



Money Matters: An Educational Intervention to Improve Financial Wellness and Literacy Among Medical Students

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Mooney Savy is a 24-yo 1st year medical student. It is time to renew her FAFSA, but she is not sure how much loan money she should request.



- Among US medical students, **71%** have educational debt with median of \$200,000 medical education debt¹
- Financial stressors such as **poor financial literacy** and **student loan debt** is associated with **burnout** among medical students and professionals^{2,3}

1. AAMC. Medical Student Education: Debt, Costs, and Loan Repayment Fact Card for the Class of 2022. https://store.aamc.org/downloadable/download/sample/sample_id/575/

2. Vengaloor Thomas T, Christian R, Palokas M, Hinton E, Pruett C. Strategies to improve financial literacy and related outcomes among medical students, residents, and fellows in the United States: a scoping review protocol. *JBIG Evidence Synthesis*. 2021;19(1). https://journals.lww.com/jbisrir/Fulltext/2021/01000/Strategies_to_improve_financial_literacy_and.18.aspx

3. Grewal K, Sweeney MJ. An Innovative Approach to Educating Medical Students About Personal Finance. *Cureus*. 2021;13(6). doi:[10.7759/cureus.15579](https://doi.org/10.7759/cureus.15579)

Mooney is already stressed enough with academics. She feels overwhelmed about managing her finances and says, “I wish they taught us this in school!”



Introduce MS1s to financial literacy resources and encourage them to improve their financial health

<h3>Saving & Spending</h3> <p>Account Management, Budgeting</p>	<h3>Debt</h3> <p>Student Loans, Repayment Strategies</p>
 	 <p>AAMC FIRST (Financial Information, Resources, Services, and Tools)</p>

Study Design



Curriculum

MS1 activity:
Pre-recorded videos +
informational handouts

1



Survey

12-question retrospective pre-
post approach

3



Debrief Activity

Building an action plan,
identify key learning
points

2



Data Analysis

Paired t-tests for
Likert-scale items

4

Table 1. MS1 Characteristics (n=77)

Demographics	Total (n=77)	Demographics	Total (n=77)
Age, y	24 ± 3.19	Highest maternal education, n (%)	
Female, n (%)	44 (57%)	Less than high school	2 (3%)
Race/ethnicity, n (%)		High school	5 (6%)
White	12 (16%)	College or technical training	20 (26%)
Asian	58 (75%)	Bachelor	29 (38%)
NHPI	5 (6%)	Master	6 (8%)
Other	2 (3%)	Doctorate	1 (1%)
Marital Status, n (%)		Professional	14 (18%)
Married/Partner	4 (5%)	Highest paternal education, n (%)	
Single	73 (95%)	Less than high school	3 (4%)
Have dependent children, n (%)	2 (3%)	High school	8 (10%)
Educational-related debt, \$	34,600 ± 60,600	College or technical training	15 (20%)
Education-related debt, n (%)		Bachelor	17 (22%)
No debt	42 (55%)	Master	11 (14%)
\$1-\$50,000	16 (21%)	Doctorate	1 (1%)
\$50,001-\$100,00	10 (13%)	Professional	22 (29%)
\$100,001-\$150,000	4 (5%)		
\$150,001-\$200,000	3 (4%)		
\$200,001-\$250,000	1 (1%)		
\$250,001-\$300,000	1 (1%)		

Values are mean ± SD or n (%).

Saving and Spending



Account Management

Budgeting

Banking Vocab

Types of Bank Accounts

Budgeting Vocab

Building a Budget

Med School Expenses

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Saving and Spending: Account Management and Budgeting

Education Priorities

A strong foundation in managing what flows into and out of your bank accounts

Blue boxes = personal recommendations

Banking Vocab

Liquidity = ability to turn an asset into cash easily and quickly

APR

YOU PAY

(Interest amount paid on a loan)

FACTORS IN:

- INTEREST RATE
- FEES
- MISC. LOAN COST
- COMPOUNDING INTEREST

APY

YOU EARN

(Interest earned earned on an asset)

FACTORS IN:

- INTEREST RATE
- FEES
- MISC. LOAN COST
- COMPOUNDING INTEREST

Annual Percentage Rate (APR) = interest rate you pay with auto loans, credit cards, home loans, etc. You want a **low APR** (see Debt LI).

Annual Percentage Yield (APY) = interest rate you earn from checking/savings accounts, investment accounts, etc. You want a **high APY**.

Key Points

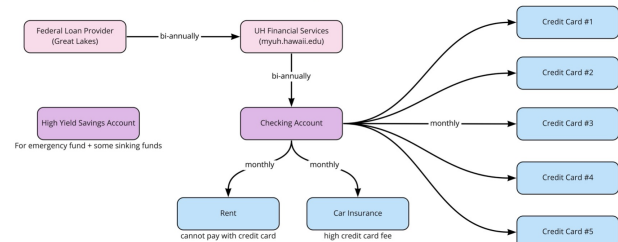
- When saving/investing, you want an account with high APY (you earn interest from the bank)
- Build up an emergency fund and keep it in a HYS
- Personal finance apps and auto-pay can help to manage your accounts
- If living off loans, estimate your annual expenses and budget so you only take out as the loans as you need
- Medical school sinking expenses can be \$1-6K per year

Types of Bank Accounts

Checking Account	Pros	Cons	Best for
High Yield Checking Account (AKA interest checking, high-yield checking)	<ul style="list-style-type: none"> High liquidity Comes with debit cards and paper checks 	<ul style="list-style-type: none"> Low APY (0.01%) Everyday deposits and spending 	Debit card users

Savings Account	Organization tips	Recommendations
High Yield Savings (HYS) Account	<ul style="list-style-type: none"> Use a money management app to keep track of all your accounts Consolidate login info for all accounts Set up auto-pay for bills. If auto-pay is not available, set a calendar reminder. 	<ul style="list-style-type: none"> Mint by Intuit, Personal Capital Use a separate email for all your finance accounts. Password for financial accounts should be different. Keep login info (usernames and account #, user passwords) somewhere safe. Ask your credit card company to change the payment due date to the 1st of the month.

Where is money transferred and how often? My account network example:



(see Credit LI for more on credit cards)

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Budgeting Vocab



- A popular budgeting strategy is the **50/30/20 rule**: spend 50% on needs, 30% on wants, and 20% on savings
- While this may work for people with a stable income, the "savings" category may not make sense for students living off loans. For example, you want to save for an emergency fund, but you would not take out extra loans to save for retirement or investing.
- Instead, you may want to estimate your annual expenses and calculate your debt : income ratio (see Student Loans LI)

The **JABSOM Medical School Emergency Loan** allows students to borrow emergency money upon application to JABSOM Financial Aid. Full repayment is due within 90 days with no interest (0% APR).

- You should **ALWAYS** have an emergency fund saved up for unexpected expenses
- General rule: 3-6 months of living expenses

Fixed VS Variable Budget Categories

- FIXED**: Monthly expenses that stay the same every month
 - Car Insurance
 - Car Payment
 - Student Loans
 - Rent
- VARIABLE**: Expenses that change month-over-month
 - Food
 - Personal Care
 - Shopping

ZERO-BASED budgeting: Give every dollar a job.

EMERGENCY FUND: Unexpected expenses, \$1,000 to start (build up 3-6 months of living expenses), kept in a separate, high-yield savings account.

SINKING FUND: Infrequent but planned expenses, varies depending on goal, can be kept in multiple savings accounts or cash envelopes.

Some Types of Budgeting

- No matter your budgeting strategy, you should categorize your expenses
- Fixed vs variable expenses** help you to determine how flexible you can be when saving for an expense category. Fixed expenses are not flexible; they are the same dollar amount every month/year.
- Zero-based budgeting (ZBB)** is a strategy where you give every dollar a job. Every dollar you earn is assigned to an expense. Think of this as adding cash into virtual envelopes labeled for different expenses. Ex. Earn \$2K in income from loans every month → \$2K is assigned to an expense category. ZBB sounds great... but what if I have a big expense that does not occur monthly? → sinking funds!
- Sinking funds are non-monthly expenses** that you still want to save for monthly, but do not spend

MECE METHOD: When creating budgeting categories, think MECE: mutually exclusive (no overlap) and collectively exhaustive (encompasses all expenses).

Example budget categories using ZBB:

Budgeting Category	Expense Type	Expenses	Description
Monthly fixed expenses	Fixed expenses	Rent, car insurance, Spotify, wifi, gym membership	Bills with the same amount due every month
Living expenses	Variable expenses	Utilities, groceries, gas, household items	Needs that occur every month but fluctuate
Emergency fund	Variable expenses	Unexpected car repairs, tech repairs, home repairs, hospital emergencies, vet bills	Money is saved to this category every month until it is fully funded
Yearly fixed expenses	Fixed expenses, but treat this as a sinking fund	Health/pet insurance premium, car registration, JABSOM malpractice and disability insurance	Bills with the same amount due every year
Just for fun	Variable expenses	Dining out, shopping, coffee shops, self care, random gifts	Wants that occur every month but fluctuate
Sinking funds	Variable expenses	Medical bills, parking, birthdays, Christmas, travel	Expenses that vary in frequency and amount

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Med School Expenses

JABSOM Sinking Funds estimates (not including tuition)

	MS1	MS2	MS3	MS4
JABSOM malpractice & disability insurance	\$62	\$62	\$62	\$62
USMLE exams	--	Step 1: \$660	Step 2 CK: \$660	--
High-yield board resources	AMBOSS student-life with JABSOM discount: \$630	UWorld: \$399	UWorld: \$600	--
Parking	LOT C 1 year: \$650	LOT C 1 year: \$650	Hospital parking ~\$6/day (depends on stay): \$1,200	--
Research conferences	\$500 - \$500 = \$0	\$1K - \$500 = \$500	\$1K - \$500 = \$500	\$500 - \$500 = \$0
Residency applications	--	--	--	\$1.6K (70 apps)
Residency interviews	--	--	--	Travel costs: \$4K
TOTAL	\$1,342	\$2,271	\$2,962	\$5,662

The JABSOM Travel Reimbursement for Research Presentations funds up to \$500 for one research conference every academic year. Cannot split this within the same year (i.e. \$200 for conference #1, \$300 for conference #2)

MS2: Extra Board Resources (varies)

	AMBOSS	Rx QBank	Kaplan QBank	Osmosis	Prioritize Complete	BnB	Pathoma
1 month	\$59	\$79				\$49	
3 months	\$149	\$129	\$149			\$129	\$84.95
6 months	\$279	\$179	\$179	\$179	\$150	\$149	
12 months	\$365	\$249	\$199	\$199	\$200	\$249	
Other	Student life \$779	24 months \$349	\$299	2 years \$279	18 months \$249	2 years \$209	21 months \$119.95

- References:
- Bankrate: Best high-yield savings accounts in July 2022. <https://www.bankrate.com/banking/savings/best-high-yield-savings-accounts/>
 - Investopedia: Best High-Interest Checking Accounts. <https://www.investopedia.com/best-high-yield-checking-accounts-5070302/>
 - AAMC: The Cost of Interning for Residency. <https://academic.residency.aamc.org/financial-aid-resources/consulting-residency-aamc-the-cost-of-applying-for-medical-residency>
 - Students: <https://students.residents.aamc.org/financial-aid-resources/consulting-residency-aamc-the-cost-of-applying-for-medical-residency>

WHAT YOU SEE: Spending less than you earn

WHAT YOU WANT: Living the same lifestyle every night

WHAT YOU NEED: Building sustainable habits

WHAT YOU CAN'T LIVE WITHOUT: Prioritizing factors you need to survive

Budgeting should reflect your personal values. Instead of thinking of it as a restrictor, take it as an opportunity to self-reflect. For example, if you find out you spend more money on shopping than dining out, but you value dining out more, then you can re-allocate your money appropriately.

Debt



Student Loans

Repayment Strategies

Debt-to-income ratio

FAFSA

Federal Student Loans

Personal Student Loans

Loan Repayment Timeline

Loan Repayment Programs

Debt: Student Loans and Repayment Strategies

Education Priorities
Majority of med students have student loans. Know your loan details and repayment options to ensure a debt-free future.

Debt: Student Loans, Repayment Strategies

Blue boxes = personal recommendations

Saving and Spending: Account Management, Budgeting

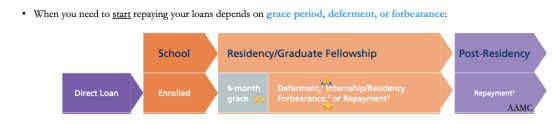
Credit: Credit Score, Credit Cards

- Key Points**
- "Keep your debt-to-income ratio under 2X" - WCI
 - Apply to FAFSA by Feb 1 to qualify for the JABSON Opportunity Grant
 - For federal loans, subsidized loans accrue interest after the grace period; unsubsidized loans accrue interest starting the day of disbursement
 - As of now, federal student loans have an interest rate of 0% until Aug 31
 - Generally, federal student loans offer a lower interest rate than private student loans
 - You are not required to make federal student loan payments during med school, but you can if you want to
 - There are many scholarships, loan forgiveness, and loan repayment plans that allow you to reduce your overall student debt

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Loan Repayment Timeline



Grace period	Deferment	Forbearance*
Time when you are not required to make payments. You can still make payments during these periods if you'd like.	Often must apply and qualify	Must apply and qualify
6 mo grace period automatically applied to Direct Loans upon graduation	Subsidized loans do not accrue interest ☺ Unsubsidized loans accrue interest ☹	Both subsidized and unsubsidized loans accrue interest ☹

*During residency, you are eligible for Mandatory Medical Internship/Residency Forbearance, but you must apply for it.

"Deferral and forbearance are almost never the right move, despite how commonly residents choose these options." - WCI. Want to know why? Read WCI!

When your full loan payment is due (i.e. loan term) depends on your loan repayment plan (some examples on next page)

Student Loan Stats	
c/o 2021 average student debt	> \$215,000
JABSON graduates	> \$215,000
All public medical school graduates	\$194,280
% public med school graduates with student loan debt	74%

More med student debt statistics on [AAMC Fact Card for Class of 2021](#)

Debt-to-income ratio

Debt-to-income ratio = total debt (including accrued interest) at the end of residency attending starting salary

From the White Coat Investor (WCI). Note these projections assume diligent loan payment and smart budgeting through residency:

- "At 1X, [medical school] is an excellent investment. With careful financial management...you can pay off that debt within 2 years of completing your training...I encourage professional students borrowing money to aim for this ratio."
- "At 2X, the [medical school] investment was not as good. However, it is probably still an acceptable ratio. With careful financial management, this debt can be cleared within 5 years..."
- "At 3X, ... I can no longer describe this decision [medical school] as a good investment...Unless this doctor figures out a way to boost income significantly, the doc is going to struggle just to get the debt paid off within a decade after finishing training."

FAFSA

To qualify for federal student loans, you must complete FAFSA online. FAFSA opens on Oct 1, closes on June 30.

Apply by priority deadline Feb 1 to qualify for Opportunity Grant (i.e. free money!). Put a check for Oct 1 (FAFSA opens) and Feb 1 (priority deadline).

GRANTS

JABSON Opportunity Grant

This fund is specific to JABSON and is awarded based on merit basis until depleted. The current award amount for the academic year:

To be eligible, you must meet the following criteria:

- Completed the FAFSA before the February 1st priority deadline
- Be a resident of the State of Hawaii
- Demonstrate financial need

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Types of Federal Student Loans

Direct loans = Stafford loans = federal government lends you money. Table below only focuses on undergrad and grad. Other terms apply for professional school, parents of undergrads, etc.

Type of loan	Who qualifies?	Interest rate July 1, 2021 - June 30, 2022	Interest rate July 1, 2022 - June 30, 2023	Loan fees (disbursed on or after Oct 1, 2020)	Max total students borrow per year
Direct subsidized	Undergrad Need-based	Fixed 3.73%	Fixed 4.99%	1.057%	∞
Direct unsubsidized	Undergrad, grad Regardless of need	Fixed 5.28%	Fixed 6.54%	1.057%	\$40,500
Direct (Grad) PLUS*	Grad Regardless of need	Fixed 6.28%	Fixed 7.54%	4.228%	Remainder of cost not covered by other grants, scholarships, and federal loans

*Gov will check your credit score. If poor credit score, you may need an endorser (with good credit score) who agrees to repay loan if you do not.

Federal vs Private Student Loan	
Federal loans	Private loans
Lender = gov	Lender = banks, credit unions, private lenders
Lower interest rates (generally)	Higher interest rates
Fixed interest rates	Fixed or variable interest rates
Do not need good credit score or cosigner (except Direct PLUS loans)	Will check your credit score
Restrictive loan max	May have less restrictive loan max

Generally, you want to max out your federal student loans before taking out a private loan

Student Loan Payment Pause Extended Through Aug. 31, 2022

On April 6, 2022, the U.S. Department of Education (ED) extended COVID-19 emergency relief for student loans through Aug. 31, 2022. The emergency relief includes the following measures for eligible loans:

- a suspension of loan payments
- a 0% interest rate
- stopped collections on defaulted loans

Just because student loan interest rates are 0% until Aug 31 does not mean you take out more loans than you need. Remember, you still get charged a non-refundable loan fee.

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Sneak Peak of Loan Repayment Options

Take home message: there are many ways that you can reduce your student loans after graduation. Note that this is not a comprehensive list.

Loan Forgiveness	Description
Public Service Loan Forgiveness (PSLF)	Erase any federal student loan balance remaining after you make 10 years of payment while working for non-profit or public institution (which many hospitals are)
NHSC Scholarship	Full tuition scholarship + monthly stipend during medical school. For every year that you receive the scholarship you must work for 1 year in primary care in a HPSA. Minimum 2 year service.
NHSC Student to Service Loan Repayment Program	Up to \$120,000 in student loan repayment for MS4s who agree to work full-time for at least 3 years in primary care in a HPSA
NHSC Loan Repayment Program	Up to \$50,000 in student loan repayment for primary care physicians who work at least 2 years in a HPSA
NHSC Substance Use Disorder Workforce Loan Repayment Program	Up to \$75,000 in student loan repayment for primary care doctors who work at least 3 years doing substance abuse treatment at an approved substance use disorder facility with a HPSA score
NHSC Rural Community Loan Repayment Program	Up to \$100,000 in student loan repayment for primary care doctors who work at least 3 years combating the opioid epidemic at a rural, approved substance use disorder facility with a HPSA score
Hawaii State Loan Repayment Program	Up to \$50,000 per year in student loan repayment for primary care physicians who work at least 2 years in a HPSA
NIH Loan Repayment Programs	Up to \$50,000 in student loan repayment per year for doctors in biomedical or biobehavioral research careers
Indian Health Service Loan Repayment Program	Up to \$40,000 in student loan repayment for doctors who work at least 2 years in communities that serve American Indian or Alaska Native populations
Military programs	Various scholarships and loan repayment options

National Health Service Corps (NHSC) have a scholarship and loan repayment programs for students who go into "primary care (Family medicine, internal medicine, pediatrics, OB/GYN, geriatrics, psychiatry) and serve in a Health Professional Shortage Area (HPSA)

In 2022, Hawaii has 32 HPSAs:

PRIORITY CARE: Hawaii County and County Equivalent Listing

Hawaii County
Geographic Area: Hawaii County
Facility: Bay Clinic, Inc.
Facility: EAST HAWAII HEALTH CLINIC AT 1190 MAIWAHEU
Facility: EAST HAWAII HEALTH CLINIC AT PU'OHONO MAY
Facility: FTOR HOSPITAL, HAWAII, INC
Facility: Hanalei Health Center Inc
Facility: Hawaii Community Correctional Center
Facility: KAU HOSPITAL RURAL HEALTH CLINIC
Facility: PONO COMMUNITY MEDICAL CENTER
Facility: West Hawaii Community Health Center Inc

Honolulu County
Geographic Area: Oahu Akaa
Facility: CASTLE HEALTH CLINIC OF LAIE
Facility: FDC - Honolulu
Facility: Halewa Correctional Facility
Facility: KALEIA PAKOHA HEALTH CENTER
Facility: Ko'olauloa Health Center
Facility: Kona Palani Valley (Comprehensive Family Services)
Facility: Kona Community Health Center
Facility: THE CLINIC AT KAHUO MEDICAL CENTER
Facility: WAIANA CLINIC FOR COMMUNITY HEALTH, THE
Facility: WAIANA DISTRICT COMPREHENSIVE HEALTH AND HOSPITAL BLDG, INCORPORATED
Facility: WAIKIKI HEALTH
Facility: Waimanalo Health Center

Kauai County
Geographic Area: Kauai County
Facility: HO'OLA LAOUI HAWAII INC

Maui County
Geographic Area: Maui County
Facility: Community Clinic of Maui, Inc.
Facility: Hana Community Health Center
Facility: Lanai Community Health Center
Facility: Maui Community Correctional Center
Facility: MELIOLA GENERAL HOSPITAL
Facility: Molokai Ohana Health Care, Inc

What makes this innovation unique?

- Easy-to-digest **infographic** format
- Concise, high-yield information
specific to medical students
- Small, **actionable steps** for immediate behavioral change

Debrief Activity



Actionable Steps



Peer Teaching



Mentor Reflection



Table 2. Pre-/Post-activity survey results

Question	Before	After	Delta	P value
Q1: I feel confident about my personal finance knowledge and skills	2.38 (0.75)	3.06 (0.54)	0.68 (0.53, 0.83)	<0.001
Q2: I can distinguish between checking and savings accounts and describe their basic characteristics	3.16 (0.89)	3.59 (0.55)	0.43 (0.26, 0.61)	<0.001
Q3: I appreciate the importance of debt management	3.30 (0.65)	3.77 (0.43)	0.47 (0.32, 0.60)	<0.001
Q4: I am confident that I can build a strategy to manage any financial debt I might owe at the end of medical school	2.77 (0.75)	3.33 (0.586)	0.56 (0.40, 0.73)	<0.001
Q5: I understand the meaning of the terms "interest rate", "loan fee", and "subsidized/unsubsidized", as they relate to student loans	2.49 (0.85)	3.57 (0.50)	1.07 (0.89, 1.25)	<0.001
Q6: I am aware of medical student loan repayment options	2.43 (0.98)	3.51 (0.50)	1.07 (0.86, 1.29)	<0.001
Q7: I feel that personal finances will impact what specialty I choose	2.55 (0.83)	2.70 (0.85)	0.15 (0.03, 0.26)	0.017
Q8: I feel that personal finances will impact where I choose to practice	2.57 (0.87)	2.74 (0.92)	0.17 (0.05, 0.30)	0.006
Q9: I believe that financial health should be a key part of my overall wellness plan	3.33 (0.61)	3.78 (0.45)	0.45 (0.32, 0.58)	<0.001

Students answered “Strongly Disagree” (1), “Somewhat Disagree” (2), “Somewhat Agree” (3), or “Strongly Agree” (4) to each question. The corresponding numerical values were used in calculating the average competence scores. Out of the 77 students who participated in the activity, 69 (90%) completed the survey. Values are mean (SD) or mean (95% CI). P value was calculated with paired t-test.

Table 3. Activity Evaluation



Question	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree	Mean Likert
Q10: This activity motivated me to learn more about financial literacy	1 (1%)	1 (1%)	26 (38%)	41 (59%)	3.55 (0.61)
Q11: This activity increased my understanding of financial literacy	1 (1%)	0 (0%)	25 (36%)	43 (62%)	3.59 (0.58)
Q12: This activity should be continued for future MD1 classes	0 (0%)	0 (0%)	19 (27%)	50 (73%)	3.72 (0.45)

Students answered “Strongly Disagree” (1), “Somewhat Disagree” (2), “Somewhat Agree” (3), or “Strongly Agree” (4) to each question. The corresponding numerical values were used in calculating the average competence scores. Out of the 77 students who participated in the activity, 69 **(90%) completed the survey**. Values are n (%) or mean (SD).

Mooney now understands the importance of her financial health and has the resources to make smart, proactive financial decisions.

Reduce financial stress →
Reduce medical student burnout



Conclusion



A short instructional video + group discussion is associated with improved understanding, confidence, and appreciation of personal finance among medical students and can be an effective model for addressing financial literacy, a sometimes under-appreciated aspect of student wellness.