

“It’s on the MCAT for a Reason”: Premedical Students and the Perceived Utility of Sociology

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Lauren D. Olsen¹

Abstract

Biomedical socialization and premed culture have been shown to promote reductionist and depersonalized approaches to understanding human difference, a serious problem in contemporary health care. In 2015, the Association for American Medical Colleges (AAMC) launched a new version of its Medical College Admission Test (MCAT) that included material from sociology, providing sociology departments an unprecedented opportunity to instruct premed students on contextualizing human difference and being sensitive to the diverse trajectories of people in the health care system. This article describes a large, public research institution’s introductory sociology course for premeds and draws on the students’ reflective writing to show how premeds valued the complexity, critical perspective, open-minded capacity, and conceptual approaches that sociology had to offer. In applying the sociological material to their experiences or impressions of the medical field, premed students felt that sociological instruction would help them become a more socially minded and critically engaged doctor.

Keywords

introduction to sociology, critical thinking, student writing, premed students

What makes a good doctor? Since 1928, the Association of American Medical Colleges (AAMC) has overseen the initial development and subsequent evolution of medical education, which begins when a prospective medical student is an undergraduate. The AAMC’s interpretation of what it takes to be a suitable physician has been embodied in the Medical College Admission Test (MCAT), which has undergone six substantial revisions between 1928 and 2015. Integral to the medical school admissions process, the content within the MCAT constitutes a body of knowledge and skills that premedical students—hereafter premeds—must master in order to be competitive applicants.

The updated MCAT appeared in 2015 with four main sections. The first two test the applicants’ knowledge and use of concepts in biology, chemistry, physics, biochemistry, cellular and molecular biology, research methods, and statistics. The second two test

the applicants’ knowledge, use, and critical analysis of behavioral and sociocultural determinants of health, sociology, psychology, ethics, philosophy, cross-cultural studies, and population health. AAMC President Darrell Kirch explained the addition of psychological, sociological, and humanistic fields with the statement: “Being a good physician is about more than scientific knowledge. It is about understanding people—how they think, interact, and make decisions” (Kirch 2012:1).

Dr. Kirch’s remarks about good doctors needing to understand people speaks to a broader movement

¹University of California, San Diego, La Jolla, CA, USA

Corresponding Author:

Lauren D. Olsen, Department of Sociology, University of California, San Diego, 9500 Gilman Drive, Mail Code 0533, La Jolla, CA 92093-0533, USA.
 Email: lolsen@ucsd.edu

within medical education in the past 20 years. Medical educators, health services researchers, social scientists, and patient advocacy groups have all vocalized the increased need for physicians to cultivate better communication skills, exhibit more professionalism, understand the patient as a whole person, realize the breadth of health and health care disparities, and be sensitive to a wide range of beliefs about health, illness, and treatment (Betancourt 2002; Fox 2005). Efforts in medical education have diffused widely, yet the content and depth of these curricular efforts have not been streamlined (Jenks 2011); the MCAT's new sections on the behavioral and social sciences promise to help institutionalize a baseline orientation toward "understanding people."

At the 2015 Annual Meeting of the American Sociological Association, a panel was dedicated to this opportunity to teach premeds, explaining that the MCAT aims to encourage students to achieve a greater understanding of the social processes that influence behavior, identity, interactional style, prejudice, and bias formation; the structural distribution of resources and risks according to class, race, ethnicity, gender, sexuality, age, ability, place, and their intersection; and the institutional environment in which health care work occurs and from which disparities emerge (Kain et al. 2015). This task is not without challenges as medical educators and sociology instructors alike have documented the difficulties in teaching students about issues of inequality while aiming "to bring students beyond their stereotypical beliefs about those who differ from themselves, motivate them to question their underlying assumptions, and prevent them from distancing themselves from the subject" (Cleary 2001:36). Moving beyond reductionist and depersonalized thinking is particularly difficult with premeds as premeds are immersed in courses that tend to reduce the complexity of human behavior and witness clinical experiences where medical personnel actively seek distance from patients.

In this article, I begin with an overview of why a sociology course for premeds is important by placing premed students and premed education within the wider framework of medical education and practice. Then, I describe a course—General Sociology for Pre-Med Students—created and implemented by a sociology department at a large, public, research institution with a substantial premed population. In addition to lectures and discussion sections, this course used student journals because reflective writing can help students work to contextualize difference, evaluate taken-for-granted assumptions, and imagine themselves as health care providers.

Drawing on the journal entries of 55 students, I argue that this sociology course enriches premeds' appreciation for incorporating sociological approaches and insights into future medical practice. The journals reveal four central reasons students perceive sociology to be beneficial to their future careers: (1) They value critical thinking for medical practice and feel deprived of it in their STEM courses, (2) they find sociology to have either an equal or more complex account for human behavior than biology, (3) they feel the sociological perspective and its application to their lives serves as a platform for imagining themselves as a health care provider confronted with multifaceted patients, and (4) they see the macroscopic and meso-level studies of organizations and bureaucracy as crucial to their understanding of the pitfalls of a health care system. Sociological instruction paired with reflective writing can help premeds become more socially minded and critically engaged as they embark on their future medical careers.

BIOMEDICAL SOCIALIZATION AND PREMED CULTURE

Educators of premedical and medical students encounter challenges in transmitting the meaning and measurement of human difference. Health disparities research is ubiquitous, reflecting and constructing human difference—conceived as any deviation from the white, heterosexual, middle-class male—in health and health care as a social problem. This wealth of research embodies the tension between inclusion and difference (Epstein 2007); its goal is to promote a more egalitarian health care field while simultaneously elevating the importance of human difference. Challenges emerge in how to convey the complexity and multifaceted nature of humans while also being sensitive to the different histories and contexts that groups participate in and are subjected to; this challenge is exceptionally intense with premeds due to their immersion in biomedical and premed cultures that tend to oversimplify behavior and desensitize students.

Depersonalization and Biomedical Socialization

As medicine has become more complex, it has promoted a conceptualization of human difference that is reductionist, essentialist, and depersonalized. Patients are seen as compilations of anatomical parts best assessed with insights from the basic sciences—a "reliance on chemistry and biology,

reliance on quantitative measures, and a belief in the primacy of a physiological view of reality” (Chambliss 1996:123; Nettleton 2006). This socialization process begins with premed courses and clinical activities—despite this empirical area often being overlooked (Conrad 1986; Lin et al. 2014)—and is then fully reinforced once a student is in medical school.

One formal step in biomedical socialization is work—and stories about work—in the anatomy lab; premedical and medical students learn to distance themselves from the patients with informal stories that dehumanize the cadavers (Hafferty 1988). Another step is the clinical narrative that medical students learn to write up (Good 1994); in practicing how to “en-case” the patient, medical students actively objectify patients with detached emotional comportment (Fox 1957; Holmes and Pointe 2013). Throughout medical school, therefore, students must manage their emotions to conform to this depersonalized approach (Smith and Kleinman 1989). As a result, the physician-patient interaction is constructed and negotiated in the physician’s terms; it is both physician and biomedically centered (Heritage and Maynard 2006), which encourages a depersonalized and reductionist gaze.

Premed Culture and Differentiation

The context of premed culture tends to reinforce the microscopic and socially distant logics of biomedical socialization. More often than not, the extant literature on premeds assumes that the premed identity dominates all other potentially salient identities (e.g., by education, age, race, gender, sexuality, or religion); this may be an artifact of the debates when the bulk of this literature was published. According to Lin et al. (2014), premeds have been nearly neglected as subjects of recent sociological investigations, with most data on premeds stemming from the research done in the 1980s. The premed identity described in this body of scholarship has both positive and negative components, where “premedical students were perceived as differing from non-premedical students in being excessively competitive, academically overspecialized, overachieving, more highly motivated, more highly self-disciplined, goal oriented, and proud of their career choice” (Sade, Fleming, and Ross 1984:386).

The negative attributes combine to render premeds as “the most detestable of all cliques” or as possessing a “premed syndrome” (Thomas 1978:1181). Past research has shown that despite the diversity

among premeds, the stereotype persists not only among non-premeds and faculty, who view premeds as less mature, creative, honest, and humane than non-premeds, but also among premeds themselves, who see themselves as more anxious, less socially active, and less politically conscious (Conrad 1986; Coombs and Paulson 1990). While the perspectives of premeds, non-premeds, and faculty may have changed since the 1980s when these studies were conducted, recent scholarship on STEM majors (Garibay 2015; Nicholls et al. 2007) and premeds (Lin et al. 2014) confirms the persistence of these impressions. Little work examines premeds’ actual behaviors.

While much of this work documents the persistence of this stereotype, Conrad (1986) draws on ethnographic data and in-depth interviews with premeds to show that despite the persistence of a “cut-throat” stereotype, premeds *in actuality* engage in cooperative behavior. The “myth of the cut-throat” is a cultural artifact stemming from the fear and anxiety embedded in the premed culture, often used to rationalize others’ success and personal failure in the structural context of a highly selective medical school admissions process (Conrad 1986:151). First-year students are more likely to articulate this stereotype when describing failure than fourth-year students because they are more fearful of “not making it” than the fourth-year students. While Conrad’s (1986) study is nearly 30 years old, the anxieties that premeds face remain firmly in place in contemporary premed culture (Lin et al. 2014).

This literature reflects and recognizes the structural reality of medical school admissions and the premed track. In 2014, there were 47,815 applications to medical schools, and only 20,343 students matriculated. The average GPA for matriculated students was 3.69, where the science GPA was 3.63 and the non-science GPA was 3.77; the average MCAT score was 31.4. These GPA and MCAT scores are higher than they were a decade ago: the average science GPA was 3.55 and MCAT was 29.6 in 2004. In addition, many introductory premed courses are oriented toward a “weeding out” function, embodied in a curve that pits students against one another. In a recent UCLA study, Chang et al. (2011) found that 60 percent of premeds end up switching from this track, twice the combined attrition rate from all other majors.

Work on STEM majors has helped shed new light on the differentiation within the premed population. Some studies point to how the premed culture reinforces the reductionist and depersonalized logics of biomedicine. Garibay (2015) shows that

STEM majors, on average, tend to view helping to create a more equitable society as less important to their careers than non-STEM majors, and Nicholls et al. (2007) found that STEM majors tend to have lower civic and multicultural dispositions than non-STEM majors. Importantly, however, Garibay (2015) and Carlone and Johnson (2007) have concluded that a student from a marginalized racial or gender background is more likely to be oriented toward social justice (as opposed to prestige or income) than students from privileged groups. In addition, Nichols and Islas (2016) have shown how rates of attrition from the medical school track mirror broader structural inequalities, ultimately disadvantaging underrepresented students. They found that students abandoned the premed track because they felt weeded out or bored, which are sentiments shown to be disproportionately raced and classed (Nichols and Islas 2016).

Despite the differentiation among the premed population and actions that run counter to the premed syndrome, the premed stereotype is nonetheless reified in premed culture. The pervasiveness of the premed stereotype “has been linked to a perceived lack of physician concern for patients, interpersonal warmth, and humanitarian care” (Coombs and Paulson 1990:13). According to a joint statement issued by a group advocating for liberal arts in premed education, “Humane values get lost in a mechanistic world. Medical students are brought up to believe that every problem has a solution, every solution has a service, and every service has a provider. With that kind of arrogance, it’s no wonder we’re short of honesty, affection, and real usefulness” (Coombs and Paulson 1990:14). Sociology for premeds is relevant because it is a part of a wider effort to efface the negative aspects of premed culture; however, given the noted diversity within the premed population, it’s important to give students the tools of sociology and draw out their existing knowledge—about medicine, premed culture, sociology, and human interaction—to assist them in reaching their own conceptualization of what it means to be a good doctor.

GENERAL SOCIOLOGY FOR PREMED STUDENTS

In general, undergraduate students perceive disadvantage at the personal level and either see disadvantage as a result of personal failure or only recognize racism or sexism when it is overt and interpersonal (Picca, Starks, and Gunderson 2013). In addition, students have a difficult time conceptualizing the systemic

inequality characterizing the contemporary U.S. landscape (Goldsmith 2006). The instructor must make the invisible visible to show how inequality is predicated on deeply entrenched ideas about difference and valuation that, though socially constructed, have very real consequences in shaping life chances.

Cultivating a student’s sociological imagination can be difficult because students have been shown to lack an understanding of their own cultural lens (Schopmeyer and Fisher 1993). As such, students formulate etic, or simple, descriptive, and ethnocentric conceptualizations of human difference (Miller 2014). The goal of student instruction is thus to help students develop an emic orientation toward the social world, one that accounts for the histories, contexts, and processes that lend action and thought meaning. This goal is particularly important when the students in the classroom have been immersed in coursework that looks at the microscopic level of cells, molecules, and genes (Nettleton 2006); tend to characterize their motivation in individualistic terms (Lin et al. 2014); and have little training in the social sciences and humanities (Kirch 2012).

Institutional Context of the Course

The course titled *General Sociology for Pre-Med Students* was envisioned by a sociology department’s chair and director of undergraduate studies at a large, public, research university. Designed with the new edition of the MCAT in mind, the course was an opportunity to contribute to the undergraduate education of a large premed population.

This institution has a reputation for attracting and producing students who excel in the STEM fields. The students admitted into this institution have demonstrated high achievement in these areas, boasting an average high school GPA above a 4.0 and high quantitative scores on the SAT (620–740).

At this institution, 58 percent of all undergraduate students are either in engineering, science/math, or biology fields, with 21.9 percent majoring in biology. Once graduated, 30 percent of this institution’s students go into biomedical or health care fields for advanced professional or graduate education. This institution has roughly 25,000 undergraduates, with 48 percent of the undergraduate population identifying as female, 52 percent as male. The average age of students is 21 years of age, and less than 5 percent of the student population is aged 25 years of age or older. Fifty-eight percent of students receive need-based scholarship or grant aid, 40 percent of these students receiving

Pell Grants. Two percent of the students are African American, 16 percent are Latino, 22 percent are white, and 50 percent are Asian.

Course Structure and Enrollment

The enrollment for this inaugural course was limited to 120 students. There were no restrictions or prerequisites for enrollment; however, the undergraduate student coordinator in the sociology department advertised this course to premeds through their home departments, career center, student-run organizations, and blog. This course could not count as a general education requirement for students and therefore was an elective. The course advertisement noted that sociology was now included in the new edition of the MCAT and that by learning sociological concepts and research, students would be “better prepared to serve their future patients.”

An assistant professor, supported by two teaching assistants from the sociology department, taught the course in the winter term. The assistant professor designed the course in consultation with the AAMC’s online materials about the MCAT. While the course was explicitly not a preparatory course, the professor was sure to include the substantive knowledge and skills the MCAT tested within the contours of the course. The professor elected to use the textbook by Jeanne Ballantine and Keith Roberts, *Our Social World* (4th ed.) in part because it was recommended by the AAMC. The course was intended to be a general introduction to sociological concepts and research, giving a basic overview of the foundational principles of the field and the central areas of research. While the content of the course was not drawn from medical sociology, applications of the concepts and research to the medical field often came up in the interactive and reflective dimensions of the course.

The course content spread wide across the discipline. We began with an introduction to some foundational theoretical frameworks, showing both the humanistic and scientific dimensions of sociology. Following the suggestion by Ballantine and Roberts (2014) to begin with the individual and build outward to situate that individual within larger and larger groups (e.g., dyads, families, organizations, networks, institutions, national society, and global community), we covered identity, socialization, interaction, group think, structure, culture, network analysis, and features of an organization. From there, we dove into overviews of specific subfields within sociology, covering

family, religion, government, education, health care, and stratification. Stratification was covered most extensively, focusing on the ways in which inequality is created and reproduced according to socioeconomic class, education, race, ethnicity, gender, sexuality, race as class, intersectionality, and cultural logics. We ended the course with discussions of the social constructions of normalcy/deviance and social change.

Generally, this course aimed to cultivate a sociological imagination (Mills 1959) in premeds, with the intention to have students become more aware of how their social world informs behaviors and identities. Fundamentally, this course aspired for students to be able to de-personalize behaviors, identities, accomplishments, and failures and instead place them within an interactional, group, and institutional context; in other words, we hoped students could habitually situate themselves and others in a social world (Ballantine and Roberts 2014).

The course met twice per week for an 80-minute lecture and once per week in a 50-minute discussion section; there were 109 students in the course, and 26, 23, 22, and 24 students in the four discussion sections. Each lecture meeting, students were expected to have completed the assigned reading, which usually comprised a selection from *Our Social World* paired with an academic article on that topic. Lecture attendance was not mandatory; however, because any content from the lecture could be on a test, lecture attendance was very high. Students were evaluated with a midterm (30 percent of their final grade) and a final exam (40 percent of their final grade), consisting of multiple choice questions, short answer questions, and short essay questions. Additionally, students had to attend and participate in weekly section and complete a weekly journal assignment (taken together to be 30 percent of their final grade).

The Student Journal and Its Evaluation

The central mechanism by which students learned to comprehend and engage critically with the material was through the student journal. The journal assignment was set up in consultation with literature published in *Teaching Sociology* since “critical self-reflection encourages students to examine the connections between their experiences and the broader structural conditions of society and to develop a type of consciousness that leads them to behave with humanistic principles” (Rusche and Jason 2011:339). Writing is a process of learning

and knowing, and student journals have been shown to activate the sociological imagination, through promoting active learning, connecting the course materials to life experiences, and fostering critical thinking and reflection (Pavlovich 2007; Wagenaar 1984). Moreover, the student journals allowed the premeds to articulate their understanding of medicine, life as a premed, and also how they perceived sociology fitting into their future lives.

Students—all premeds with different social backgrounds and academic levels—were required to write a journal entry for 8 weeks out of the 10-week term. The data in this study come from journal entries from two sections. I provided three semi-structured prompts each week and gave students an option to write about whatever they wanted so students could choose which topic resonated with them the most. The semi-structured prompts were written to correspond with the material covered either in the readings or in the lectures of that week. For example, when we covered education, the following prompt was provided: “How do you explain your success in the institution of education? Do you think that your education is all you need for your intended career? What are the other factors that potentially compromise attaining your dream job?”

The students were given the following instructions for this assignment on their syllabus:

Each week you will write a one-page, single-spaced entry typed in size-12 font, documenting your thoughts, experiences, and feelings with respect to the course material. I will provide you with a choice of writing prompts, but I also encourage you to write on your own. What do you notice about yourself or aspects of your life that you may have taken for granted before? What types of evidence are more compelling than others? What arguments make you question the way you go about your day-to-day lives? When you embark upon these journal entries, think of them as a place to go beyond summarization and into a more analytical space—reflect upon the readings and discussions each week, attempt to apply them to the social world you see around you, and explore the implications of your reflection and application. As long as you demonstrate a thoughtful consideration of what you are reading and writing, you will do well on this assignment.

The entries were dated and submitted electronically to the TA every three weeks, either two or three at a time. Feedback was given to students after each submission in written (for the individual student) and verbal (generalized for the entire section) forms. In providing feedback, I had to strike a balance between individually supporting students new to sociology and challenging students’ assumptions. In written, individualized feedback to students, I adopted a supportive and grateful tone. I thanked students for sharing their deeply personal accounts and for being willing to take a step back and examine their taken-for-granted assumptions. In addition to being supportive of students’ willingness to be reflective, I would also point to specific sociological research that we had not covered in class that supported, challenged, or complicated what the student was discussing. With my verbal feedback to the collectivity, I would discuss general areas where students could improve on their sociological imaginations, pushing students to think of how their understandings are informed by their social context.

Analytical Strategy

The data informing this analysis come from the journal entries of 55 premed students from diverse religious, racial, ethnic, and socioeconomic backgrounds at various stages on the road to medical school. The following analysis is based on 490 journal entries, organized by topic and inductively coded in NVivo. Because each week students were given a choice of three prompts to choose from (or write on their own topic related to the readings), I initially organized the journal entries according to topic. All 490 entries were organized into the 22 provided topics, and from there they were coded inductively: dyads, sociological imagination, gender, symbolic interaction, formation of self/identity, social construction, religion, class, structural inequality, networks, education, organizations, race/ethnicity, stereotypes, healthcare, media, culture, bureaucracy, crowd behavior, social change, and journals.

Once in these categories, I coded the excerpts, inductively generating particular themes such as descriptions of premeds, therapeutic nature of writing, hurtfulness of stereotypes, encounters with cold bureaucracy, noticing the salience of social characteristics in interactions, recognizing hardship or privilege, identifying positive or negative physician attributes, understanding the self, relating sociology to biology, and describing why sociology matters for them. Within these inductively generated themes, I aggregated themes that were particular to premeds in

their present and future cultures to show how premeds perceive the utility of sociology for medical practice. To maintain the anonymity of the students, each student was assigned a number, and all excerpts in the following analysis will be followed by S#, where S denotes student and the # is their assigned number.

PREMEDS AND THE PERCEIVED UTILITY OF SOCIOLOGY

Premeds embarked on the course with skepticism, many articulating their preconceptions about sociology as “soft” or “common sense.” Although it is possible that their enthusiasm was overstated, by the end of the course, over two in three premeds felt that sociology would help them become better doctors. The journals reveal four central reasons students perceive sociology to be beneficial to their future careers: (1) After deconstructing their preconceptions about sociology, they value the discipline’s approach to critical thinking; (2) after grappling with the relationship between biology and sociology, they find sociology to have either an equal or more complex account for human behavior than biology; (3) they feel the sociological perspective and its application to their lives serves as a platform for imagining themselves as a health care provider confronted with multifaceted patients; and (4) they see the macroscopic and meso-level studies of organizations and bureaucracy as crucial to their understanding of the pitfalls of a health care system.

While 83 percent of all the students explicitly discussed their position, experiences, and future as premed students, 32 percent of students described their experiences in premed coursework in relation to sociology, and 51 percent directly discussed their understanding of biological concepts and reasoning in relation to sociology. Just over 70 percent of students explicitly stated how either the concepts or perspectives from sociology would make them better doctors, with 61 percent of students relating experiences or depictions about the health care field as losing its humanity, and 36 percent of them then situating this dehumanization within broader structural and cultural constraints of the health care system. Taken together, these four ways show how an introductory sociology course and a journaling assignment are relevant to premeds.

Identifying and Dismantling Preconceptions about Sociology and Reflective Writing

Despite the initial hesitation toward the course and journal assignment, students ended up expressing

significant support for both. Much of the initial hesitation appeared to stem from the premed’s position within a biomedical world that seemed to be in contrast to—or wholly ignorant of—sociology. In describing themselves and fellow premeds, these students point to the primacy that their premed identity holds in their life as “the requirements of the premed tract dictate what I do with my time, the people I hang out with, how often I go home to see my family, and the level of commitment I make to my church” (S19). While they have their days “scheduled down to the hour” (S24), “are willing to put in the long-term work” (S3), and “don’t procrastinate” (S48), they also “are very hard science-focused and have difficulties thinking on a larger, macro-level scale” (S35) and “typically do not enjoy assignments like these” (S43). In this immersive environment, students often detailed how the context of the science-heavy courses that comprise the premed track made them less trained in introspection and application, an outcome that was disconcerting, as one student explained, “hardcore science classes” emphasize “information and memorization” but do “not highlight the importance of critical thinking, which is an essential skill for a physician” (S20).

In addition to blaming the science dimension of their premed culture for why sociology and critical reflection are neglected, some students draw on preconceptions of sociology that are dismissive, claiming that others have described it to them as “simple common sense” (S5, S38). Students often voiced their preconceptions of the subject matter paired with a compliment, as expressed in this student’s remark: “I like how Sociology, although some may claim that it is a useless area of study, opens new doors for mutual understanding and appreciation. It also allows people to try to understand how to improve or better improve themselves and the ways that they treat other people” (S52).

Premeds came into the course with either explicit or implicit impressions of sociology as soft science and were not entirely sure how it could be relevant. Over time, premeds came to articulate sociology’s relevance in different ways. Some students actually used the descriptions “unbiased” and “more objective” to describe the sociological perspective compared to the biological perspective (S11, S23). Alternately, over a dozen students conveyed that thinking about sociology was easier than their “science-heavy” homework, describing their journaling about the sociological material as something they did to “put off work from science classes” or as something they actually looked forward to “as a refreshing break from the ubiquity of chemistry problem sets” (S32, S50).

At the same time, other students felt the reflection to be *more* challenging than their other work because it made them uncomfortable or forced them to think through things that they normally wouldn't have to do. As one student remarked, "Actually physically seeing my thoughts on paper sometimes embarrassed or shocked me" (S39). Still others wrote that they felt that reflective writing may have started out as "tedious and tiresome" but got easier over time, as they felt more comfortable with the practice of critical thinking and felt that they understood sociology a little bit better (S14).

Another aspect of the premed students' responses to the material and the journals was the therapeutic or cathartic dimension the knowledge gained or application exercise entailed. The course and journaling assignment allowed students to connect to themselves, others, and the social world around them in ways that previously were not a part of their day-to-day lives. Students appreciated the "chance to say what was genuinely on [their] mind" (S50), apparently a rarity in their other courses. In many ways, the integration of sociology into a premed's education can actually help them make sense of their own career pathway and what obstacles they have faced or may face while giving them the tools to de-individualize their success or failure. As one student expressed, "it was relieving to know that there is a pattern with certain groups' success and the educational level they had, and the socio-economic background they came from" (S43). The opportunity to learn a new field and to think critically was buttressed by the students' ability to learn about themselves, a task many of the students found to be lacking in their home STEM fields.

Grappling with Biology to Understand Sociology

Biological explanations for human behavior were often brought up in the journals, whereby just over half of the students described how their status as a premed STEM major related to their uptake of—or relationship with—sociology. The references to biology show how students built on their preexisting knowledge and tried to deconstruct the false juxtaposition between the fields of sociology and biology. As these students forged this cooperational approach between biology and sociology, they began to formulate a much more nuanced approach to understanding human behavior.

According to one student, all STEM majors are "inundated with biological knowledge yet [are] not

really lent the sociological aspect . . . of identity, personality, gender, and race" (S23). As such, students struggled with sociology's relationship to biology and how an individual's achievement could not be reduced to their genetic makeup or an elusive personality trait, as demonstrated in the following excerpt:

After learning about socialization, the question becomes not who I am but how I came to be that person. While the biological approach seems too reductive to be true, it bothers me to think that I am merely the product of external forces. This identity, this self that I am consciously aware about may be more the person that society wants me to be than who I really am innately. (S42)

Similar to the previous student, many students discussed how revelatory the social construction perspective was and used the journals as a space to come to grips with how normalcy has been something that has been culturally or socially constructed, not a given. Premeds grappled with how the biological perspective was one that was an artifact of social construction, as one student wrote, "Even the most 'basic' things have rather complex explanations, but we have internalized and simplified them" (S19).

Some students drew on their conceptual building blocks of biology to understand sociological concepts, especially using the biological terms describing genes to understand how the social environment affects an individual or group's life chances. Others paired their knowledge of biology with sociology to put forth an overarching perspective on the social world, as articulated by this student: "Biology can explain a lot of the things I see in my life, but I leave it to sociology to explain why what I see is considered normal" (S3). While most students engaged with their "science" focus, a significant amount began to depict a sense of danger or trepidation associated with only having the science focus, saying that it has potential implications for treatment of patients, described in the two sections that follow.

Situating the Self as a Health Care Provider

Over 70 percent of premeds in this sample explicitly noted that sociology helped students better understand themselves and connected this self-understanding to better doctoring. As students

developed a keener understanding of their own concept of self, realizing the socially constructed nature and multiple facets of selves, they began to see interactions and other people in a much more nuanced light. Students articulated how the sociological reflection made them think about how they have been treated and the general treatment of people, and most firmly supported the notion that a respectful interaction with a patient was the cornerstone of good doctoring. As one student remarked, “being introspective and thinking deeply not only about people but the world around them is key to becoming a good doctor—after all, it’s on the MCAT for a reason” (S43).

Many premeds expressed the sentiment that “thinking like a sociologist will help me connect better with patients” (S55) because it “helps understand real human interaction” (S28) and makes one “more open-minded and tolerant of differing ideals” (S47). In the following explanation of why sociology is relevant for premeds, the student captures many of the reasons proffered by the students in the course:

Sociology is perhaps the most important class an undergraduate premedical student should take in order to be a competent physician. In order to properly diagnose and care for diverse patient populations, it is necessary that we understand the impact of social identities and their effect on the experiences of individuals. The struggles that many different groups face will impact not only their health but also their perception of other people. Because healthcare providers must interact with people of all social identities, being able to understand what types of oppression and struggles that they face will allow the provider to empathize more with the patient and provide better quality care. (S9)

Students tackled what it would take for someone to know them, and many students began to see how their own socialization and entrenchment in society had taught them to view certain people in particular ways. As they talked through their realization of their social position and biases, many students shared the conclusion voiced by this student: “There are so many different kinds of people coming from different situations and you can’t be judgmental if you are to give everyone equal treatment like a doctor should” (S51). They discussed how exposure to other people in a university setting coupled with the teachings from the course has

already encouraged the cultivation of a much more robust, multifaceted understanding of others by understanding some of the prejudicial tendencies within themselves, others, or abstractly.

Discovering Dehumanization in the System

After situating themselves as health care providers and identifying how sociology would help them in their future practice, premeds often relayed examples of their own encounters with the medical world. Sixty-one percent of students relayed experiences or depictions about the health care field as losing its humanity, and 36 percent of them then situated the field within broader social and cultural structures. As discussed earlier, students felt that biological explanations for human behavior were too reductionist, and when placed in a larger context, students felt that the bureaucratic and biological commitments of American health care made them realize the importance of sociology and the humanities. Most critically, students connected the micro-level interactions that efface an individual’s humanity with broader processes of dehumanization and then located those processes within the structure and culture of the health care system.

As one student put it, “morality ceases to be an issue when the patient cannot be seen as a fellow human being” (S21). While most students discussed dehumanization occurring with institutional racism in other sectors of American society, many students connected institutional racism within medicine. Some students discussed how in low-income areas, patients were more likely to be reduced to a number in the emergency room—even if they had serious, life-threatening injuries. As one student put it, this realization “was fairly depressing for me because it was like maintaining the order of the emergency room was more important than relieving the man of his pain” (S15). In another student’s account of how surgeons in an emergency department failed to save a patient’s life, she was upset and surprised by “the way they covered his head and moved on,” in turn making the patient’s life “seem so trivial” (S38).

While some students depicted the emergency and surgical rooms as sites of dehumanization, others described the doctors engaged in primary care and the routines of patient visits as activities with dehumanizing potential built into the practices. Recognizing how the routines of medical practice act as an “antidote” for humanistic behavior, one student explained further:

It is as if the routinization of doing rounds as a medical student acts as a vaccine to the pain that patients have, not just the physical pain that comes with a sickness, but the stress of finances, the intricate, deep ache of family and friends, the psychological tenderness that accompanies an illness. The lack of sleep, the long hours, the restrained period of time to master the art of medicine, all act as frameworks to numb the meaning out of the action, in other words, to routinize the medical student's acts. (S48)

This student, along with many others, went on to describe the organizations endowed with the authority to establish these routines, "the University and boards such as the AAMC and American Hospital Association, NBME, Federation of State Medical Boards, and American Board of Medical Specialties." These students also note that the questions about the body "that the physician believes to be important" limit the physicians' abilities to get to know the patient on any substantial level. The significance of these examples is captured by the following student, who voices both the sadness that accompanies learning the sociological perspective but also feels empowered by it:

It is really disappointing that doctors who spent ten years in training and wanting to help people have to say no to people who need their help the most. It's weird because the whole insurance refusing people help thing is not really talked about by most doctors or even when the career is talked about in general. I am pretty sure everyone realizes how dehumanizing it is, yet a "that's just the way it is" attitude is adopted . . . if I do ever become an emergency physician, I hope that I am able to not simply give into the system. (S26)

This student's voice elucidates many important dynamics of what many of the students expressed: disappointment and downsides to medicine, issues recognized but not discussed or addressed, and a hope for resisting the systemic pressures toward dehumanization. The concepts and perspectives of sociology have equipped this student and many others to look beyond the surface and examine how medicine is practiced in a way that connects them to their future careers and future actions within those careers.

DISCUSSION

This study documents how premedical students responded very favorably—often to their own surprise—to their experience with sociology and found sociological concepts and perspectives integral to their future careers. Sociological instruction is immensely promising for premeds because it provides them with the conceptual building blocks and critical perspective to analyze the social world that they seek to enter: medicine. Though indirectly, teaching sociology to premed students can be seen as one of the major ways that the discipline of sociology can serve the public. If students embrace the material, they have the potential to be more socially minded, reflective doctors, which studies of medical practice have shown to be desired by patients (Tucker et al. 2003).

With the journals, we are able to see how much these students cultivate an awareness of their selves and others that is attuned to the complexities and inequalities that beset a social world while complicating the preconceptions that accompanied their premed identity. By employing the utility of the sociological imagination, premeds will enter medicine with an understanding of how difference becomes salient through socially constructed channels, how focusing on single broad social categories risks missing important ways in which these categories intersect or how an individual makes meaning in relation to them, and how the lived experience of difference must be tackled holistically and cannot be reduced to biological explanations.

The central reason why a sociology course is so acutely important for students attempting to become doctors is there have been many issues documented about the doctor-patient encounter, where human difference is not conceptualized in contextualized terms (Beagan 2003; Jenks 2011). Sociological research tells us that premed students should be familiar with how the social world permeates the medical field as an antidote to the biological gaze and the categorical logic that often accompanies it. In addition, this opportunity to integrate sociology into premedical education is especially exciting given how many studies document the marginalization of humanities and social science disciplines in a neoliberal academic environment (Slaughter and Leslie 1997).

There are a few limitations to this study that are important to address. First, the students may have been overstating their zeal for the sociological material and "sociology goggles" to pander to their

instructor's commitments in hope of a better grade. While this may inevitably have been the case for some students, I feel confident that the majority of students were interested and affected by the material because after this course, many students continued to take more sociology courses as electives, a handful of students even formally adopted sociology as their minor, and the demand for this course increased by a third the following year. In addition, the reviews of the course and TA that were anonymous and explicitly not seen until grades were submitted expressed an appreciation for sociology and the journaling assignment.

A second limitation is that I did not administer a pre- and posttest to assess the knowledge acquired; however, I think the data capture an attitudinal shift toward sociology and their future careers. A final limitation is that this sociology course was only one course among a sea of science and engineering coursework the students were engaged in. There is the possibility that their experience with sociology could become undermined either explicitly by other disciplines or over time. Future research could address this by evaluating how other undergraduate departments—such as biology or chemistry—that instruct premed students value a premed sociology course and the addition of sociology to the MCAT. In addition, conducting pre- and post-assessments will be important to see how much students retain over longer periods of time, to test the lasting effects of this educational endeavor.

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REFERENCES

- Ballantine, Jeanne, and Keith Roberts. 2014. *Our Social World*. Los Angeles: Sage.
- Beagan, Brenda. 2003. "Teaching Social and Cultural Awareness to Medical Students: 'It's All Very Nice to Talk about It in Theory, but Ultimately It Makes No Difference.'" *Academic Medicine* 78(6):605–14.
- Betancourt, Joseph. 2002. "Cultural Competence and Medical Education: Many Names, Many Perspectives, One Goal." *Academic Medicine* 81(6):499–501.
- Carlone, Heidi B., and Angela Johnson. 2007. "Understanding the Science Experiences of Successful Women of Color: Science Identity as an Analytic Lens." *Journal of Research in Science Teaching* 44(8):1187–218.
- Chambliss, Daniel F. 1996. *Beyond Caring: Hospitals, Nurses, and the Social Organization of Ethics*. Chicago: University of Chicago Press.
- Chang, Mitchell J., M. Kevin Eagan, Monica H. Lin, and Sylvia Hurtado. 2011. "Considering the Impact of Racial Stigmas and Science Identity: Persistence among Biomedical and Behavioral Science Aspirants." *Journal of Higher Education* 82(5):564–96.
- Cleary, Delores E. B. C. 2001. "Oppression, Power, Inequality: An Interdisciplinary Approach." *Teaching Sociology* 29(1):36–47.
- Conrad, Peter. 1986. "The Myth of Cut-throats among Premedical Students: On the Role of Stereotypes in Justifying Failure and Success." *Journal of Health and Social Behavior* 27(2):150–60.
- Coombs, Robert H., and Morris J. Paulson. 1990. "Is Premedical Education Dehumanizing? A Literature Review." *The Journal of Medical Humanities* 11(1):13–22.
- Epstein, Steven. 2007. *Inclusion: The Politics of Difference in Medical Research*. Chicago: University of Chicago Press.
- Fox, Renee. 1957. "Training for Uncertainty." Pp. 207–41 in *The Student-physician: Introductory Studies in the Sociology of Medical Education*, edited by R. K. Merton, G. G. Reader, and P. L. Kendall. Cambridge, MA: Harvard University Press.
- Fox, Renee. 2005. "Cultural Competence and the Culture of Medicine." *New England Journal of Medicine* 353(13):1316–19.
- Garibay, Juan C. 2015. "Stem Students' Social Agency and Views on Working for Social Change: Are Stem Disciplines Developing Socially and Civically Responsible Students?" *Journal of Research in Science Teaching* 52(5):610–32.
- Goldsmith, Pat Antonio. 2006. "Learning to Understand Inequality and Diversity: Getting Students Past Ideologies." *Teaching Sociology* 34(3):263–77.
- Good, Byron J. 1994. *Medicine, Rationality, and Experience: An Anthropological Perspective*. Cambridge, UK: Cambridge University Press.
- Hafferty, Frederic W. 1988. "Cadaver Stories and the Emotional Socialization of Medical Students." *Journal of Health and Social Behavior* 29(4):344–56.
- Heritage, John, and Doug Maynard. 2006. "Problems and Prospects in the Study of Physician-patient Interaction." *Annual Review of Sociology* 32(1):351–71.
- Holmes, Seth, and Maya Pointe. 2013. "En-case-ing the Patient: Disciplining Uncertainty in Medical Student

- Patient Presentations." *Culture, Medicine, and Psychiatry* 35(2):162–82.
- Jenks, Angela. 2011. "From 'List of Traits' to 'Open-mindedness': Emerging Issues in Cultural Competence Education." *Culture, Medicine, and Psychiatry* 35(2):209–35.
- Kain, Edward L., Elizabeth Borland, Shannon N. Davis, and Julie Goolsby. 2015. "Teaching Introductory Sociology to Pre-meds: Getting Beyond 'Is It on the M.C.A.T.?' Syndrome." Paper presented at the American Sociological Association Annual Meeting, Chicago, IL.
- Kirch, Darrell G. 2012. "A Word from the President: M.C.A.T. 2015: An Open Letter to Pre-med Students." *AAMC Reporter*.
- Lin, Katherine Y., Renee R. Anspach, Brett Crawford, Sonali Parnami, Andrea Fuhrel-Forbis, and Raymond G. De Vries. 2014. "What Must I Do to Succeed? Narratives from the U.S. Premedical Experience." *Social Science and Medicine* 119(1):98–105.
- Miller, Elizabeth. 2014. "Learning to Interpret Cultural Meaning through an Etic Description of a Familiar Culture." *Teaching Sociology* 42(4):298–302.
- Mills, C. Wright. 1959. *The Sociological Imagination*. New York: Oxford University Press.
- Nettleton, Sarah. 2006. *The Sociology of Health and Illness*. New York: Polity.
- Nicholls, Gillian M., Harvey Wolfe, Mary E. Besterfield-Sacre, Larry J. Shuman, and Siripen Larpiattaworn. 2007. "A Method for Identifying Variables for Predicting Stem Enrollment." *Journal of Engineering Education* 96(1):33–44.
- Nichols, Laura, and Angel Islas. 2016. "Pushing and Pulling Emerging Adults through College: College Generational Status and the Influence of Parents and Others in the First Year." *Journal of Adolescent Research* 31(1):59–95.
- Pavlovich, Kathryn. 2007. "The Development of Reflective Practice through Student Journals." *Higher Education Research and Development* 26(3):281–95.
- Picca, Laura H., Brian Starks, and Justine Gunderson. 2013. "'It Opened My Eyes': Using Student Journal Writing to Make Visible Race, Class, and Gender in Everyday Life." *Teaching Sociology* 41(1):82–93.
- Rusche, Sarah Nell, and Kendra Jason. 2011. "'You Have to Absorb Yourself in It': Using Inquiry and Reflection to Promote Student Learning and Self-knowledge." *Teaching Sociology* 39(4):338–53.
- Sade, Robert M., Glenn A. Fleming, and G. Robert Ross. 1984. "A Survey on the 'Premedical Syndrome.'" *Journal of Medical Education* 59(5):386–91.
- Schopmeyer, Kim D., and Bradley J. Fisher. 1993. "Insiders and Outsiders: Exploring Ethnocentrism and Cultural Relativity in Sociology Courses." *Teaching Sociology* 21(2):148–53.
- Slaughter, Sheila, and Larry L. Leslie. 1997. *Academic Capitalism: Politics, Policies, and the Entrepreneurial University*. Baltimore, MD: Johns Hopkins University Press.
- Smith, Allen C., and Sherryl Kleinman. 1989. "Managing Emotions in Medical School: Students' Contacts with the Living and the Dead." *Social Psychology Quarterly* 52(1):56–69.
- Thomas, Lewis. 1978. "Notes of a Biology-watcher: How to Fix the Premedical Curriculum." *New England Journal of Medicine* 298(21):1180–81.
- Tucker, Carolyn M., Keith C. Herman, Tyler R. Pedersen, Brian Higley, May Montrichard, and Phyllis Ivery. 2003. "Cultural Sensitivity in Physician-patient Relationships: Perspectives of an Ethnically Diverse Sample of Low-income Primary Care Patients." *Medical Care* 41(7):859–70.
- Wagenaar, Theodore C. 1984. "Using Student Journals in Sociology Courses." *Teaching Sociology* 11(4):419–37.

AUTHOR BIOGRAPHY

Lauren D. Olsen is a doctoral candidate in the Department of Sociology at the University of California, San Diego. Her research examines the integration of humanistic and social scientific knowledge into medical education.