SSM - Qualitative Research in Health 1 (2021) 100017

Contents lists available at ScienceDirect

SSM - Qualitative Research in Health

journal homepage: www.journals.elsevier.com/ssm-qualitative-research-in-health

Negotiating professional identity formation in medicine as an 'outsider': The experience of professionalization for minoritized medical students☆

Rebecca L. Volpe[a,*], Margaret Hopkins[a], Jasmine Geathers[b], Candis Watts Smith[c,e], Yendelela Cuffee[d]

[a] Department of Humanities, Penn State College of Medicine, Hershey, PA, USA
[b] Department of Ophthalmology, Penn State College of Medicine, Hershey, PA, USA
[c] Political Science and African American Studies, Penn State, State College PA, USA
[d] Program in Epidemiology, University of Delaware, Newark, DE, USA
[e] Department of Political Science, Duke University, USA

ARTICLE INFO

Keywords:
Medical students
Professional identity formation
Underrepresented in medicine
Qualitative interviews

ABSTRACT

Introduction: While the U.S. general population is increasingly diverse, less than 15% of medical school matriculants are from minoritized backgrounds. Unfortunately, early evidence suggests that the process of professional identity formation (PIF) for minoritized medical students is more difficult than that of their counterparts. We conducted serial, semi-structured interviews to learn about the experiences of minoritized medical students. We asked: How do participants understand their personal identity, and how it fits in—or does not—with the medical culture?

Methods: Participants were nine third-year medical students at a historically White and rural institution who self-identified as being members of at least one group that is historically underrepresented in medicine. Participants were interviewed one-on-one, twice, using a semi-structured guide with open-ended questions. Data were collected and analyzed simultaneously, using the principles of grounded theory.

Results: Two themes speak to the process of PIF for minoritized students within the dominant cultures of medicine and medical education. First, participants experienced a complex push-pull of their personal identities: they pulled their personal identities into their professional development in positive ways, but also sometimes found it necessary to push their personal identities away and make them less salient in order to be successful. Second, this push-pull contributed to feelings of self-doubt and isolation.

Conclusion: The results suggest that existing PIF frameworks are too simplistic with regard to the individual person. We therefore suggest that the social psychology concept of identity theory might appropriately complicate how we think about what the individual person brings to the PIF process.

1. Introduction

While the U.S. general population is increasingly diverse, with about 30% of Americans from minoritized[1] backgrounds, less than 15% of matriculants to medical school are from under represented backgrounds (Freeman et al., 2016; Jaschik, 2017). To address this disparity, many medical schools have instituted pipeline programs for minoritized students, and some diversification has occurred (U.S. Department of Health and Human Services, 2009). However, while more than half of medical students in the U.S. today are female (Heiser, 2019), the percentage of students of color remains disproportionally small: for example, in 1978, 1410 Black men applied to medical school; more than 40 years later, in 2019, that figure was 1554 (Autry, 2020; Glasser, 2020). This means that about 6% of medical school matriculants are Black men (Association of American Medical Colleges, 2020), while people who identify as Black or African American make up 13.4% of the U.S. population (United States

☆ This research was approved by the institutional IRB.

* Corresponding author. Penn State College of Medicine H134, 500 University Drive, Hershey, PA, 17011, USA.
E-mail address: rvolpe@pennstatehealth.psu.edu (R.L. Volpe).

[1] We use the term "minoritized" to reflect the fact that identities are socially constructed, and to highlight racialized and gendered power dynamics in the United States. We use this term interchangeably with "under-represented." We use the term 'non-minoritized' to refer to White, non-Latino people and to men—groups who have historically received privilege and protection in the United States (Chow et al., 2018).

https://doi.org/10.1016/j.ssmqr.2021.100017
Received 27 May 2021; Received in revised form 6 October 2021; Accepted 9 October 2021
Available online 13 October 2021

Census Bureau, 2019). The percentage of medical students from low-income households is similarly small and stagnant: roughly three-quarters of medical school matriculants come from the top two household-income quintiles, a distribution that has not changed in three decades (Youngclaus & Roskovensky, 2018).

Unfortunately, once minoritized students matriculate into medical school, evidence suggests that they are more likely to experience depression, anxiety, and low self-esteem than their counterparts, at least in part as a result of discrimination (Hardeman et al., 2015; Perry et al., 2016). What's more, early evidence suggests that the process of professional identity formation for these students is also more difficult than for their non-minoritized counterparts (Wyatt et al., 2020). Professional identity formation (PIF) can be understood as the developmental, multifaceted and non-linear process through which students "come to think, act, and feel like a physician" (Cruess et al., 2015). While there is a budding literature that seeks to assess the role of race, ethnicity, and the larger historical context of PIF for minoritized trainees, for the most part the literature has not focused on UiM trainees. Instead, the literature is characterized by studies examining the experience of PIF without particular attention to minoritization status (Lempp & Seale, 2004; Rees & Monrouxe, 2018; Spehar et al., 2015) and studies that examine the experience of PIF for minoritized clinicians who are no longer in training (Chow et al., 2018). This extant literature suggests that minoritized physicians have "more to negotiate" than their non-minoritized peers (Chow et al., 2018).

The nascent body of literature about PIF for minoritized trainees that does exist (Fergus et al., 2018; Wyatt et al., 2020) suggests that minoritized and non-minoritized students may have very different PIF experiences. In a compelling commentary entitled, "Medical students are not blank slates: Positionality and curriculum interact to develop professional identity," Fergus and his colleagues argue that students in underrepresented groups face additional challenges on their PIF pathway to medicine (Fergus et al., 2018). This anecdotal perspective has recently found support in a qualitative study of 14 Black medical students, which showed that the process of PIF included unique challenges for Black students that have not been well understood in previous research, which has tended to overlook race, ethnicity, and the larger sociohistorical context of PIF (Wyatt et al., 2020). We seek to build this growing literature by uncovering an important nuance concerning the complex "push-pull" that minoritized students experience between their identities as individual people and their budding professional identities.

If we conceive of PIF as a double helix, where the individual person is one strand and the profession is another, the process of PIF involves the two discrete strands coming together and learning to co-exist (Volpe et al., 2019). The profession strand is mostly inflexible, since medical culture is slow to change and relatively rigid. Thus, in reality, it is mostly the individual who will have to bend, adapt, and change to accommodate the culture of the profession of medicine. The culture of medicine is the social behavior, norms, beliefs, knowledge, and customs that characterize the practice of medicine, and might include in academic medicine, for example, confidence in the truth of Western medical knowledge and minimization of psychosocial aspects of care (Taylor, 2003). More concretely, additional examples of medical culture include a strong hierarchy (Vanstone & Grierson, 2019), stoicism (Bryan, 2006; Papadimos 2004), and overwork (Watson et al., 2019). With this metaphor of the double helix, PIF is the process of the individual person learning to wind her way around the rigid medical culture. Others have conceived of PIF using the language of the 'personal' becoming integrated with the 'professional' (Chow et al., 2018; Cruess et al., 2015), a conceptualization that also is aligned with the metaphor of PIF as a double helix.

Whereas the 'profession' strand has been thoroughly enumerated and explored in the theoretical and empirical literature (Cruess et al., 2016a; Cruess et al., 2015, 2014; Jarvis-Salinger S, Pratt DD, and Regehr G 2012), what is conceptualized as the individual person strand has been undertheorized. For example, Cruess' schematic representation of the factors that influence PIF contains elaboration on myriad topics such as role models, reflection, formal teaching, and clinical experiences. The phrase "existing personal identities" is included in the schematic, but its significance and the depth and nature of its impact are not enumerated (Cruess, Cruess, and Steinert 2016b; Cruess et al., 2015).

The current study builds on the single prior study about the process of PIF for minoritized medical students (Wyatt et al., 2020), with a special focus on the complexity of the individual person strand of the double helix. In the present exploratory study, we conducted serial, semi-structured interviews to learn about the experiences of underrepresented third-year medical students. Our central research questions were: What are the experiences of minoritized students in the dominant medical culture? How do minoritized students think about their personal identity, and how it fits in—or does not—with the medical culture?

2. Methods

2.1. Participants and recruitment

Study participants were third-year medical students at a historically White and rural institution, which we will call Rural University. They self-identified as being members of at least one group who is historically underrepresented in medicine (UiM). Study recruitment materials offered examples of what underrepresented in medicine was (e.g., minority racial or ethnic group, LGBTQ+, first generation college student), but also left it open for other categories not included in the description.

From 2014 to 2018, the entering medical school classes ranged from 144 to 152 students, according to Rural University admissions data. In those same years, there was a range of 9–25 students who identified as minoritized or UiM. This reflects a range of 6%–17% of students in the entering class who were UiM. In the United States, Black students and Hispanic students typically make up the largest proportion of minoritized students (Boatright et al., 2018), and recent data from the Association of American Medical Colleges indicates that in U.S. medical schools in the 2016–2017 year, 8.4% of medical student matriculants were Black or African American, and 10.5% were Hispanic, Latino, or of Spanish Origin, for a combined total of 18.9% (Association of American Medical Colleges, 2021). These data reveal that enrollment of minoritized students is lower than average at Rural University. However, it is clear that the *spread* of UiM admissions in the U.S. is wide, and Rural University is not alone in having lower than average minoritized matriculants. Indeed, the national average may not be an especially helpful way of examining the data since it belies asymmetry in admissions rates of UiM students.[2]

All third-year students received an email describing the study and asking those who met the inclusion criteria to contact the study PI. Students who believed they were underrepresented in medicine but did not fit into any of the groups named in recruitment materials were encouraged to participate in the study. Thirteen students responded, and all were contacted but only nine students scheduled an interview; eight students completed both of the interviews, and one student completed only the first interview. Five of the nine participants were female. Six of the nine students self-identified with more than one minoritized group identity—for instance, first in family to graduate from college *and* from a background with few or limited economic resources, and a person of color *and* from a family background with few or limited economic resources. Three students self-identified with a single, UiM group identity – one indicated LGBTQ+, another non-American born, and the third Black/African-American.

3. Data collection

For the first interview, a semi-structured interview guide with open-ended questions was developed and, after testing by members of the

[2] Unfortunately the data that is gathered and published by the AAMC is exclusively measures of central tendency such as the mean.

research team, was revised. After completion of interviews with two participants, the guide was revised for additional focus on students' experiences of 'not fitting in.' In particular we added probing questions about students' expectations and experiences of fitting in: how well did participants perceive they fit in? Had they expected to fit in? What was it like when they first arrived? How if at all did their expectations or perceptions change over time? Additional questions included how participants describe themselves and their identities, and which parts they most value; and in what situations, if any, their identities as UiM advantaged or disadvantaged them in medical school. For example, one interview question was: "How well do you feel like you fit in with the medical school culture, and with other medical students?" with probing questions including: "What were your expectations about how you would fit in?" and "How was it when you first arrived?" The guide also asked about personal backgrounds and participants' decisions to pursue medicine.

A second semi-structured interview guide was developed and tested for the second interview, which occurred three to four months after the first interview. The second interview was aimed at eliciting one to two in-depth stories about a time when the participants felt like an outsider during their time at Rural University. The interview guide had suggestions for probing questions to gain greater insights about the incident(s), including how the participant felt about what had happened, how observers to the situation reacted, whether the participant talked to friends about the event afterwards and how their friends responded, and what if anything the participant did in response to the situation. The full guide for Interviews #1 and #2 is provided in Appendix A.

Participants met one-on-one with a member of the research team (initials here), who is also a medical student from an underrepresented group. The choice of a status and role concordant interviewer was strategic in order to facilitate a comfortable relationship and open communication with participants. To prepare for the interviews, the interviewer observed mock interviews using the interview guide, engaged in practice interviews with other members of the research team, and participated in a formal 1-h presentation about how to conduct qualitative interviews. The interviews lasted between 35 and 60 min. Participants gave informed consent before the interviews. Transcripts were transcribed by Rev.com and de-identified for analysis. The study was approved by the institutional IRB.

3.1. Data analysis

Data were collected and analyzed simultaneously, using an inductive approach that incorporated principles of grounded theory, a qualitative methodology in which theories to explain real-world phenomena are generated from the data (Charmaz, 2014). The process was iterative and team-based. Three members of the research team (initials here) read each transcript line by line and named each segment. During focused coding, codes were sorted, expanded, collapsed, and further refined. The team developed tentative categories and created a codebook. The final codebook contained two main codes (push-pull and self-doubt) with ten sub-codes, definitions, and example quotes. Using this codebook, the lead author (initials here) and another trained investigator (initials here) coded every transcript. We resolved discrepancies through weekly discussions throughout the coding process. The rigor of the investigation was enhanced by multiple techniques, including immersion in the data, memo-writing (Charmaz, 2014), and peer debriefing (Creswell & Clark, 2018) among the members of the research team on a monthly basis.

4. Results

In total, we conducted 17 semi-structured interviews with third-year medical students. Our interviews yielded substantial insights into the experiences of third-year medical students who self-identified as not fitting the medical student stereotype. Here, we delineate two key themes that arose which speak to the process of professional identity development of minoritized students within the dominant cultures of medicine and medical education. The first theme identifies that participants experienced a complex push-pull of their individual identities: while students sometimes perceived their "outsider" individual identities as an asset during medical training (pull), more often participants found that in order to be successful they needed to push their individual identities into the background. In the second theme, we explored how these minoritized individual identities, and the complex push-pull that study participants had to navigate contributed to feelings of self-doubt and isolation.

Because of the small percentage of minoritized students in the third-year class and because several of the participants had very unique social and personal identities, we chose to report their comments generically—i.e., "a participant said"—rather than identifying participants by their personal or social identity, for example, "a female Black participant said." Doing so not only protects participants' identities but also challenges readers to be aware of how minoritized backgrounds can activate preconceptions and biases. Participants are identified in-text via a three-digit number.

4.1. Complex push-pull of personal identity

As mentioned, PIF calls for the integration and balance of two components of medical students—their professional and individual identities—but it is often the later which tends to undergo significant change, especially for minoritized students. Study participants identified that they *pulled* their individual identities into their professional development in positive ways, but also that they sometimes found it necessary to *push* their individual identities away and make them less salient in order to be successful.

Participants identified myriad individual identities that influenced their professional identity formation, including being a first-generation college graduate, foreign-born, a person of color, and/or LGBTQ+. Participants reported that their individual identities could be an asset when building connections with patients with similar identities, because they were "more able to understand [what] certain patients are going through" (006). A student of color described how patients who were immigrants were comfortable and open with her but would "close up" when the White physician entered the room (008). Another student shared that her cultural and ethnic background "helped me identify and care for people who are also from minority backgrounds" (005).

Furthermore, a commitment to underserved populations was important to many of the participants, and there was a sense that this commitment originated, in part, from their backgrounds and individual identities:

> [I want to] work more with populations … who experience more healthcare disparities … I feel a pull towards, um, advocating for people who can't advocate for themselves, because we [medical students; doctors] are higher up in the social hierarchy, we should advocate for people who can't. (007)[3]

> I feel like I have to be Hispanic for the sake of Hispanic patients in this country, um, because I see a lot of marginalization in their care. Whether it's just not acknowledging something that's really important to them because the providers don't understand the language they speak, or [not] picking up on really small social cues or micro-aggressions or just colloquialisms that they use. Like very subtle things that aren't common unless you speak another language or come from said culture. (004)

In these ways, participants pulled their individual identities into their professional practice and socialization in a very positive way; individual identity was an asset and even a point of pride:

[3] Participant 007 was lost to follow up and completed only one interview during the MSIII year, in contrast with the other participants who completed both interviews.

> I have a hard time viewing it [being a first generation college student] as a disadvantage because it's part of the reason why I work as hard as I work because I've had to figure it out for myself. So in a lot of ways it's been an advantage. (001)

Another student said, "if it wasn't so crappy, I think that all people should come (laughs) from that [underserved] background." (006) A self-reported 'public school girl' said, "I am so proud of where I've come from and what I've done." (005).

However, participants also reported a negative pressure that involved feeling like they needed to *push* their individual identities to the background in order to be successful. Some participants explicitly identified a need to hide their minoritized identities in order to fit in and succeed. For example, one participant did not want it known he was a first-generation college graduate because that might make it seem as if he was "looking for special support" or "wanting to get a good grade." (001) Other participants expressed similar hesitancy, while simultaneously noting that not all identities can be hidden:

> With some identities, it's easier to hide than others, such as being a Christian; it's easier to not profess that faith. And being Hispanic, like depending on your skin tone, or the way you speak, you can't really hide that. Being black it's really hard to hide that because you kind of stick out like a sore thumb. (004)

Several participants reported feeling the need to adapt to and align with the expectations of the majority and dominant identities around professionalism and appearance, at significant expense and effort. These participants detailed the extra effort required to meet the White model of professional appearance, with one participant describing how he had to buy extra gel and lacquer to tame his curly hair so he could "look like a pretty White boy" (004):

> A lot of kids like dry clean their clothes. [But] I'm ironing, steaming all my stuff and washing them myself and all that. So, it's … extra labor to be professional. … to professionalize someone coming from my ethnic background requires more, I guess, work …. . and just more effort to fit a model [and] fit in. That's the code switching. On the regular basis, even in this conversation but like, I don't know, you just have to like, learn how to juggle, and if you don't juggle then you fail. (004)

Additionally, participants experienced tension in professional settings when their individual values and backgrounds clashed with those of their non-minoritized colleagues. This theme arose most apparently in instances when participants were audience to their White colleagues' deployment of negative stereotypes of minoritized patients and their circumstances. A participant noted stereotyping of patients of color, resulting in what she considered unequal treatment of Black patients (009). Another participant who grew up impoverished struggled with how colleagues and peers dismissed or made derogatory comments about minoritized patients—for instance, young Black patients with sickle cell anemia needing opioid treatment, or single moms who refuse contraception and then want to abort the fetus:

> Stereotyping specific patients—you know, 'the IV drug abuser,' 'the alcoholic,' 'the frequent flyer' …. it's not good …. As someone who's gone through a lot of stuff in my own life, you gotta understand people go through some hard, hard crap and you don't know what someone's going through …. [Providers] get angry, they wanna say something about that. But you got to understand where [patients] are coming from, even if you don't agree with it. (006)

Witnessing this stereotyping and then being silent about it required the participants to push their own individual identities to the background. One participant articulated that she would modulate her individual identity, for the time being:

> There's like a lot of hierarchy rules, and then there's expectations of certain behaviors or propriety. Um, social rules or, uh, practice rules. And it's- it's very- it's actually very rigid. So I think that in medicine I conform a little bit more than I do in my life. In my life I'm all out crazy, you know. Not crazy. I don't like that. I'm whoever I want to be in my life. In medicine though I think that I have- I follow some more of the rules, mostly 'cause I still haven't figured out how to get around them. But I'm hoping, you know. I'm like, "Okay, I'll play by your rules for now 'cause I'm gonna do something else." (009)

Most participants were not comfortable speaking up in situations where implicit or explicit bias of other providers or patients was at play, largely because they predicted negative repercussions by those who evaluate them—residents and attendings. One participant who worried about negative evaluations said, "I feel like we are kind of silenced …" (006). Indeed, some participants felt that it was important to make some parts of their identities completely obscure, with one participant explaining that he opted for silence about his sexual identity and was careful not "to rub attendings and resident people the wrong way 'cause they grade you and that matters." (003) Here, participants pull back on their individual identities in order to integrate into and succeed in the medical culture.

Unfortunately, for some participants, immersion in the majority culture of medical school caused a growing distance between themselves, their friends, and their families. First-generation participants, in particular, noted this rift as their families were unable to understand the rigors of medical training and what it meant to be a medical student. One participant recounted his father's response when he told his dad about studying for a test: "My dad would say, 'Yeah, but you don't do any actual work. I'm out here and I cut down trees and I split logs, and I get things done, what are you producing with your time?'" (001) Another participant noted how his parents were not able to help with residency applications "because they're not going to understand these words [on the residency application], they barely write themselves, and it hurts when I say that, it hurts a lot cause it's like I'm that person that's judging them now." (004) This distancing from their families represents another way that the participants in the study were pushed away from their individual backgrounds and identities in their efforts to develop, integrate, and balance their emerging professional identity.

4.2. PIF, self-doubt and isolation

The second theme that arose relating to the process of professional identity development of underrepresented medical students at Rural University concerns a direct consequence of their efforts to wrap their individual identity strand around that of the professional identity strand. Participants' minoritized individual identities, and the complex push-pull they felt when navigating their identities, contributed to feelings of self-doubt and isolation. While participants recognized that they and their non-minoritized peers are all medical students, noting that they all have "med student as a major identifier" (001) and "[have all been] beaten down by the same things" (006), they found being among the few minoritized individuals reinforced a sense of 'otherness' and a sense of disconnection from non-minoritized peers.

One participant described the lack of diversity as a burden: "You have to teach people about your race, your religion, your culture, like if somebody says something, and I'm like, well, no, not all Black people like fried chicken" (002). This participant also described how non-minoritized peers disputed her experiences of everyday racial discrimination: "When you're saying something and everybody else is like, 'That doesn't happen,' and you're like, 'Hello, it happens to me,' and they're like, 'No, it doesn't' …." (002). Said another participant, "I don't feel like a lot of people understand my cultural perspective and the way I see the world" (009). Research emphasizes that persistent experiences of this "racial gaslighting" (attempting to manipulate someone into thinking that they are wrong when in fact they are right about issues of racism) produces feelings of isolation and self-doubt (Davis & Ernst, 2019; Sweet, 2019).

Participants felt they did not fit in well with their non-minoritized colleagues, and this also contributed to feelings of self-doubt and isolation. For example, one participant reported feeling shame about his low socioeconomic status upbringing, saying, "I don't fit in with these kids and that makes me really weird. And then when I can't fit in with these people, then how am I going to fit in with the greater medical community? … That brings some shame" (004). This participant succinctly identifies not only the short-term consequences (shame) but also the bigger long-term problem: successful development of a professional identity that aligns with the culture of medical practice, without losing sight of the participant's core individual identity and values.

This sense that they did not fit in with their non-minoritized peers led participants to report feelings of imposter syndrome. Study participants reported that they did not have a clear understanding of dominant cultural norms and that they had to try and mirror "the social patterns of the people around me … the way that they talk, the way that they dress, the sort of conversations that they found appropriate." (009) In particular, participants worried that they would be 'found out,' exposed, or otherwise identified as not being good enough to have legitimately earned their medical student status:

> I'm a pretty extroverted person, and I'm generally very comfortable in social environments, but sometimes I get in a group of other med students, and I just have nothing to say because I'm afraid of exposing myself and having them realize that I don't belong or something. (001)

One participant relayed that at the beginning of the school year during a welcome session, a school administrator indicated, without naming the participant, that this student had been the first to apply to the school from the state, saying, "first from [State], automatic acceptance!" While the study participant felt the administrator was likely joking, it played into the participant's fears of not being good enough:

> I have imposter syndrome …. all the time. Um, and I mention, "Well, maybe it's just 'cause I'm from [state]." And [my boyfriend] is like, "No one believes that." …. I just, I have never felt that I was smart enough to be here. I feel like I struggle a lot …. I mean, I've never failed an exam, so I guess it kind of shows, you know, why it's probably not true, but I don't know. I think in undergrad, I didn't have the best GPA, I didn't have a ton of research experience like a lot of other students here …. a lot of people here are much better, much smarter than me. (005)

Participants identified that the difference between themselves and their non-minoritized peers created a barrier that made it harder to build relationships with them, especially in the context of socioeconomic status:

> I definitely do struggle to be friends with people that come from … folks that tend to live a lot more of an ostentatious lifestyle, where they're definitely showing off their wealth or they're not appreciative of the blessings in their life and what not …. (004)

> We've been through a lot … I've been dirty [and that] changes you … I feel like a lot of people …. haven't had to deal with severe financial issues, or even provide money for themselves, let alone for their family–which is, which is good. I don't want that for anyone. But I do feel like that can sometimes come up in conversations or how people act. People can be close-minded and forget that exists. (006)

We also found that UiM students faced dual isolations—from those in the dominant culture of medical school as well as from those in their hometown. Just as 001 and 004 mentioned that they were increasingly isolated from their working-class parents, a participant who grew up in what she described as 'the hood' said, "We're from two different worlds, a lot of my friends didn't even go to college" (007). In each case, we find that UiM students have to contort themselves to "fit in" at home and at work as they move along their PIF process. Indeed, in their PIF process, minoritized students find themselves in a liminal, in-between, social space.[4]

These isolating experiences prompted participants to seek refuge with other students who could relate. While relationships with non-minoritized peers occurred occasionally, minoritized participants reported that they mostly gravitated to other students with similar identities. A participant noted that like her, most of her friends were students of color: "We understand our cultural differences … and adapt to each other's interests and the commonalities" (005). Another participant who identified as growing up poor explained, "A lot of my friends are from similar backgrounds and have had to struggle to put themselves through a lot of stuff …. " (006).

5. Discussion

In a previous scoping review (Volpe et al., 2019), we questioned whether the process of professional identity formation might be more difficult or more burdensome for minoritized students given the normative embodiment of physicians as 'the boys in White' (Becker et al., 1961). The current exploratory study of minoritized medical students extends the few studies examining the PIF experience of female medical students (Babaria et al., 2011; Hilberman et al., 1975; Hill & Vaughan, 2013; Johansson & Hamberg, 2007; Rees et al., 2014, pp. 295–310) and what is to our knowledge the sole empirical study examining PIF for medical students of color (Wyatt et al., 2020). Our findings build on this growing research base to provide further evidence that counter-normative, non-White and lower-status social identities complicate trainees' development of physician identities.

In particular, we pinpoint a key reason why this PIF process is difficult, namely that students' professional and individual identities are often incongruent. Indeed, our minoritized participants' individual identities withstood a great deal of manipulation in their effort to integrate these two strands of their identity. We found that participants experienced a complex push-pull regarding their individual identities: while sometimes they reported that their individual identities were an asset during medical training and were thus pulled to the forefront, at other times they felt they had to mask or minimize their individual identities—push them to the background—in order to be successful. We also found that participants felt they were outsiders, leading to feelings of self-doubt and isolation. While some degree of isolation from aspects of the students' former lives is necessary for PIF to occur (Cruess, Cruess, and Steinert 2016b), study participants were isolated not only in the usual and expected ways (e.g. from their home communities) but also from other medical students, particularly those in non-minoritized groups, and their families.

Taken together, it becomes clear why viewing of PIF as a double helix—with the individual person strand and the professional strand coming together, becoming intertwined—is theoretically and analytically helpful. This aligns well with conceptualizations in the literature of PIF as comprising both personal elements and professional elements, which must become integrated over time in order for successful PIF to occur (Cruess, Cruess, and Steinert 2016b; Cruess et al., 2015). However, the results from the current study suggest that these frameworks are too simplistic, especially with regard to the individual person component of PIF. We therefore suggest that the social psychology concept of identity theory might appropriately complicate what is involved in the individual strand of the double helix.

Identity theory assumes that people have a multiplicity of overlapping identities including a role identity, a unique personal identity, and social identities, and that activation of these identities varies depending upon the situation and environment. Role identities typically are associated with performance or duties/tasks, so the 'role identity' of most interest in

[4] We thank an anonymous reviewer for this phrasing.

this study was that of third-year medical student. However, participants uniformly had additional role identities, such as adult child, romantic partner, or sibling. 'Personal identity' is defined as those particular characteristics that we use to identify ourselves as unique persons— such as being introverted, kind-hearted, musical, or moral. Social or socio-demographic identities are associated with categories and groups, such as female, middle class, LGBTQ+, or person of color. Situations and environments can support or hinder expression of different social identities; one's social identities can lead to feelings of inclusion or exclusion and high status or low status (Burke & Stets, 2009; Stets, 2018; Stets & Burke, 2000). These three identities are discrete but intertwined components of one's individual identity.

PIF requires that the individual strand of the double helix, comprised of role, personal and social identities, and the professional strand of the double helix, come together. It is worth noting that the two strands are not entirely discrete. For example, the role identity of third year medical student (individual strand) is inherently tied to the values and norms of the profession of medicine (profession strand).

The participants in our study struggled not only to integrate the two double helix strands (individual and professional) with each other, as current theoretical models of PIF suggest. They additionally struggled to integrate discrete parts of the same strand; *within* the individual person strand of the double helix, participants struggled to integrate their role identity as medical students with their existing social and personal identities. For example, extra labor to approximate White beauty standards represents a conflict between a Black social identity and the role identity of the "professional-appearing" medical student. Or, growing distance and lack of support from their home communities represents a conflict whereby their families, who likely relate to the participant primarily in terms of their personality and social identities, struggled to connect in terms of the quickly-growing role identity of medical student.

It is worth noting that sometimes the components of this individual identity strand of the double helix—role, social, and personal identities –were aligned for participants. For example, the ability to connect with patients who were stereotyped by others prompted feelings of profound pride. It also produced positive dynamics for the patients, which is a primary goal of medical professionals. We should also like to note that what is not explicitly stated is sometimes as important as what is; we found that even though minoritized students were able to leverage their "outsider" status to produce positive interactions with historically marginalized patients, none of the respondents ever noted that this ability was lauded or even noted by those who evaluated them.[5]

These examples provide a mechanism whereby we can reflect on how to appropriately *complicate* the unique 'individual' of the medical student, and what that individual person brings to the PIF process. Prior conceptualizations of PIF have tended to focus more heavily on the profession: on the roles, norms, values, and culture of the profession of medicine. This has included, for example, important discussions about communities of practice (Brooks & Bosk, 2012; MacLeod, 2011; Pitkala & Mantyranta, 2003), the impact of experiences with patients in a clinical setting (Barr et al., 2015; Weaver et al., 2011) and role models (Apker & Eggly, 2004; Boudreau et al., 2014; Vivekananda-Schmidt et al., 2015). The literature has tended not to give equal influence to the impact of the unique individual, and the broader social context in which that person exists in the consideration of PIF. And yet, the core of PIF is the integration of the two: the individual and the profession. We therefore suggest that as a field we have inadvertently taken too simplified of an approach to considering what the unique individual brings to the PIF process, and that the theoretical framework of identity theory can help appropriately complicate the individual strand of the PIF double helix.

[5] We thank anonymous reviewers for asking about whether practicing clinicians ever complemented or applauded students for their ability to connect with some patients. While we did not ask this question directly, we found it notable that no respondents identified any positive feedback.

6. Limitations

While this study provides an in-depth examination of the experiences of minoritized students in the majority medical environment, it involves only one medical school and a small number of participants. Therefore, our findings should be generalized with care. Furthermore, in order to protect the students' identities, we chose not to identify participants by their social identities (e.g., Black, low socioeconomic status, LGBTQ+). However, a limitation of this decision is that it takes many diverse experiences –the PIF journey of a Black woman is surely quite different than the PIF journey of a White gay male—and combines them in a potentially reductionistic way. This choice, which was made by necessity, does have an advantage, which is that it avoids any propensity readers might have to inadvertently create stereotypes based on social identities.

This line of research would benefit from replication of this study at other medical schools, including schools outside of the United States and schools where the percentage of UiM students is not below the national average, as is the case at Rural University. Additionally, future studies examining other axes of differentiation– including LGBTQ+, disability, and non-American born/immigrant– would be beneficial. Including these identities would allow for a richer understanding both of minoritized students' experiences and of the complex intersection of minoritized social identities.

7. Conclusion

Low matriculation of minoritized medical students represents a significant failure by our country in general and medicine in particular to provide access to the elite profession of medicine to all types of people. Although colleges of medicine did not create this problem alone, they alone are in the best position to fix it (Autry, 2020). For this reason, the commitment by medical education to recruiting, enrolling and training minoritized medical students is an important step. However, initiatives focused on recruiting and enrolling more minoritized students to reach a 'diversity' goal are not enough. Once successfully recruited, medical education institutions have a moral responsibility to support these students. Minoritized students must feel welcome, valued, and heard; they must feel that they can stay true to their existing personality and social identities while simultaneously cultivating a physician role identity. This is essential work not only in service of the students themselves, but also in service of patients: when we 'whitewash' minoritized students' identities, we can expect that this makes them less attuned to the social hierarchies and inequalities that many patients face.

This work requires institutional commitment to promote inclusion—that is, intentional and meaningful social and academic interactions among persons with social identities and personal backgrounds that differ from majority culture (Tienda, 2013). More idealistically, an inclusive environment means moving away from a White-centric medical culture by redistributing power to minoritized people so that they can be involved in the leadership activities that ultimately shape the medical culture, norms, and values. Needless to say, as the demographics of the United States evolve, it behooves medical culture to shift and incorporate the values, perspectives, and insights of a wider array of Americans in order to produce better outcomes for patients that have historically been underserved.

This will not happen easily. At the very least, a first step is to become more attuned to the dynamics in the medical school pipeline and training environment. Our study suggests that one concrete step medical schools can take to support minoritized students is to admit several minoritized students each year, as our findings indicate that a community of peers is essential. More broadly, we must work to recognize, challenge, and change the entrenched and powerful norms, assumptions, and practices that have sustained and continue to sustain the medical culture, and that contribute to the ongoing and fundamental conflict that minoritized students experience when integrating their role, personal and social identities. But it offers the best—perhaps the only—means of creating a

supportive, inclusive, and equity-minded medical culture and environment, where minoritized students can become competent, confident minoritized clinicians who help minoritized patients achieve better health (Acosta, 2020; Chandrashekar & Jain, 2020).

Funding

No longer 'The Boys in White': Exploring professional identity formation for students from diverse cultural backgrounds. AAMC's Northeastern Group on Educational Affairs, 2019–2020 ($2915). The funder had no role in study design; in collection, analysis and interpretation of data; in writing the manuscript; or in the decision to submit it for publication.

Declaration of competing interest

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ssmqr.2021.100017.

Author contributions

Rebecca Volpe: Conceptualization, formal analysis, funding acquisition, investigation, methodology, supervision, writing. **Margaret Hopkins**: Conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, writing. **Jasmine Geathers**: Investigation, methodology, revising. **Candis Watts Smith**: Conceptualization, revising. **Yendelela Cuffee**: Data curation, investigation, methodology, revising.

Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

Acosta, D. A. (2020). Achieving excellence through equity, diversity, and inclusion. In *Association of American medical colleges insights. AAMC.org*. AAMC.

Apker, J., & Eggly, S. (2004). 'Communicating professional identity in medical socialization: Considering the ideological discourse of morning report. *Qualitative Health Research, 14*, 411–429.

Association of American Medical Colleges. (2020). Table B-3: Total U.S. Medical school enrollment by race/ethnicity (alone) and sex, 2016-2017 through 2020-2021. In *2020 facts table B-3. AAMC.com*.

Association of American Medical Colleges. (2021). Table A-14.3: Race/ethnicity responses (alone and in combination) of matriculants to US MEdical schools, 2016-2017 through 2020-2021 Accessed Feb 9 https://www.aamc.org/data-reports/students-residents/interactive-data/2020-facts-applicants-and-matriculants-data.

Autry, M. (2020). Black men in white coats. In *1 hour 20 minutes*. USA: Indie Screening.

Babaria, P., Bernheim, S., & Nunez-Smith, M. (2011). 'Gender and the pre-clinical experiences of female medical students: A taxonomy. *Medical Education, 45*, 249–260.

Barr, J., Bull, R., & Rooney, K. (2015). 'Developing a patient focussed professional identity: An exploratory investigation of medical students' encounters with patient partnership in learning. *Advances in Health Sciences Education, 20*, 325–338.

Becker, H. S., Geer, B., Hughes, E. C., & Strauss, A. L. (1961). *Boys in white: Student culture in medical school*. New Brunswick): Transaction Publishers.

Boatright, D. H., Samuels, E. A., Cramer, L., Cross, J., Desai, M., Latimore, D., & Gross, C. P. (2018). 'Association between the Liaison Committee on Medical Education's diversity standards and changes in percentage of medical student sex, race, and ethnicity. *Journal of the American Medical Association, 320*, 2267–2269.

Boudreau, J. D., Macdonald, M. E., & Steinert, Y. (2014). Affirming professional identities through an apprenticeship: Insights from a four-year longitudinal case study. *Academic Medicine, 89*, 1038–1045.

Brooks, J. V., & Bosk, C. L. (2012). Remaking surgical socialization: Work hour restrictions, rites of passage, and occupational identity. *Social Science & Medicine, 75*, 1625–1632.

Bryan, C. S. (2006). Aequanimitas" Redux: William Osler on detached concern versus humanistic empathy'. *Perspectives in Biology and Medicine, 49*, 384–392.

Burke, P. J., & Stets, J. E. (2009). *Identity theory*. New York: Oxford University Press.

Chandrashekar, P., & Jain, S. H. (2020). 'Addressing patient bias and discrimination against clinicians of diverse backgrounds. *Academic Medicine, 95*, S33–S43.

Charmaz, K. (2014). *Constructing grounded theory*. Los Angeles): Sage.

Chow, C. J., Byington, C. L., Olson, L. M., Ramirez, Karl Paulo Garcia, Zeng, S., & López, Ana María (2018). 'A conceptual model for understanding academic physicians' performances of identity: Findings from the University of Utah. *Academic Medicine, 93*, 1539.

Creswell, J. W., & Clark, V. L. P. (2018). *Designing and conducting mixed methods research*. Los Angeles: Sage Publications.

Cruess, R. L., Cruess, S. R., & Steinert, T. Y. (Eds.). (2016b). *Teaching medical professionalism: Supporting the development of a professional identity*. Cambridge, NY: Cambridge University press.

Cruess, R. L., Cruess, S. R., Boudreau, J. D., Snell, L., & Steinert, Y. (2014). Reframing medical education to support professional identity formation. *Academic Medicine, 89*, 1446–1451.

Cruess, R. L., Cruess, S. R., Boudreau, J. D., Snell, L., & Steinert, Y. (2015). 'A schematic representation of the professional identity formation and socialization of medical students and residents: A guide for medical educators. *Academic Medicine, 90*, 718–725.

Cruess, R. L., Cruess, S. R., & Steinert, Y. (2016a). 'Amending miller's pyramid to include professional identity formation. *Academic Medicine, 91*, 180–185.

Davis, A. M., & Ernst, R. (2019). Racial gaslighting. *Politics, Groups, and Identities, 7*, 761–774.

Fergus, Kirkpatrick B., Teale, B., Sivapragasam, M., Mesina, O., & Stergiopoulos, Erene (2018). Medical students are not blank slates: Positionality and curriculum interact to develop professional identity. *Perspectives on medical education, 7*, 5–7.

Freeman, B. K., Landry, A., Trevino, R., Grande, D., & Shea, J. A. (2016). Understanding the leaky pipeline: Perceived barriers to pursuing a career in medicine or dentistry among underrepresented-in-medicine undergraduate students. *Academic Medicine, 91*, 987–993.

Glasser, G. (2020). Inequality 'surrounds you': A black doctor returns to hard-hit Louisiana after treating and contracting covid-19 in New York. https://www.statnews.com/2020/10/02/inequality-surrounds-you-black-doctor-returns-to-hard-hit-louisiana/. (Accessed 3 March 2021) Accessed.

Hardeman, R. R., Przedworski, J. M., Burke, S. E., Burgess, D. J., Phelan, S. M., Dovidio, J. F., Nelson, D., Todd, R., & Van-Ryn, M. (2015). 'Mental well-being in first year medical students: A comparison by race and gender: A report from the medical students change study. *J Racial Ethn Health Disparities, 2*, 403–413.

Heiser, S. (2019). The majority of US medical students are women, new data show. In *Association of American Medical Colleges*. Press Release.

Hilberman, E., Konanc, J., Perez-Reyes, M., Hunter, R., Scagnelli, J., & Sanders, S. (1975). 'Support groups for women in medical school: A first-year program. *Journal of Medical Education, 50*, 867–875.

Hill, E., & Vaughan, S. (2013). The only girl in the room: How paradigmatic trajectories deter female students from surgical careers. *Medical Education, 47*, 547–556.

Jarvis-Salinger, S., Pratt, D. D., & Regehr, G. (2012). 'Competency is not enough: Integrating identity formation into the medical education discourse. *Academic Medicine, 87*, 1185–1190.

Jaschik, S. (2017). Diversity and medical school admissions. In Insider Higher (Ed.), *Insider Higher*.

Johansson, E. E., & Hamberg, K. (2007). 'From calling to a scheduled vocation: Swedish male and female students' reflections on being a doctor. *Medical Teacher, 29*. e1-8.

Lempp, H., & Seale, C. (2004). The hidden curriculum in undergraduate medical education: Qualitative study of medical students' perceptions of teaching. *BMJ, 329*, 770–773.

MacLeod, A. (2011). 'Caring, competence and professional identities in medical education. *Advances in Health Sciences Education, 16*, 375–394.

Papadimos, & Thomas, J. (2004). 'Stoicism, the physician, and care of medical outliers. *BMC Medical Ethics, 5*, 1–7.

Perry, S. P., Hardeman, R., Burke, S. E., Cunningham, B., Burgess, D. J., & Van-Ryan, M. (2016). 'The impact of everyday discrimination and racial identity centraility on African American medical student well-bring: Report from the medical student CHANGE study. *J Racial Ethn Health Disparities, 3*, 519–526.

Pitkala, K. H., & Mantyranta, T. (2003). 'Professional socialization revised: Medical students' own conceptions related to adoption of the future physician's role - a qualitative study. *Medical Teacher, 25*, 155–160.

Rees, C. E., & Monrouxe, L. V. (2018). 'Who are you and who do you want to be? Key considerations in developing professional identities in medicine. *Medical Journal of Australia, 209*, 202–203.

Rees, C. E., Monrouxe, L. V., & Ajjawi, R. (2014). Professionalism in workplace learning: Understanding interprofessional dilemmas through healthcare student narratives. *Exploring the dynamics of personal, professional and interprofessional ethics*.

Spehar, I., Frich, J. C., & Kjekshus, L. E. (2015). Professional identity and role transitions in clinical managers. *Journal of Health, Organisation and Management, 29*(3), 353–366. https://doi.org/10.1108/JHOM-03-2013-0047. PMID: 25970529.

Stets, J. E. (2018). 'Identity theory. In P. J. Burke (Ed.), *Contemporary social psychology theories*. Stanford, Calif.: Stanford University Press.

Stets, J. E., & Burke, P. T. (2000). 'Identity theory and social identity theory. *Social Psychology Quarterly, 63*, 224–237.

Sweet, P. L. (2019). The sociology of gaslighting. *American Sociological Review, 84*, 851–875.

Taylor, J. S. (2003). Confronting "culture" in medicine's "culture of no culture. *Academic Medicine, 78*, 555–559.

Tienda, M. (2013). 'Diversity is not inclusion: Promoting integration in higher education. *Educational Researcher, 42*, 467–475.

United States Census Bureau. (2019). *Population estimates: People'*. US Government Accessed https://www.census.gov/quickfacts/fact/table/US/PST045219#qf-headnote-a. (Accessed 7 April 2021).

U.S. Department of Health and Human Services. (2009). Pipeline programs to improve racial and ethnic diversity in the health professions: An inventory of federal programs, assessment of evaluation approaches, and critical review of the research literature. In *Rockville, MD*.

Vanstone, M., & Grierson, L. (2019). 'Medical student strategies for actively negotiating hierarchy in the clinical environment. *Medical Education, 53*, 1013–1024.

Vivekananda-Schmidt, P., Crossley, J., & Murdoch-Eaton, D. (2015). 'A model of professional self-identity formation in student doctors and dentists: A mixed method study'. *BMC Medical Education, 15*, 83.

Volpe, R. L., Hopkins, M., Haidet, P., Wolpaw, D. R., & Adams, N. E. (2019). 'Is research on professional identity formation biased? Early insights from a scoping review and metasynthesis. *Medical Education, 53*, 119–132.

Watson, A. G., McCoy, J. V., Mathew, J. A., Gundersen, D. A., & Eisenstein, R. M. (2019). Impact of physician workload on burnout in the emergency department', *Psychology. Health & Medicine, 24*, 414–428.

Weaver, R., Peters, K., Koch, J., & Wilson, I. (2011). "Part of the team': Professional identity and social exclusivity in medical students. *Medical Education, 45*, 1220–1229.

Wyatt, T. R., Rockich-Winston, N., Taylor, T. R., & White, D. J. (2020). 'What does context have to do with anything? A study of professional identity formation in physician-trainees considered underrepresented in medicine. *Academic Medicine, 95*, 1587–1593.

Youngclaus, J., & Roskovensky, L. (2018). An updated look at the economic diversity of US medical students. *AAMC Analysis in Brief, 18*.