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

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

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**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.1,2,3

- 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.4

- The incidence of psychological distress in military healthcare providers was equal to or less than their non-military medical peers.5,6 Similar to medical school QoL studies, it has been shown that resiliency factors that were protective against developing psychological stress included social support.6

- Officer training could foster resilience and help combat the stress of medical school affecting QoL.

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**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.

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**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) scale10,11 as well as self-reported USMLE Step 1 and 2 exam scores.

- Scores from the QoL Surveys and USMLE Step 1 and 2 were analyzed via t test.

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**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.

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**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.
  - 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

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**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 scale sample to determine a true difference.

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**REFERENCES**


2. Duerr, E., et al. (2019). Patient Health Questionnaire Depression Scale 8 (PHQ8) and Generalized Anxiety Disorder-7 (GAD7) scores in military medical students. Journal of Quality Improvement, 45(9), 475-481.


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