Title: A Pilot Study of Reducing Test Anxiety in a Cohort of Underrepresented in Medicine MCAT Students Using Near-Peer Coaching

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Authors Contribution Statement:

Contributor Role	Role Definition	Authors 1	2	3	4
Conceptualization	Ideas; formulation or evolution of overarching research goals and aims.	X		X	X
Data Curation	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later reuse.	X			
Formal Analysis	Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data.	X	X		
Funding Acquisition	Acquisition of the financial support for the project leading to this publication.			X	X
Investigation	Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection.	X	X	X	

Methodology	Development or design of methodology; creation of models	x	x	x	x
Project Administration	Management and coordination responsibility for the research activity planning and execution.	x			
Resources	Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.			x	x
Supervision	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.			x	x
Validation	Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.	x			x
Visualization	Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.	x			
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Discussion Points:

1. What is the level of test anxiety in pre-medical students from underrepresented in medicine backgrounds?
2. What methods have others used to address test anxiety; have any been studied for pre-medical students taking the MCAT?
3. What are pre-medical students' concerns regarding taking the MCAT?
4. Is a pilot near-peer MCAT coaching program well-received?

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ABSTRACT.

Background: The Medical College Admission Test (MCAT) is a standardized exam taken by prospective medical students. The MCAT is critical for success in most of the US and parts of Canada, and such pressures may enhance test anxiety. For students from Underrepresented in Medicine (URM) backgrounds, this is often compounded by being the first in their family to take the MCAT.

Methods: We conducted a literature review for interventions on test-related anxiety. Based on our findings, we elected to establish a pilot near-peer coaching (NPC) program for URM students enrolled at the Medical College of Wisconsin MCAT program. We quantified baseline and specific time point test-anxieties using the validated Westside test anxiety scale. We asked about MCAT concerns and program impressions via a free-response section and analyzed results with inductive analysis.

Results: Our review could find no other studies examining MCAT related test anxiety in the prospective medical student population. NPC was chosen because of its accessibility. At baseline, approximately 50% of students had at least moderately high-test anxiety; meeting the threshold for intervention. Most students perceived themselves as unconfident in their ability to do well on the MCAT. We observed a decrease in test anxiety after coaching sessions. Students received the program well however, wanted to be able to choose the content and have more meetings.

Conclusion: This observational pilot study suggests that URM pre-medical students have MCAT related test anxieties high enough to warrant intervention and that NPC is well-received and correlates to reduced test anxiety levels.

Key Words: Students, Anxiety, Stress, College admission test, Test Anxiety scale (Source: MeSH-NLM).

INTRODUCTION.

The Medical College Admission Test (MCAT) is a standardized exam taken by prospective medical students in the United States. It includes 4 sections deemed to be important skills for future physicians: Chemistry and Physics, Critical Analysis and Reading Section, Biology and Biochemistry, and the Psychology and Sociology sections. The test is roughly 7.5 hours long, with each section containing multiple passages with questions related to the excerpts. Many prospective medical students spend months to even years preparing for this test. These students understand that the MCAT is a critical component of every medical school application and that not scoring well often means rejection and/or having to re-take the exam multiple times. Naturally, prospective medical students are anxious about this exam. Test anxiety, while helpful in certain amounts, can be extremely detrimental to one's performance. Studies have shown that heightened test anxiety leads to worse outcomes on the United States Medical Licensing Step 1 exam, undergraduate students' GPA, nursing licensure tests, and even in the ability to engage in new instructional content.[1,2,3]

In the United States, as per the American Association of Medical Colleges, "Underrepresented in Medicine (URM) students are students from racial and ethnic backgrounds relative to their numbers in the general population"[4]. This includes students from a variety of backgrounds, including Black, Mexican American, Native American, and mainland Puerto Rican backgrounds. As an example, when adjusting for the total population of Hispanic individuals in the United States, Hispanic medical school applicants and matriculants are underrepresented by nearly 70%[5]. Some pre-medical students have the advantage of support from a family member or have close friends who have gone through the process who can help mitigate MCAT related test anxiety. Unfortunately, URM students often are the first in their family to take the MCAT, and often have socioeconomic backgrounds that prevent them from accessing expensive MCAT preparatory courses. Factors such as stereotype threat and inadequate access to mentors have also been cited as additional obstacles URM students must overcome[6,7]. While not officially studied, all of this may lead to an increased level of MCAT related test anxiety in this population. Finally, based on the author's personal experience, most existing MCAT preparatory courses focus on training the students on exam content and strategy needed instead of recognizing the role test anxiety may play.

To address this gap, we elected to perform a literature review conducted to explore effective test anxiety coaching interventions. We then discuss a program that we created to provide to a cohort of URM students, enrolled in an existing MCAT training program, with near-peer coaching provided by current medical students at the Medical College of Wisconsin (MCW). Near-peer coaching model was chosen due to the ability for medical students to share stories from their recent "lived experiences" as a pre-medical applicant. In addition, due to ethical concerns as discussed later, we elected to follow the students in a longitudinal, observational study. From this cohort, we report the quantitative test anxiety levels in this cohort at specific intervals: at baseline and after each coaching session. Finally, we report the qualitative responses from students in terms of their MCAT-related concerns and perceptions of the near-peer coaching program.

MATERIALS AND METHODS.

Study-Design

The study began with phase 1 of a literature review for other interventions on test-related anxiety. Based on these results, near-peer coaching was chosen as the intervention for Phase 2 of the study. The proposed study designs were approved by the Medical College of Wisconsin's Institutional Review Board (PRO00035403), with clinical trial identifier NCT05224427. Phase 3.1 and phase 3.2 analyzed the quantitative and qualitative results gathered from the coaching.

Part 1: Literature Review

To determine what other interventions for test-related anxiety were reported, two independent, masked, reviewers conducted a literature review with no time limit with the last search on May 11th, 2021, on OVID Medline and APA psychINFO. Studies included were primary literature investigating the effect of an intervention on student test anxiety. Due to the limited literature available, any type of student was deemed acceptable for study purposes. Exclusion criteria were any studies that did not report the effect of the intervention on student test anxiety, or studies that did not examine test anxiety specifically. The medical subject headings (MeSH) included: "Students", "Anxiety", "Stress", "College admission test", "Test Anxiety scale". Key terms included "Anxiety", "anxiousness", "Exam", "test anxiety". The Boolean operator AND and OR were used to link the above-mentioned terms. Any duplicate results were removed. Studies included were English language only. Appropriate variations were also used to account for plurals and other alternatives. A manual search of study reference lists was conducted as well to include any potentially missed publications. Any disagreements were resolved via consensus. A review of the results prompted the authors to propose near-peer coaching as the optimal test anxiety intervention for the context.

Part 2: Near-Peer Coaching

The proposed study occurred in person at the Medical College of Wisconsin or online via video conferencing. A previous Medical College of Wisconsin (MCW) MCAT-training program for URM students was started in 2017 and we enrolled all twenty-two students from this program within the first year, and all twelve students the second year. All participants enrolled in the MCAT program were from Wisconsin and attended undergraduate or finished undergraduate studies within the past 5 years and were intending to apply to medical school. Demographics are shown in **Table 2**.

Volunteer near-peer mentors were recruited from existing MD or MD PhD candidates at MCW. Coaches were oriented at the beginning of each program year, and periodically sent reminders and instructions on what to cover. Initial MCAT coaching meetings were instructed to cover study schedules, effective studying, and exam strategy while later coaching meetings recommended coaches share their stories of how they dealt with test anxiety, strategies to deal with test anxiety (i.e. visit the test-center a week before, positive mentality about wrong answers during practice, and increasingly practicing under test-day conditions), and for open discussion with the student about how they were feeling. Coaches were provided cheat sheets leading up to these sessions that recommended how to approach these conversations. In response to student concerns

about feeling limited by these topics, we no longer instructed, rather recommended these topics to be covered in the second year of the program.

Students were consented and oriented in a group or individual setting and surveys were distributed via Qualtrics[XM] for baseline, after a mock MCAT exam four months before most exam dates, and after each MCAT Coaching meeting. Surveys were anonymous and tracked using a pin. A sample of the survey is available in **Supplemental Figure 1**. In the first year of the program between 2019-2020, we scheduled three official MCAT coaching sessions: one every three months starting in August. In response to student concerns, the second year of the program continued with the three official MCAT coaching sessions, while explicitly stating that students can meet as many times as they wish above this number. Due to COVID-19, an in-person mock MCAT time point was not possible in the second iteration.

Part 3.1: Quantitative Analysis

Surveys measured quantitative test anxiety scores using the validated Westside test anxiety scale[8]. The mean and the standard deviation were calculated in excel. Significance was calculated first using an F-test to determine the variances between the populations, followed by using the appropriate two-tailed student's t-test in Excel. Statistical significance was $p<0.05$.

Part 3.2: Qualitative analysis

Qualitative data regarding student concerns regarding the MCAT as well as comments on the program were elicited via free response in the same survey. Inductive analysis was performed on the free response answers. They were categorized into various themes using line-by-line coding. Sentences within the answers could overlap into different themes or not be related to any theme.

RESULTS.

Literature Review

A total of 275 articles were retrieved. Hand scanning reference lists provided 16 other potentially includable articles (Supplemental Figure 1). After careful reading of titles, abstracts, and full text, we excluded 251 articles based on our criteria. 40 articles met inclusion criteria **(Figure 1)**. Results and characteristics of the studies included in the literature review are shown in **Table 1.** Zero studies examined test anxiety in the setting of the MCAT, and two studies examined peer coaching as a potential intervention.

Quantitative results

All 22 students within the existing MCAT program participated in the first iteration of the coaching program and all 12 students participated in the second year of the program **(Figure 2)**. Demographic characteristics and test anxiety scores are shown in **Table 2** and **Table 3** respectively**.**

In the first cohort, 19 out of 22 students responded to the baseline and all 12 responded to the second iteration baseline survey **(Figure 2)**. Higher test anxiety scores meant higher test anxiety on a scale between 1 to 5. The baseline score for all students in the first iteration was 2.84 (SD 0.66, range 1.6 – 4.1) and 2.71 (SD 0.72, range 1.5 – 4.1) in the second iteration. In the first iteration, 9 of 19 respondents had an average test anxiety score of 3 or higher, indicating moderately high to extremely high anxiety levels. The second iteration 6 of 12 were 3 or higher. Student test anxiety means were observed to trend downwards from baseline (2.84 to 2.26 and 2.69 to 2.3) after coaching sessions and increase after a mock MCAT exam (2.76 to 2.88), although none of these changes were statistically significant from each other or baseline **(Table 3)**.

Qualitative results

MCAT-related concerns had 7 themes as shown in **Table 4**. At baseline, 95% of first iteration respondents stated that they lacked self-confidence in their abilities to do well on the MCAT. We noted that multiple students stated that they suffered from imposter syndrome to some degree, while others were concerned about their past test performances. After MCAT coaching sessions, we observed a drop in the percentage of responses concerned about this theme however, a notable spike occurred after the mock-MCAT. The COVID-19 pandemic dramatically reduced the number of respondents, and 60% of respondents after the 3rd MCAT coaching session voiced their concerns regarding the pandemic and the MCAT. The number of respondents concerned about study strategy decreased from baseline with coaching sessions in both years, as well as concerns about accountability. Student concerns about the knowledge needed for the MCAT and exam strategies remained stable throughout.

Students generally felt that the MCAT coaching sessions were helpful and felt supported or felt an increase in their self-confidence. Students in the first iteration shared concerns that they felt they were limited by only 3 MCAT coaching sessions. After modifying the program to explicitly allow an unlimited number, only 1 response brought up this concern in the following year. Students also felt that the program could benefit by personalizing the content more, instead of requiring all coaches and students to cover a certain set of topics. The percentage of respondents concerned about this appeared to decrease the following year after modification.

DISCUSSION.

Test anxiety is a well-recognized phenomenon that affects students of all ages. Test-anxious thoughts, especially over an 8-hour test can impair performance by exhausting a student's ability to focus on the tasks at hand[9]. Unfortunately, the pre-medical student population has largely been ignored in terms of research regarding how this may affect their ability to do well on the MCAT. Our literature review showed no other studies examining test anxiety in this population. As a result, this is the first study - to our knowledge – to investigate the level of test anxiety present in URM prospective medical students taking the MCAT.

Our literature review found many studies that utilize licensed therapists to perform cognitive behavioral therapy or other training intensive interventions **(Table 1)**. These interventions are costly, time intensive on both student and provider and can be out of reach of free MCAT preparation programs. Near peer coaching addresses this issue by providing an easily accessible intervention for most medical school based MCAT preparation programs. In addition, near-peer coaching has the advantage of medical students being able to provide tips and tricks specific to their experience with MCAT testing and future medical school admission process.

Our observational pilot study suggests that near-peer coaching is not only accessible, but also well-received by students. The fact that students felt limited by three coaching sessions simply demonstrates that students wanted more sessions because they felt it was helpful. This is supported by Neuderth et al., 2009, who also showed that peer coaching is well received by students[10]. Our data also shows that our cohort of URM pre-medical students had baseline concerns about their confidence in their ability to do well on the MCAT. Sherman (1980) showed that confidence while taking a test is positively correlated with test performance in high school students[11]. This is corroborated by Smith (2002) suggesting that self-perception of one's test-taking skills is predictive of one's confidence during the test[12]. Concerns about one's MCAT self-confidence dropped after MCAT coaching, as did concerns about study strategies and accountability. Since our coaching sessions aimed to directly address these issues, this suggests that near-peer MCAT coaching may have had some role in alleviating these concerns. However, we acknowledge that this may also be due to a variety of other factors, including the increased time that students had to study, opportunities to talk with their peers outside of the program, and other resources the students may have utilized. At baseline, slightly less than half of all students in the first iteration and half in the second had test anxiety above 3, suggesting moderately to extremely high anxiety. This is typically the threshold suggested by the Westside test anxiety scale to warrant anxiety intervention[13]. This is similar to the cross-sectional studies showing 52.3% of Ethiopian medical students and 40% in Pakistani medical students who experience a Westside test anxiety level of 3 or more without intervention[14, 15]. As a result, this suggests that pre-medical URM students have similar levels of baseline test anxiety to medical students and medical students may have experienced this level of test anxiety before starting medical school.

Based on the author's personal experience, medical students in the United States and Canada, compared to pre-medical medical students, often benefit from strong school support, such as academic enhancement programs, wellness groups and easy access to peers who have been through the process. Pre-medical students, especially if URM, lack access to these resources, for which the alternative is often extremely expensive MCAT preparation programs. Besides the author's personal experience, several studies examine

the detrimental effects of test anxiety in the medical student population, how it may affect their USMLE scores, and discuss interventions, while there have been no such reports (per literature review) in pre-medical students taking the MCAT[1, 16]. Finally, while there was no statistical significance between the time points, there was a trend downwards with each coaching session, suggesting that there may be an effect with near peer coaching on this population if the sample size increases in future studies.

Lately, there has been a bigger push for physicians to be more representative of the populations they are serving. The results discussed here suggest that test anxiety is an underrecognized, underreported barrier that can be addressed through an easy to access, relatively simple to implement program for most medical schools via near-peer coaching.

There are several limitations that our study faced. The biggest is the longitudinal, cross-sectional nature of our study. We decided to pursue this instead of a trial with a control group because of the small sample size and the ethical implications of denying half of the pre-medical students - all who wanted access to a medical student coach - when the overwhelming amount of literature suggesting that coaching is effective for many other purposes and likely would be in the context of the MCAT. This results in an inability to determine the controlled effects of the near-peer coaching intervention, and also likely resulted in the Westside test anxiety scores not being statistically different between each time point. Future studies could examine this, with a large enough sample size such that a sizeable number of students may voluntarily be a control group or, by comparing to well-recognized interventions such as cognitive behavioral therapy. However, nevertheless, we feel that it is important to report these quantitative findings to serve as a platform for further studies in this area. Furthermore, this issue is somewhat mitigated due to the qualitative aspect of our study. It is important to recognize the students' subjective reports of coaching being effective at increasing one's self-confidence, and the students feeling it was helpful enough to warrant more meetings.

An additional issue was that our survey response rate dramatically decreased after the COVID-19 pandemic began. We acknowledge that this contradicts are previous data of students wanting more sessions, however given the relatively consistent number of answers before the pandemic, and sharp drop after, we believe these were factors unrelated to the program itself. COVID-19 obviously hampered many of our efforts to meet in person for reminders to fill out the survey and for in-person mentoring sessions, resulting in our students having to meet online with their mentors and for survey reminders to be sent by email. This limitation likely biased the answers to extremes with answers from students that either found the coaching session to be the most helpful or students that felt like their coaching experiences were not helping their test-anxieties. Nevertheless, key answer trends mostly remained consistent despite the drop offs. Finally, future studies should ideally gather baseline anxiety that is not just limited to test anxiety. While this may not eliminate the possible participant bias of students with different test anxiety levels enrolling in this program, it would be good to be able to control for baseline anxieties to assess the impact of near-peer coaching on different baseline anxiety levels as well.

In conclusion, our study is the first of its kind to suggest that URM pre-medical students have MCAT related test-anxieties high enough to warrant intervention, and that near-peer coaching is a well-received, easily accessible program that may improve test anxiety.

Summary – Accelerating Translation

Title: A pilot study aimed at reducing test-related anxiety in students, from underrepresented in medicine backgrounds, taking medical school admission exams.

Main Problem to Solve: The Medical College Admission Test (MCAT) is a standardized exam taken by prospective medical students in most of the US and parts of Canada. The MCAT is critical to getting into medical school, and this unfortunately results in intense pressure on students. This pressure may intensify test anxiety, leading to dramatic underperformance on the exam. For students from backgrounds that are not traditionally represented in medicine (URM), this pressure is often compounded by being the first in their family to take the MCAT. Unfortunately, there are few test anxiety related resources available to students, and URM students often have difficulty accessing mentors that have dealt with MCAT-related anxiety.

Aim of the Study and Methodology: To address this gap, the authors of this article decided to conduct a review of the literature for interventions on test-related anxiety. Based on our findings, as well as available resources at our disposal, we decided to establish a pilot near-peer coaching (NPC) program for URM students enrolled at the Medical College of Wisconsin MCAT program. This NPC program involved having current medical student "coaches" pair with a URM student, meet several times over the course of a year, and cover various topics related to test anxiety. We then measured test anxieties at the beginning of the study, and at specific time points using a validated test anxiety scale. We also asked about MCAT concerns and program impressions via a free-response section.

Results: Unfortunately, our literature review could find no other studies examining MCAT-related test anxiety in the prospective medical student population. NPC was chosen because of its potential to be zero cost, not require licensed therapy professionals, and its ability to provide pertinent advice outside of just test anxiety. At the beginning, approximately 50% of students had at least moderately high test anxiety. This level of anxiety is normally the threshold recommended for intervention. Most students perceived themselves as unconfident in their ability to do well on the MCAT, with a sizable proportion stating that they had a history of not doing well on exams. Fortunately, we observed a decrease in test anxiety after coaching sessions. Students overall

received the program well however, they wanted to be able to choose the content and have more meetings for future program iterations.

Conclusion: This study suggests that some URM pre-medical students have MCAT-related test anxieties high enough to warrant intervention and that NPC is a well-received intervention that is easily implemented by other medical schools seeking to reduce test anxiety.

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1 **FIGURES AND TABLES.**

2 **Table 1.** Literature Review Results Showing Population and Test anxiety Intervention Investigated

Author	Population	Intervention
Kwon et al., 2020	Elementary and high-school students	Virtual reality desensitization
Harris et al., 2019	Undergraduate STEM students	Expressive writing, reappraisal
Fergus et al., 2019	Adolescent students	Group format attention training
Prinz et al., 2019	University students	Imagery
Shen et al., 2018	Senior high-school students	Expressive writing
Reiss et al., 2017	University students	Cognitive behavioural therapy and imagery rescripting
Cho et al., 2016	University students	Mindful breathing
Hahm et al., 2016	Veterinary students	Seminars
Bellinger et al., 2015	Calculus students	Mindfulness techniques
Brown et al., 2011	University students	Cognitive behavioural therapy and acceptance-based therapy
Bradley et al., 2010	High school students	Emotional self-regulation
Handelzalts et al., 2010	University students	Advanced muscle relaxation and change in internal dialogue
Benor et al., 2009	University students	Emotional freedom techniques and cognitive behavioural therapy
Baker et al., 2003	University students	Argentum nitricum administration
McGlynn et al., 1978	University students	Cue controlled relaxation therapy
Smith et al., 1973	University students	Systemic desensitization and implosive therapy
McManus et al., 1971	University students	Group desensitization
Allen et al., 1971	University students	Study counseling and desensitization
Contreras et al., 2021	10th grade students	Deep breathing excercises
Kumar et al., 2019	Pre-engineering and pre-medical students in India	Cognitive drill therapy
Donato, 2010	4th grade students	Emotional refocusing and restructuring, breathing, music, water, test-wiseness strategies and educational kinesiology exercises.
Kacprowicz, 2009	8th grade students	relaxation training
Johnson, 2008	Students with learning difficulties	progressive muscle relaxation and systematic desensitization
Egbochuku et al., 2005	High school students	systematic desensitization therapy
Earnest et al., 1990	Adult students	Test-taking skills training and cognitive restructuring
Mann et al., 1970	7th grade students	Serial retesting
Snider et al., 1966	University students	Autogenic training
Anton, W. D., 1976	University students	Systematic desensitization
Beggs et al., 2011	Nursing students	Guided reflection
Decker et al., 1981	University students	Cue controlled relaxation therapy and cognitive restructuring
Dunne	Veterinary students	Coaching workshop
Griffin et al., 1998	University students	Reciprocal peer tutoring
Himle et al., 1984	University students	Relaxation skill training, cognitive restructuring
Holahan et al., 1979	University students	Anxiety management training and cognitive modification
Hudesman et al., 1978	University students	Desensitization
Hudesman et al., 1984	University students	Desensitization
Ihli et al., 1969	University students	Group and individual desensitization
Neuderth et al., 2009	University students	Lectures and peer coaching
Powell et al., 2004	Medical students	Behavioural rehearsal
Suinn, 1968	University students	Deep muscle relaxation and desensitization

3

Figure 1. PRISMA Flowchart of study selection

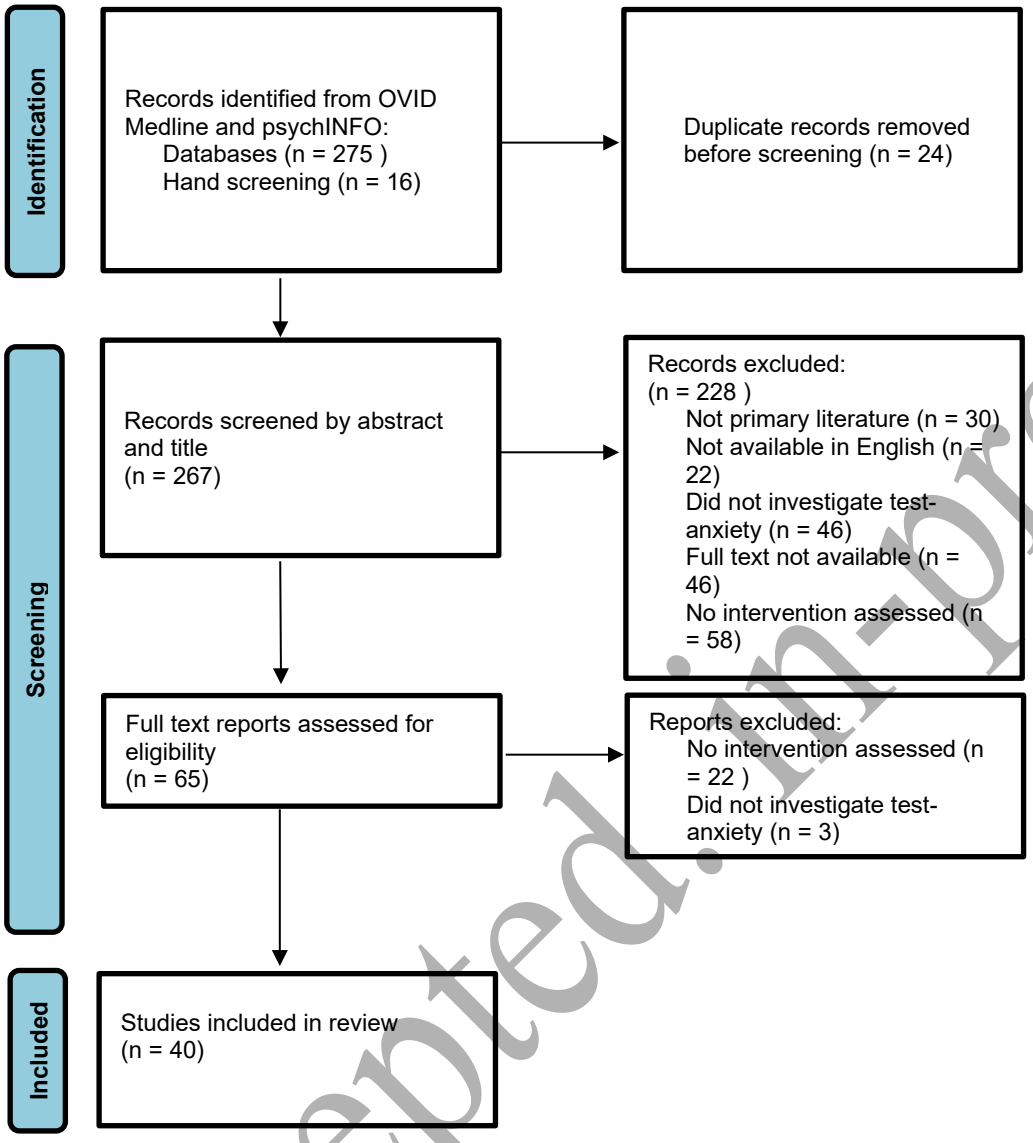

Figure 2. CONSORT Diagram of participant recruitment

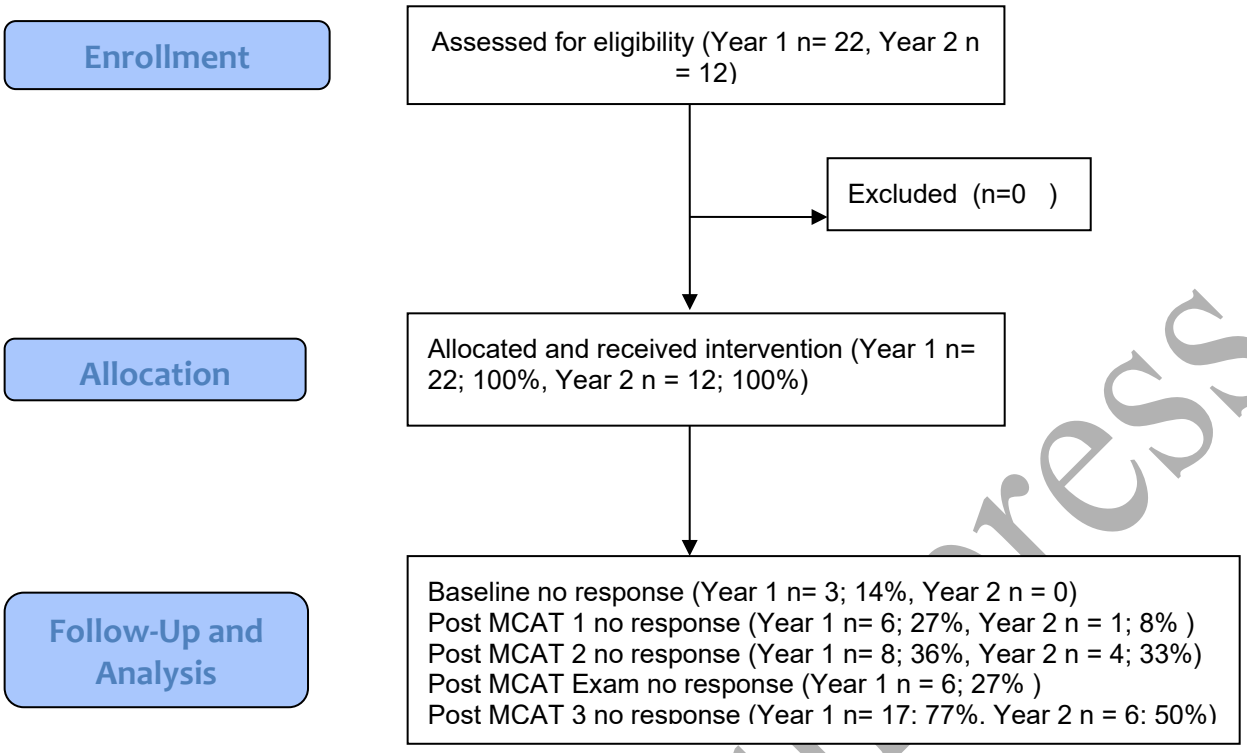

Table 2. Near-Peer Coaching Students' Demographic Characteristics

Total responses	Frequency (%)
Year	
Year 1	19 (86%)
Year 2	12 (100%)
Male	
Year 1	10 (45%)
Year 2	8 (67%)
Female	
Year 1	12 (55%)
Year 2	4 (33%)

Table 3. Near-Peer Coaching Students' Test Anxiety Scores at Baseline and at Each Time Point.

		Test anxiety Score	Range	Number of responses (% N)
Baseline				
	Year 1	2.84 ± 0.66*	1.6 - 4.1	19 (86%)
	Year 2	2.69 ± 0.72**	1.5–4.1	12 (100%)
Post-MCAT Coaching 1				
	Year 1	2.44 ± 0.63*	1.3 - 3.8	16 (73%)
	Year 2	2.46 ± 0.21**	2.0 - 2.8	11 (92%)
Post-MCAT Coaching 2				
	Year 1	2.76 ± 0.58*	1.8 - 4.2	14 (64%)
	Year 2	2.24 ± 0.2**	2.0 - 2.5	8 (67%)
Post-MCAT Mock Exam				
	Year 1	2.88 ± 0.64*	1.7 - 4.1	16 (73%)
	Year 2	-	-	-
Post-MCAT Coaching 3				
	Year 1	2.26 ± 0.29*	1.7 - 2.6	5 (23%)
	Year 2	2.3 ± 0.2**	2.0 - 2.5	6 (50%)

*These values were not statistically different from each other per student's t-test $p<0.05$

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Table 4: Themes of MCAT Related Concerns with Examples and Percentage of All Responses Containing the Respective Theme.

Category of response	Examples (General Concern)	Year 1					
		Baseline N=19 (%)	Post-MCAT Coaching 1 N=16 (%)	Post-MCAT Coaching 2 N=14 (%)	Post MCAT-Exam N=16 (%)	Post MCAT Coaching 3 N=5 (%)	Baseline N= 12 (%)
Study Strategy	"I am afraid that **I am not studying properly on my own** and that **I do not know how to properly study**."	**11 (58%)**	**6 (38%)**	**4 (29%)**	**4 (25%)**	**2 (40%)**	**11 (92%)**
Knowledge	"**Retaining all necessary knowledge to do well on the test**"	**11 (58%)**	**10 (63%)**	**9 (69%)**	**15 (93%)**	**3 (60%)**	**12 (100%)**
Exam Strategy	"I always found it **difficult to fully understand what a question is asking, it feels like each one is a trick and designed to confuse you**."	**8 (42%)**	**12 (75%)**	**6 (43%)**	**15 (93%)**	**2 (40%)**	**6 (50%)**
Self-Confidence	"**I believe that I am not worthy. Imposter syndrome. I constantly am comparing myself to my peers. I think they know a lot more than I do because I struggle to retain information**."	**18 (95%)**	**8 (50%)**	**7 (50%)**	**11 (69%)**	**1 (20%)**	**8 (75%)**
Accountability	"**Being accountable to study schedules and having passion to study**."	**8 (42%)**	**7 (37%)**	**4 (29%)**	**5 (31%)**	**0 (0%)**	**8 (57%)**
Balancing School and Study	"**That I might not have enough time to study with being in school.**"	**9 (50%)**	**7 (44%)**	**7 (50%)**	**5 (31%)**	**2 (40%)**	**11 (92%)**
COVID-19 related	"**I feel mad and hopeless… I don't know when my MCAT date is going to be!!!!**"	-	-	-	-	**3 (60%)**	**2 (17%)**

Table 5: Themes of Student Thought's on the Near-Peer Coaching Program with Examples and Percentage of All Responses Containing the Respective Theme.

Category of response	Examples (General Concern)	Year 1			
		Post-MCAT Coaching 1 N=16 (%)	Post-MCAT Coaching 2 N=14 (%)	Post MCAT Coaching 3 N =5 (%)	Post- MCAT Coa N = 11 (%
Helpful	"**What I got most out of this is the wisdom and experience of a medical studen**t. **I know what to do and what to avoid** because they have been through it and understand how the MCAT should be approached."	**15 (93%)**	**14 (100%)**	**4 (80%)**	**11 (100%**
Needs more meeting opportunities	"**I think one or two more meetings as a kind of check-in would help**. After the meeting I feel like I know what to do, but I haven't had a chance to apply it yet, so the kinks haven't shown themselves yet. **It'd be nice to be able to meet maybe a month or so after these sessions** to talk about what I'm doing.""	**12 (75%)**	**9 (64%)**	**1 (20%)**	**1 (9%)**
Needs different content	"**could you go beyond strategies and focus on taking up practice questions?**"	**4 (25%)**	**6 (43%)**	**2 (40%)**	**4 (36%)**
Felt supported/increased self-confidence	"My first meeting with my mentor went super well!!! It was extremely helpful and **I feel much better about myself**."	**10 (63%)**	**8 (57%)**	**3 (60%)**	**8 (73%)**
Too many topics covered	"yes, **just learning study techniques would be better**"	**4 (25%)**	**3 (21%)**	**0 (0%)**	**1 (9%)**
Other	"**better method of communication plz!**"	**2 (13%)**	**1 (7%)**	**1 (20%)**	**4 (36%)**