

Evaluating Financial Literacy Among Medical Students: A Cross-Sectional Study

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Abstract

Introduction: Financial literacy is an often-overlooked aspect of medical education. Prior research indicates that trainees frequently lack knowledge in areas such as loan repayment, retirement planning, and investing, despite reporting strong interest in financial education. Insufficient financial literacy may contribute to financial stress, burnout, and suboptimal long-term planning, highlighting the need for targeted curricula.

Methods: We sent a cross-sectional survey to 446 medical students across all Mayo Clinic Alix School of Medicine campuses. One hundred thirteen recipients responded (25% response rate). Participants completed the abbreviated five-item Consumer Financial Protection Bureau (CFPB) financial well-being scale, five previously published "Big 5" objective financial literacy questions, five investigator-developed medical training-specific knowledge questions, and seven investigator-developed self-assessed financial literacy items. We used descriptive statistics to summarize responses. We used analysis of variance, *t* tests, and regression analyses to assess differences across demographic groups.

Results: Despite moderate literacy in all three measured domains, we identified gaps of knowledge regarding loan repayment and retirement planning. Students scored higher on "Big 5" items (3.91/5) than medical training-specific items (3.48/5; $P = 0.001$). No significant differences emerged across age, campus, or training year for financial well-being or objective literacy. Perceived and objective literacy were moderately correlated ($r = 0.52$, $P < 0.001$). Interest in additional financial education was high (81%).

Conclusion: Despite moderate financial literacy on basic concepts, medical students exhibit notable gaps in knowledge regarding loan repayment and retirement planning. These findings persist across all years of training, highlighting the need for structured, early financial education to better prepare students for long-term financial security.

Introduction

Financial literacy is essential for long-term stability yet remains underemphasized in medical education. Medical students face substantial financial pressures including debt, limited income, and delayed earning potential, that contribute to stress and financial uncertainty.¹ Financial considerations may influence specialty choice, as greater financial strain, including higher educational debt, has been associated with a decreased likelihood of entering primary care fields such as family medicine.^{1,2} Despite these challenges, structured

financial education is often absent during training, leaving students to navigate complex decisions without guidance.³

Prior studies across multiple institutions have consistently documented gaps in financial literacy among medical trainees and the limited integration of formal financial education into medical curricula.³⁻⁷ Many studies report moderate to low literacy among medical learners, especially in loan repayment, retirement planning, and investing.⁴⁻⁷ Interest in financial education remains high, indicating recognition of these gaps and strong motivation for targeted instruction.⁵⁻¹⁰ Most existing curricula are directed toward residents, representing missed early intervention opportunities.^{3,11,12} This study serves as a contemporary, single-institution, confirmatory assessment to further characterize these well-described trends within a current cohort of medical students.

This study assessed objective and perceived financial literacy and financial well-being among medical students at Mayo Clinic Alix School of Medicine (MCASOM) using previously published and investigator-developed survey items assessing knowledge, confidence, and interest in formal financial education.^{13,14} Both objective and perceived (self-assessed) financial literacy were evaluated, given that these constructs may not always align.¹⁵ These findings aim to inform early financial education initiatives that support long-term financial security among future physicians.

Methods

Study Design

From August 2025 to September 2025, we conducted a cross-sectional, anonymous survey of medical students enrolled at MCASOM. The study was exempted by the Mayo Clinic Institutional Review Board (25–006452). All medical students at all levels of training across the Rochester, Minnesota and Phoenix, Arizona campuses were eligible. The survey was sent to 446 students via institutional email with email reminders at 1 and 3 weeks. Participation was voluntary, anonymous, and uncompensated.

Survey Instrument

Participants completed a one-time online Qualtrics survey (see Appendix). Demographics captured year in training, campus, and age range (collected in categorical ranges). Financial well-being was assessed using the abbreviated Consumer Financial Protection Bureau (CFPB) Well-Being Scale.¹⁴ Perceived financial literacy was measured using seven investigator-developed Likert-scale items evaluating confidence in general and medical training-related finances. Objective financial literacy was assessed using 10 multiple-choice questions: five previously published “Big 5” items assessing core financial concepts and five investigator-developed items addressing medical training-specific topics.¹³

Data Collection and Analysis

We stored responses securely within Qualtrics, with incomplete surveys excluded. We calculated financial well-being scores per CFPB guidelines; perceived literacy was the mean of seven Likert items, and objective literacy the number of correct answers out of 10 (combined score of “Big 5” questions and investigator-developed items).¹⁴ Categorical interpretations of perceived and objective literacy were based on investigator-defined, sample-specific thresholds and were used for descriptive and exploratory purposes. Interpretation guidelines of the CFPB Well-Being Scale, along with the literacy categorization thresholds, are available upon request. We conducted analyses using Python. Descriptive statistics summarize all variables. Analysis of variance (ANOVA) and independent samples *t* tests compared outcomes across class year, age group, and campus. We used a paired *t* test with Cohen’s *d* to compare the two objective literacy subscales; we used

Pearson correlations to assess relationships between perceived and objective literacy, and we classified students as above or below the sample median on each measure to examine misalignment. Ordinary least squares regression with robust standard errors (HC3) predicted each outcome from class year, age group, and campus.

Results

One hundred thirteen of 446 (25%) students completed the survey; demographics are shown in [Table 1](#). Most respondents were aged 18–25 years (58%) and in their first or second year of training (58%). Summary statistics appear in [Table 2](#). All three outcomes fell in the moderate range.

Mean financial well-being corresponded to medium–high wellness in the CFPB index.¹⁴ Most students reported financial concern (64% worried savings would not last; 56% felt they were “just getting by”), though only 27% believed financial limitations would hinder life goals.

Perceived financial literacy was moderate; 41% of students reported low or very low confidence. Confidence was highest for loan topics (85% at least moderately confident in loan management; 65% in understanding average medical student debt) and lowest for retirement concepts (only 22% above-moderate confidence in retirement account types; 31% in preparing for retirement).

Objective financial literacy was moderate. Students performed better on the “Big 5” questions (mean 3.91/5) than on medical training-specific items (mean 3.48/5, $P = 0.001$, $d = 0.34$). Thirty three percent could not explain interest accrual on unsubsidized loans; 31% could not identify Public Service Loan Forgiveness eligibility, and 30% could not distinguish traditional from Roth retirement accounts.

ANOVA and independent samples t tests revealed no significant differences in financial well-being, perceived literacy, or objective literacy across age group or campus. Perceived literacy differed modestly across class year, with second-year medical students reporting the lowest confidence and first-year medical students the highest ($P = 0.046$). Robust regression models predicting each outcome from all three demographic variables

Table 1. Respondents by Year of Training, Age, and Training Location

Year of medical training	Subject count (%)
1	38 (34)
2	27 (24)
3	24 (21)
4	24 (21)
Age (years)	Subject count (%)
18–25	65 (58)
26–30	38 (33)
31–35	9 (8)
36+	1 (1)
Mayo Clinic training location	Subject count (%)
Rochester, MN	49 (43)
Phoenix, AZ	64 (57)

Table 2. Means, Standard Deviations, and Confidence Intervals for Financial Wellness, Perceived Literacy, and Objective Literacy

Outcome	Mean (SD)	95% CI	Scale	Interpretation
Financial wellness	11.96 (4.16)	[1.14, 12.78]	0–20	Moderate
Perceived literacy	3.04 (1.01)	[2.84, 3.24]	0–5	Moderate
Objective literacy	7.15 (2.04)	[6.75, 7.55]	0–10	Moderate

yielded low R^2 values with no models reaching overall significance, though second-year students scored significantly lower on perceived literacy than first-year students (Table 3).

Perceived and objective literacy were moderately correlated (Pearson $r = 0.52$, $P < 0.001$). When students were categorized as above or below the median on each measure, 28% scored above the median on perceived literacy but below the median on objective literacy, while only 6% showed the reverse pattern (Table 4). Overall, 81% expressed interest in structured financial education, including 43% who were very interested.

Discussion

Medical trainees begin practice with limited formal financial education, creating a disconnect between financial pressures faced and tools available for management. In this cohort, students reported meaningful near-term financial stress but relatively few believed financial limitations would hinder long-term life goals, potentially suggesting reliance on high anticipated future income rather than structured planning. This pattern underscores the need to address financial decision-making early, as students may progress into residency with an underdeveloped plan, as evidenced by only 60% of residents budgeting expenses and 40%–56% contributing to retirement savings.¹⁶

Students demonstrated moderate objective financial literacy, yet many lacked understanding of loan mechanics, loan forgiveness programs, and retirement accounts. These gaps are particularly important given the complexity of financial decisions during medical training, where early choices regarding debt management and retirement planning can have significant long-term implications. This cohort's subscore of 3.91/5 on the

Table 3. Group Comparisons and Regression Models

Analysis	Test	Financial wellness	Perceived literacy	Objective literacy
Bivariate comparisons				
Class year	ANOVA	$F = 1.18$, $P = 0.320$	$F = 2.77$, $P = 0.046$	$F = 0.24$, $P = 0.871$
Age group	ANOVA	$F = 0.44$, $P = 0.725$	$F = 1.51$, $P = 0.217$	$F = 1.44$, $P = 0.236$
Campus	t test	$t = 0.84$, $P = 0.403$	$t = 0.17$, $P = 0.864$	$t = 0.14$, $P = 0.888$
Big five vs medical	Paired t	-	-	$t = 3.37$, $P = 0.001$, $d = 0.34$
Regression models (OLS, HC3)				
R^2		0.063	0.126	0.058
Model P		0.111	0.099	0.453

OLS regression with HC3 robust standard errors. Predictors: class year, age group, and campus.

Abbreviations: ANOVA, analysis of variance; HC3, heteroskedasticity-consistent standard error type 3; OLS, ordinary least squares

Table 4. Confidence-Knowledge Relationship

Correlation			
Variables	r	95% CI	P
Perceived × Objective literacy	0.52	[0.36, 0.65]	<0.001
Median split alignment			
Classification			%
Both below median			49.5
Both above median			16.2
Perceived high, objective low			28.3
Perceived low, objective high			6.1

Students scoring exactly at the sample median were categorized as at-or-above the median.

“Big 5” questions alone was comparable to prior findings among highly educated adults.¹⁷ Performance was higher on general “Big 5” concepts as compared to medical training-specific topics, suggesting that students may have greater understanding of broad financial principles than issues directly relevant to their training.

Perceived and objective literacy were moderately correlated, indicating that students' self-assessed confidence generally aligned with their knowledge. However, subgroup analysis revealed that a notable proportion of students (28%) reported relatively high confidence despite lower objective performance, while fewer (6%) demonstrated the opposite pattern. This suggests that although confidence and knowledge generally are related, discrepancies persist for some learners. Financial literacy measures were largely consistent across demographic groups, with only modest variation by class year and no significant differences by campus or age. These findings suggest limited improvement in financial knowledge during medical school in the absence of structured education. At the same time, strong interest in financial education (81%) underscores a clear demand for targeted curricular interventions.

Several limitations should be considered. This was a single-institution, cross-sectional study with a modest response rate, introducing the potential for selection bias and limiting generalizability. Validated instruments specifically designed to assess financial literacy in medical students within the context of medical training are limited. Because of this, perceived financial literacy was assessed using investigator-developed items, and objective literacy included a combination of previously-published general financial items and investigator-developed, medical training-specific questions. As such, the combined objective literacy score represents an exploratory composite measure, and categorical interpretations of both perceived and objective literacy were based on investigator-defined, sample-specific thresholds. These factors may limit comparability with other studies and should be considered when interpreting the findings. Accordingly, results should be interpreted cautiously within the descriptive and exploratory context of the measures used.

Despite these limitations, this study provides a contemporary, single-institution assessment that aligns with prior literature demonstrating gaps in financial literacy among medical trainees. While comprehensive financial curricula may be difficult to implement, evidence suggests that even brief, targeted sessions have been shown to improve trainee financial behaviors and confidence, and elective courses in other health professions have demonstrated meaningful gains in financial knowledge and behaviors.^{18,19} For medical students, integrating focused teaching on topics such as loan repayment, retirement strategies, and practical financial planning may support financial stability and long-term well-being as they enter a demanding and economically complex profession.

Presentations

This study was presented at the 2025 Mayo Clinic Education Research Symposium in December 2025 (Phoenix, AZ) and as an oral presentation at the 2026 AAMC Western Group of Educational Affairs Conference in April 2026 (Tucson, AZ).

Conflict Disclosure

The authors have no conflicts of interest to disclose.

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