Evaluating the Impact of Social Connectedness on Medical Student Performance and Satisfaction

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Introduction

- There has been little research done to evaluate the impact that social connectedness has on medical student performance and perception of their performance.

- Restrictions on the extent of social interactions during medical training due to the COVID-19 pandemic for the WSUSOM Class of 2024 may have long-lasting consequences for the well-being and success of these future physicians.

- The WSUSOM Class of 2024 more barriers to developing new social relationships amongst colleagues.

- Collecting data about the social characteristics influencing medical student performance and their satisfaction with their performance can facilitate identification of which variables best determine both medical student performance and satisfaction with their performance.

- Data gathered from this project will allow for modifications to the WSUSOM medical education curriculum and wellness initiatives to support groups of students who score poorly on the Johns Hopkins Learning Environment Scale (JHLES), Mayo Clinic Medical Student Well-Being Index (MSWBI), and researcher generated survey.

Methods

- Administration of Qualtrics survey to third year medical students at WSUSOM.

- Target response number of N = 30.

- Survey will evaluate components of social connectedness.

- Survey questions will be evaluated by calculating means and standard deviations for the individual scales being used in this study.

- The entire survey will essentially be comprised of 3 sub-surveys:
    - 1. Researcher-generated survey – evaluates student demographics, academic performance, social connectedness variables, and WSUSOM specific variables
    - 2. Johns Hopkins Learning Environment Scale (JHLES) – evaluates learning environment characteristics
    - 3. Mayo Clinic Medical Student Well-Being Index (MSWBI) – evaluates overall student well-being

Results

- We are currently awaiting IRB approval before data collection begins.

- Data presented is representative of our expected outcomes.

- Our working hypothesis is that social connectedness correlates with both medical student performance and perception of learning environment characteristics.

- Figure 1. MSWBI mean scores and student "At-Risk" percentages will allow us to identify groups of students that are at greater risk of:
    - Suicidal ideation
    - Poor mental quality of life
    - Burnout
    - Severe fatigue
    - Serious consideration of dropout
- Figure 2. JHLES Subscale Scores plotted against various student characteristics.

- Figure 3 (TBD). We will use our researcher-generated survey questions to evaluate quantity and quality of social contact of students. Statistical methodology for this part of the survey has yet to be finalized.

Results

Student Characteristic	Mean Score	Percent with "At-Risk" Score[1]
Gender		
Female	3.31 (0.56)	26.25%
Male	3.52 (0.75)	39.11%
Other	3.24 (0.81)	32.19%
Race		
Caucasian	3.07 (1.09)	22.35%
African American	3.77 (0.53)	31.49%
Asian	3.64 (0.19)	27.10%
Hispanic	3.27 (0.88)	44.33%
Other	3.11 (0.68)	30.09%
Academic Performance		
Honored 2 years (1st and 2nd)	3.44 (0.32)	23.31%
Honored 1 year (1st or 2nd)	3.58 (0.44)	28.02%
Passed with no course failures	4.06 (0.57)	35.41%
Passed with one or more course failures	4.88 (0.37)	65.04%

Figure 1. MSWBI, Mean (SD). MSWBI survey data is stratified by gender, race, and academic performance to identify if there are any significant score disparities between any of the subcategories contained within gender, race, and academic performance. We hypothesize that males, underrepresented minorities, and those who have poor academic performance tend to have higher scores on the WSWBI indicating worse overall well-being.
[1]Defined as students with score ≥4. These students are at greater risk of suicidal ideation, poor mental quality of life, burnout, severe fatigue, and serious consideration of dropout.

Student Characteristic	Academic Climate	Community of Peers	Faculty Relationships	Inclusion and Safety	Meaningful Engagement	Mentoring	Physical Space
Gender							
Female	3.98 (0.44)	3.86 (0.56)	3.01 (0.14)	4.11 (0.23)	2.87 (0.43)	4.75 (0.11)	3.55 (0.20)
Male	3.25 (0.72)	3.11 (0.97)	2.76 (0.36)	2.76 (0.48)	2.59 (0.28)	3.30 (0.72)	3.16 (0.27)
Other	3.88 (0.64)	2.41 (1.21)	2.99 (0.24)	4.13 (0.45)	3.33 (0.17)	3.11 (0.83)	2.79 (0.86)
Race							
Caucasian	4.25 (0.09)	3.22 (1.12)	3.93 (0.34)	4.33 (0.43)	3.48 (0.73)	4.02 (0.35)	3.98 (0.47)
African American	2.74 (0.21)	2.19 (0.28)	2.53 (0.47)	1.76 (0.67)	2.04 (0.18)	1.99 (0.39)	2.17 (0.37)
Asian	3.44 (0.49)	4.28 (0.16)	4.01 (0.27)	3.55 (0.51)	4.40 (0.19)	4.21 (0.33)	3.88 (0.12)
Hispanic	2.02 (0.42)	2.33 (0.45)	2.10 (0.10)	2.22 (0.13)	2.20 (0.18)	2.09 (0.18)	2.07 (0.20)
Other	3.20 (0.31)	3.13 (0.49)	2.61 (0.38)	3.28 (0.28)	2.57 (0.35)	1.88 (0.39)	2.10 (0.07)
Academic Performance							
Honored 2 years (1st and 2nd)	4.01 (0.46)	4.31 (0.21)	3.45 (0.43)	4.03 (0.54)	3.40 (0.14)	4.44 (0.22)	3.97 (0.68)
Honored 1 year (1st or 2nd)	3.66 (0.70)	3.11 (0.83)	2.29 (0.36)	4.01 (0.32)	3.04 (0.37)	4.22 (0.16)	3.42 (0.15)
Passed with no course failures	3.44 (0.19)	2.01 (0.53)	1.91 (0.35)	3.28 (0.22)	2.46 (0.41)	1.88 (0.26)	2.72 (0.17)
Passed with one or more course failures	3.06 (0.34)	1.95 (0.28)	1.87 (0.23)	2.63 (0.19)	2.21 (0.32)	1.74 (0.15)	1.97 (0.28)

Figure 2. JHLES Subscale Scores, Mean (SD). JHLES survey data is stratified by gender, race, and academic performance to identify if there are any significant disparities between any of the subcategories contained within gender, race, and academic performance. We hypothesize that males, underrepresented minorities, and those who have poor academic performance tend to have lower scores across all subscales of the JHLES.

Conclusion

- This study will be one of few evaluating the impact of social connectedness on medical student performance and satisfaction with their performance.

- Males, students belonging to underrepresented minorities, and students who have poor academic performance are more likely to identify their learning environment characteristics as being of worse quality, have lower overall well-being, have less social contact per week with others, and lower quality social contact with others.

- A medical student's degree of social connectedness (both quantity and quality of social contacts) is highly correlated with overall well-being and the perception of the characteristics of that student's learning environment.

- This study will be a primary step in evaluating which components of social connectedness are most influential and may inform a structure of medical training that facilitates connectedness.

References

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