

# Comparison of Grit, Depression, Anxiety and USMLE Scores in the Civilian and Military Medical Student Populations

Emily Duerr BS

USF MCOM- LVHN Campus, Emily.Duerr@lvhn.org

Kevin O'Brien MD

USF MCOM- LVHN Campus

Katryna Thomas BS

USF MCOM- LVHN Campus

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# Comparison of Grit, Depression, Anxiety and USMLE Scores in the Civilian and Military Medical Student Populations

Emily Duerr, BS; Kevin O'Brien, MD; Katryna Thomas, BS  
University of South Florida Morsani College of Medicine

Lehigh Valley Health Network, Allentown, Pennsylvania

## Background

- Medical student distress can affect Quality of Life (QoL) and physician outcomes. Meta-analysis have demonstrated that distress negatively impacts medical student QoL attrition, and academic performance.<sup>1,2,3</sup>
- Resilience is defined simply as “the ability to bounce back.” Resilience has been shown to positively correlate with QoL & empathy scores & decreases in burnout, anxiety, & depression.<sup>4</sup>
- The incidence of psychological distress in military healthcare providers was equal to or less than their non-medical military peers.<sup>5-9</sup> Similar to medical school QoL studies, it has been shown that resiliency factors that were protective against developing psychological stress included social support.<sup>6</sup>
- Officer Training could foster resilience and help combat the stress of medical school affecting QoL.

## Problem Statement

- The goal of this research study is to determine if there is a difference in Quality of Life measurements and academic performance on USMLE exams between military medical students and their civilian counterparts.

## Methods

- IRB approved, cross-sectional study collected data through an emailed online anonymous Qualtrics study. The survey was administered during the spring semester of 2017-2018. The classes of 2018, 2019, 2020, and 2021 were included totaling 680 civilian students and 35 military.
- Outcome measures: Patient Health Questionnaire Depression Scale 8 (PHQ8), Generalized Anxiety Disorder-7 (GAD7), 8 Item Grit Scale (GRIT), and Perceived Self Stress (PSS) scale<sup>10-13</sup> as well as self-reported USMLE Step 1 and 2 exam scores.
- Scores from the QoL Surveys and USMLE Step 1 and Step 2 were analyzed via t test.

## Results

- There were 135 civilian responses and 24 military responses to the administered Qualtrics survey. This resulted in a response rate of 19.8% for the civilian subgroup and 72.7% for the military subgroup. The mean, range, and median of each QoL survey is seen in Table 1.
- There were only 74 civilian responses and 17 military responses to the self-reporting of USMLE scores, with the majority of both groups reporting their Step 1 score between 231-250. The distribution of scores can be seen in Figures 1 & 2.
- Figure 3 displays the percentage of each GRIT score.

QoL Measurement Tool	Mean	Range	Median	p Value
Civilian PHQ8	5.25	24	3.0	0.339
Military PHQ8	4.08	22	3.0	
Civilian GAD7	4.95	21	3.0	0.639
Military GAD7	4.46	21	2.5	
Civilian PSS	14.47	36	14.0	0.201
Military PSS	12.48	23	12.0	
Civilian GRIT	3.66	3	3.63	0.115
Military GRIT	3.89	2	4.0	

Table 1

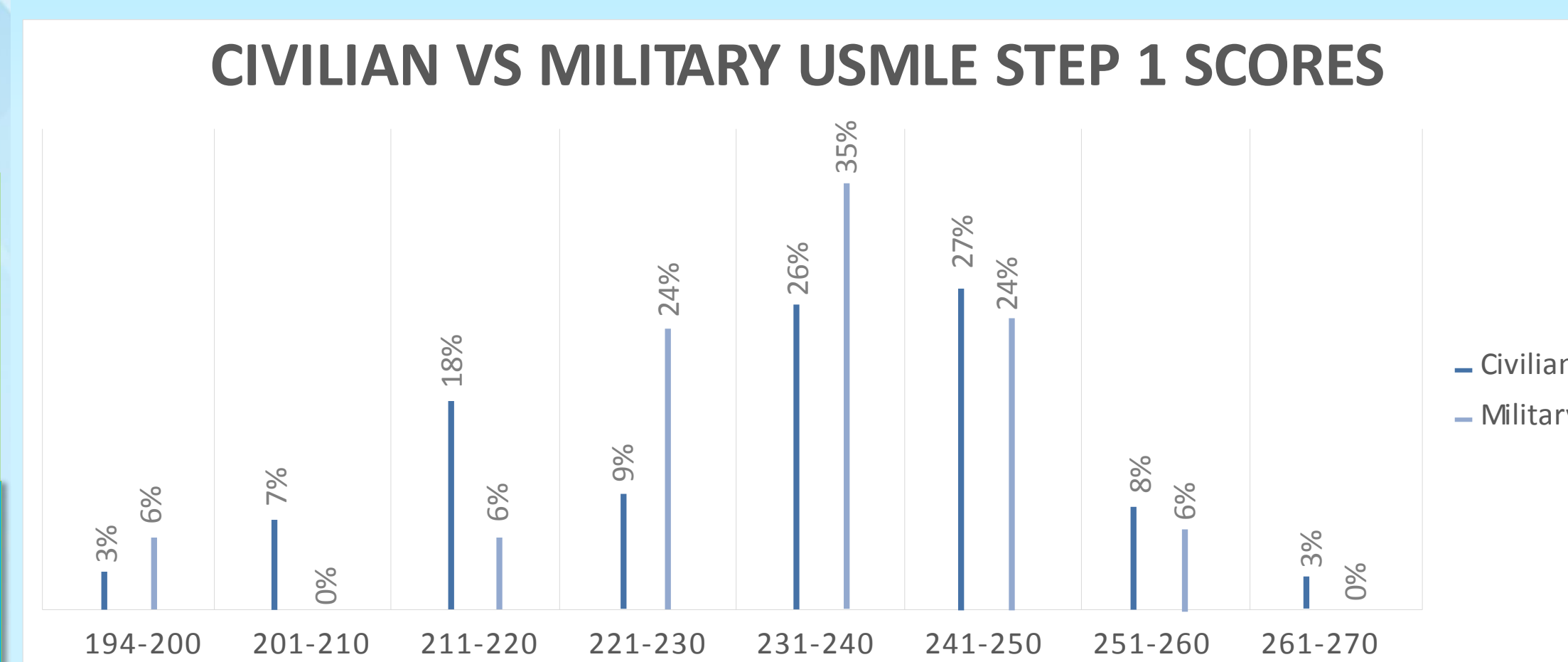


Figure 1

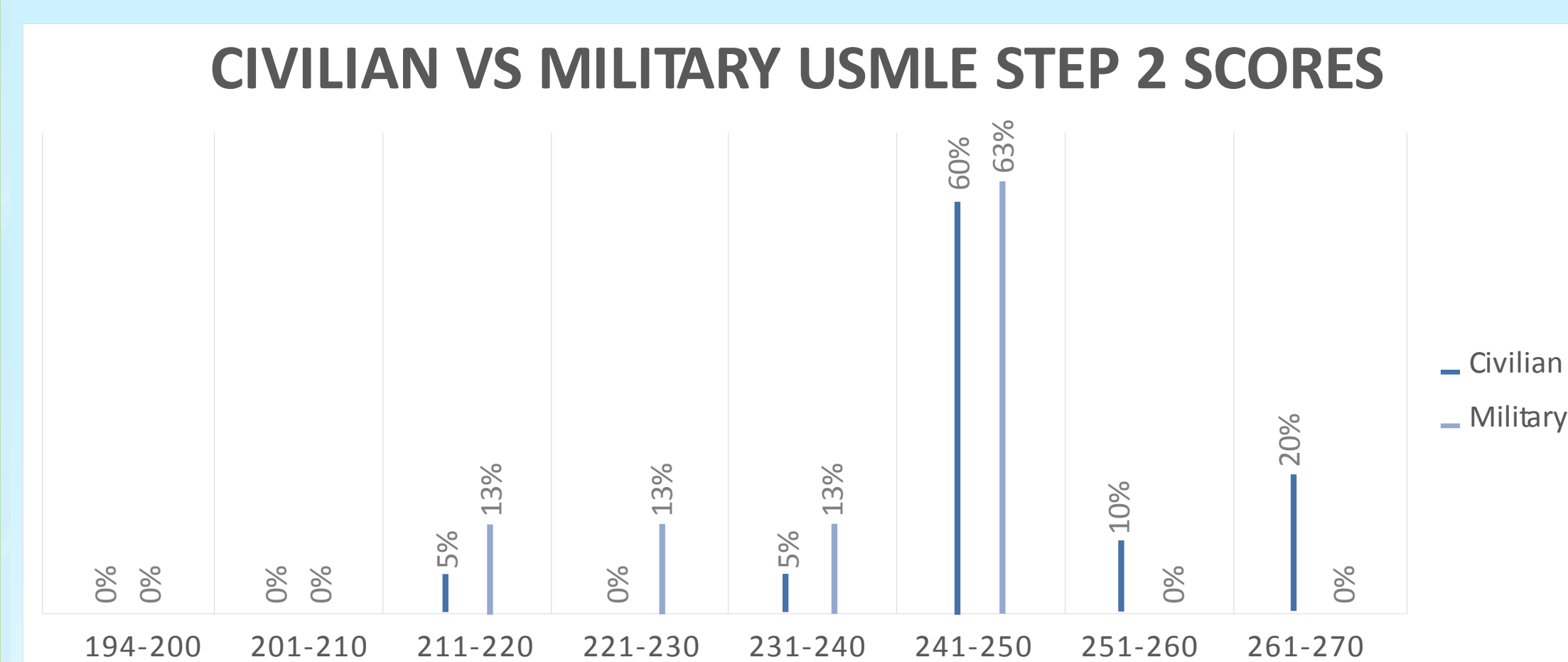


Figure 2

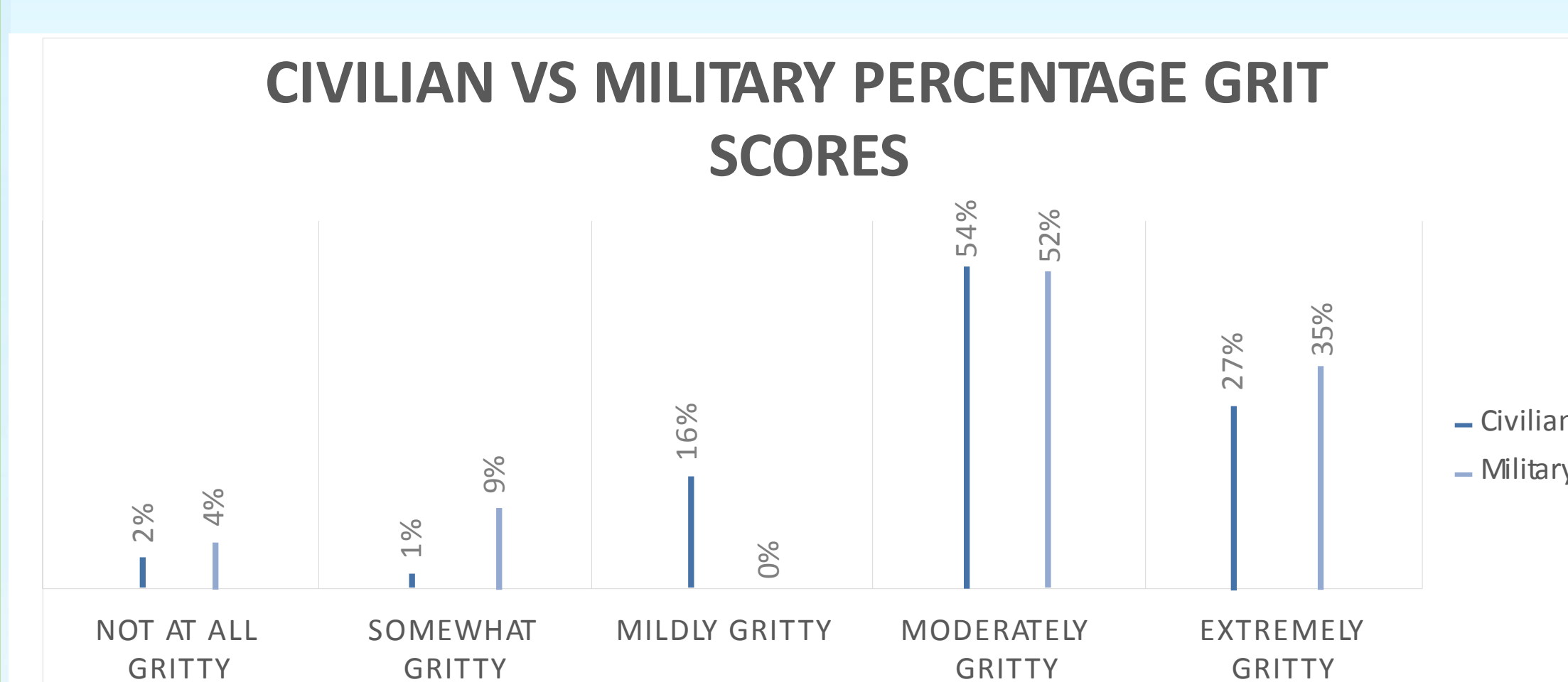


Figure 3

## Discussion

- No significant differences between populations. Civilian shows higher percentage reporting depression/anxiety with the Military group showing higher percentage reporting increased GRIT.
- Study limited by small sample size of 35 military students. It did not examine the direct effects of training by comparing military before and after training.
- Future implications would include examining a greater sample of military students or comparing military students before and after training with regard to QoL scores.
- SELECT Influence, Leadership:
  - Resilience is a key component of leadership, team success
  - Hypothesized that military training can teach resiliency while it teaches leadership
  - Taught resiliency can help these students become better leaders
  - More representative sample needed to determine if military training can have an impact
- SELECT Influence, Health Systems:
  - Key players in the healthcare hierarchy are working at their best, most efficient selves
  - Crucial to address the mental health of those caring for patients

## Conclusion

- While there were higher percentages of no or minimal depression or anxiety in the military group when compared to their civilian counterparts, there was no significant difference.
- Future studies should examine the differences between military medical students before and after their military training in a larger sample to determine a true difference.

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