

# Assessing the learning environment at two medical schools with learning communities: Johns Hopkins and University of Virginia

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## Introduction

- The learning environment (LE) encompasses the physical, social and psychological contexts in which students are immersed, and holds significant influence on how medical students (MS) form their professional identities.
- The Johns Hopkins LE Scale (JHLES), a 28-item survey, was recently developed to assess how MS perceive the resources available in the LE to assist them in their professional formation.<sup>1</sup>
- Learning communities (LCs), new to medical education, may impact the LE, but studies are lacking. We sought to characterize MS LE perceptions at two LC schools: University of Virginia and Johns Hopkins.

## Methods

- In the late spring of 2013, actively enrolled medical students in years 1-3 at Johns Hopkins University School of Medicine and University of Virginia School of Medicine were sent the 28-item JHLES to complete on-line. Students rated their agreeableness with each item on a 5-point Likert scale.
- Students were also asked to rate their overall perception of the learning environment as exceptional, good, fair, poor, or terrible.
- Composite (total) JHLES scores and average domain scores were compared with Mann-Whitney U tests and Kruskal-Wallis tests by gender, and race, respectively.
- Composite JHLES scores were also analyzed by overall perception of the LE with the Kruskal-Wallis test.

## Results

Figure 1: Composite JHLES Scores by Overall LE Perception

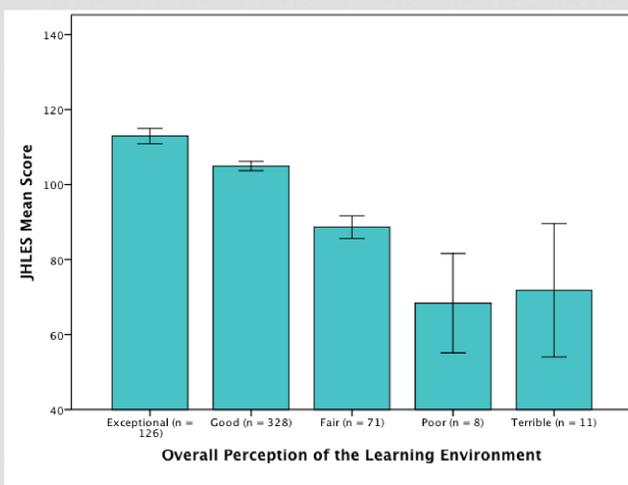


Table 1: Composite JHLES Scores by Gender and Race

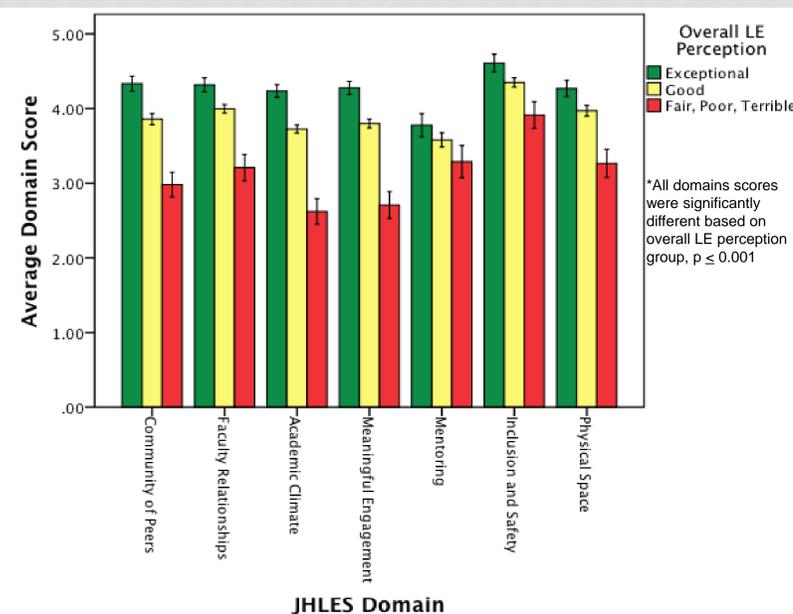
Demographics: (No significant differences)	N	Mean JHLES Score	Standard Deviation
<b>Gender</b>			
Female	268	103	15
Male	276	104	15
<b>Race</b>			
Asian	147	105	15
White	299	103	16
Under Represented Minority	87	106	15

### Demographic Differences in JHLES Scores

Academic climate and meaningful engagement domain scores were significantly different by race,  $p = 0.023$  and  $p = 0.039$ , respectively.

- White students had significantly higher academic climate scores (3.71) than URM students (3.59),  $p = 0.013$
- Asian students had significantly higher meaningful engagement scores (3.90) than White students (3.66),  $p = 0.011$

Figure 2: Mean JHLES Domain Scores by Overall LE Perception



### JHLES domains differing most between MS ratings of overall LE as exceptional vs. fair/poor/terrible:

- Academic Climate.....1.61 difference
- Meaningful Engagement.....1.57 difference
- Community of Peers.....1.35 difference

### Johns Hopkins Learning Environment Survey (JHLES)

All survey items are rated on a 1-5 Likert Scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Community of Peers	I feel connected to other School of Medicine (SOM) students
	I feel supported in your personal and professional pursuits by other SOM students
	It's been easy to make friends at the SOM.
Faculty Relationships	I feel a sense of community at the SOM.
	I feel sense of belonging during my time as a student at the SOM?
	I feel that SOM faculty members I encounter are supportive of my professional goals.
	I feel that SOM faculty members have taken the time to get to know me.
Academic Climate	I feel that SOM faculty members I encounter genuinely care about my well-being.
	I've encountered an abundance of positive, inspiring faculty role models at the SOM.
	There are faculty members that I feel comfortable confiding in when important concerns come up.
	Our medical school's curriculum allows me to use my preferred learning style.
Meaningful Engagement	I feel that course exams and assessments test my knowledge and abilities fairly.
	I understand the goals and objectives of the SOM curriculum.
	I trust that the institution fulfills my needs as a medical student
Mentoring	The workload during medical school is manageable.
	The SOM engages students as meaningful participants.
	The SOM is flexible and responsive to my needs as a student.
Inclusion & Safety	I feel that I have a say in decision making about courses and curricular changes.
	The SOM encourages scholarship and innovation.
	I've found a mentor in a research field that interests me.
Physical Space	I've found a mentor in a clinical specialty or discipline that I am passionate about.
	I am concerned that students are mistreated at the SOM.
	I sense there is discrimination based on gender, race, ethnicity, or sexual identity at the SOM.

Please rate your overall perception of the learning environment at SOM. The learning environment is the physical, educational, social, and psychological context in which you learn in at the SOM.

- Exceptional
- Good
- Fair
- Poor

## Discussion

- The JHLES is a brief, useful tool in understanding students' perceptions of the medical school LE.
- Across two LC schools, the three domains that appear to have the biggest impact between students perceiving the LE as fair to terrible compared peers perceiving the LE as excellent are academic climate, meaningful engagement, and community of peers.
- Understanding the relationship between students' adaptive responses to the LE and academic outcomes will be a focus for future study.
- Looking ahead, individual JHLES scores could be used to identify and assist students who may be struggling in the LE or less able than peers to utilize resources for their professional growth.
- Limitations include recall bias, and students being surveyed at one point in time.

1. Shochet RB, Colbert-Getz JM, Wright SM. The Johns Hopkins Learning Environment Scale: Measuring Medical Student Perceptions of the Processes Supporting Professional Growth. Acad Med. In Press