A Specialization Diagnosis—Research and the Premedical Student

Megan Yu[1]

[1]University of Virginia

April 17, 2023

the WINNOWER

MEDICINE

A Specialization Diagnosis—Research and the Premedical Student

MEGAN YU [1]

1. University of Virginia

CORRESPONDENCE:
my9wd@virginia.edu

DATE RECEIVED:
June 07, 2016

DOI:
10.15200/winn.146527.73080

ARCHIVED:
June 07, 2016

KEYWORDS:
research, premed

CITATION:
Megan Yu, A Specialization Diagnosis—Research and the Premedical Student, *The Winnower* 3:e146527.73080 , 2016 , DOI: 10.15200/winn.146527.73080

If you walk through my university's hallways in the evening, you will probably find yourself listening to a group of premedical students discussing which research labs they are planning to join. These groups comprise mostly of first- and second-year undergraduate students, many of whom have already made up their minds after they are accepted into the university.

Although the research topics vary, the disciplines of which these topics belong rarely do. Given that many of these students are planning to become science majors and some have already decided on which medical specialty they wish to pursue, it is not surprising to find undergraduates doing research at the hospital or in a biology, chemistry, or physics lab.

When I arrived at college, I was open to many possible paths, loath to rule options in or out until I was able to tailor the research project to my interests and goals. Undergraduate research, I deduced, would be the appropriate platform for me to develop and utilize my diverse talents not only to enhance the lives of people, but also to see how far I could expand my potential.

Soon, however, I began to question the decision of remaining "undifferentiated." Many first-years have already found a research mentor whose research projects pertain to their future career decisions. Some second-years have already decided to enroll in an independent undergraduate research course under the mentorship of a faculty adviser.

There seems to be a sense of urgency to pursue research within the medical specialties that the undergraduates have selected. Curious as to whether this could be fueled by the pressure that these students put on themselves, I asked one of the undergraduates in my anatomy class, who is interested in becoming a neurosurgeon, whether he considered this trend rational. As I predicted, he said yes and said, "When you're a first-year, you think you have time to wait until medical school to conduct research that pertains to the specialty you're interested in. You really don't."

Practically speaking, he had a point. Medical students do not have that much time to do research, and many residency programs now require applicants to have a substantive exploration of the fields they are interested in. Yet, part of me wondered whether undergraduates have considered the possibility of pursuing research projects that are not only directly related to the specialties and majors they are interested in, but also to other less popular, but equally impactful, fields, such as the social sciences and health policy and management.

This strategy of early differentiation presents several issues. Undergraduate research is primarily motivated by a desire to enhance learning while working toward a goal to promote one's selection chances in residency programs or specialization exams.[1] In addition, premedical students generally use undergraduate research as a means to help them get into medical school, are more motivated to help people, and are more likely to rule out the possibility of research as a career than non-premedical students.[2]

Even if the logistics work out, the ad hoc nature of self-directed research selection directly challenges the mission of science to produce significant findings in a variety of disciplines that could benefit society: Students rely on preexisting biases when selecting scientific disciplines to conduct research.

An alternative explanation of this trend is the lack of understanding of the variety of research directions that students could undertake, which could be contributed by the lack of undergraduate research programs or premedical offices promoting the less conventional disciplines. In fact, previous studies have suggested that although many undergraduates who aspire to become physicians are motivated to pursue research, many are unaware of the medical research activities or successes within their universities.[3]

This situation seems unfortunate. Students can learn much more about the fields they are interested in by exploring them from different contexts themselves. A more effective approach might be to introduce first- and second-year students various past students' research projects within their fields that go beyond the traditional, basic science disciplines.

Recognizing the need to encourage research in less conventional disciplines, some schools have initiated programs that fulfill this mission. For instance, a team of undergraduate students has initiated the Undergraduate Network for Research in the Humanities (UNRH) to encourage research in the humanities.[4] In addition, the University of Houston has featured undergraduates who are coauthors of papers ranging from health policy to visual communications.[5]

During my second year, a professor gave my class this advice: Be creative in the pursuit of your research. He was reminding us to not limit ourselves of the possibilities of pursuing our research interests from a variety of contexts. When doing research, I do not want to confine myself within the conventional scientific disciplines. Scientific research can be interdisciplinary while helping students to attain their goals. We need more exposure to premedical undergraduates early in their training regarding different research outlets, which will not only enhance the mission of science to produce findings that could benefit society across various disciplines, but also encourage undergraduates to fulfill their research interests and goals across different interdisciplinary settings.

References:

1. Murdoch-Eaton D., Drewery S., Elton S., Emmerson C., Marshall M., Smith J. A., Stark P., & Whittle S. “What do medical students understand by research and research skills? Identifying research opportunities within undergraduate projects.” *Med Teach*, 2010: e152–e160. doi: 10.3109/01421591003657493.

2. Pacifici, L. B., & Thomson, N. “Undergraduate science research: A comparison of influences and experiences between premed and non-premed students.” *CBE Life Sciences Education*, 2011: 199-208. doi: 10.1187/cbe.11-01-0005.

3. Burgoyne, L. N., O’Flynn, S., & Boylan, G. B. “Undergraduate medical research: the student perspective.” *Medical education online*, 2010. doi: 10.3402/meo.v15i0.5212.

4. UNRH. “Undergraduate network for research in the humanities.” http://unrh.org/. Accessed June 6, 2016.

5. University of Houston. “Publications featuring undergraduate researchers.” http://www.uh.edu/honors/undergraduate-research/about/publications/. Accessed June 6, 2016.