306</b>	<b>164</b>	
Self-financed		31.4	40.9	52.5	p<.001
Family		48.5	32.0	31.1	
Student Loan		19.5	25.8	14.6	
Friend		3.6	1.3	1.8	
<b>BMI</b>	<i>N</i>	<b>175</b>	<b>322</b>	<b>173</b>	
Underweight/ Normal		54.9	52.5	41.6	p<.05
Overweight		30.9	23.0	28.9	
Obese		14.3	24.5	29.5	
<b>Weight Changes</b>	<i>N</i>	<b>190</b>	<b>340</b>	<b>181</b>	
Gained		33.7	31.2	38.1	p>.05
Lost		35.8	38.5	33.1	
No Change		30.5	30.3	28.7	
<b>GPA</b>	<i>N</i>	<b>182</b>	<b>332</b>	<b>179</b>	
<2.5		16.5	16.6	19.6	p>.05
2.5 – 3.2		47.8	47.3	48.0	
>3.2		35.7	36.1	32.4	

#### 4. Discussion

The finding that non-tuition expenses averaged approximately J \$400,000 annually is striking given that the tuition cost is less. Housing (53%) accounted for the largest share of this cost, followed by food (33%) and transportation (14%). In 2017, the average cost of a first degree was estimated at J \$1,258,940, which means students paid about \$360,000 per annum over four (4) years for their degree. Even with estimated increases in tuition cost, the non-tuition expenses still considerably high. This finding aligns with the global observation where non-tuition expenses have been noted to be 100% or more of the cost of tuition (Goldrick-Rab et al., 2017; Johnson et al., 2019; Eckerson Peters et al., 2020). The finding from this study is still conservative because there are several other non-tuition expenses such as the cost of printing assignments, books, uniforms, and other material, that were not captured in the study. Nevertheless, this finding that non-tuition expenses represent a major cost to tertiary students, signals

that it is a prime reason of unaffordability and inaccessibility, particularly for low-income families.

Higher education cannot fulfil its mandate as a driver of economic growth if affordability challenges and equity are not addressed, especially for low-income and working-class students (World Bank, 2019). In 2015, UNESCO reported that Jamaica's gross enrolment ratio (GER) in tertiary education was at 27% (Williams, 2019). It was noted recently that only 19% of Jamaicans ages 19-24 are enrolled in a tertiary institution (Eckerson, Roberson & Voight, 2018). Burdensome non-tuition expenses reinforce low access to tertiary education which has implications for individuals, families, communities, and countries because the level of education is a determinant of employability and income-equality.

While many students take on loans with deferred payment options for tuition, non-tuition expenses cannot be postponed. Regardless, there are some researchers that contend that expenses associated with housing, food and travel while attending university, would have been incurred whether or not individuals are enrolled at a tertiary institution (Baum & Cohn, 2022). This is arguable. If individuals were not enrolled, it could be presumed that their travel would not be as extensive as it is to attend classes, unless they were employed. Also, the cost of housing could work out less expensive, particularly if these individuals worked close to home so that the arrangement of living with family could be maintained. Furthermore, the support from the family and community through the provision and preparation of meals would help to curb meal costs and would remain like when the individual was enrolled at the secondary education level.

Even if the working individual was spending \$400,000 annually for these basic amenities, the presence of a source of income would ensure that such an individual would be earning sufficient income to sustain those expenses while maintaining a decent standard of living. This is not the same for the student going to school full-time and working a low-paying part-time job. It is also not the same for the underqualified, part-time student who is working a modestly compensated, full-time job and who may not qualify for financial aid or loans because of their part-time enrolment status and level of earning. The non-tuition costs of attendance could easily double living costs for students and their families, especially those from rural Jamaica who often must relocate to pursue their studies. Non-tuition expenses can therefore introduce disparities in tertiary education access and completion.

The struggle is real for tertiary students in Jamaica to cope with non-tuition expenses. Interestingly however, no positive correlation was found between GPA and non-tuition expenses, though there are some studies which highlight an association (Reynolds 2018, El Zein, 2019). The observed ability of the students to generally maintain satisfactory to excellent grades could be due in part to intrinsic motivation derived from the drive to escape the cycle of poverty as well as other positive features such as student comradery and strong social capital.

The Patterson report calls for major restructuring of the financing mechanism for tertiary tuition (Patterson, 2022). This study emphasizes the need for strategies to address non-tuition costs to enhance reach and effectiveness. The latter strategy is essential to boost tertiary education enrolment and retention and should be a priority area of the national development plan. The vulnerability of students from rural Jamaica cannot be ignored because in many instances they must relocate to urban areas to pursue their tertiary studies. This move drives up costs. While technology can be expanded to rural areas, the exclusive use of technology may not be fully applicable to courses like medicine, pharmacy, architecture, medical technology, nursing and the like. It would be unjust to exclude rural students from critical subject areas of study because of location. Regarding the high housing costs, can local homeowners provide reasonably priced accommodations in exchange for reductions in property tax? Given the critical need for tertiary graduates for national development should the government incentivize families for tertiary education planning through tax-exemptions? The government can recover any revenue lost from the taxation of properties by imposing a tax swap on the sale of unhealthy foods, beverages as well as tobacco and alcohol containing products. These strategies can be imposed simultaneously. The main challenges that come with non-tuition expenses are rooted in poverty. Alleviation of non-tuition expenses is therefore a clear poverty reduction strategy not only for families but also for national development.

Further studies are needed to guide interventions aimed at addressing the low access to tertiary education in Jamaica. An evaluation of whether technology can alleviate the burden of non-tuition expenses while preserving learning quality could be a potentially rich area for future research. Future research that focuses on macroeconomic planning for tertiary attendance could also be useful.

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