

Differences in Perceived Stress Scale scores among medical students between key demographic groups

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Introduction

The need for a diversity among medical providers has been established^{1,2}. To achieve this, medical schools must seek and train increasingly diverse student bodies. However, medical education and training is neither passive nor benign. Research has shown that:

- Being a medical student is associated with a greater degree of perceived stress, and higher rates of depression, anxiety, and burn out compared to their peers of similar age and prior educational attainment³;
- Economic, social, and demographic factors affect the experience of stress and the development of anxiety, depression, and burn out^{4,5};
- The learning environment is a source of stress regardless of demographic background^{6,7};
- And that these factors negatively impact the health and well-being of the student, ultimately detracting from academic success and sense of fulfillment in medical training^{8,9}.

Objectives

Compare perceived stress during undergraduate medical education between 4 key demographic groups, colloquially known as “non-traditional” students, to help guide student support services for constructive stress management.

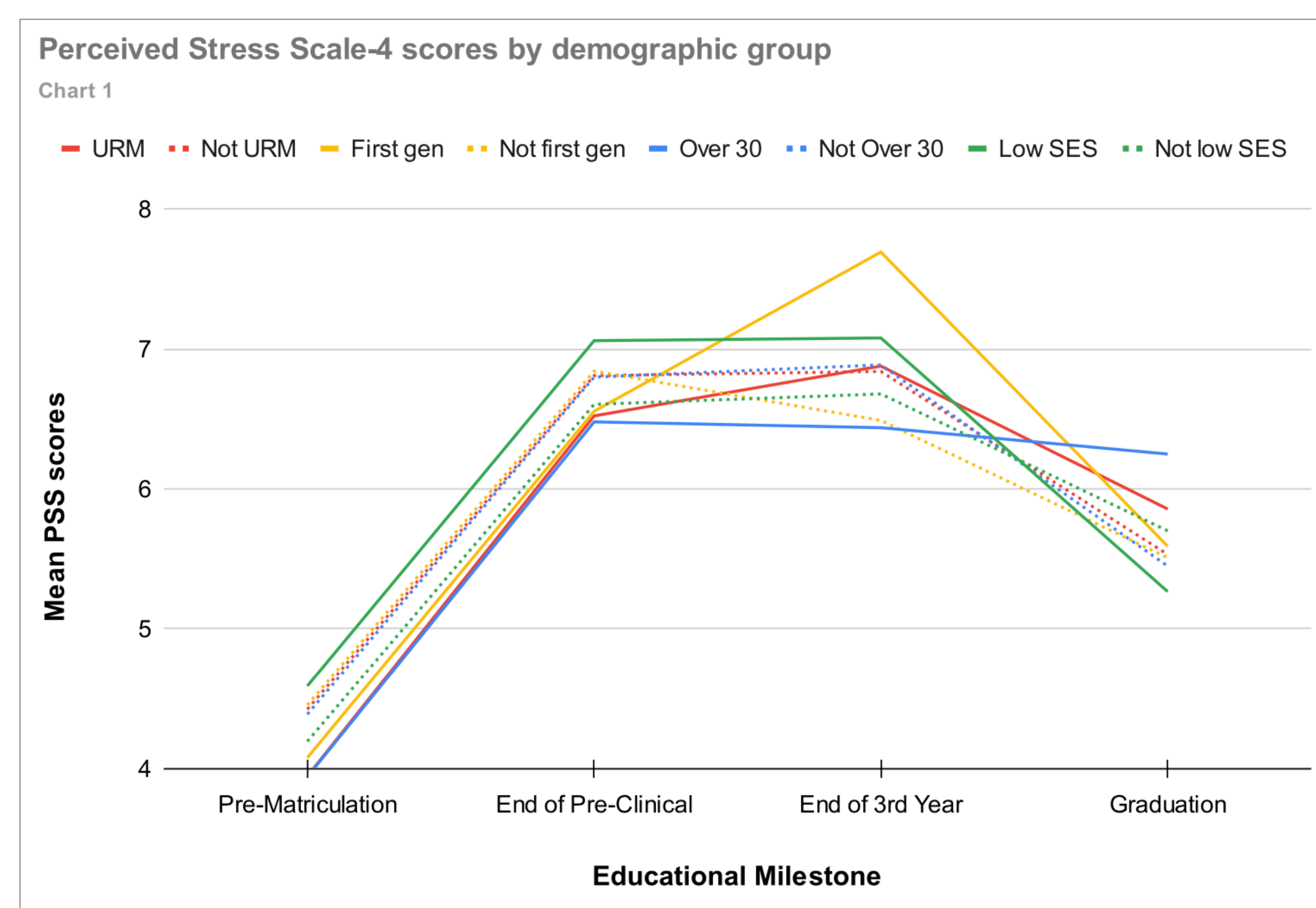
Methods

Beginning in 2017, program evaluation survey data, which includes the Perceived Stress Scale-4 (PSS), has been collected from all cohorts at four educational milestones. Working with this deidentified data set, in accordance with an IRB-approved protocol, mean PSS scores were compared using independent samples t-tests between key demographic groups:

- Under-Represented in Medicine (URM) [v not URM]
- Low Socioeconomic Status (SES) [lower 2 v upper 3 tiers]
- First-Generation college student (First-gen) [v continuing-gen]
- Age 30 or older at matriculation (Over30) [v 29 or younger]

Results

- Prior to matriculation and after the pre-clinical phase, the URM, First-gen, and Over 30 groups reported lower stress;
- The URM, First-gen, and Low SES groups reported higher stress at the end of third-year clerkship rotations (chart 1).



- At the end of third-year clerkships, First-gen students had significantly higher PSS scores than their continuing-generation peers (table 1).

Table 1

First-Generation Student Stress Statistics						
Educational Milestone	First Gen status	N	Mean PSS score	SD	t	2-sided significance
Pre-matriculation	Yes	103	4.0777	2.64089	-1.288	0.199
	No	255	4.4549	2.45369		
End Pre-Clinical phase	Yes	63	6.5556	3.20674	-0.623	0.534
	No	172	6.843	3.10702		
End 3rd Year clerkships	Yes	49	7.6939	3.08359	2.245	0.026
	No	121	6.4903	3.19812		
Graduation	Yes	22	5.5909	3.01834	0.108	0.915
	No	55	5.5091	3.01154		

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Conclusions

- Ongoing efforts to increase physician diversity necessitates diversity among medical students. Utilizing the Perceived Stress Scale (PSS) and basic demographic data, we have shown how we can better understand trends in medical student stress and the relationship to social identity.
- In our study, stress continued to rise after the pre-clinical phase for the first-generation students, with mean PSS scores significantly higher at the end of third-year clerkships compared to their continuing-generation peers.
- This finding may be explained by an increase in the experience of imposter syndrome, a phenomenon known to disproportionately affect first-generation college students¹⁰.

Future Directions

- As we continue to collect program evaluation data from current and future cohorts, new patterns and significance may emerge.
- By combining survey-based and qualitative methods, we may be able to identify sources of stress and deepen our understanding of the relationship between stress and sociodemographic factors.
- With this insight, medical school administrators may be better poised to support their “non-traditional” students, which may in turn lead to increased matriculation, graduation, and successful integration into the physician workforce.

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