



Redressing injustices: how women students enact agency in undergraduate medical education

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Received: 2 April 2022 / Accepted: 31 October 2022 / Published online: 17 November 2022
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Abstract

This study presents descriptions of epistemic injustice in the experiences of women medical students and provides accounts about how these students worked to redress these injustices. Epistemic injustice is both the immediate discrediting of an individual's knowledge based on their social identity and the act of persistently ignoring possibilities for other ways of knowing. Using critical narrative interviews and personal reflections over an eight-month period, 22 women students during their first year of medical school described instances when their knowledge and experience was discredited and ignored, then the ways they enacted agency to redress these injustices. Participants described three distinct ways they worked to redress injustices: reclaiming why they belong in medicine, speaking up and calling out the curriculum, and uplifting one another. This study has implications for recognizing medical students as whole individuals with lived histories and experiences and advocates for recognizing medical students' perspectives as valuable sources of knowledge.

Keywords Epistemic injustice in medicine · Longitudinal qualitative research · Women medical students · Agency

Introduction

Recent scholarship on the ways medical education perpetuates the marginalization of women has become vastly more important today as women enter medical school in equal and sometimes greater numbers to men (Kelly-Blake et al., 2018; Pelley & Carnes, 2020). Unfortunately, for women medical students their numbers alone do not change a long-standing masculine culture in medical school, a culture born from White, Eurocentric and/or North American ideals, casting a long shadow on how medical students learn and practice medicine (see; Phelan et al., 2010; Sharma, 2019). These traditions have positioned men as the dominant knowledge holders in medicine, rendering women's voices, experiences, and ways of knowing as subaltern (Babaria et al., 2009,

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2012; Bruce & Battista, 2015; Drinkwater et al., n.d.; Ludmerer, 2020). For example, learning dynamics and hidden curriculum in medical education often exhibit biased treatment of women students (Cheng & Yang, 2015; Dijkstra et al., 2008; Lempp & Seale, 2004). Moreover, the field of academic medicine frequently promotes men physicians at faster rates than women physicians (Borges et al., 2012; Howell et al., 2017; Murphy et al., 2021; Richter et al., 2020) while penalizing women in career advancement when they begin having families (Butler et al., 2019; Winkel et al., 2021). Gendered symbols, histories, and traditions have made women medical students feel they do not belong in medicine (Balmer et al., 2020; Blalock et al., 2022; Levine et al., 2013) or discouraged women from pursuing specialties dominated by men (Baptiste et al., 2017; Burgos & Josephson, 2014). The culmination of these practices contributes to dismissing women in medicine as legitimate and valid knowledge holders, a practice known as epistemic injustice.

Epistemic injustice is the practice of discrediting, ignoring, or doubting people as legitimate knowers often based on their social identity (e.g., women, minority, student, etc.) (Dotson, 2012; Fricker, 2011). Furthermore, epistemic injustice is not only confined to moments of discrimination about what one knows or does not know; it also includes a disregard for other legitimate ways of knowing. Dotson (2012) explains epistemic injustice must “account for alternative epistemologies, countermythologies, and hidden transcripts that exist in hermeneutically marginalized communities *among themselves*” (p. 31, emphasis in original). In essence, epistemic injustice is both the immediate discrediting of an individual’s knowledge based on their social identity *and* the act of persistently ignoring possibilities for other ways of knowing.

Evidence of epistemic injustice is well-documented in bioethics and medical education scholarship (Battalova et al., 2020; Blease et al., 2017; Carel & Kidd, 2014; Seidlein & Salloch, 2019), and for women in medicine forms of epistemic injustice are rampant and stem from a patriarchal history in medicine. These androcentric attitudes are manifestations of sub-consciously assigning reason and rationality to men, masculinity, and maleness (Lloyd, 1979; Samuriwo et al., 2020; Shaw et al., 2020). Habitually recognizing men as reasoned (read “better” or “more skilled”) physicians has far-reaching implications for the field, one that has historically discounted the place of women in medicine, undermined their contributions, and selectively limited their advancement in the profession (Roberts, 2020; Sharma, 2019). Combined, these practices are discreet and obvious examples of epistemic injustice based on gender (Tuana, 2017).

During events of epistemic injustice, women physicians’ knowledge is often compared to a monolithic understanding of a “correct” or “accurate” knowledge for medicine. If a woman demonstrates this form of normative knowledge, then they may evade forms of epistemic injustice. For example, women physicians may take on or adopt behaviors that are more “masculine” or align themselves more willingly to characteristics that are recognized as legitimate in medicine. However, to do so, women may be tasked with hiding or withholding the very forms of knowledge that arises from their communities and from their cultures, even themselves (Dotson, 2012). Thus, when women in medicine resist epistemic injustice through conformity, they neglect their social identity as women and the knowledge arising from their own gendered experiences, their race and ethnicity, and the communities that raised them—their “countermythologies and hidden transcripts” (Dotson, 2012, p. 31). Without acknowledging the important knowledges women bring to the field of medicine, the medical field will be impoverished by continually reproducing the presence of doctors as White men, while reinforcing limits on what counts as knowledge in the field.

In its entirety, the framework of epistemic injustice also offers avenues to redress such injustices. Embedded in analyzing how such injustices occur are possibilities for ways to reduce and eventually reform the practice of epistemic injustice (Dotson, 2012). Even as students' medical experiences are situated within the context of power and oppression (see, Chow et al., 2018; Vanstone & Grierson, 2021; Wyatt et al., 2021) their ability to redress epistemic injustices are tightly coupled with where their knowledge is situated (e.g., within their own communities, within the medical field, within a learning environment). For example, students of Color bring with them transformative perspectives into their educative experiences in medical school, perspectives originating from their own communities and backgrounds (Solorzano & Delgado Bernal, 2001; Wyatt et al., 2018).

To combat forms of epistemic injustice, we leverage the concept of epistemic agency to interpret actions of participants. Epistemic agency refers to a person's ability to persuasively utilize and share their epistemic resources (e.g., knowledge systems, learnings, practices, etc.) within a given community (Dotson, 2012). We focused on moments of agency in medical students to counter deficit-narratives in medical education. These moments reflect both our approach to data analysis (feminist and agentic, see Tuana, 2017) as well as an intentional decision in how to present the data using the conceptual framework of epistemic injustice in its entirety (Dotson, 2012). Agency provides an asset-based perspective on participant experiences, one that helps balance the plentiful literature on medical student experiences of burn-out and discrimination (Daya & Hearn, 2018; Frajerman et al., 2019; Kilminster et al., 2007; Neumann et al., 2011; Orom et al., 2013). Drawn from the fields of medical and higher education, we frame agency as (1) perspective-taking (O'Meara, 2015), and (2) strategic resistance (Baez, 2000, 2011; Ellaway & Wyatt, 2021, 2022; Gonzales, 2018). Perspective-taking refers to medical students' *reflexive deliberations* of a situation and of themselves that help them to advance goals—these reflexive deliberations are inner conversations or self-talk shaped and cultivated by larger societal factors (O'Meara, 2015). Strategic resisting, by contrast, refers to medical students' *intentional tactics* to resist or subvert institutional structures that render them and others as illegitimate knowers (Baez, 2000, 2011; Ellaway & Wyatt, 2021; Gonzales, 2018).

To this end, the purpose of this study is two fold: (1) to understand how epistemic injustice appears in women medical students' experiences and (2) to describe the agentic experiences of women medical students who are learning in environments that are often discrediting, silencing, or disqualifying them as legitimate knowers. We focus specifically on the experiences of women medical students while understanding that gender-equality and gender-equity in the health professions is yet to be fully realized (Butler et al., 2019; Dimant et al., 2019). Our results offer descriptions of the ways women students confront injustices and the actions they take to redress the forms of injustice they experienced. Through a feminist agentic lens (Tuana, 2017), we recognize knowledge as multifaceted and existing both within individuals and shared communities, and for women, often situated within a patriarchal system and a profession where their presence is still in large part, unrecognized (Sharma, 2019). Additionally, how knowledge is defined is much larger than a normative or shared collective understanding of knowledge, or what a dominant group may subscribe as knowledge. Thus, central to our approach to this paper is recognizing knowledges of our participants derived from who they are, where they come from, and how they enact that knowledge in the medical school experiences.

Methodological design

As critical researchers (Denzin, 2015; Denzin & Lincoln, 1994), we situate any research question within the larger structural norms of society (e.g., race, class, gender, etc.) and seek to critique and transform these norms pursuant of greater equity. Methodologically, this study is rooted in the narrative tradition, one where a shared phenomenon is examined in and over time by storying participants' experience (Clandinin, 2013; Clandinin & Connelly, 2000). Hence, the design for this study was to engage the participants multiple times, asking about the same shared experience to tell their story of becoming a doctor as women in medical school.

Clandinin and Connelly (2000) noted "narrative inquiries are always strongly autobiographical. Our research interests come out of our own narratives of experience and shape our narrative inquiry plotlines" (p. 121). For both of us, we are women of Color, AEB a biracial Asian/White woman and DRL a Latina woman. Our identities, experiences, and histories contain numerous plot-points (Polkinghorne, 1988) of our own experiences with epistemic injustices, and how we have looked to our own communities and one another to validate these experiences. Given the need to continue to emphasize that women's experiences in medicine are vastly different from men (Sharma, 2019), this study was designed to look at students who identified as women. Although all 22 participants identified and presented as cis-women, we hope future work on topics of gender in medicine will expand the construct of gender. We use the term "woman" and "man" rather than "female" or "male" to identify participants and their peers since this study is grounded in issues of gender. When participants used "female" or "male," we did not change their wording in their quotes. Further, as researchers committed to counter narratives to attend to deficit-focused research, we sought out specific actions participants took to redress the injustices they encountered, all the while understanding that these actions were performed within the confines of racist, classist, and sexist structures (Acker, 1990; Nguemini Tiako et al., 2021; Ray, 2019).

This study took place over the course of eight months, from October 2020 to May 2021, to heed the call of narrative researchers to explore a phenomenon within and over time. Our phenomenon is the question we posed to our participants, "how are you becoming a doctor?" and we threaded that question throughout the eight-month period hoping to explore the possibilities of observing change throughout time (Balmer et al., 2021; Gordon et al., 2017). All participants are from a school for allopathic human medicine at a large research university in the Midwest United States. Additionally, this study took place during an extremely disruptive time due to the COVID-19 pandemic. Participants commented about the pandemic throughout interviews and reflections, and some noted the disturbance of remote learning during medical school. IRB approval was obtained through the university, as well as through the school level board for research conduct. Approximately 200 emails were sent to all first-year students using the college-wide listserv, inviting those who identified as women to participate. Twenty-two agreed to remain involved over the entirety of the eight months. These 22 students represent a diverse group of women students, in race and ethnicity, as well as nationality and immigrant status (See Table 1). Additionally, several participants were first in their family to attend college, a social identity that may have informed their experience of medical school and the potential economic or social network support these students received (Brosnan et al., 2016). Of the 22 participants, three are considered underrepresented in medicine (URiM). At the end of the data collection, each participant was offered a \$75 Amazon Gift Card. Many participants had forgotten about

Table 1 Participant demographics

Race/ethnicity	Number	Additional demographic information
White	13	First-Generation College Student: 4 Out of State: 3
Mixed-race	2	Child of Immigrant Parents or Immigrated Themselves: 1 URM: 1
Middle Eastern	3	First-Generation College Student: 2 Out of State: 1 Child of Immigrant Parents or Immigrated Themselves: 2
Latina	2	URM: 2 First-Generation College Student: 1 Out of State: 2 Child of Immigrant Parents or Immigrated Themselves: 2
Asian	1	First-Generation College Student Out of State Child of Immigrant Parents or Immigrated Themselves
Black-African	1	Child of Immigrant Parents or Immigrated Themselves
Total	22	

this incentive and commented how sharing their experiences during their first year was cathartic, perhaps indicating some self-selection in maintaining engagement in the research study.

Data collection proceeded first with semi-structured interviews, designed using the narrative tradition (Clandinin & Connelly, 2000) and performed in October 2020. Crafting interview questions using a narrative tradition means seeking out the story of participants and focusing on the people in the research inquiry. Thus, the narrative tradition is interested in personal and familial histories and shared experiences rather than answering a single research question (Clandinin & Connelly, 2000). Interviews were conducted by AEB. These interviews lasted on average 45 min. Next, approximately every three weeks, participants were asked to provide reflections largely centered around how they felt they were becoming doctors as well as asked participants to reflect more deeply on their gender in how they were becoming doctors. (See Table 2 for selection of reflection prompts). Six rounds of reflections were gathered from November 2020 to April 2021, making a total of 105 number of reflections (on average 4.7 per participant). All participants provided at least 2 reflections. A final interview in May 2021 with each participant was performed and lasted on average 45 min. This final interview was focused on looking back at their first year of medical school, and about how they felt their own knowledge and their identities informed how they were becoming doctors.

Narrative analysis

For this study, we focused on repeatedly asking how the participants felt they were becoming doctors. Since we also included probes about gender, learning, and broad experiences with professional socialization into medicine, interviews and reflections also elicited stories about challenges participants faced as well as opportunities and sometimes possibilities where they were hopeful. As (Anderson & Kirkpatrick, 2015) explain, narrative inquiry as story “is not just a list of events, but an attempt by the narrator to link them both in time and meaning” (p. 632). Based on our positionalities, reflexivity as researchers, and our own

Table 2 Selection of reflection prompts

Reflection prompt	Sub-prompt
How are you becoming a doctor?	Think of a time when you feel you were able to “be a doctor.” What did you do/ say? How did that make you feel like a doctor? When were you unable to “be the kind of doctor” you want to be. What got in your way?
In what ways are you able to “be your whole self” in being a doctor?	Was there a time during your learning when you felt you could be yourself, or were in a space of comfort where your strengths really shown through? Please share about that time, and consider reflecting on aspects of yourself (gender, race, class, etc.) Was there a time when you felt you did not bring your whole identity and aspects of yourself to your work and learning? Share about that time
During interviews, many of you talked about compassion and emotion as being an asset to doctoring...	In what ways have you felt you have been able to enact compassion or emotions? Have there been times when you felt stifled in being more emotive and how did you respond?

efforts to uplift the critical work and efforts of women students in medical school—we narrate this story as one about redressing epistemic injustice.

Holding in mind the valid knowledge and historical, cultural, and social origins of our participants alongside the unmistakable presence of epistemic injustice in their experiences, we used a holistic approach to analysis (Clandinin, 2013; Clandinin & Connelly, 2000; Konopasky et al., 2021). A holistic approach considers personal histories, as well as “focuses on connections within a story, an event or even a series of stories and events that build a systematic whole” (Konopasky et al., 2021). The systemic whole for this paper were the moments of epistemic injustice and the enactment of agency on the part of the participants during their first year of medical school. We began by first performing repeated readings of the data and independently writing memos centered on moments of epistemic injustice during both the early lives of our participants and their time in medical school (Richardson, 1997; Richardson & St. Pierre, 2000). Next, we moved to reading transcripts again, this time focused on events during medical school to build the larger narrative of both instances of epistemic injustice and any connections to how participants responded to these injustices. Throughout readings we found similar if not the exact same story being shared by multiple participants. To organize these stories and develop a narrative arc including both epistemic injustice and epistemic agency, we moved to writing interim texts.

Interim texts were drafts of possibilities for how we organized our findings, and what stories we would emphasize (Clandinin & Connelly, 2000; St. Pierre & Jackson, 2014). They served as texts between first and second phases of coding and code bundling (Saldaña, 2016) and final versions of findings; writings that helped us make negotiations with one another and the story we told. Table 3 Interim Text Themes and Time is an example of one of our final interim texts that organizes early experiences of epistemic injustice in healthcare settings, moments of epistemic injustice in medical school, and examples of epistemic agency in response to injustices. Each column represents what we call “plot-points” in time. Within each row are the themes we identified according to injustices or agency. Moving from left to right on the table places these injustices in time and examples

Table 3 Interim text themes and time

Early life	During first year of med school	Epistemic agency in first year
Not feeling heard (culture, language)	More specific to being confused/assumed to be nursing student	Reimagining/Redefining/ Belonging (perspective taking) <i>Self-talk about why they want to be doctors</i>
Self-image/physical/bodies	Being hit on/size of scrubs/ "professionalism" Lack of female body in learning	Calling out (perspective taking; strategic resistance) <i>Strategic: Pointing out wrongs publicly, drawing attention to wrongs</i> <i>Perspective: Using emotion</i>
Smartness	Feelings of competition/having to prove Being overlooked, pushed aside	Affirming/Uplifting one another (perspective taking) <i>Groups working together, recognizing shared experiences, questioning</i>

of how participants redressed injustices. Each row loosely connects the cells from left to right. Although our presentation of findings does not include specific examples of "early life," we included this as a column to illustrate how we pulled on the entirety of a participant's life to inform our narrative analysis. For example, being assumed to be a nurse or feeling confused are reminiscent of early experiences some participants shared of not being heard as young women in a doctor's office. Similarly, instances of being hit on, or when participants described ways their scrubs looked were reflections of earlier experiences of their physical bodies. Table 3 was a blueprint for how our findings were finally organized.

Findings

Framing epistemic injustice to account for the very real differences and alternatives to dominant knowledges invites deeper recognition of how individuals are working through experiences of injustice. Additionally, our approach to epistemic injustice recognizes how injustices occur upon the whole person, inclusive of their history, personal experience, and especially their community knowledge. The findings below describe the timeline of epistemic injustice over an eight-month period of medical school. The quotes used in these findings are representative of the sample of 22 participants. As qualitative narrative researchers, we strive to provide excerpts that reflect the larger shared story of those in this study and ensure a variety of participant quotes were presented. We first introduce instances of injustice to provide a backdrop of the experiences of the participants. These instances occurred during interactions with faculty, other men students, and the curriculum. Next, we offer moments of epistemic agency, describing the ways the participants redressed epistemic injustice and talked about how they countered the harm they felt was being done to them. Three possibilities for redressing injustices are presented: reaffirming they belong in medicine, calling out and speaking up, and uplifting one another.

Epistemic injustice in medical school

Instances of epistemic injustice often left participants questioning their purpose for pursuing medicine, and sometimes their presence in the field. However, not all interactions

that led to feelings of being overlooked were explicit. Many participants described subtle moments of feeling divested of credibility due to, what Dotson (2012) refers to as the “socioepistemic structures that create and sustain situated inequality...” (p. 30). These socioepistemic structures in medical school are the cultures, derived from history, that maintain the rhetoric that women do not belong in medical school (Kang & Kaplan, 2019). For example, when describing her interactions during small group learning, one participant reflected, “Sometimes, although it is never explicitly stated or may not be reality, it does seem like there is a divide between the men and women medical students, and sometimes there appears to be this unstated undertone that the men have an easier time of understanding the scientific concepts.” This participant’s observation describes how gender may shape the way a learning group can privilege one gender over another, even during non-verbal interactions. Notable to this participant’s observation is the “divide” she felt between herself and classmates who are men, a result of experiencing the larger educative dynamic that men are better at science. The epistemic injustice this participant felt was largely based on her gender. She then questioned whether her observations were “reality” and pondered if her feelings about different treatment between herself and the students who are men was in fact true, an exercise in having to question her own knowledge and place in medical school.

Other participants, when sharing instances of epistemic injustice, also disclosed the overarching sense that they did not belong in medical school.

There’s always this feeling of just, you don’t quite belong here. Like you’ve been let in and we’re going to remind you that we let you in versus you just intrinsically belong in this space. And you have to remind yourself that you do. And I think a lot of men, particularly White men, don’t understand the emotional labor you have to do to remind yourself that you belong in this space.

This participant’s words recall many of the experiences of other participants, of feelings discreetly or overtly that they should not be in medical school largely based on their gender. These experiences are indicative of epistemic injustices, as participants would be made to feel they should not be pursuing medicine. One specific interaction demonstrates how participants grappled with their own knowledge in medical school when being questioned from faculty, while also being reminded of their gender:

I was discussing an idea that I had with a physician, something on the topic of how physicians can help patients handle grief. I presented this idea to him and he told me, “keep looking. There are so many things that you could do.” So then when I presented to him later with an idea about a basic science question in pharmacology, the thing that he told me was shocking. He told me “you’re a smart girl. This is a much better question for you to investigate.” I come from a place where public health and taking care of people emotionally is a major part of taking care of them physically. It just made me question my entire belief system.

This participant’s interaction with her faculty member made her question her own values and beliefs. As a woman of Color, she was also faced with having to rectify her “smartness” with what she knows to be true, alongside her race and gender. Moreover, she questioned whether or not her previous education in public health was valid. Perhaps most frustrating for this participant was the tension between her commitment to care for people and pressure to pursue more “science questions.” For this participant these two pursuits were at odds.

Interactions between participants and other students who were men also introduced epistemic injustices. In separate reflections, many participants described an event that impacted their learning. One participant of Color described the scenario:

Three weeks ago, I was assigned a SIM male partner to perform a physical exam. We had to interview the patient together. But the male student did not wait for me, and he immediately began to gather information. He was overstepping and did not give me a chance to speak, even though he said that he will only do the history for the interview portion. I finally told the patient "I will now perform the physical exam" and as I was taking out my stethoscope my male partner had the audacity to run to the patient and quickly grab his equipment and begin performing the PE. He mumbled every little finding to me as though I was his scribe, just taking notes for him. I was very shook.

The experience of being pushed aside and talked over were distressful for this participant, making her face acute disrespect from her fellow classmate. Additionally, this participant pointed out she and her partner had come to an agreement about how the patient interview would proceed, and once in the room with the patient she was not only overstepped, but also minimized in her knowledge as a medical student. In one swift SIM experience, epistemic injustice targeted this participant's confidence and knowledge as a medical student based on her gender and she left feeling "shook."

Epistemic injustices were also present during other learning experiences, evident in curriculum. One White participant described required reading that portrayed a female patient in a sexualized manner. This participant shared how offended she felt, as well as confused about what faculty may think about her and her other classmates who were women. "A lot of us females were super offended, I mean, how is this okay? Is there no other article in the world that could have taught us the material without sexualizing a female patient?" This experience caused harm to participants and three others shared this scenario through their written reflections and questioned how something they believed inappropriate could be presented as neutral in learning. Other learning instances also stirred confusion for participants when they realized how little representation a woman's body had in their learning.

There are some things that kind of bothered me. Like we had to do our physical exam, but they didn't teach us how to do it on a woman. And my practice partner was a girl. And so when we feel for the fifth intercostal space, that's literally on your breasts, like, are we supposed to touch it? How are we supposed to do it? Was I supposed to lift the bra up? Are we supposed to do it over the bra? There were so many little questions and we wanted to make sure we're doing it right. But they didn't teach us. And isn't that really important? So it made me more aware of being a woman.

This participant, a White first-generation student, was troubled by both not knowing how to maneuver around a woman's form for a physical exam, but also that there seemed not to be consideration for a woman's body in her learning. This disregard for other ways of knowing (and learning) is an example of how epistemic injustice can appear in students' medical training, gendering women physically as "other." This experience made her more aware of her gender, amplifying how her body may not belong in medical school, and potentially worse, might not be considered a body important enough to learn about in medical school.

Redressing epistemic injustice through epistemic agency

Although participants described encounters with epistemic injustice during medical school, over the course of eight months they came to recognize their own value in being in medical school as well as the importance of being a part of making change within the system. During interactions between themselves and other students and faculty who were men, and learning from prescribed curriculum, participants experienced feeling overlooked and marginalized because they are women; thus being made to feel their own knowledge was not legitimate. Furthermore, they described how their own way of knowing and even new ways of knowing (as in the case of the participant who hoped to research physician empathy) were not valuable. To redress these moments of epistemic injustice, participants worked to (1) reclaim why they belong in medical school, (2) call out their curricular materials, and (3) uplift one another.

Reclaiming why they belong in medical school

The unsettled feeling between knowing they belong while also being marginalized led many participants to reaffirm why they chose to pursue medicine. Additionally, participants worked to remind themselves of the knowledge they brought to the field. Through reflexive deliberations, they shared how they spent time reminding themselves about why they pursued medical school. One participant of Color shared, “I feel really empowered... and my ‘why’ is I want to grow as an individual and in my leadership.” Others reaffirmed their gender and how they belong in medicine as women:

I feel that my experience as a female and everything I have to bring to the table can help me understand what’s the best way to approach interactions or talking to patients or learning. Anything regarding growth and experiences and interactions.

Likewise, one participant reflected, “my gender has raised me with societal expectations of being the emotional caretaker, and that comes through when I’m interacting with patients. But I believe the emotional connection is the most satisfying component of the patient encounter.” Participants were self-aware of their gender, as well as the larger societal norms connected to their gender. Expectations of being caregivers and caretakers were attributes these participants reclaimed as reminders as to how they belonged in medical school; to bring emotional connections.

In addition to the emotional aspect, many other participants discussed the bigger picture of why they belonged in medical school. These bigger pictures often pointed to participants’ awareness of systemic challenges, and their individual roles in addressing these challenges. One URiM participant shared, “On days when I am feeling tired and defeated, I often think back to how I will serve as an advocate for my community. I am reminded of the incredible potential that a physician has to positively impact the lives of others.” Likewise, another participant shared, “We can advocate for our patients and we can try really hard. But at the end of the day, it is how we interact with our patients and what we’re doing, what we’re willing to fight for with them.” Thus, participants were aware of how their own stories and histories informed how they are learning, as well as why they are in medical school:

A lot of the learning that happen that shape us in medical school or the stuff doesn’t even happen within school itself. Sometimes it’s our outside experience and listening

to classmates talk about what they've gone through in their life. I think a lot of what shapes you as a physician is your experience prior to med school and how you have been treated and how your family has been treated in medicine. And I think that is important.

Participants were acutely aware of the larger epistemic injustices in healthcare, recognized their own histories, knowledge, and experiences in their learning journeys, and reaffirmed ways that interactions they would have with patients during and after medical school would be the way could redress larger injustices and disparities. Furthermore, participants engaged in reflexive deliberations to remind themselves about ways their own perspectives as women were valuable.

Calling out curricular materials

Troubling learning experiences throughout the year highlighted how students felt they needed to call out the curriculum. Through the act of calling out, students engaged in strategic resisting, asserting their authority and countering the epistemic injustices they identified and experienced directly. One such example of calling out is the troubling article participants commented on in their reflections and final interview. The same article one participant described as "offensive" and "sexualizing a female patient," another participant indicated as impermissible: "the thought of my male colleagues learning that's acceptable behavior, like a way to treat a female patient I don't think this is good. Sure leave it up, but put something that says have a conversation with a small group about why this article is not acceptable."

Participants who commented on the article approached the faculty member, opening up a conversation about the appropriateness of the reading. Ultimately, their actions were successful towards their end-goals, but these actions also stewarded more positive and respectful interactions between themselves and this particular faculty member.

In the end, the article did get taken down. It really made us feel like we do have a voice. And even though we're just medical students and we're told what to do and what to read, our opinion does matter. And it's never too late to speak up.

Participants were both brave enough and convicted by their own values and knowledge to redress how they felt harmed. This allowed participants to recognize their "opinion does matter" and their knowledge were legitimate, enough so for a faculty member to listen and make a change.

Other instances of calling out curricular materials were more subtle and revealed how participants navigated their own knowledge and intuition about patient interactions during more scripted interactions in simulation. Through reflexive deliberations, they called upon their own sense of knowing and experience and used this during patient simulation to both put themselves at ease during sometimes nerve-racking learning experiences and put the simulated patient at ease. One participant of Color noted, "I feel a little like our curriculum presents everything as a checklist and detaches the emotion from our patient interactions." Another White participant offered a different view of checklists, "A lot of our focus has been to use checklists and dig deeper into emotional counseling. While it is important to comfort patients, not all patients like to open up that way." Several participants commented on using checklists to elicit empathy or compassion, or to help them learn how to better perform patient interviews. However, participants also learned how to draw on their own

knowledge about interpersonal connections and insert this knowledge into their clinical and simulated experiences. One participant shared,

Clearly the checklists are about emoting with the patient, and I actually connect with the patient. I have been complemented on my ability to connect with them...and I believe the emotional connection is the most satisfying component of the patient encounter and this comes through when I'm interacting with them.

Similarly, another participant shared "Every patient is unique and following a checklist that we absolutely must stick to is not always the correct way to teach bedside manners. I've been able to let the patient decide the flow of a visit and adapt, and shift gears." Finally, one participant explained, "[Patient interviewing] has always been second nature to me and many of the SPs have given me great feedback about how my compassion made them feel cared about and comforted them during a potentially scary medical problem."

Participants were able to shore up their own knowledge and experience during learning experiences that required reading or following checklists and put that knowledge and experience into action. Other participants received encouraging feedback from standardized patients, reaffirming their own personal knowledge about how to perform a patient interview, thereby supporting participants' own way of eliciting chief concerns from patients. By speaking up and calling out, participants deployed strategic resistance to unacceptable curricular material, and also deliberated how they could make checklists and other curricular material more flexible towards their approach to patient care.

Uplifting one another

Having a sense of communal uplift was an important part in how participants redressed epistemic injustices. Forming community for participants was primarily around their shared experience of being women in medical school. Their coming together was also ignited after specific incidences. For example, after learning that several others had experienced being pushed aside during a paired patient exam exercise, a White participant described how many of them debriefed about the experience and developed a plan of action.

There was this one day in SIM where we were paired up and tasked to do a patient history and physical without a preceptor. And I heard from my friend that her partner had totally commandeered the encounter and didn't allow her to do any of the tasks. It was then that I realized we were all broken into male-female pairs. I then heard this SAME story from another friend, whose male partner took over the entire encounter as well. And then I heard it again! And again! It was such a problem that we literally gave it a name, "The Great Steamrolling of SIM" because it had happened to so many of us. I remember one day, sitting around a table with at least 8 other women talking about our experiences. Many of them had a similar situation occur with a male colleague at some point or another. We agreed that this detracted from the learning experience. Sitting at that table, I looked around at this group of smart, strong, compassionate women. I asked... so are we okay with this? Do we just let this happen? I thought about how we could fix it. Either we put the burden on us as women to step up and say something when this is happening. OR we teach the males in our cohort that what they are doing is harmful and help them become aware of how their gender and privilege influence their behaviors. So I thought, what if we did both?

This participant described how after an emotionally charged and distressing experience for many of her classmates, they came together to not only share what had happened but also make a plan to address this incident. By forming a community together where shared experiences could be heard, the participants were able to recognize the harm they had experienced while also validating their own knowledge and intelligence. As this participant described her classmates as smart, strong, compassionate women she knew their critical mass and shared experience could catalyze important change with their men peers. Furthermore, in this reflection, this participant also identifies how her knowledge about the harmful interaction should not be taken advantage of; thus, the participants who experienced The Great Steamrolling of SIM drew from their knowledge about what respectful learning is, and together decided how to address an ongoing problem by educating their peers. Simply, they came together with a strategy to redress the injustice they had experienced.

Uplifting one another also came in more interpersonal and observational interactions. One White participant shared how she felt supported by another student who noticed her continued use of prefacing her class-time answers with “this is probably wrong but...” She described,

I preceded my answers with statements like ‘I’m not sure if this is right’ to shield myself. But my classmate shared that she had also experienced similar feelings, and that as future female physicians we need to stop selling ourselves short and stop doubting ourselves and our potential. I completely agree with her and I’ve been making an effort to stop prefacing my answers or explanations with self-doubt. I think it’s very common for female medical school students to experience similar feelings, however we don’t often talk about these things. We don’t want to seem weak or vulnerable in fear of being seen as less than.

This moment of uplift came from a simple conversation between two participants, one who shared the same challenges of feeling weak and vulnerable, and noticing this in another. Together, they worked through these challenges and worked to make changes or enact clearer strategic agency and resistance by being more assertive.

Discussion

This study aimed to present descriptions of epistemic injustice in the experiences of women medical students and provide accounts about how these students worked to redress these injustices. Through the framework of epistemic injustice, we offered a backdrop for the educative spaces and interactions the participants learned in, describing how participants were often discredited as valid knowers. The ways participants countered these injustices were through both their own perspective taking or self-talk, and more critical acts of strategic resistance. While their agency was enacted through perspective-taking as well as strategic resistance, these epistemic injustices and the students’ reactions are multi-layered. The agentic behavior of the students illuminates the larger macro-injustices of the medical profession. For example, reminding themselves why they belong in medical school pinpoints participants’ awareness of their sphere of influence and their understanding that many of the challenges they experience in medical school are systemic.

Participants pulled on their own beliefs about why they pursued medicine, reminding themselves that they held important knowledge about what kind of doctor they would become, who they would serve, and why they came to medical school. These were reflexive

deliberations and helped them advance in their goals, despite (or at times in spite of) the dominating androcentric culture of medical school. Moreover, while participants spoke passionately about how they knew they belonged in medicine, they were not naïve about their singular position as future physicians. Participants also used their own ways of knowing to tweak and in certain situations, improve a patient encounter that had initially been prescriptive. They used rote learning experiences such as checklists for patient interviews as opportunities to listen to their intuitions about how to relate, empathize, and eventually elicit caring communication between themselves and patients. Again, the inner conversations participants had during these more routine learning experiences were a reflection of their epistemic knowledge and their resourcefulness. They trusted themselves, reinforcing that their approaches in some learning situations were valid.

In addition to perspective taking, participants redressed epistemic injustices through more strategic initiatives. They drew on one another to build a community that could both recognize shared marginalization and collectively act to change this shared marginalization. During “The Great SIM Steamrolling” participants worked with one another, both uplifting their own intelligence and then acting to ensure instances such as this would end. Likewise, several participants commented on an inappropriate academic reading, and eventually approached the faculty member to discuss this reading. These actions were concrete tactics participants used to both resist the larger structure that rendered them as illegitimate knowers, while also enabling them as legitimate knowers, particularly when faculty not only listened but responded with action in-kind. When placed within the realm of epistemic injustice, these agentic behaviors may only be recognized once larger systemic change takes place. Dotson (2012) argues that addressing epistemic injustice “demands a kind of ‘world’-traveling...[where] we come to appreciate genuine differences” (Dotson, 2012, pp. 34–35). This kind of world-traveling “extends beyond conversation and dialogue;” it requires commitment to not only valuing other ways of knowing but also to understanding and recognizing when other ways of knowing (and coming to know) are a better fit given the context.

In the context of medical education, world-traveling can mean understanding that a majority representation of women in medicine will not change a culture deeply embedded with gender stereotypes. From a broader standpoint, world-traveling can mean pursuing more gender and racial diversity in leadership roles in medical colleges or making intentional efforts to invite more diverse guest speakers to all-campus events. From a more micro-standpoint, world-traveling can mean taking time to learn about students and their backgrounds and cultures or listening when students bring up experiences of being marginalized or discriminated against. World-traveling can mean establishing learning environments that support students’ embodiment of their knowledge and further encouraging students to draw on their important forms of knowledge (Rocha et al., 2022; Wyatt et al., 2018). This encouragement means asking students how their own experiences may be shaping how they learn material in medical school or inviting students to reflect on ways their history with medicine may be informing how they interact with curriculum. Acknowledging and fostering these important knowledges in students may aid in their own professional identity development and strengthen their personal and communal reasons for becoming doctors. World-traveling can mean approaching teaching and learning with the mindset that medical students are not “blank slates” (Fergus et al., 2018) and bring with them a wealth of experience that inform how they learn and develop their own identities as physicians. Those who interact and teach students seeking to improve their teaching practice might consider engaging the lens of epistemic injustice to examine ways latent and unspoken or

hidden forms of curricula are embedded in more formal teaching and learning in medical school (Milem et al., 2012; Nazar et al., 2015).

The agency the women students in this study demonstrated reflects a community of knowers working together to address/redress a shared experience. Furthermore, their agency was shared during their first year, a time when they were in more close-knit small groups and shared learning experiences. These same practices of communal agency may not be possible in clerkship years, but recognizing the collective agency (Beier et al., 2016; Lockie, 2004) of the participants in this study helps shift perspectives on ways curriculum is networked not just in its content and design, but also in its ability to impact a large group of learners simultaneously in their first-year and potentially in future years. This approach helps heed Dotson's (2012) call that achieving epistemic change requires intentional and concerted efforts among all involved, and an ability to sift through multiple forms of epistemic injustice. Shifting mindsets from "the" correct way of knowing to "a" correct way of knowing can have important benefits for students in their own personal and professional development. Collective agency on the part of medical students may be an important avenue for future work on teaching and learning in medical school, as well as balancing individual experiences within a shared communal experience. Additionally further work on understanding how those in power may support larger structural changes and communal agency to limit the pervasiveness of epistemic injustice is also needed. We hope the examples of agency on the part of our participants, and the glimpses of their agency in this study may also catalyze larger equitable change that has the possibility to become institutionalized (Carr et al., 2017; Sugarman & Martin, 2011).

Acknowledgements The authors wish to thank the participants of this study for their knowledge and for sharing their experiences. Additionally, the authors wish to thank Dorene Balmer, Abigail Konopasky, and Tasha Wyatt for their encouragement of this work and feedback on early drafts.

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