

## Financial Insecurity and Psychological Stress among Medical Students at Saint James School of Medicine: A Cross-Sectional Study

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### ABSTRACT

**Background:** Financial insecurity is a growing concern among medical students and has been increasingly linked to adverse psychological outcomes. Students enrolled in international medical schools may be particularly vulnerable due to limited access to federal financial aid and increased reliance on private funding sources.

**Objective:** This study aimed to examine the relationship between financial insecurity and perceived psychological stress among medical students at Saint James School of Medicine (SJSM).

**Methods:** A cross-sectional survey was conducted among 84 SJSM medical students using an online questionnaire. Financial insecurity was measured using a custom financial insecurity scale, and psychological stress was assessed using the validated Perceived Stress Scale (PSS-10). Descriptive statistics, correlation analysis, and subgroup comparisons were performed.

**Results:** The mean PSS-10 score was 22.0 (SD = 7.98), indicating moderate to high stress levels. Overall, 82% of participants reported moderate or high perceived stress. A statistically significant positive correlation was found between financial insecurity scores and PSS-10 scores ( $r = 0.600$ ,  $p < 0.001$ ), demonstrating that greater financial insecurity was associated with higher psychological stress. Most students reported substantial financial strain, with 72.6% expressing concern about tuition affordability and 66.7% reporting that their educational debt felt overwhelming. Female students reported higher mean stress scores (23.8) compared to male students (18.2). Stress negatively affected academic functioning, with 65.5% reporting difficulty concentrating while studying, and more than one-third indicating that financial worries negatively impacted class attendance.

**Conclusion:** Financial insecurity was strongly associated with elevated perceived stress among SJSM medical students. These findings highlight the need for targeted institutional interventions, including expanded financial support systems, improved loan access, and integrated mental health resources to mitigate the academic and psychological impact of financial stress in international medical education settings.

**KEYWORDS:** financial insecurity, psychological stress, medical students, Perceived Stress Scale, Saint James School of Medicine.

### INTRODUCTION

Medical education is widely recognized as one of the most academically demanding training pathways. Medical students face intense curricular expectations and significant psychosocial stressors that may compromise well-being and academic performance. Financial insecurity has become an increasingly important concern, particularly among students enrolled in international medical programs where access to federal financial aid may be limited or unavailable. Prior research consistently demonstrates that students experiencing tuition debt, unstable funding, and rising living expenses are at greater risk of anxiety, burnout, and reduced academic engagement. In medical education, these effects may be intensified by the rigor of training and high-stakes assessments, with financial strain contributing to impaired concentration, absenteeism, and increased risk of attrition. <sup>1</sup>

Saint James School of Medicine (SJSM) is an international medical school in the Caribbean serving a diverse student body, including many students from the United States and Canada who may not qualify for domestic federal loan programs. As a result, many SJSM students rely on private loans, family support, or alternative financial arrangements, which may increase vulnerability to financial stress. Despite recognition of financial strain as an important contributor to student distress, limited research has specifically examined the relationship between financial insecurity and psychological stress within the SJSM population.



This study aimed to address this gap through a cross-sectional survey assessing financial insecurity and perceived stress using validated measurement tools. The primary research question was: *What is the relationship between financial insecurity and psychological stress among SJSM medical students?* Secondary objectives included evaluating differences in stress and financial burden by gender, year of study, and dependent status, and identifying institutional factors most strongly associated with financial strain.

Financial insecurity includes both objective challenges (tuition costs, debt burden, and living expenses) and subjective perceptions of financial instability. These factors have been consistently associated with adverse mental health outcomes, including anxiety, depression, and burnout. The Perceived Stress Scale (PSS-10), developed by Cohen et al., is a widely used tool for measuring perceived stress and has demonstrated that medical students report higher stress levels than the general population. Academic workload, time constraints, and high expectations are major contributors to distress in this population. Financial stress has also been identified as a key predictor of psychological strain, with financially burdened students reporting greater emotional exhaustion and poorer mental health outcomes.<sup>2</sup>

In addition to mental health consequences, financial insecurity may impair cognitive performance, reducing concentration and academic productivity.<sup>3</sup> This is particularly concerning in medical education, where sustained cognitive engagement is essential for success. The InCharge Financial Distress/Financial Well-Being Scale emphasizes that financial stress is shaped not only by financial circumstances but also by personal perceptions of stability. More recent frameworks, including the APR Financial Stress Scale, incorporate debt, income uncertainty, and future financial insecurity, highlighting the multidimensional nature of financial strain. Financial burden in medical training has also been linked to major professional decisions such as specialty choice, with students carrying high debt more likely to pursue higher-paying specialties.<sup>4</sup> Furthermore, financial hardship has been associated with increased risk of delayed progression and attrition.<sup>5</sup>

Although financial stress has been widely studied in higher education, fewer studies have focused on international medical schools where students may face unique financial challenges due to limited institutional and federal support. Therefore, examining financial insecurity and its relationship to psychological stress among SJSM students is essential to better understand this population's needs and inform institutional strategies to improve student well-being and academic outcomes.

## METHODS

### Study Design and Participants

This study used a cross-sectional, observational design employing an online self-report survey. The target population consisted of currently enrolled medical students at Saint James School of Medicine. Eligible participants were required to be at least 18 years of age, currently enrolled at SJSM, actively studying at the Saint Vincent and the Grenadines campus, and willing to provide informed consent. A total of 84 participants completed the survey between January and February 2026. All participants provided electronic informed consent prior to completing the questionnaire.

### Measures

The survey instrument consisted of three sections. The first section collected demographic information including age, gender, year in medical school, living situation, and dependent status. The second section comprised a custom financial insecurity scale developed for this study, consisting of seven items assessing concerns about tuition affordability, living expenses, difficulty paying fees, delaying basic needs, perceived debt burden, interference of financial concerns with studying, and stress about future education financing. Responses were recorded on a 5-point Likert scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5), yielding a composite financial insecurity score ranging from 7 to 35.

The third section used the Perceived Stress Scale (PSS-10), a widely validated 10-item instrument measuring the degree to which situations in one's life are appraised as stressful over the past month. Responses are rated on a 5-point scale from "Never" (0) to "Very Often" (4), with four items reverse-scored (items 4, 5, 7, and 8). Total PSS-10 scores range from 0 to 40, with established thresholds defining low stress (0-13), moderate stress (14-26), and high stress (27-40). The survey also included additional items addressing academic impact, such as difficulty concentrating, class attendance disruption, and overall academic performance self-rating.



**Statistical Analysis**

Descriptive statistics were computed for all demographic variables, financial insecurity items, and PSS-10 scores. Frequency distributions were generated for Likert-scale items. The primary analysis used Pearson's correlation coefficient to assess the linear relationship between composite financial insecurity scores and PSS-10 scores. Spearman's rank correlation was also computed as a non-parametric validation. Subgroup analyses examined PSS-10 score differences by gender and year of study. All analyses were conducted using Python (PANDAS, SciPy. Stats), with a significance threshold of  $p < 0.05$ .

**RESULTS**

**Participant Demographics**

A total of 84 medical students (Table-1) completed the survey. The sample was predominantly female ( $n = 56, 66.7%$ ), with 27 male respondents ( $32.1%$ ) and one participant who preferred not to disclose gender. The majority of participants were in their first year ( $n = 36, 42.9%$ ) or second year ( $n = 41, 48.8%$ ), with the remainder in their third or fourth year of training. Ages ranged widely, with a modal age of 22 years. Most students lived alone ( $n = 54, 64.3%$ ), followed by those living with roommates ( $n = 19, 22.6%$ ) and those living with family ( $n = 8, 9.5%$ ). Twenty-two participants ( $26.2%$ ) reported having dependents, such as children or family members, they financially supported. Table 1 summarizes the demographic characteristics of the sample.

**Table 1. Demographic Characteristics of Study Participants (N = 84)**

Characteristic	Category	n	%
Gender	Female	56	66.7%
	Male	27	32.1%
	Prefer not to answer	1	1.2%
Year in School	1st Year (MD 1-2)	36	42.9%
	2nd Year (MD 3-5)	41	48.8%
	3rd/4th Year	6	7.1%
Living Situation	Living alone	54	64.3%
	Living with roommates	19	22.6%
	Living with family	8	9.5%
	Other	3	3.6%
Dependents	No dependents	62	73.8%
	Has dependents	22	26.2%

**Financial Insecurity**

Financial insecurity was prevalent across the sample. When asked about tuition affordability, 72.6% of students either agreed or strongly agreed that they worry about being able to afford tuition. Similarly, 66.7% expressed worry about basic living expenses. Difficulty paying tuition on time was reported by 48.8% of respondents, and 50.0% indicated they had delayed or skipped basic needs due to financial constraints. The perception of debt as overwhelming was endorsed by 66.7% of participants (agreed or strongly agreed). Most strikingly, 61.9% reported that financial concerns interfere with their ability to focus on studying, and 71.4% frequently felt stressed about paying for the remainder of their education. When asked about institutional response, 80.9% of students agreed or strongly agreed that improved loan options from SJSU would reduce their financial stress. Regarding attrition risk, 36.9% considered taking a break from or leaving medical school due to financial reasons. Table 2 presents the detailed distribution of financial insecurity survey items (Table-2)



Table 2. Financial Insecurity Survey Item Responses

Survey Item (abbreviated)	Strongly Agree / Agree	Neutral	Disagree / Strongly Disagree
Worry about affording tuition	72.6% (n=61)	15.5% (n=13)	11.9% (n=10)
Worry about basic living expenses	66.7% (n=56)	13.1% (n=11)	20.2% (n=17)
Difficulty paying tuition on time	48.8% (n=41)	16.7% (n=14)	34.5% (n=29)
Delayed/skipped basic needs	50.0% (n=42)	13.1% (n=11)	36.9% (n=31)
Debt/cost feels overwhelming	66.7% (n=56)	17.9% (n=15)	15.5% (n=13)
Finances interfere with studying	61.9% (n=52)	13.1% (n=11)	25.0% (n=21)
Stressed about future tuition payments	71.4% (n=60)	10.7% (n=9)	17.9% (n=15)
Considered leaving due to finances	36.9% (n=31)	13.1% (n=11)	50.0% (n=42)
Better loan options would reduce stress	80.9% (n=68)	13.1% (n=11)	6.0% (n=5)

**Perceived Stress Levels**

PSS-10 scores ranged from 3 to 40, with a mean of 22.0 (SD = 7.98) and a median of 23. Based on established PSS-10 thresholds, 17.9% of students (n = 15) fell in the low stress category (0-13), 54.8% (n = 46) in the moderate stress category (14-26), and 27.4% (n = 23) in the high stress category (27-40). Thus, 82.1% of respondents reported moderate to high perceived stress levels. Female students reported notably higher mean PSS-10 scores (M = 23.8) compared to male students (M = 18.2). First-year students had a mean PSS-10 score of 23.3, compared to 21.2 for second-year students. Students with dependents reported a mean PSS-10 score of 22.4, nearly identical to those without dependents (M = 21.9), suggesting dependent status alone was not a primary differentiator of stress levels in this sample.

**Correlation Between Financial Insecurity and Psychological Stress**

The primary analysis revealed a statistically significant, moderately strong positive correlation between composite financial insecurity scores (range: 7-35, M = 25.8, SD = 7.37) and PSS-10 scores (r = 0.600, p < 0.001, n = 84). This relationship was confirmed by Spearman's rank correlation (rs = 0.554, p < 0.001), reinforcing the robustness of the finding across both parametric and non-parametric approaches. Students with higher financial insecurity scores consistently reported higher levels of perceived psychological stress, indicating that financial burden is a meaningful contributor to the overall stress burden in this population.

**Academic Impact**

The academic consequences of financial stress were pronounced. When asked about the effect of stress on studying, 65.5% of students ("often" or "very often") reported that stress made it difficult to concentrate when studying. Similarly, 65.5% found it hard to relax because they were thinking about school or finances. In terms of class attendance, 26.2% reported that financial worries made it difficult to attend class "often" or "very often" in the past four weeks, with another 27.4% reporting this occurred "sometimes." Regarding academic self-assessment, 50.0% rated their performance as average, 23.8% as above average or very above average, and 14.3% as below average or very below average. Students reported spending substantial time studying, with 47.6% studying 30 or more hours per week outside of scheduled classes.

**DISCUSSION**

This study demonstrates a significant and meaningful relationship between financial insecurity and psychological stress among medical students at Saint James School of Medicine. The moderate-to-strong positive correlation between financial insecurity and perceived stress (r = 0.600, p < 0.001) supports the study hypothesis and reinforces growing evidence that financial strain is a critical determinant of mental health outcomes among medical trainees. These findings align with prior research showing that



financial hardship contributes to psychological distress, burnout, and reduced academic functioning in medical students and healthcare trainees.<sup>2,6,7</sup>

The mean Perceived Stress Scale (PSS-10) score of 22.0 indicates moderate to high stress levels, exceeding stress norms typically reported in the general population and consistent with the well-documented high prevalence of distress in medical education settings.<sup>2,8</sup> Medical students face academic workload, frequent examinations, clinical responsibilities, and uncertainty about future career outcomes, all of which are recognized contributors to elevated stress.<sup>2,9</sup> Financial insecurity appears to amplify these pressures, compounding the overall psychological burden and placing students at increased risk of chronic stress-related consequences.

The prevalence of financial insecurity in this study population was substantial, with many students reporting significant concern regarding tuition costs, living expenses, and accumulating educational debt. These findings reflect global trends showing that rising educational costs contribute to heightened stress, anxiety, and dissatisfaction among medical students.<sup>10,11</sup> Prior studies have demonstrated that students experiencing financial strain are more likely to report depressive symptoms, reduced quality of life, and impaired academic engagement.<sup>6,12</sup> Financial distress may also limit access to resources that support academic success, such as tutoring, wellness programs, or stable housing, thereby indirectly affecting educational performance.

Importantly, the present study suggests that financial insecurity extends beyond psychological distress and may compromise students' ability to meet basic living needs. Reports of delaying or skipping necessities underscore the severity of hardship and reflect broader public health evidence that financial strain can lead to food insecurity, unstable housing, and reduced healthcare utilization.<sup>13,14</sup> Such conditions may contribute to fatigue, reduced concentration, and increased vulnerability to physical illness, further intensifying stress and reducing academic productivity. These findings highlight that financial insecurity should be viewed not only as an economic issue but also as a significant social determinant of health within medical education.

Gender differences were also observed, with female students reporting higher stress levels. This finding is consistent with previous research demonstrating that female medical students often report greater perceived stress, anxiety, and depressive symptoms compared to their male counterparts.<sup>2,7</sup> Several explanations have been proposed, including differences in stress appraisal, coping strategies, gender-based expectations, and psychosocial pressures within academic environments.<sup>15</sup> Financial insecurity may further contribute to these disparities, and future research should explore gender-specific pathways that link financial stress to mental health outcomes.

The institutional implications of these findings are particularly noteworthy. A large proportion of students indicated that improved loan availability and financial support options would significantly reduce stress. This suggests that institutional financial policies and administrative support structures play an important role in shaping student well-being. Previous studies have shown that access to financial counseling, scholarships, and structured debt management resources can reduce financial anxiety and improve academic engagement.<sup>6,11</sup> Medical schools may benefit from developing targeted interventions such as emergency hardship funds, tuition assistance programs, transparent financial planning services, and partnerships with financial institutions to provide flexible repayment options.

The academic impact of financial insecurity was also evident. Many students reported difficulty concentrating and disruptions in attendance due to stress. This is consistent with literature demonstrating that stress impairs cognitive functioning, memory retention, and learning performance, all of which are critical to success in medical education.<sup>16,17</sup> Chronic stress has been linked to decreased academic achievement, reduced motivation, and impaired professional development among medical students.<sup>9</sup> Therefore, addressing financial stress may contribute not only to improved mental health outcomes but also to enhanced academic performance and professional competency.

Additionally, the risk of attrition identified in this study is concerning. Over one-third of respondents reported considering withdrawal from medical school due to financial burden. This finding aligns with broader evidence suggesting that financial hardship contributes to reduced persistence in higher education, delayed graduation, and increased dropout risk.<sup>18</sup> In the context of medical education, attrition is especially problematic due to the personal cost to students, the institutional burden, and the broader societal impact on physician workforce development. Proactively addressing financial insecurity may therefore represent an important strategy for improving student retention and long-term success.

Several limitations should be considered when interpreting the findings. First, the cross-sectional design prevents causal conclusions regarding whether financial insecurity directly causes increased stress. Second, the reliance on self-reported measures



introduces the possibility of recall bias and social desirability bias. Third, although the PSS-10 is a well-validated measure of stress, the financial insecurity scale used in this study was not formally validated, which may limit measurement accuracy.<sup>8</sup> Additionally, the sample was drawn from a single institution, which may reduce generalizability to other medical schools with different tuition structures and student demographics. Future research should incorporate longitudinal study designs, validated financial insecurity instruments, and multi-institutional samples to better clarify the directionality of the relationship and enhance external validity.

Despite these limitations, this study contributes important evidence that financial insecurity is a substantial and underrecognized contributor to psychological stress among medical students. Given the increasing costs of medical education worldwide, these findings emphasize the need for institutional, and policy-level interventions aimed at reducing financial burden. Addressing financial insecurity through improved loan access, financial literacy education, emergency support systems, and targeted wellness initiatives may significantly reduce stress levels and enhance academic outcomes. Ultimately, promoting financial stability may be an essential component of supporting student mental health and sustaining future physician workforce development.

## CONCLUSION

This cross-sectional study found a significant positive relationship between financial insecurity and psychological stress among medical students at Saint James School of Medicine. With 82% of students experiencing moderate to high stress levels and a robust correlation between financial burden and perceived stress ( $r = 0.600$ ), this data underscores an urgent need for systemic and institutional responses. The academic consequences of this stress, including impaired concentration, class attendance difficulties, and elevated attrition risk, further establish financial well-being as inseparable from educational success and student health.

Institutional stakeholders at SJSJM should consider a multi-pronged approach: expanding access to affordable financing options, providing transparent and proactive financial counseling, creating emergency financial assistance funds, and integrating mental health support with an awareness of financial stressors. Addressing financial insecurity is central to producing physicians who are resilient, well supported, and prepared to serve patients. Future research should build on these findings to evaluate the effectiveness of targeted financial and psychosocial interventions in this uniquely vulnerable student population.

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