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Becoming a Doctor During a Pandemic: Impact on Medical Student Social Identity Formation

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Abstract

The COVID-19 pandemic required modifications to undergraduate medical education that likely affected medical students' social identity formation (SIF). SIF is shaped by experiences throughout the medical education continuum. This commentary explores factors potentially affecting medical student SIF during the COVID-19 pandemic focusing on students' perceptions of being part of the healthcare team, their role in medicine, and their engagement during the pandemic. Based on such considerations, we propose that educators should aim to design effective learning environments to support a full educational experience that encompasses acquiring medical knowledge and building strong social identities even during a pandemic.

Keywords Undergraduate medical education · Social identity formation · COVID-19 · Medical student role

Social identity is a person's sense of who they are based on their group membership(s), and such group membership and identification are an important source of pride and self-esteem [1]. For medical students, identity formation is a complex process that involves preexisting personal identity in addition to socialization during medical school with fellow medical students, housestaff, and faculty physicians [2, 3]. While conflated in medical education research, we make the distinction that social identity (sense of being part of a group through self-categorization) is unique to and different from professional identity (learning about professionalism within a career) [2]. There are a multitude of factors that

influence the development of social identity during medical education. Medical students' social identities are shaped by experiences throughout training as they learn to perform physician duties and slowly become part of the "in-group" of physicians [4]. Identity formation, which is social and relational in nature, occurs for future physicians in their first year of medical school as they gain confidence and experience through early patient interactions. Imagining oneself as a physician during medical school and participating in reflective exercises are examples of activities that help students develop identities as physicians [5].

Social identity theory suggests "the self is reflexive in that it can take itself as an object and can categorize, classify, or name itself in particular ways in relation to other social categories or classifications," a process termed self-categorization [6]. Students feel a sense of belonging during medical school based on peer unity [7, 8]. Importantly, a strong, positive group identity for medical students is associated with high levels of social support and improved well-being [9].

The early COVID-19 pandemic disrupted medical education and focused the world's spotlight on essential healthcare workers. In March 2020, medical educators across the USA were faced with challenges and worries about the health and safety of medical students during clinical experiences [10]. At the time, it was unclear exactly how the pandemic would affect the ability of medical schools to continue developing competent and skilled physicians. Although many medical

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schools continued in-person clinical training very early in the pandemic, by March 17, 2020, the American Association of Medical Colleges (AAMC) recommended removal of students from clinical settings [11]. By April 2020, as many US medical educators quickly converted curricula to virtual learning modalities, concerns about the pandemic's effects on medical education were shifting focus from short-term to long-term effects on medical education and the entire healthcare system [12–14].

Students training during the early COVID-19 pandemic faced a unique learning environment with strict social distancing, masking, and virtual learning [10]. These changes did not allow for typical social and interpersonal interactions that normally occur during medical school for students with fellow students, between students and residents, and between students and faculty members. Since social identity formation (SIF) in medicine is heavily based on in-person clinical and social interactions, pandemic changes may have affected students' perceptions, experiences, bonding, and, in turn, SIF.

Interestingly, during a time of modified in-person clinical experiences due to the COVID-19 pandemic, healthcare providers were thrust into the spotlight as essential societal frontline heroes, and medical students witnessed that movement. We believe that this incredible focus on the role of the healthcare provider within the healthcare system and in society at large also impacted students' social identities.

Membership of the Healthcare Team

As trainees become more experienced and develop their clinical skills, there is more opportunity to participate as essential members of the healthcare team. However, there is also potential for disconnect between self-perceptions and perceptions others may have of them. For example, junior students may perceive senior medical students to be essential, contributing members of the healthcare team, but seniors may not necessarily view themselves as essential members of the team. During the pandemic, some students were able to function as a liaison between the healthcare team and the patient by spending extra time with patients and relaying information from the healthcare team. The pandemic highlighted variation in medical hierarchy since it required reflection on specific roles on the clinical care team and essential skillsets for clinical care during a pandemic.

In contrast, preclinical and early clinical students may not have developed a sense of essentiality during the pandemic. And, removal of students from clinical settings based on national recommendations may have contributed to the perception of all students being nonessential. The behaviors and varying opinions of practicing providers on the inclusion

of students during the pandemic could also have impacted students on their self-perception of their role on the healthcare team [15]. Through this pandemic unique experience, educators and students both potentially gained awareness in how they each fit into the schema of providing medical care [14, 16].

Students' Perceptions of Their Role and Their Future Career

Medical students' perception of their role was likely influenced by the media, social media, and the way medical groups responded to the pandemic [17]. How their role was perceived by their faculty, fellows, and residents also likely affected their SIF. The pandemic was also found to strongly impact students' specialty decisions, choosing to go into or not go into frontline specialties [18, 19], and there seems to have been great interest in incorporating nonmedical aspects of healthcare into medical careers including public health, advocacy, social justice, and politics [20]. Witnessing a time when the general importance of physicians in society was highlighted and how frontline workers were essential to combatting the virus, medical students likely felt pride in pursuing a medical career [21, 22].

Advantages and Disadvantages of Being a Student During the Pandemic

There were apparent advantages and disadvantages of being a student during the COVID-19 pandemic. For example, treating patients during a novel pandemic was a unique learning opportunity [23]. Most students learned about telehealth which was utilized widely at the beginning of the pandemic but was not taught widely to medical students before the pandemic [24]. Disadvantages to student involvement in clinical rotations were noted such as adding to faculty stress and a poorer quality of education due to low patient census and inability to engage fully as a medical student due to pandemic restrictions [25].

Medical Student Engagement in Clinical and Nonclinical Settings

At our institution, during the early pandemic, students engaged in school-related activities and volunteer activities, and some created their own opportunities such as offering guidance on COVID-19 precautions through social media, educating friends/family, and volunteering in nonclinical settings [20]. However, student engagement

in clinical and nonclinical settings was met with complexity with each student living and training in their unique context which impacted their motivation and ability to participate during the pandemic [26].

Medical Students' Social Identity Formation

Although knowledge can be adequately gained within the unique circumstances of a pandemic, adequate acquisition of medical knowledge is only part of the medical school curriculum and experience. Fostering development of a social identity is also a critical part of medical education. Many in-person interactions in which medical students regularly work closely with residents and attending physicians were modified due to social distancing mandates during the pandemic. For example, team rounds and multidisciplinary sessions at the bedside provide medical students the opportunity to emulate residents and attendings. Medical students also learn the realities of the practice of medicine from interactions with residents and attendings including those during casual conversations in the doctor's lounge with the ward team. Role models help medical students develop their identities as future physicians [27]. Even negative role models impact social identity formation [28]. These professional interactions with potential role models were absent or modified during the early COVID-19 pandemic. The long-term impact of such a change for the current cohort of physicians' social identity formation remains unclear.

Physicians' social identities are also shaped by their role as healers within society, and there is an appreciation of associated social and cultural expectations of a physician [29]. Social expectations of a physician are an important influence in identity formation for medical students. Medical students during the COVID-19 pandemic were exposed to a unique perspective of the medical profession through external factors in a time that the world was heavily focused on healthcare workers. Interestingly, there was a record increase of 18% of applicants to US medical schools compared to 2019 suggesting the pandemic has attracted individuals in society to seek careers as physicians [29].

For a medical student, the self-categorization process likely occurs naturally as a student becomes more ingrained in medical education and gains experiences in the clinical learning environment. Students do not usually have time to reflect on concepts like self-identity until the end of a milestone such as the end of medical school. However, the pandemic resulted in students reflecting on their role mid-education. The COVID-19 experience may alter the self-categorization process as students are acutely aware of their personal, professional, and social identities.

Much Needed Research

Further investigation is needed on the longitudinal development of the social identity of trainees engaged in medical education during the COVID-19 pandemic. Following roles and identities of medical students from matriculation, into residency, and then into practice may help educators understand the complex flow of perceptions of social identity, especially as society reflects on the role of providers during the COVID-19 pandemic. Better understanding of this process can influence educators to support students through the process with professional development, career counseling, peer and mentor support, and social support. Studying group differences based on contextual and demographic differences may also highlight the complexity in identity formation as a physician along with multiple other social identities embodied by a person.

Concluding Remarks

Understanding the needs and perspectives of medical students during a pandemic can help educators design effective and safe learning environments that support social identity formation.

The COVID-19 pandemic heightened medical students' reflection of their social identities, resulting in a unique understanding of their role in a complex healthcare system. Disruptions in their clinical environments likely positively and negatively affected their social identity formation. However, students across the world still managed to find creative ways to engage and expanded their views on what it means to be a physician during a pandemic.

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Declarations

Conflict of Interest The authors have no conflicts of interest to disclose.

References

1. Tajfel H, Turner JC. An integrative theory of intergroup conflict. In: Austin WG, Worchel S, editors. *The social psychology of intergroup relations*. Monterey, CA: Brooks/Cole; 1979. p. 33–47.
2. Burford B. Group processes in medical education: learning from social identity theory. *Med Educ*. 2012;46(2):143–52.
3. Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. A schematic representation of the professional identity formation and socialization of medical students and residents: a guide for medical educators. *Acad Med*. 2015;90(6):718–25.

4. Pitkala KH, Mantyranta T. Professional socialization revised: medical students' own conceptions related to adoption of the future physician's role—a qualitative study. *Med Teach*. 2003;25(2):155–60.
5. Goldie J. The formation of professional identity in medical students: considerations for educators. *Med Teach*. 2012;34(9):e641–8.
6. Stets JE, Burke PJ. Identity theory and social identity theory. *Soc Psychol Q*. 2000;63(3):224–37.
7. Lovell B. “We are a tight community”: social groups and social identity in medical undergraduates. *Med Educ*. 2015;49(10):1016–27.
8. Weaver R, Peters K, Koch J, Wilson I. ‘Part of the team’: professional identity and social exclusivity in medical students. *Med Educ*. 2011;45(12):1220–9.
9. Mavor KI, McNeill KG, Anderson K, Kerr A, O’Reilly E, Platow MJ. Beyond prevalence to process: the role of self and identity in medical student well-being. *Med Educ*. 2014;48(4):351–60.
10. Rose S. Medical student education in the time of COVID-19. *JAMA*. 2020;323(21):2131–2.
11. AAMC. Association of American Medical Colleges. Important guidance for medical students on clinical rotations during the coronavirus (COVID-19) outbreak. <https://www.aamc.org/news-insights/press-releases/important-guidance-medical-students-clinical-rotations-during-coronavirus-covid-19-outbreak>. Published. 17 March 2020. Accessed 2 April 2021.
12. Hai S, Baroutjian A, Elkbuli A. Challenges and ethical considerations for trainees and attending physicians during the COVID-19 pandemic. *J Am Coll Surg*. 2020;231(2):301–2.
13. Kramer JB, Brown DE, Kopar PK. Ethics in the time of coronavirus: recommendations in the COVID-19 [andemic]. *J Am Coll Surg*. 2020;230(6):1114–8.
14. Miller DG, Pierson L, Doernberg S. The role of medical students during the COVID-19 pandemic. *Ann Intern Med*. 2020;173(2):145–6.
15. Riva MA, Paladino ME, Belingheri M. The role of medical students during the COVID-19 pandemic. *Ann Intern Med*. 2020;173(10):858–9.
16. Michno DA, Tan J, Adelekan A, Konczalik W, Woollard ACS. How can we help? Medical students' views on their role in the COVID-19 pandemic. *J Public Health*. 2021;43(3):479–89.
17. Katz M, Nandi N. Social media and medical education in the context of the COVID-19 pandemic: scoping review. *JMIR Medical Education*. 2021;7(2): e25892.
18. Krier CR, Quinn K, Kaljo K, Farkas AH, Ellinas EH. The effect of COVID-19 on the medical school experience, specialty selection, and career choice: a qualitative study. *J Surg Educ*. 2022 May-Jun;79(3):661–667.
19. Lee KE, Lim F, Silver ER, Faye AS, Hur C. Impact of COVID-19 on residency choice: a survey of New York City medical students. *PLoS One*. 2021;16(10):e0258088. Published 2021. <https://doi.org/10.1371/journal.pone.0258088>.
20. Appelbaum NP, Misra SM, Welch J, Humphries MH, Sivam S, Ismail N. Variations in medical students' educational preferences, attitudes and volunteerism during the COVID-19 global pandemic. *J Community Health*. 2021;46(6):1204–12.
21. Astorp MS, Sørensen GVB, Rasmussen S, Emmersen J, Erbs AW, Andersen S. Support for mobilising medical students to join the COVID-19 pandemic emergency healthcare workforce: a cross-sectional questionnaire survey. *BMJ Open*. 2020;10(9): e039082.
22. Ayoub P, Chang DD, Hussein N, et al. Medical student mobilization during a pandemic: the Ochsner clinical school response to COVID-19. *Ochsner J*. 2020;20(2):146–50.
23. Choi B, Jegatheeswaran L, Minocha A, Alhilani M, Nakhoul M, Mutengesha E. The impact of the COVID-19 pandemic on final year medical students in the United Kingdom: a national survey. *BMC Med Educ*. 2020;20(1):206.
24. Weber AM, Dua A, Chang K, et al. An outpatient telehealth elective for displaced clinical learners during the COVID-19 pandemic. *BMC Med Educ*. 2021;21(1):174.
25. Triemstra JD, Haas MRC, Bhavsar-Burke I, et al. Impact of the COVID-19 pandemic on the clinical learning environment: addressing identified gaps and seizing opportunities. *Acad Med*. 2021;96(9):1276–81.
26. Krieger P, Goodnough A. Medical students, sidelined for now, find new ways to fight coronavirus. *The New York Times*. 23 March 2020. Accessed at www.nytimes.com/2020/03/23/health/medical-students-coronavirus.html on 23 March 2020.
27. Wong A, Trollope-Kumar K. Reflections: an inquiry into medical students' professional identity formation. *Med Educ*. 2014;48(5):489–501.
28. Silveira GL, Campos LKS, Schweller M, Turato ER, Helmich E, de Carvalho-Filho MA. “Speed up”! The influences of the hidden curriculum on the professional identity development of medical students. *Health Professions Educ*. 2019;5(3):198–209.
29. Wilson I, Cowin LS, Johnson M, Young H. Professional identity in medical students: pedagogical challenges to medical education. *Teach Learn Med*. 2013;25(4):369–73.

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