Relationship of Stress, Academic Pressure, and Burnout in New York's Pre-med Programs

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INTRODUCTION

I experienced that familiar panic when my alarm went off this morning, and I realized I only had an hour to get ready for class. I had stayed up late working on a lab report the night before and felt exhausted. I rushed to make breakfast and quickly checked my agenda for the week, only to discover I had an exam today that barely brushed my mind. Being left with inadequate time to study, I began to feel the stress and pressure that was infused into my academic life.

This routine is not suitable for the typical medical student and may even be detrimental to their health and well-being. Why is this normalized among medical students around the world? Although this feeling is mutual, the stress and pressure put on these students vary depending on their level of education and opportunities. For instance, a high school student in the nursing program might perceive less pressure than an undergraduate student conducting lab reports for their chemistry class.

There are many explanations for this feeling, such as the difference in workload, failure to understand the topic, and competition. A further illustration of these symptoms is evaluated in the research journal, *"Improving Learning and Study Strategies in Undergraduate Medical Students: A Pre-Post Study,"* which stated, "*A common feeling among incoming medical students, especially among those starting medical school straight from high school, is the sensation of not knowing how to learn or study…"* (Sisa et al., 2023). The inability to efficiently study and understand the topic creates a feeling of pressure on students; they feel that they are behind in the curriculum.

The primary research question is posed by the findings from the academic discussions that were examined: ***How significantly are students in New York's Pre-Medical programs affected by the rigorous conditions, and to what extent do these conditions influence their levels of stress, pressure, and burnout?***

LITERATURE REVIEW

Medical Field

The medical industry is widely recognized as one of the most challenging career choices. The difficulty of this profession stems from the significance of medical graduates in society, particularly the roles that nurses and doctors play, which clarifies why it takes them several years to obtain a medical license. To guarantee that graduates acquire the necessary skills, medical students train in a continuously changing environment of five to six years, a long and stressful time frame. (Chauhan, et al., 2014). Due to the competition and rigorous coursework, medical programs can hurt students' mental health and increase their risk of developing more severe psychological problems (Houda et al., 2018). These conditions occur as early as the transition from high school to college; there is a significant change in students' academic responsibilities as they feel they do not know how to learn or study effectively. (Sisa et al., 2023).

High School Students:

Pressure for High Grades

High school students tend to be stressed to be at the top of their class, whether that pressure is internal or external. Expecting their outstanding scores to qualify them for college,

students may push themselves to burnout. Unhealthy comparison—most frequently seen in parents comparing their children to the best student in their class—also contributes to pressure, causing the student to develop a sense of "rivalry" among their classmates, which creates competition (Sibnath et al., 2015).

Course Load and the College Admission Process

Not only are grades important for high school students, but taking rigorous courses aligned with their intended college major is just as important. An example of this can be found in advanced placement classes (AP), where students are required to complete more rigorous and demanding coursework than the general education curriculum. High school students are introduced to more challenging, college-level material in AP classes, however, high school students may put their health at risk to perform well in that class, particularly if they are enrolled in several AP classes. According to the University of South Florida, students enrolled in AP courses face multiple conditions, such as fatigue, restlessness, and physical health issues (2021). These challenging college-level courses may be taken by students in an effort to impress college admissions representatives. College admissions officers review all application materials thoroughly, including essays, letters of recommendation, extracurricular activities, and, most importantly, coursework and grades. To dominate the college admissions process, students feel pressured to focus on their grades and attempt to achieve the highest possible scores (Zwick, 2007).

Feeling Unprepared for College

Schools offer distinct courses from one another throughout the world. This is caused by a variety of factors, including funding, student interests, and a teacher shortage. Pre-medical

students, for example, frequently feel unprepared when they compare themselves against other students. For instance, students who could enroll in AP Biology throughout high school have an advantage over those who did not (Neitzel, 2019). Students who feel unprepared for college also need more academic confidence, where a lack hinders their performance (Sander, Sanders, 2006).

Undergraduate Students:

Higher Expectations

Several factors contribute to the anxiety that new first-year college students experience about beginning their studies, such as the new environment, the coursework, and, particularly, their expectations. External and internal factors shape these expectations in the student, which are constantly shifting. Their changing expectations, whether from others or themselves and their networks of support impact how well they adjust to college life (Nadelson et al., 2012). This is commonly seen in the medical field, where students face challenging coursework and unrealistic expectations. People expect students to manage their well-being and academics successfully, for instance, yet because of the demands of their coursework, it might be challenging for those pursuing careers in medicine (Zhang et al., 2023). The expectations placed on students in college may be harmful to both their academic performance and well-being.

Competition

Competition is an evident aspect of today's society. Each of us—people, businesses, and even animals—competes for something. The emphasis on competitiveness regarding performance and striving for "perfection" has become so pervasive that it defines the culture of

today's society (Bonnesen et al., 2023). This is frequently seen in the grading system, as students compete—often unknowingly—to earn the best grade in the class. Students who achieve high grades are often mentally rewarded, which can increase their performance, while students who obtain low grades are discouraged and often demotivated by their classmates' higher grades (Kristensen, 2015). In addition, the introduction of curve grading heightens competition significantly. Grading on a curve pressures students to achieve the highest score in the class, competing with their classmates (Kulick, 2008). While some competition can be beneficial in educational settings, too much competitiveness can damage the students.

Burnout in Students

Many students have experienced and continue to experience burnout, which is recognized as the sense of being exhausted or lacking in energy (World Health Organization, 2019). Usually, extreme stress-related tiredness is the cause of this (Pisarik, 2023). Students' experience of burnout is intensively linked to their studies. There are many forms of student burnout, such as emotional exhaustion, depersonalization, and low levels of personal accomplishment. Some of the consequences include physical issues such as sleep deprivation or even emotional issues, including depression (Urquiza et al., 2023).

Medical Students:

MCAT

The MCAT (Medical College Admission Test) is a standardized exam designed to assess the student's critical thinking skills and knowledge of the study of medicine. Undergraduates typically take this exam in their sophomore year, after which medical schools use the results as a factor in a student's admission (AAMC, 2024). Some medical schools with high prestige

require high MCAT scores, where the students are stressed to excel in the MCAT to secure a spot in medical school. The rigor of this exam is primarily responsible for the intense stress and pressure that upcoming medical students face (Hasan et al., 2018). The MCAT is so intense that the AAMC (Association of American Medical Colleges) uses palm vein recognition to accurately identify students and prevent proxy testing, illustrating the high stakes (Pearson VUE, 2021). Students taking the MCAT without adequate mental preparation run the risk of experiencing test anxiety, burnout, or even pressure to perform well during the exam, which could harm their results (Seza, 2023).

Medical School Applications

The process of applying to medical school is a crucial stage in a student's medical journey. Every year, the application opens the first week of May, and submissions open the first week of June. Each institution provides a range of educational opportunities, and students are under pressure to select the best option for them; this is often referred to as "application anxiety ." Admissions officers review an applicant's growth and the "distance traveled" to overcome an issue. Furthermore, while not necessary, it is anticipated that applicants will have completed some research, volunteer work, or clinical hours before attending medical school, increasing the standards for acceptance. Essentially, applicants to medical schools are under immense stress to not only meet the requirements but also excel in the expectations of admissions officers (AAMC, 2024).

Match Day

Every year, on the third Friday in March, graduating medical students throughout the United States face anxiety regarding their residency placement results. The number of medical programs a student could apply to varies on the competitiveness of their medical specialty. In

the hopes of getting into different programs despite their low admittance rate, those pursuing a surgical residency, for example, might apply to more programs than someone pursuing a pediatric residency program (Nina Bai, 2024). Applying to a program with a low acceptance rate puts a student under much stress. Opening their acceptance letter will reveal the trajectory of that student's life (Kathy Koski, 2023).

GAP IN RESEARCH

The pre-existing research accurately evaluates that students on the medical track who are overburdened with academic work are far more likely to encounter factors including burnout, sleep deprivation, and other issues linked to an excessive feeling of pressure and stress (Alrashed et al., 2022). In summary, these studies focus on the stress and academic pressure that graduate and undergraduate students are currently experiencing, primarily ignoring the rigor of the area studied, conditions at the high school level, and potential detrimental long-term impacts. To improve clarity, the current research being conducted seeks to close that gap and assess how stress, perception of pressure, and burnout affect students in New York's pre-medical programs, starting in high school and continuing into the medical sector.

HYPOTHESIS

The present research proposes a preliminary hypothesis that suggests that the demanding academic environment of pre-medical programs in New York has a significant role in the level of stress and pressure that students encounter. Students pursuing studies in the medical sector will face these conditions regardless of their educational level; however, the intensity and level of burnout from these conditions may vary based on their level of education

and the accessibility of support systems. High school students will experience more stress than other educational levels, as well as a relatively high amount of pressure as they prepare themselves for the transition to the college level. Undergraduate students will experience less stress than high school students; however, they will experience more pressure as they choose the medical institution that is right for them. Although medical students are less stressed than high school and undergraduate students since they have become accustomed to the demanding environment, they nevertheless feel the most overall pressure as they prepare for their future careers.

METHODOLOGY

It has already been assessed that medical students endure high levels of stress and burnout related to their studies, leading to various health problems in the future (Archives of Clinical Psychiatry, 2016). Further research is imperative to investigate further variables that influence their health. To test the hypothesis, the researcher studied the factors influencing stress, pressure, and burnout among students who aspire to pursue the medical field, considering their educational background within New York's medical programs. A mixed-method study was conducted, where a survey (Appendix A) designed to collect quantitative and qualitative data was distributed to high school students, undergraduates, and medical students across New York.

Through the use of a mixed-method approach, it was possible to quantify the stress and pressure levels of the students and highlight the contributing factors to determine the relationship between one's educational degree and their stress and pressure levels. The survey incorporated several Likert scale questions, where participants were presented with a statement

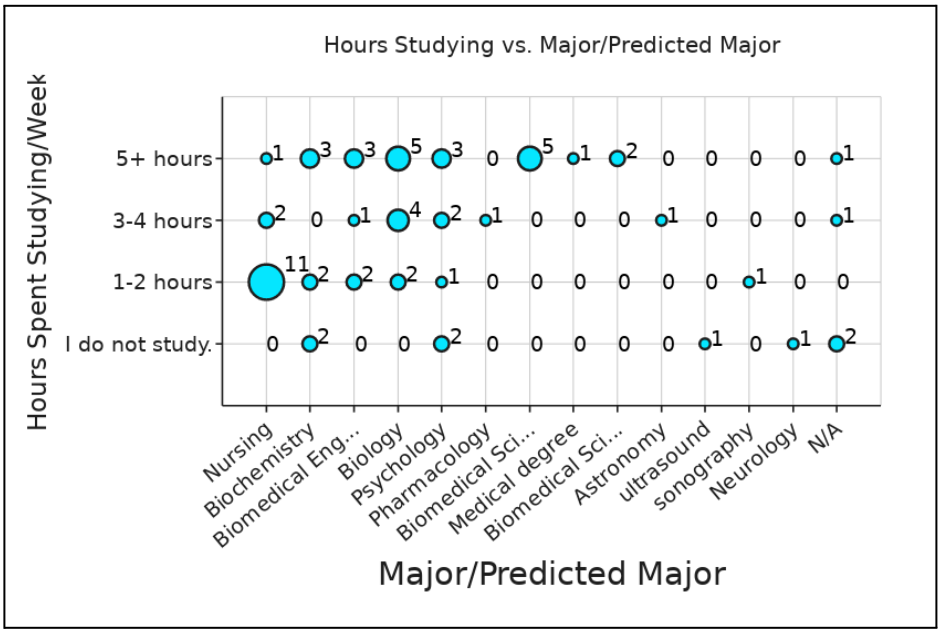
that potentially related to them and answered whether they agreed or disagreed on a scale that ranged from 1-4.

The study additionally assessed the students' level of burnout numerically and examined the available support systems designed to assist them in managing their health. Additional information was collected, including a student's AP courses if applicable, specific medical programs/courses, a student's hours studying, their predicted major, and most notably, their confidence in pursuing a career in medicine despite the factors that pose health concerns. The researcher used DataClassroom, an online graphing and statistics tool, to compile the survey data and create graphs to clarify the relationship between the tested variables. Furthermore, tests on these graphs were conducted to determine the direct impact of these variables on one another.

RESULTS

The survey that was distributed obtained a sample size of 65 participants. Using DataClassroom, several hypothesis tests were performed on the collected data (ANOVA, Linear Regression, Chi-Square Test of Independence). These tests established whether any of the variables shared any relationships or were independent of one another. A P-value as close as 0 signifies a relationship between the variables listed.

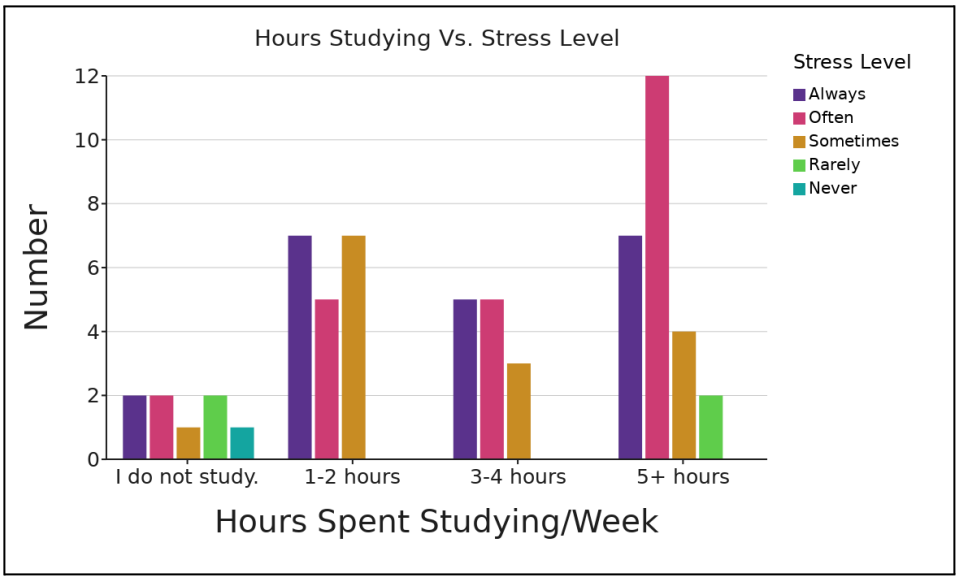
Graph 1: *Hours a Student Spends Studying vs. Their Intended Major*



Degrees of Freedom (df)	**Chi-square**	**P-value**	**Interpretation of P**
39	69.29	<0.01	A P-value of <0.01 means extremely strong confidence that there is a relationship.

A Chi-square Test of Independence was performed, and the results show a clear correlation between the number of study hours and one's major (P-value <0.01). As demonstrated, nursing majors report fewer hours studying in comparison to other majors, such as biology and biomedical science, which report more hours spent studying. Likewise, some evidence links the amount of time students spend studying to their stress levels.

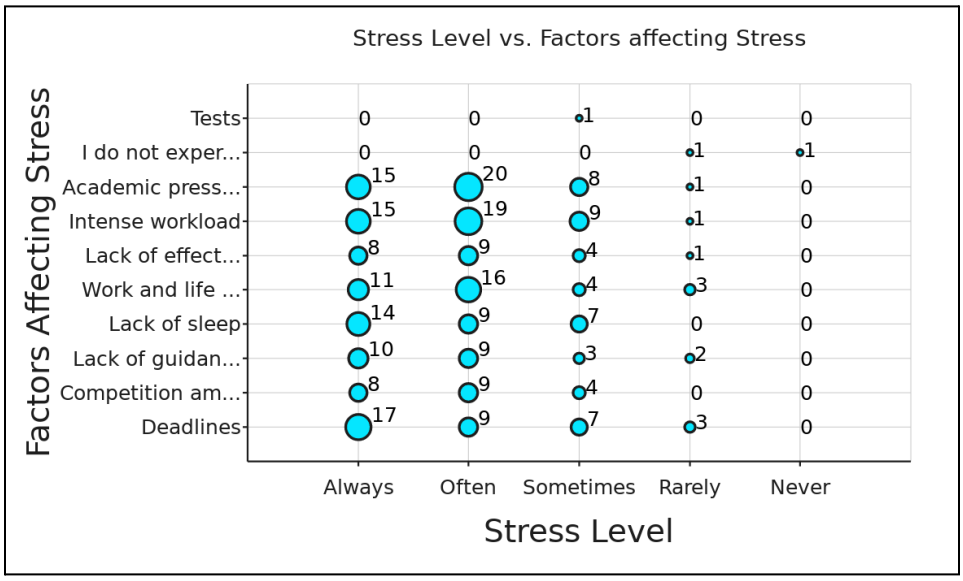
Graph 2: *Hours a Student Spends Studying vs. Their Stress Level*



Degrees of Freedom (df)	**Chi-square**	**P-value**	**Interpretation of P**
12	18.62	0.10	A P-value of 0.10 means some confidence that there is a relationship.

The results from the Chi-square Test of Independence show there is some degree of confidence in the relationship between a student's stress level and the amount of time they spend studying (P-value 0.10). The results show a connection between students who study for five hours or more and those who get stressed out frequently (Often). There is a deviation in this relationship, though, since those who claim to be constantly stressed (Always) may study for one to two hours or five or more hours.

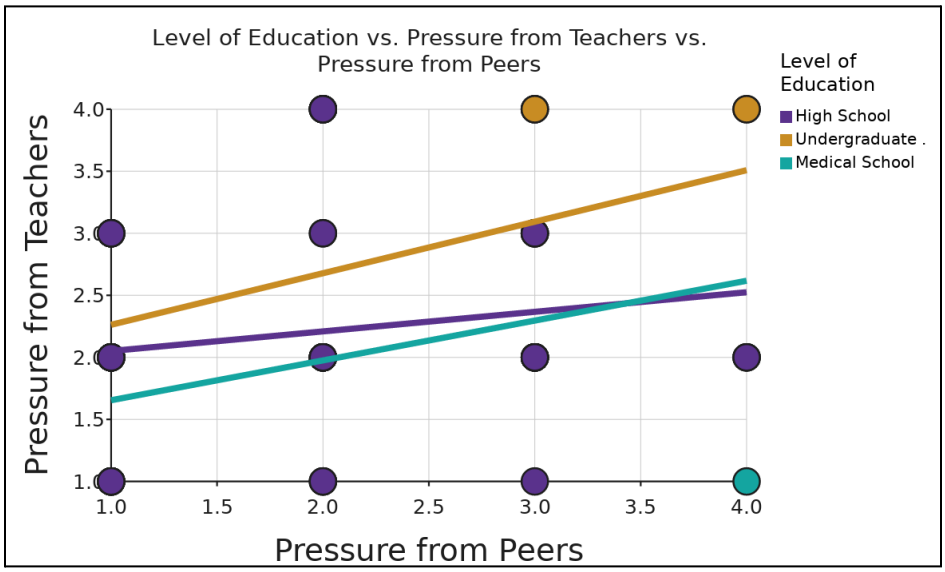
Graph 3: *A Student's Stress Level vs. The Factors That Affect Their Stress*



Degrees of Freedom (df)	Chi-square	P-value	Interpretation of P
36	157.44	<0.01	A P-value of <0.01 means extremely strong confidence that there is a relationship.

After conducting a Chi-square Test of Independence, A P-value of <0.01 was evaluated. This value indicates a high degree of confidence in the relationship between the factors affecting stress and a student's stress level in the medical field. Furthermore, people who experience high levels of stress and who report that academic pressure is a contributing factor also mention a heavy workload, an inability to manage work and personal responsibilities, sleep deprivation, and missing deadlines as contributing factors.

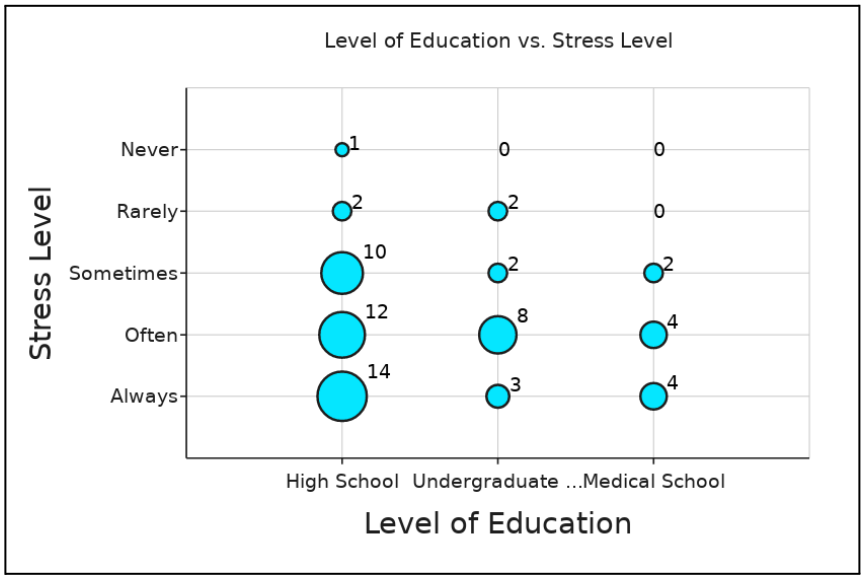
Graph 4: *A Students Level of Education vs.Their Perceived Pressure From Teachers and Peers*



	r2	**Degrees of Freedom** (df)	**Slope**	**Std. Error** (SE)	**T-Score** (Slope / SE)	**P-value**	**Interpretation of P**
Pressure from Peers	0.0564	62	0.236	0.122	1.9	0.06	A P-value of 0.06 means some confidence that there is a relationship.

After conducting a linear regression, it is clear that there is a relationship between a student's education level and the pressure that they experience from both teachers and their peers. While the pressure experienced by undergraduates and medical students is relatively fixed, the pressure experienced by high school students varies–it is significantly influenced by the classes they are taking. It is evident, for example, that a high school student in the EMT program experiences less pressure than a high school student in the nursing program (Appendix B).

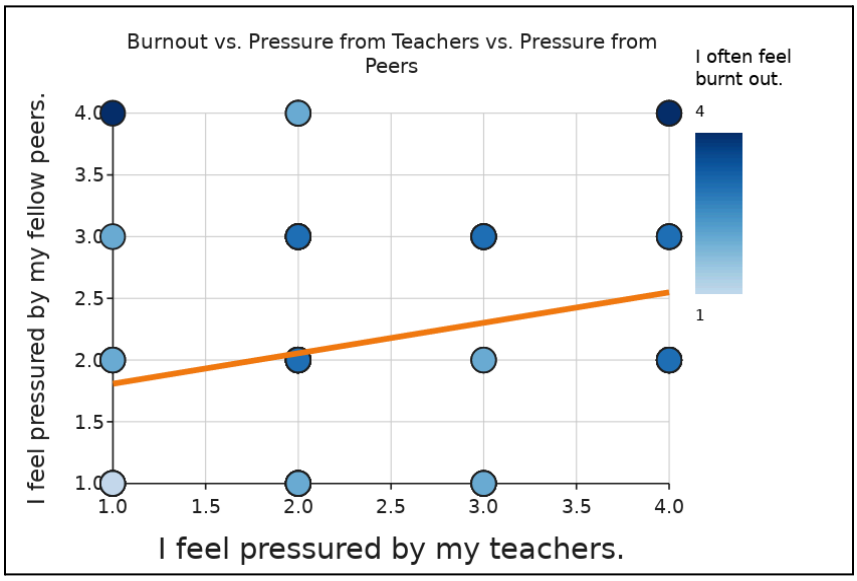
Graph 5: *A Student's Level of Education vs. Their Stress Level*



Degrees of Freedom (df)	**Chi-square**	**P-value**	**Interpretation of P**
8	5.83	0.67	A P-value of 0.67 means no evidence that there is a relationship.

After conducting a Chi-square Test of Independence, it was noteworthy that there was little to no correlation between a student's level of education and the amount of stress they experience (P-value 0.67), somewhat refuting the initial hypothesis. It's significant to note that most of the high school students who took the survey reported a significant level of stress. It's also clear that the largest sample size consisted of high school students.

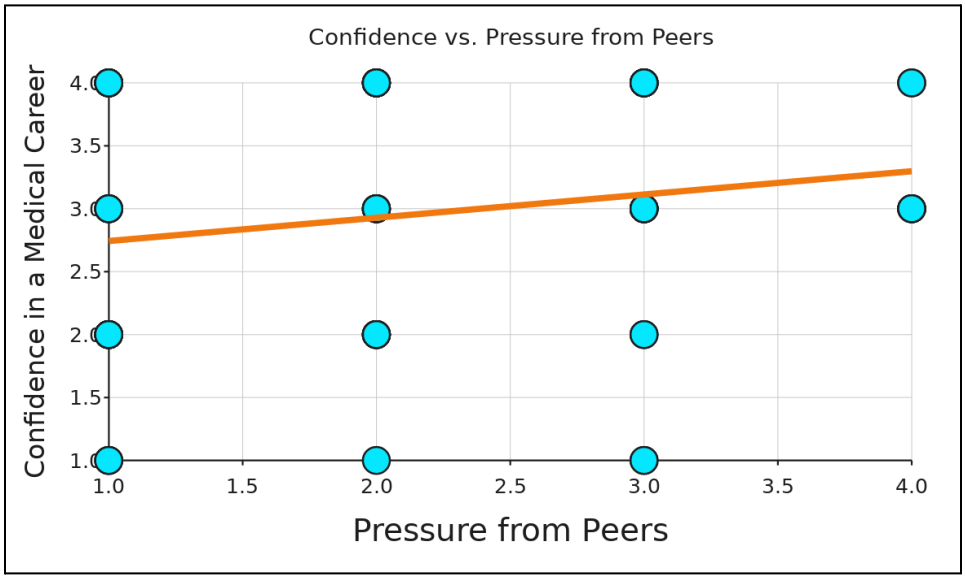
Graph 6: *A Student's Level of Burnout vs. Their Perceived Pressure From Teachers and Peers*



	r2	**Degrees of Freedom** (df)	**Slope**	**Std. Error** (SE)	**T-Score** (Slope / SE)	**P-value**	**Interpretation of P**
I feel pressured by my teachers.	0.0598	63	0.247	0.123	2	0.05	A P-value of 0.05 means strong confidence that there is a relationship.

It is evident by performing a linear regression that a student's perception of pressure and burnout are related (P-value 0.05). Those who feel less pressure from their teachers also typically feel more pressure from their peers and burnout more easily. High levels of burnout are also experienced by those subject to high amounts of pressure from both classmates and teachers. Referring to the graph, it is clear that students are under a lot of pressure to perform up to expectations, which leads to burnout.

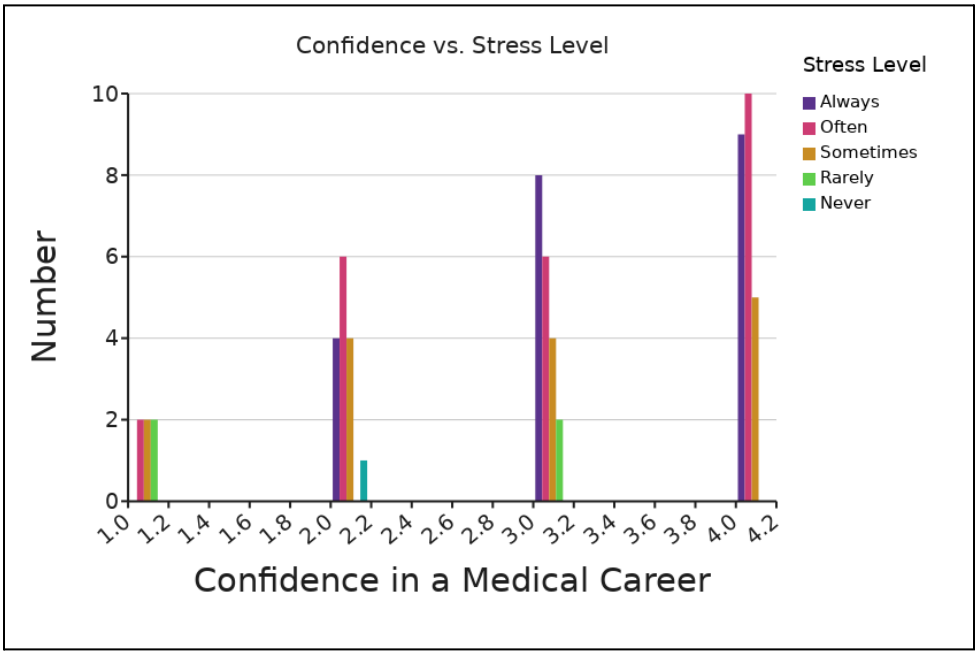
Graph 7: *A Student's Level of Confidence to Pursue a Medical Career vs. Peer Pressure*



	r2	**Degrees of Freedom** (df)	**Slope**	**Std. Error** (SE)	**T-Score** (Slope / SE)	**P-value**	**Interpretation of P**
Pressure from Peers	0.0336	63	0.185	0.125	1.5	0.14	A P-value of 0.14 means some indication that there might be a relationship.

A P-value of 0.14 was obtained from a linear regression test, suggesting that there may be a connection between a student's confidence in pursuing a medical career and the pressure they feel from their peers. As illustrated, those who experience high pressure from their peers are usually confident in pursuing a medical career (value of 3.0+), while those who experience minimal pressure are uncertain about pursuing a medical career. It is uncertain whether these variables are directly related.

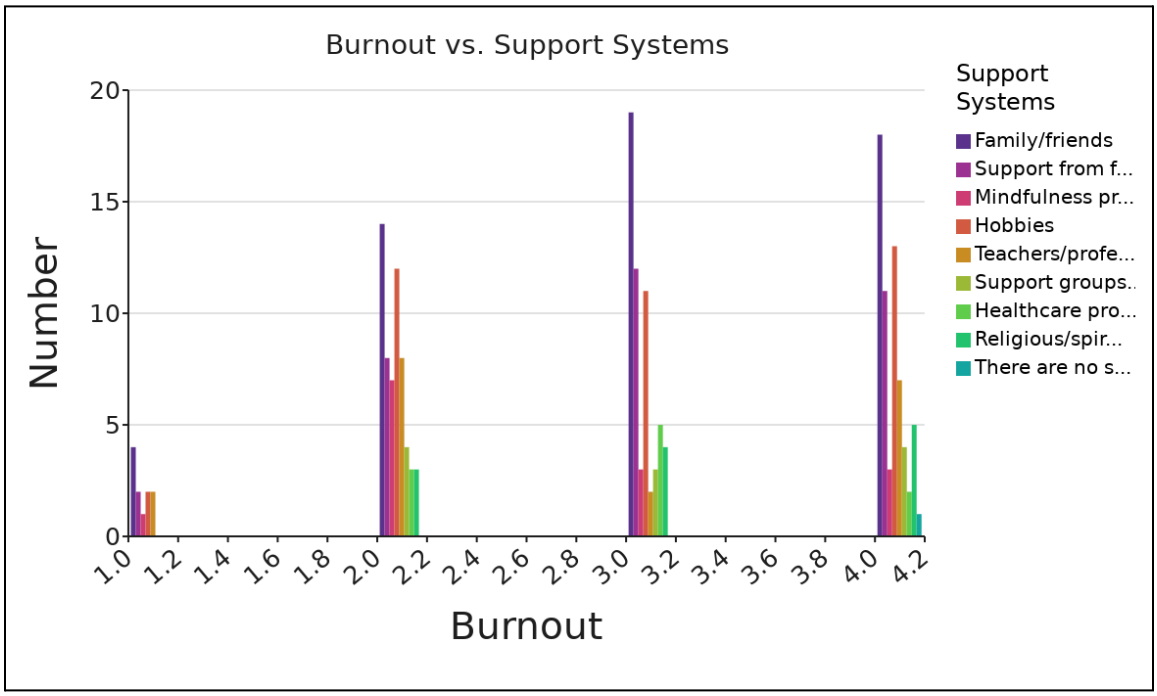
Graph 8: *A Student's Level of Confidence to Pursue a Medical Career vs. Their Stress Level*



Effect	**Degrees of Freedom** (df)	**F-statistic** (MS / MS residual)	**P-value**	**Interpretation of P**
Stress Level	4	1.8	0.15	A P-value of 0.15 means some indication that the groups might be different.
Error or Residual	60			

After conducting an ANOVA test, a P-value of 0.15 was discovered; a slight relationship exists between a student's confidence level in pursuing a medical career and their stress level. As shown on the graph, those who report that they experience stress "Often" or "Always" generally report high confidence in pursuing a career in the medical sector; however, whether these variables act directly is unlikely.

Graph 9: *A Student's Level of Burnout vs. Their Available Support Systems*



Effect	**Degrees of Freedom** (df)	**F-statistic** (MS / MS residual)	**P-value**	**Interpretation of P**
Support Systems	8	0.63	0.76	A P-value of 0.76 means no evidence that the groups might be different.
Error or Residual	184			

The results from an ANOVA test indicate that a student's support systems and their level of burnout are most likely not related (P-value 0.76). It is interesting to note that there is a large spike of students who reported the help of family or friends as their support system when their burnout reached a level of 3.0+. These findings indicate that despite the availability of support systems, students still experience a high level of burnout.

DISCUSSION / CONCLUSION

The results of this study indicate that the preliminary hypothesis was partially accurate:

All three of the educational levels studied reported unusually high levels of stress and pressure. Stress levels reported by high school students were high, with most respondents claiming they are stressed "Always," however, both undergraduate and medical students reported similar stress levels, with levels ranging from "Often" to "Always," suggesting that these groups nevertheless endure notable levels of stress (Graph 5). Additionally, a clear correlation between a student's educational degree and their perception of pressure was found through the use of a linear regression (Table of Graph 4). The pressure faced by high school students varies depending on its source. Undergraduate students usually perceive a high level of pressure from their teachers and peers, whereas medical students feel a fixed amount of pressure (Graph 4). In addition, there is a correlation between a student's perceived pressure and their level of burnout. Specifically, students who perceive high levels of pressure from their classmates and teachers are more likely to experience burnout (Graph 6).

Despite some validation, a significant amount of the researchers' hypothesis was rejected. Following data collection and a Chi-square Test of Independence, there was no correlation found between a student's stress level and their level of education (Table of Graph 5). Initially, it was proposed that medical students would exhibit lower levels of stress compared to undergraduate students; however, the proximity of the reported values lacks a definitive conclusion and it is unlikely that medical students experience less stress overall (Graph 5). Additionally, while it was theorized that high school students would face significant pressure, the researchers' study has shown that different high school students hold various perceptions of

pressure; most respondents reported moderate pressure from peers and teachers with an average score of 2.0 in each category. Furthermore, the results demonstrated that undergraduates faced more significant pressure than high school students, with scores of 4.0 for peer pressure and 3.0 to 4.0 for teacher-related pressure. The research further disproved the initial hypothesis that medical students would experience the most pressure overall, revealing that compared to teacher-related pressure, which scored 1.0, the medical student respondents mainly reported intense peer-related pressure (4.0). Unlike the other educational levels studied, medical school students face a fixed amount of pressure (Graph 4). It was also determined that a student's level of burnout in the medical sector does not correlate with the availability of support systems; they face a high level of burnout regardless (Graph 9).

With the results of the study, it is interesting to note that students pursuing medicine experience high levels of burnout as a result of their heightened perception of pressure (Graph 6). Additionally, the stress and pressure experienced by students may affect their confidence in pursuing a career in medicine (Graphs 7 & 8). Interestingly, out of the 65 respondents, the majority of students identified as female (47 students), where females experienced higher levels of stress and pressure on average than men and non-binary students. Furthermore, the vast majority of participants were enrolled in high school, with 39 respondents in that cohort, 15 in undergraduate institutions, and 14 in medical school. Upon compiling the findings from the research, it is possible to conclude that students enrolled in New York’s pre-medical programs undeniably experience substantial levels of stress and pressure within the academic environment. While the intensity of their pressure correlates with their educational level, their stress itself holds no relation. The burnout that these students experience is a direct cause of their perception of pressure, however, the support systems put in place for these students fail to

mitigate the adverse effects. These factors, although not directly, could impact a student's confidence to pursue the medical sector.

IMPLICATIONS

The results of the conducted study aim to benefit the medical field by exploring the variables that adversely affect the well-being of medical students from different educational levels. Although it has already been established by pre-existing research that students advancing in the medical field face health concerns along their academic journey (Sperling et al., 2023), the conducted research illustrates the evolution of students' well-being from high school through medical school, including the potential effects that available support systems may have on their condition.

The findings of this study could serve as a catalyst to further push for the use of support systems to mitigate the health concerns of medical students at an earlier stage. The results of this study indicate that, at the current level, support systems, such as family support or one's hobbies, have little to no impact on reducing the level of burnout experienced by students in the medical sector. The imperative to further advocate for support systems arises from pre-existing research indicating that medical students often resist seeking help and treatment. Pushing treatment options forward could alleviate the feeling of isolation among these students in coping with their health concerns (Shahaf-Oren et al., 2021).

LIMITATIONS

Specific survey questions (Appendix A) were unrelated to the other factors under study and were left out of the data compilation. Most notably, the question concerning AP classes could have been clearer for students who had graduated from high school and for those who had listed their courses related to medical studies. Due to the lack of clarity, the question was omitted from the compilation.

Another limitation was the lack of questions that specifically pertained to the factors being studied. More types of questions, such as the Perceived Stress Scale (PSS), would've helped the researcher understand how different situations affected students' feelings and their perceived stress (State of New Hampshire, 2024). Additionally, the researcher could've included the Maslach Burnout Inventory (MBI) to more accurately measure the level of burnout that a student experiences (Mindgarden, 2024).

The research's sample size of 65 individuals was an additional limitation. The researcher could have more accurately determined the causes of stress, pressure, burnout, and other issues that medical students face if there were a larger sample size. As previously noted, the survey collected responses from 39 students in high school, 15 in undergraduate institutions, and 14 in medical school. The conclusions that were made for undergraduate and medical students are not applicable to institutions across New York due to the lack of respondents in the said cohort. Undergraduate students and medical students are relatively busy; undergraduates are in preparation for their MCAT exams (Steed, Kadavakollu, 2019), while medical students are exploring their clinical studies, limiting their room for downtime as they prepare for their future careers (Bergmann et al., 2019). As determined through pre-existing scholarly conversations, these students have tight and hectic schedules which could be a limiting factor that prevented

them from taking the survey. Furthermore, it was difficult to distribute the survey due to closed campuses at many universities and medical institutions. Additionally, some professors who received the survey chose not to distribute it, further harming the distribution process. Had more participants taken the survey, the results would have been more accurate in addressing the trends among undergraduate and medical school students, thereby providing additional support for some of the initial hypotheses that have been disproven by the data from the current sample size.

FUTURE RESEARCH

The current study's limitations act as obstacles to fully understanding the primary causes of stress, pressure, and burnout among medical students. To address these issues, further research is imperative. The motive to continue research stems from the researchers' passion for pursuing a medical career, where experiencing some form of burnout through the academic journey is inevitable. Future research will be conducted by identifying and mitigating the factors contributing to these limitations, aiming to avoid redundancy in the results. There will be an increase in the sample size to an average number for the three educational levels examined, focusing on undergraduate and medical school participants who were previously represented as a small sample size. In the current study, there was a spike among high school participants, skewing the results in their favor. Collecting an average number of participants in future studies helps to mitigate any potential spike between education levels. Additionally, a mixed-method approach will continue to be used in future research; however, the results will contain more qualitative data to allow for more numerical comparisons and linear regression tests to determine relationships more accurately.

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APPENDICES

APPENDIX A

What is your gender?

Mark only one oval.

- ◯ Male
- ◯ Female
- ◯ Prefer not to answer
- ◯ Other: _____

What is your ethnicity/race?

Check all that apply.

- ☐ Black (including African and Afro-Caribbean origin)
- ☐ Hispanic/Latino Origin
- ☐ Asian (Including Indian Subcontinent and Philippines Origin)
- ☐ White
- ☐ Native American
- ☐ Pacific Islander
- ☐ Native Alaskan
- ☐ Middle Eastern
- ☐ Prefer not to answer
- ☐ Other: _____

Details on Enrollment

What level of education are you currently in?

Mark only one oval.

- ◯ High School
- ◯ Undergraduate in College/University
- ◯ Medical School
- ◯ Other: _____

Demographic Questions

What is your age?

Mark only one oval.

- 14 years old or under
- 15 years old
- 16 years old
- 17 years old
- 18 years old
- 19 years old
- 20 years old
- 21 years old
- 22 years old
- 23 years old
- 24 years old
- Prefer not to answer
- Other: _____

How many years have you spent in your level of education?

Mark only one oval.

- 1 year
- 2 years
- 3 years
- 4 years
- 5+ years

Which specific pre-medical programs/courses are you enrolled in? Please list all.

eg: Pre-nursing program at the secondary level
EMT in college
Research Programs

_____

What is your major/predicted major?

Mark only one oval.

- Biology
- Biochemistry
- Biomedical Engineering
- Nursing
- Psychology
- Other: _____

Current Level of Stress

Please answer the questions to the best of your ability.

Have you taken any of the following AP courses prior to college?

Check all that apply.

- [ ] AP Biology
- [ ] AP Chemistry
- [ ] AP Physics
- [ ] AP Psychology
- [ ] I have not taken any of the courses listed.

On average, how many hours do you spend studying per week?

Mark only one oval.

- ◯ 1-2 hours
- ◯ 3-4 hours
- ◯ 5+ hours
- ◯ I do not study.

How often do you experience stress related to your studies?

Mark only one oval.

- ◯ Always
- ◯ Often
- ◯ Sometimes
- ◯ Rarely
- ◯ Never

What factors add stress to your studies? Choose all that apply.

Check all that apply.

- [ ] Intense workload
- [ ] Deadlines
- [ ] Academic pressure
- [ ] Competition among peers
- [ ] Lack of guidance/support
- [ ] Lack of sleep
- [ ] Work and life balance
- [ ] Lack of effective studying strategies
- [ ] I do not experience stress related to my studies.
- [ ] Other: _____

If you chose "other', please explain that choice.

_____

_____

_____

_____

_____

Causes of Pressure & Burnout

Please answer these questions on a scale of 1-4.

I feel that high school has adequately prepared/is preparing me for college.

Mark only one oval.

	1	2	3	4	
Disagree	◯	◯	◯	◯	Agree

I feel like I'm meeting the expectations placed on me.

Mark only one oval.

	1	2	3	4	
Disagree	◯	◯	◯	◯	Agree

I feel pressured by my teachers.

Mark only one oval.

	1	2	3	4	
Disagree	◯	◯	◯	◯	Agree

I feel pressured by my fellow peers.

Mark only one oval.

	1	2	3	4	
Disagree	◯	◯	◯	◯	Agree

I often struggle to keep up with the workload given.

Mark only one oval.

	1	2	3	4	
Disagree	◯	◯	◯	◯	Agree

I often feel burnt out.

Mark only one oval.

	1	2	3	4	
Disagree	◯	◯	◯	◯	Agree

I can successfully balance my studies with other aspects in my life (social life, hobbies, etc.). *

Mark only one oval.

	1	2	3	4	
Disagree	◯	◯	◯	◯	Agree

Conclusion

What are your "support systems" that help you manage your stress?

Check all that apply.

- [ ] Family/friends
- [ ] Teachers/professors
- [ ] Support from fellow peers
- [ ] Support groups/clubs
- [ ] Healthcare professionals
- [ ] Religious/spiritual practices
- [ ] Mindfulness practices
- [ ] Hobbies (sports, music, etc.)
- [ ] There are no support systems available that help me manage my stress.
- [ ] Other: _____

What changes or improvements would you suggest in your institution to help reduce stress?

What is your level of confidence that you will end up with a career in medicine?

Mark only one oval.

	1	2	3	4	
Not very optimistic	◯	◯	◯	◯	Very optimistic

Base your response to your answer to the previous question; explain your choice.

APPENDIX B

What level of education are you currently in?	Which specific pre-medical programs/courses are you enrolled in?	I feel pressured by my teachers.	I feel pressured by my fellow peers.
High School	Nursing program	2	2
High School	Children's Development, Sports Med	2	3
High School	AP Chemistry	2	3
High School	Research Programs	3	1
High School	The Medical Scholars Pipeline Program at Hofstra - it's a summer program for 2 years	3	3
Undergraduate in College	Research Programs	2	2
High School	N/A	2	1
High School	N/A	4	3
High School	EMT	2	4
Undergraduate in College	Research Programs	3	3
High School	N/A	4	2
Undergraduate in College	Psychology	1	1
Undergraduate in College	Introduction to Clinical Psychology	2	1
Undergraduate in College	Research Programs	4	3
Medical School	Clinical research programs	2	3
Undergraduate in College	Research Programs	2	1
Undergraduate in College	Pre-Med (my schools biology program)	2	4

Undergraduate in College	Research Programs	4	2
High School	EMT	4	2
Undergraduate in College	EMT in college, Chemistry, Biochemistry, Statistics, Calculus, Biology, Cell Biology, Physics	2	2
High School	AP Research, AP Chemistry	1	1
Medical School	N/A	1	4
Medical School	Medical School at a BS/MD program	3	2
Undergraduate in College	Pre-Med in Sophie Davis	4	3
Medical School	Research Programs	1	1
Medical School	N/A	2	3
Medical School	EMT college, undergrad research program	2	2
Undergraduate in College	Accelerated 7 year BS/MD Program	1	2
Medical School	Currently in medical clerkship rotations	4	4
High School	N/A	2	2
Medical School	N/A	2	3
Medical School	Medical School	2	2
Undergraduate in College	Third year pre-medical student in a BS/MD program	3	1
High School	AP Research and AP Chemistry	2	3
Undergraduate in College	Sophie Davis undergrad- Course such as genetics, anatomy, immunology…	4	2
High School	N/A	1	2
High School	N/A	2	1
High School	Pre-nursing program at the secondary level	2	3

High School	Pre-nursing program at the secondary level	3	3
High School	Pre-nursing program at the secondary level	2	2
High School	Pre-nursing program at the secondary level	1	3
High School	Pre-nursing Program	4	2
High School	Pre-nursing Program	1	1
High School	Pre-nursing Program	2	3
High School	Pre-nursing Program	2	1
High School	Pre-nursing Program	2	3
High School	Pre-nursing Program	2	1
High School	Pre-nursing Program	2	2
High School	Pre-nursing Program	2	2
High School	Health Occupation	4	2
High School	Pre-nursing Program	2	1
High School	EMT	2	1
High School	Pre-nursing Program	3	2
High School	Pre-nursing Program	3	1
High School	Pre-nursing program at the secondary level	3	1
High School	Pre-nursing Program	1	1
High School	Pre-nursing Program	1	2
graduate school	N/A	3	3
Undergraduate in College	Research Programs	4	4
High School	N/A	1	1
High School	N/A	2	4
High School	N/A	2	1

*** Responses 4, 19, and 28 omitted.**