Examining the Relationship Between Assertiveness and Anxiety in 1st and 2nd Year US Medical Students

Jonathan Shaw, James Hagerty, Kristen Masada, Angelene Eunji Won, Ashley Lai, Jisu Shin, Van Le, Brenton Phung, Charles Lai, Peter Bota, Aaron Jacobs

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Jonathan Shaw[1*]; James Hagerty[1*]; Kristen Masada[1]; Angelene Eunji Won[1]; Ashley Lai[1]; Jisu Shin[1]; Van Le[1]; Brenton Phung[1]; Charles Lai[1]; Peter Bota[1]; Aaron Jacobs[1]

[1] California University of Science and Medicine Colton US
[*]these authors contributed equally

Corresponding Author:
Jonathan Shaw

California University of Science and Medicine
1501 Violet St
Colton
US

Abstract

The development of confident and assertiveness physicians through the process of medical education is essential for effective patient care. Through medical training, future physicians obtain the knowledge and skillset necessary to accomplish this, but they may face stressors that negatively impact their mental health. This study aims to provide insights into the relationship between US medical student assertiveness and anxiety in the current pass/fail USMLE Step 1 medical education landscape. This was achieved by surveying 30 US MD student at a single Californian institution using the Simple Rathus Assertiveness Scale-Short Form and the General Anxiety Disorder Assessment 7. It was found that M1 participants were more likely to feel uncomfortable returning purchases than their M2 counterparts and that female participants were more likely to ask a loud theater couple to be quiet compared to males. These differences in responses by academic year and gender indicate areas of future study, particularly regarding the personality characteristics of current medical students and whether there are changing trends in medical student assertiveness and its association with medical student well-being.

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Original Manuscript

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Authors: Jonathan Shaw[1*], James Hagerty[1*], Kristen Masada[1], Angelene Eunji Won[1], Ashley Lai[1], Jisu Shin[1], Van Le[1], Brenton Phung[1], Charles Lai[1], Peter Bota[1], Aaron Jacobs[1]
Affiliations: 1 – California University of Science and Medicine, Colton, CA
*These authors have contributed equally for this study
Corresponding author's email: Jonathan.Shaw@md.cusm.edu

Introduction

The development of confident and assertive physicians is essential to effective patient care [1]. Medical training shapes students' knowledge, skills, and interpersonal abilities, including confidence and assertiveness, which evolve throughout their education [2]. This study examines assertiveness and its relationship with anxiety using the Simple Rathus Assertiveness Scale-Short Form (SRAS-SF).

Assertiveness influences clinical decision-making, patient communication, and professional success [3]. With changes in medical education, such as the USMLE Step 1 becoming pass/fail, understanding assertiveness and anxiety correlations can help educators tailor interventions to support student well-being and competence. This study aims to provide insights into this relationship to guide future curricular improvements.

Methods

Participants and Recruitment

First- and second-year medical students (M1: n=120, M2: n=126) from a California allopathic medical school were invited via institutional email to participate in an anonymous online survey. Two survey rounds were conducted over a month.

Measures

The survey included demographic questions (school year, gender), 19 SRAS-SF items [4], and seven Generalized Anxiety Disorder Assessment (GAD-7) items. The SRAS-SF and GAD-7 were presented in separate but randomized sections.

Statistical Analysis

IBM SPSS Statistics 28.0.1.0 was used for analysis. Normality was assessed using the Kolmogorov-Smirnov test. Normally distributed data underwent an independent samples t-test, while non-normally distributed data were analyzed using the Kruskal-Wallis test, with gender and school year as grouping variables. Pearson and Spearman correlations were calculated using SPSS’s bivariate correlation function.

Results

The Kolmogorov-Smirnov test indicated that SRAS-SF scores ($D(30) = .155$, $p = .064$) were normally distributed. The Kruskal-Wallis test showed that M1s ($M = -0.23$, $SD = 1.95$) were more likely to feel uncomfortable returning purchases ($H(1) = 4.987$, $p = .026$) than M2s ($M = -1.87$, $SD = 1.356$). Female participants ($M = -0.14$, $SD = 1.791$) were more likely to ask a loud theater couple to be quiet ($H(1) = 3.845$, $p = .050$) compared to males ($M = -1.37$, $SD = 1.586$).

Independent samples t-tests found no significant differences in SRAS-SF scores by gender ($t(28) = -0.288$, $p = .616$) or school year ($t(28) = 0.004$, $p = .952$). Pearson’s correlation revealed a strong negative correlation between SRAS-SF and GAD-7 scores ($r(30) = -0.624$, $p < .001$).

Table 1: Descriptive Statistics

Table 1: Descriptives					
	N	Min	Max	M	SD
Which school year are you?	30	1	2	1.27	0.45
What gender do you identify as?	30	1	2	1.47	0.507
When I am eating out and the food I am served is not cooked the way I like it, I complain to the person serving it	30	-3	3	-1.1	1.826
There are times when I look for a good strong argument	30	-3	3	0.2	2.058
I try as hard in life to get ahead as most people like me do	30	-3	3	0.93	1.596
If a famous person were talking in a crowd and I thought he/she was wrong, I would get up and say what I thought	30	-3	2	-1.7	1.466
If someone has been telling false and bad stories about me, I see him or her as soon as possible to "have a talk" about it	30	-3	3	0.67	1.971

I complain about poor service when I am eating out or in other places	30	-3	2	-1.5	1.306
If a couple near me in the theater were talking rather loudly, I would ask them to be quite or to go somewhere else and talk	30	-3	2	-0.8	1.769
I am quick to say what I think	30	-2	3	0	1.531
Most people stand up for themselves more than I do	30	-3	3	0.1	1.971
At times I have not made or gone on dates because of my shyness	30	-3	3	-0.4	2.238
If a person serving in a store has gone to a lot of trouble to show me something which I do not really like, I have a hard time saying, "No."	30	-3	3	-0.47	1.978
To be honest, people often get the better of me	30	-3	3	-0.57	1.832
I do not like making phone calls to businesses or companies	30	-3	3	0.87	1.978
I feel silly if I return things I don't like to the store that I bought them from	30	-3	3	-0.67	1.936
If a close relative that I like was upsetting me, I would hide my feelings rather than say that I was upset	30	-3	3	-0.17	1.802
I have sometimes not asked questions for the fear of sounding stupid	30	-3	3	0.8	2.156
During an argument, I am sometimes afraid that I will get so upset that I will shake all over	30	-3	2	-1.57	1.87
I often have a hard time saying, "No."	30	-3	3	0.57	1.977
When someone says I have done well, I sometimes just don't know what to say	30	-3	3	0.2	1.919
Feeling nervous, anxious, or on edge	30	0	3	1.17	0.95
Not being able to stop or control worrying	30	0	3	0.73	0.98
Worrying too much about different things	30	0	3	1.27	1.081
Trouble relaxing	30	0	3	1.2	0.925
Being so restless that it's hard to sit still	30	0	3	0.73	0.98
Becoming easily annoyed or irritable	30	0	3	0.87	0.9
Feeling afraid as if something awful might happen	30	0	3	0.7	0.837
Simple Rathus Assertiveness Scale-Short Form (SRAS-SF)	30	-2.32	1.21	-0.11	0.99
GAD-7	30	0	18	6.67	5.529

Discussion

The significant difference in reluctance to return purchases between M1s and M2s may suggest increased confidence with training, but may also be explained through personality variation between cohorts. The greater likelihood of female participants addressing disruptive behavior suggests gender differences in assertiveness, warranting further study on socialization and professional behaviors in medical education.

The strong negative correlation between assertiveness and anxiety aligns with research indicating high anxiety levels among medical students [5]. If assertiveness development mitigates anxiety, targeted interventions may enhance student well-being. Given anxiety's impact on academic performance and mental health, tailored strategies could help students at various training stages.

This study focuses on preclinical students, limiting applicability to those in clinical training or residency. However, medical students face increasing anxiety due to high-stakes evaluations and a competitive residency match process [6-7]. Longitudinal studies tracking assertiveness and anxiety across medical training could inform future interventions.

Mental health stigma remains a challenge in medical education, with students fearing career repercussions for seeking counseling [8]. Future initiatives should address mental health support while considering these concerns.

Limitations

The study’s small sample size (N=30) from a single institution limits generalizability. Future studies should expand to multiple institutions to account for educational and cultural variations. Additionally, this study focuses on preclinical students, limiting its relevance to those in clinical training or residency.

Conclusions

Findings suggest that increased assertiveness may reduce anxiety in preclinical medical students. While confidence typically improves with training, faculty and administrators can implement proactive strategies to support students' interpersonal and professional development. Future research should explore longitudinal trends to refine educational interventions that enhance both assertiveness and mental well-being.

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Declaration of Interest
The authors have no competing interests to declare.

Data Accessibility Statement:
The data used to support our conclusions was not acquired from a public repository. The raw data and statistical analyses can be accessed through the following link: https://doi.org/10.3886/E221464V1.

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