

# Understanding the First-year Pre-medical Experience (and Improving It)

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## Abstract

Premedical students have the reputation of being intense (1). Medical school has the reputation of being intense (2). As their biology instructor, what can I do in my own course to help my intelligent students manage the change in expectations as they rise from high school? This action research project addresses these concerns so that more at-risk students will be successful in gaining admission into our medical school. First, I needed to supplement my observations during the year by asking students directly about their experiences. I used qualitative methods of focus group interviews (semi-structured) and an anonymous survey. Seventeen of 60 students responded to the survey, and nine of 60 participated in interviews. One concern about the validity of the results is that the respondents who came forward were in the top half of the class, thus the at-risk population was underrepresented in the data. Nonetheless, the students identified factors *other than intelligence* that has contributed to success or struggle: **challenge in high school; time management; hard work/motivation; willingness to ask for help; support of family and friends; competition; managing emotions.** Some of these have been identified as "noncognitive variables" that affect success of minorities in medical school (3). As their biology professor I can use this information to prepare my future students for the typical feelings they will likely have in the first year so they can manage them more effectively. This can be done with **encouragement during class, in office hours with at-risk students, and by working with the Counselors or on my own to offer an "Emotional Empowerment" session (3).** Second, this feedback has given evidence that students appreciate and thrive with the support of **faculty advisors.** This encouraged me to table a proposal to create a team of peer mentors and instead focus on my and my colleagues' role as faculty advisors.

## Introduction/Research Question



1-year Foundation (by invitation) 2-year Pre-medical 4-year Medical

At WCMC-Q, students enter pre-medical studies from high school or our Foundation Program. The two-year pre-medical curriculum prepares students for our four-year medical program, to which they must be admitted.

I teach biology in the first year and worry that some of my students are not excelling academically *not* due to lack of academic ability but rather to other emotional factors that diminished their motivation, resilience and esteem-protective coping strategies. Therefore the research question was:

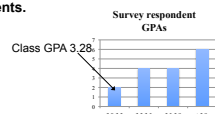
**What was the experience of first year pre-medical students, and how can I as a faculty member use this information to improve the experience for future students?**

## Methods

- Observations of students over two semesters in Biology lecture
- Conversations with colleagues and students over the year
  - "The focus on grades is toxic," "My classmates are so competitive"
- Semi-structured focus group interviews (45 min-1.5 hr, videorecorded, informed consent signed)
- Online anonymous survey ([www.surveymonkey.com](http://www.surveymonkey.com))
- Analysis by reviewing recordings. Some coding using NVivo software.

Validity of sample:

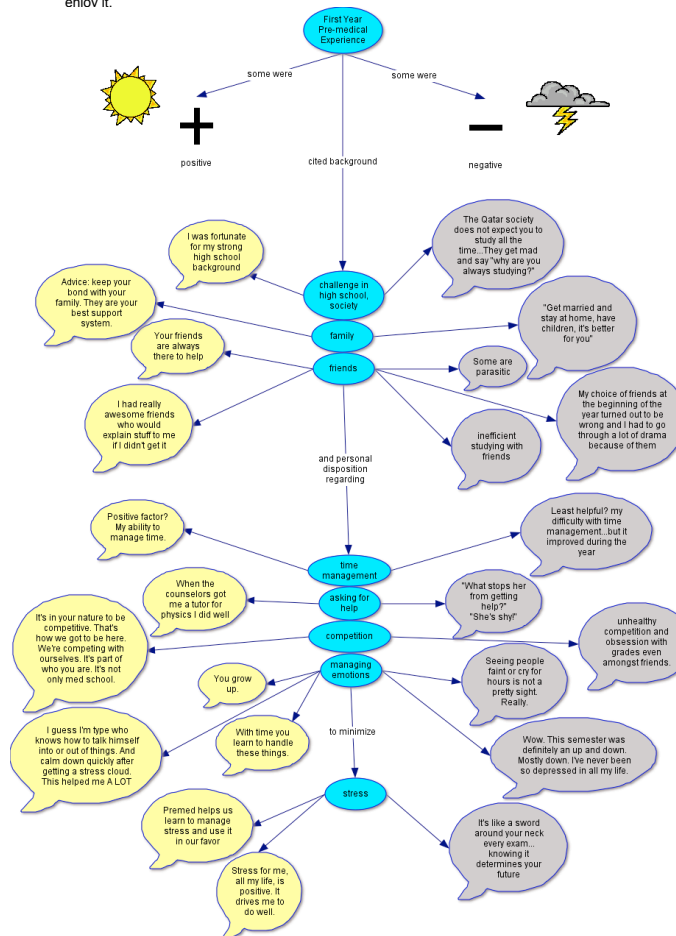
The students who responded to the survey (17) (Fig. 1A) and invitation to the interviews (9) were not representative of the class (mean GPA 3.28, B), but disproportionately represent the upper half of the class. Those who participated in interviews, although all were invited, had median biology grade of A compared with a median of B+ for the class of 60. Therefore the **data underrepresent feedback from at-risk students.**



## Results

In interviews and surveys, students provided rich descriptions of their first-year experience, some of which are quoted below. The comments acknowledged the stress of the first year, the adjustment to college life, socialization and competition among themselves. Most respondents felt that they had an adequate or strong high school background, and were grateful that they were challenged in high school, although some acknowledged that family or society did not understand their drive. Some expressed anxiety about wasting their parents' money if they do not get accepted into medical school

In general, the tone of the responses was positive, constructive, and indicative of growth. But they did not always agree on recommendations. Some expected fellow students to manage their own stress and stay focused—in other words, "get it together", while others were more sympathetic that some students need more active help. Still others felt that those weren't trying hard enough or did not care enough. All comments indicated a belief that all the students in the class are smart enough to become doctors. Participants were asked what they thought would help those who struggled, but most felt that each student has to learn by experience how to cope with demands and emotions of a challenging curriculum, especially time management. Comments about academic goals were usually about grades but some commented on the stimulating ideas and deeper understanding they are gaining, but wish they had more time to enjoy it.



## Conclusions/Next Steps

**"The main thing is that we forgot that we're not here to compete. We're here to make friends and to be doctors, and an arrogant doctor is not really a good doctor. So that's a good change in our personality."**

In conclusion, participants in this study confirmed the impression of the faculty that stress and competition were significant in the first year of our premedical program. Most students described crises of confidence and a feeling of competition along the way in spite of the awareness that we aim to have 100% acceptance into medical school, and that they all are smart enough. The respondents largely had concluded that they learned to manage their emotions better during the year, however it is not known how the non-responders grew. Still, a variety of "noncognitive variables" emerged, which will inform my actions next year.

In my own biology course, this information is helpful so that I can:

- **Request appointments** with all students in the first weeks to build a relationship and spot problems early
- **Request regular appointments with at-risk students** before and after each exam
- **Better counsel students about concern for grades** during office hours
- **Discourage divulging of grades** between students; It's none of their business
- **Modify assignments to maximize learning while minimizing stress**, including an opt-out
- **Continue to grade without a curve**, which students said made them compete against one another.

As a faculty member, this information is helpful so that I can:

- **Encourage students actively**, especially at-risk students, to **make use of existing support structures** at WCMCQ for tutoring, counseling and advising, particularly for time-management
- **Encourage the pre-medical unit to be more systematic in our academic advising** duties by setting appointments on a regular basis (every few weeks). Students said this is helpful.
- **Propose that we reduce stress and competition by providing acceptance rate data** early and often, as well as hold regular conversations about **alternative career paths.**
- **Table a proposal to develop a peer mentoring/buddy system**, but encourage the development of more **panel discussions**, which participants said are helpful.
- **Explore the possibility of an "Emotional Empowerment" minicourse** described below (3).

### Emotional Empowerment: A 10-step feeling management protocol (3)

1. **Time out.** When an event or situation occurs, pause while you complete steps 2-5. (An event can be examination anxiety, a patient interview, alcohol/drug abuse, family issue, academic challenge, safe sex concerns, need for an important decision, noticeable stress, etc.) This seems simple, but many problems derive from impulsive responses that preclude thinking or reflection about consequences.
2. **Analyze what happened.** i.e., examine the whole story, in chronological order, distinguish cause and effect, include feelings. Journaling helps here.
3. **Name all your feelings** as precisely as you can. Use feeling glossary provided.
4. Sort your feelings into **relevant, anachronistic and irrelevant**, i.e. dragging in the kitchen sink.
5. **Face all your feelings.** Process them by exploring, examining and experiencing them without acting on them. This process can be facilitated by crying, journaling and talking to an appropriate person.
6. **Choose the best result** for now and later. Use good judgment and attend to relevant feelings.
7. **Plan how to make that "best result" happen.** Think carefully and be realistic. Set timelines. Enlist support from appropriate friends, colleagues, faculty, peers and professionals.
8. **Follow your plan and nothing but your plan**, but do follow your plan. Act.
9. **Evaluate your results:** examine feelings, what worked, what didn't and why.
10. **Accept the results and move on.** Cycle back to time out with the modified or new situation p.r.n.

## References

1. Coombs, RH and Paulson, MJ (1990) *Is Premedical Education Dehumanizing? A Literature Review.* J Medical Humanities 11(1) 13-22.
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