

A Qualitative Exploration of Sense of Belonging among Learners in Graduate Medical Education

Derrick Thiel

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Committee:

Chair: Todd Edwards

Committee Members:

Jennifer Best

George Mount

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Derrick Thiel

University of Washington

Abstract:

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Derrick Thiel

Chair of the Supervisory Committee:

Todd Edwards

Department of Health Services

Purpose: Diversity, Equity, and Inclusion efforts are receiving increasing and overdue recognition. In graduate medical education (GME) there have been efforts to improve diversity in physician training and while there is data on the experiences of underrepresented in medicine (URiM) populations in GME, there is a paucity of data on how physicians-in-training (residents) navigate the process and feelings of “belonging” during residency and how their personal identity characteristics relate to this process. The purpose of this study is to further describe and define this process for GME learners with an emphasis on learners from URiM populations.

Methods: Working from a constructionist research orientation, the research team utilized in-person focus groups, virtual focus groups, and individual interviews to examine the process and feelings of "belonging" in GME residents at the University of Washington School of Medicine. Participants who were unable or unwilling to attend in-person or virtual sessions were invited to take an online survey. Interviews were supplemented by individual reflection and writing time prior to discussion. Data was transcribed and inductively analyzed utilizing thematic analysis. Member-checking was performed after codebook development, thematic analysis, and creation of a proposed definition of belonging as it manifests in GME.

Results: In total, 24 individuals participated in real-time reflection and discussion (12 in-person and 12 virtual), while 5 participants responded to the online survey of the same questions. Participants identified as primarily from medical specialties, were mostly of allopathic backgrounds, and were approximately 50% female. More than half of the participants were Black, Indigenous, or People of Color (BIPOC), and one-quarter were from URiM populations. In total, 7

major themes were derived from nearly 40 subthemes and approximately 900 codes. Themes derived from the dataset relating to belonging included the importance of feeling personally valued and having opportunity within the medical system, as well as the importance of interactions to the process of building relationships (both with the self and with others). Participants noted that their identity characteristics (gender identity, race/ethnicity, etc.) are interpreted as similar or different to others within medicine and may contribute or detract from sensations of belonging.

Conclusions: Sense of belonging evolves throughout the course of residency and is forged through experiences and feelings within institutional and societal structures. Learners both passively and actively navigate these systems and structures and make decisions about how their personal behaviors align with traditionally dominant patterns of behavior in medicine. This influences professional judgment and outcomes for learners.

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Introduction:

Sense of belonging is a basic human need conceptualized as the feeling of social connectedness or sense of positive association with others. Humans have a pervasive need to form and maintain strong, stable interpersonal relationships, which are integral to the physical and psychological health of humans. In social psychology literature and research on human motivation, it is posited that the need for belonging is closely related to need for achievement, approval, and power, as these may confer increased sensations of belonging ¹.

Gaining a better understanding of how belonging is created in GME will inform implementation of a social-psychology intervention during a learner's transition to GME. It will help GME stakeholders (faculty/physicians, students, staff, and support networks) more fully understand the key components of belonging and prime interventions to improve the GME experience for all. Improvements in health and well-being will likely come from cultural change that seeks to improve belonging and help residents as they relate their identity characteristics to this process. The long-term health implications of these efforts are outside the scope of this study.

For GME stakeholders to improve belonging in medicine, they must confront and seek to understand the current state of discrimination. Like all institutions, the profession of medicine cannot be separated from the race-based, sex-based, and gender-based discrimination that is foundational to American society. These forms of discrimination detract from sensations of belonging among those who experience them. As examples, prior to entering graduate medical education (GME), medical students from minority populations experience higher rates of public humiliation, sexism, and denial of advancement opportunities ². In a large cross-sectional study of nearly 7,000 surgical residents in 2019, Black residents reported higher rates of social isolation, being slurred, and being denied opportunities, among other discriminatory actions. Black residents experience discrimination at approximately five times the rate of their white colleagues ³.

Decreased sense of belonging early in medical training is correlated with higher rates of anxiety and depression later in residency⁴. Studies from the surgical literature have correlated increased sense of social belonging with improvements in reports of depression, general psychological well-being, emotional exhaustion, and depersonalization. Higher rates of social belonging were inversely

correlated with thoughts of leaving residency. Thus, it is possible that focusing on social belonging may improve physician retention within medicine ⁵.

In GME, racial or ethnic minorities are still underrepresented in comparison to the national population. While historically marginalized races or ethnicities, including Black, Hispanic, and Native American, constitute 30% of the American population, only 9% of practicing physicians identify with these underrepresented ethnic/racial groups. The percentage of racial minorities in medicine has remained largely unchanged in the past 30 years and for Blacks and Hispanics in medicine, the 1990s through the 2010s were characterized by ever-decreasing rates of representation ⁶. Studies have shown that women and minorities report higher rates of harassment and discrimination than majority colleagues and are more likely to leave academic medicine at lower academic rankings. Women are hired at lower starting salaries and have fewer opportunities for promotion than men⁷.

The case for enhancing diversity in medicine is many-fold and includes the importance of social justice in the setting of an increasingly diverse American population. Additionally, underrepresented in medicine (URiM) and BIPOC (Black, Indigenous, and People of Color) learners offer the opportunity for majority learners to provide care that showcases learned cultural humility. Data also supports improved performance, greater innovation, and increased accuracy in risk assessment among more diverse teams (Gomez & Bernet, 2019.)It has been shown that women and minority physicians are more likely than white physicians to practice in underserved areas and treat larger numbers of minority patients regardless of income. They are more likely to provide care to the poor and those on Medicaid. Racial and ethnic concordance between doctors and patients improves patient satisfaction ⁹.

While the rates and experiences of discrimination, social isolation, and stress have been more formally described in undergraduate medical education, less understood is how sense of belonging manifests during, enhances, or detracts from graduate medical education. Recently, there have been larger qualitative analyses on experiences that have enhanced or negated “inclusion” and the feeling of being valued in the workplace, and these have included residents ¹⁰; however, there is

currently less data that describes how belonging happens and how GME learners relate their personal identity characteristics to the process and feeling of belonging.

This study offers a foundational understanding of how sense of belonging is fostered in graduate medical learning environments in service of the ultimate construction of safer, more welcoming spaces for learners in transition to graduate medical education. This study also sought explicit feedback on how the institution may improve this process for all learners. The purpose of this study is to add to the growing evidence-based efforts to improve diversity, equity, and inclusion in medicine.

Methods:

Recruitment/Enrollment:

Working from a constructivist research orientation, the research team utilized in-person focus groups, virtual focus groups, and individual interviews to examine the process and feelings of "belonging" in GME residents at the University of Washington School of Medicine. Research participants were recruited through approximately weekly emails to the general resident and fellow listserv at the University of Washington in December 2021. The solicitation email invited participants from all racial/ethnic backgrounds with an emphasis on those who self-identify as underrepresented minorities in medicine and Black, Indigenous, and People of Color (BIPOC) populations. The Association of American Medical Colleges defines *underrepresented in medicine* as "those racial and ethnic populations that are underrepresented in the medical profession relative to their numbers in the general population"¹¹.

In an effort to ensure diversity in experience and perspective, one-third of the 24 participant slots were reserved for the institutional Network of Underrepresented Residents and Fellows organization for a set period of time prior to being offered to all learners. Participants received a \$100 gift card as a "thank-you" for participation. As an incentive to participate, online survey participants were entered into a drawing to win a \$100 gift card. Inclusion criteria included being a GME learner in post-graduate-year (PGY) two or above from any residency training program at the institution, excluding PGY-1s and current fellows. The co-principal investigator (Dr. Jennifer Best) was kept separate from investigational activities and direct participant interaction, as she is

currently a leader in GME at the primary research institution. This study was reviewed and determined to be “exempt” by the Institutional Review Board at the University of Washington.

Data Collection:

Participants were shown example written reflection and discussion prompts in the solicitation emails (e.g., “Tell me about a time you really felt you belonged in residency. What happened? What did it mean to you? Why did it mean this to you?”). Semi-structured interview guides and reflection prompts used to explore transitions in the context of other educational experiences were modified with the help of Dr. Gregory Walton, a social science researcher from Stanford who studies the educational experiences of underrepresented learners prior to graduate school. The same reflection prompts were used for each focus group, as were semi-structured interview guides, which served to scaffold the group discussion. Focus groups and interviews took place at the University of Washington from January 2022 to February 2022. COVID-19 screening, informed consent, and limits of confidentiality (including thoughts of harm to others or self-harm) were performed/reviewed prior to participation. During this time, the global coronavirus pandemic was evolving and necessitated switching from in-person focus groups to virtual platforms. Focus groups were used for mental priming, or to help participants “jog their memory” about experiences of belonging and non-belonging, and as an opportunity for shared reflection across a variety of participant demographics, medical specialties, and backgrounds. The research team initially considered scheduling focus group participants according to self-identified race/ethnicity and gender; however, this proved too logistically challenging given the complexities of residency schedules and COVID-19 restrictions. Focus groups were thus mixed in terms of participants’ demographics.

To promote psychological safety and encourage sharing of potentially sensitive stories regarding lived experiences of belonging, not belonging, and identity characteristics in a shared setting, the study design included time for personal written reflection during focus group sessions prior to sharing in the larger group discussion. Participants were not required to share their written reflections. Additionally, an online survey format of this study was designed for individuals who were either unable to participate or uncomfortable with participating in focus groups. Requests for one-on-one semi-structured interviews for comfort or convenience were accommodated as possible

by the interview team. See “Appendix A” for focus-group and interview outlines.

Written reflections were collected, as were audio recordings of focus-group sessions; the latter were transcribed by the primary investigator. Where interviews were conducted over internet platforms, Zoom™ automated transcription was used and then edited against the recording for accuracy. Focus groups consisted of prescribed time for written reflection on discussion prompts, followed by the opportunity to share and engage in conversation and dialogue regarding the discussion prompts. Focus groups and interviews offered the practical opportunity to explore real-time clarification and confirmation of participants' stories, ideas, and feelings by the co-interviewers, when they were felt to be ambiguous or vague, thereby increasing credibility of emergent codes and themes. Participant responses were de-identified and kept confidential from respective program and institutional leadership.

Focus groups were conducted by a diverse interview team that included two current graduate medical fellows: one female international medical graduate with background in psychiatry and child psychiatry, and one male primary care physician and faculty development fellow who is also a member of the LGBTQIA+ community. Both are currently involved in graduate education at the primary research institution and both have an interest in diversity, equity, and inclusion initiatives.

Data Analysis:

Data was transcribed and inductively analyzed by a three-person research team comprising the co-principal investigators, who are white Americans (one female and one male with backgrounds in internal medicine and family medicine, respectively), and an Asian American female without experience in graduate medical education. The coding working group met for a 3 hour virtual meeting to establish a coding framework by coding selected passages independently and then sharing and cross-referencing developed codes in real time. Then, coders independently coded the entire dataset. Thereafter, all transcripts and codes were reviewed in tandem. Discrepant codes were clarified between coders in real time through discussion and decided upon by group consensus. Coding was performed both manually using

flags for “belonging,” “non-belonging,” “identity characteristics,” and “improvement suggestions,” and with Dedoose™, using the same flags, prior to convening for triangulation of codes, development of the codebook, and thematic analysis. Member-checking was performed after creating the codebook and defining major themes by emailing the 17 participants who authorized member-checking the codebook, the 38 subthemes, the 7 major themes, and the proposed definition of how belonging happens.

The analytic process was performed at a latent level, meaning that the language of the participant was interpreted and clarified to the level of the deeper meaning of the experience for the participant. In all instances, understanding how the participants interpreted their experience in relation to the social environment was sought, supporting a constructionist paradigmatic approach.

Dr. Best is trained in Internal Medicine and is currently the Associate Dean for Graduate Medical Education at the University of Washington.

Dr. Thiel is trained in Family Medicine and is currently a Faculty Development Fellow at Madigan Army Medical Center and a Master of Public Health Candidate at the University of Washington.

Results:

Demographics of study participants are presented in Table 1. Participants identified as primarily from medical specialties, were mostly of allopathic background, and were approximately 50% female. More than half of the participants were Black, Indigenous, or People of Color (BIPOC) and one-quarter were from URiM populations. Approximately 20% were born outside the United States of America, while 10% of participants were from sexual or gender minority populations.

Table 1:
Study Participants (N=28) n (%)

Training Program	Hospital based: (4) 14% Medical: (19) 68% Surgical: (5) 18%
Training Location	International: (3) 11% United States: (25) 89%
Degree Type	Osteopathic (D.O.): (2) 7% Allopathic (M.D.): (25) 89%

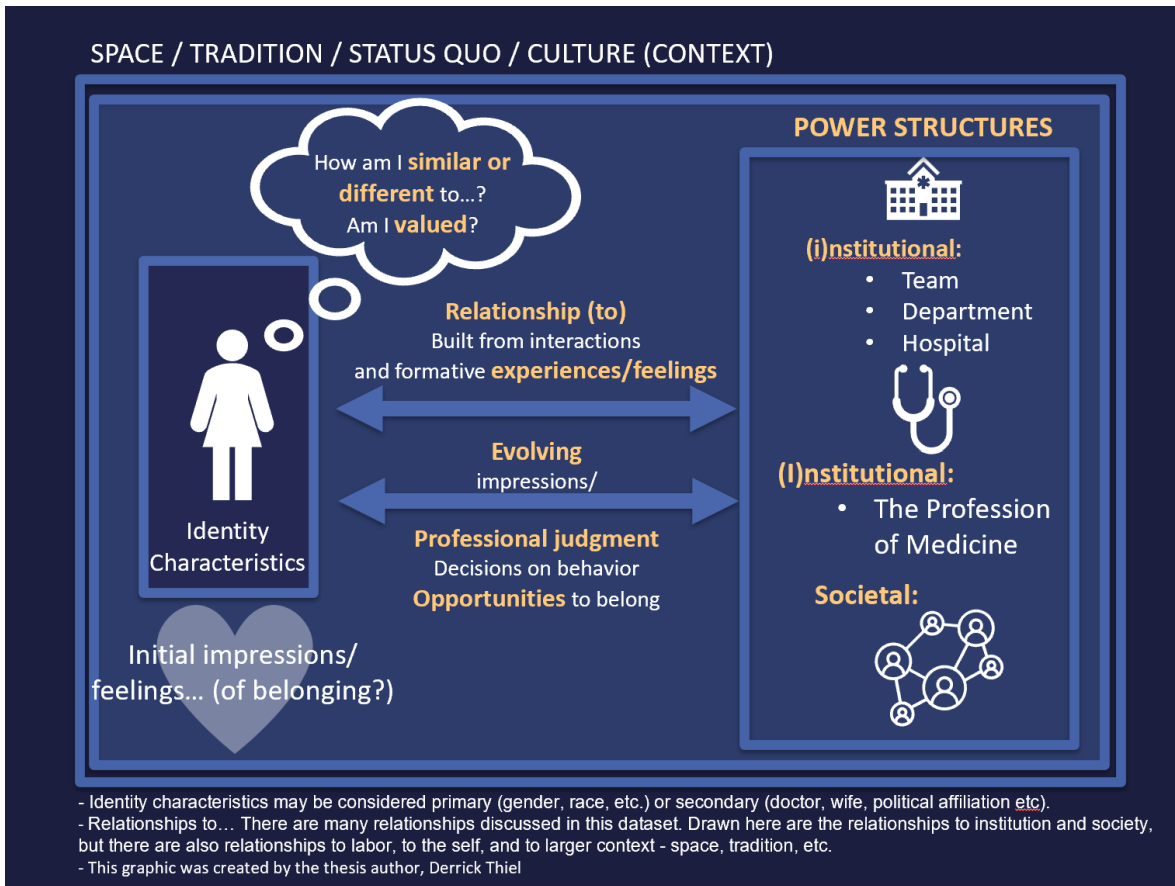
	Medical Dentistry (D.M.D.): (1) 4%
Birthplace	International: (5) 18% United States: (23) 82%
Gender Identity	Male: (15) 54% Female: (13) 46%
Sexual Orientation	Gay/Lesbian: (2) 7% Heterosexual: (25) 89% Bisexual: (1) 4%
Race/Ethnicity	Hispanic/LatinX: (3) 11% Asian: (8) 29% African American: (2) 7% Native American: (1) 4% Multiracial: (2) 7% Caucasian/White: (11) 39% Middle Eastern: (1) 4%
Overall BIPOC	(17) 61%
Underrepresented in Medicine	(7) 25%
Sexual/Gender Minority	(3) 11%

In total, 900 codes were identified within the dataset, comprising 38 subthemes and 7 themes that represent the core elements of how belonging happens. The 7 core elements are as follows: (1) personal value, (2) opportunity, (3) similarities and differences, (4) relationships, (5) experiences and feelings, (6) institutional and societal backdrop and power structure, and (7) professional judgments and outcomes. It is important to note that, for each theme described below, the concept that was felt to contribute to belonging frequently detracted from belonging in its absence; for instance, feeling valued as a contributing member of the team increased sensations of belonging on that team, while feeling undervalued or feeling unsure of one's value detracted from sensations of belonging.

Although the core elements here are delineated as separate from each other conceptually and as mapped below, in essence, learners often experience these themes simultaneously. One experience for a learner may reflect multiple themes. As an example, a female senior resident who is told harshly by a male attending that she needs to be more assertive while leading the team on rounds is, in the setting of such gender-stereotyped feedback, more likely to be cognizant of her identity characteristic (female), the interaction, and the quality of the interaction therein ("harshly") as a formative experience. This may strain her relationship with the male attending and potentially the team. The senior resident may note this judgment of "needing to be more assertive" in the context of institutional and societal power structures, which may inform her feelings of belonging over time (evolution). She may decide to change her behavior based on this "professional"

judgment, or she may not. Over time, with continued experiences like this (or not), she may feel like she has the opportunity to continue to “belong” within medicine—or not.

For the purposes of this analysis, one may use *institution*, with a lowercase “i,” to mean the local environment, the team, department, or hospital (institution of training). *Institution*, with a capital “I,” is used to delineate the broader concept of “the Profession of Medicine” within specialties and in the broader social and historical context to include power structures such as patriarchy, structural racism, etc. Where the terms are combined, as in *i(I)institution*, the reader may assume that the discussion is in relation to both the “local” environment and the broader understanding of Medicine.



Themes:

Theme - Personal Value: Am I valued? Is my work valued? Am I seen as a contributing member of the team?

Appreciation and value manifested through many pathways, with learners noting it was cultivated in value-supportive environments most frequently through positive verbal feedback. The content of the qualitative data typically centered around acknowledgment of contributions to the team, patient care, work, or personality traits (e.g., “hard-working”). Being valued by the team and receiving feedback—especially by those in power (attendings or department leadership)—positively influenced sensations of belonging. As noted, personal value may be influenced externally, and feelings of value may also be further substantiated internally within the resident when they engage in efforts they find meaningful (e.g., DEI efforts). Residents shared stories of formal and informal positive evaluation statements of their contributions.

Session 5; Participant 2: As I grow as a physician I feel like I am a more valued and celebrated member of the healthcare teams I work with, and that makes me feel like I belong.

Session 3; Participant 3: It was nice to be in a resident position because my input was valued to getting care addressed for a patient, and I made important decisions in their care.

Session 1; Participant 4: I feel like imposter syndrome is so real that just being acknowledged as doing a good job really helps to affect that and make me feel like I maybe do belong here.

Feeling valued was noted within action and contribution to the team and also in relationship to identity characteristics. A female Asian participant noted that seeing representation of people with similar identity characteristics in prospective training programs was helpful in her decision-making process and reassured her she would be welcomed and valued.

Session 4; Participant 4: I had made it a point to seek out programs that had gender balance. I've found assurance that at the time of interviews there was a female program director, an Asian American associate program director. I also saw the

resident classes were somewhat diverse and that spoke to me that this was a program that would welcome me and value my presence.

As noted by the following excerpt, participants' sense of belonging was significantly improved through intentional efforts to (1) invite people to be part of the team, (2) create a sense of "safety" within the team, and (3) ensure that team members understood their value and contributions.

Session 6; Participant 1: in regards to not belonging/belonging: Especially in the operating room I think there's so many personalities, there's a lot of egos like floating everywhere, like 10-meter particle spray.... It's exhausting sometimes, it's like, God, it is! But I think there is one important thing that makes ... like this sense of safety, [when someone says] "Hey, come on in, you are part of this team. You work here and you also have something to contribute, and we are counting on you. And, if you don't have an answer, you don't know something—whatever—we're still here to solve the problem together." It's not every day you feel and not every service that you work with that you feel that way.

GME learners' feelings of belonging are challenged by a sense of being undervalued, specifically when learner contributions go unnoticed, learners are uncertain of the importance of their contributions, or learners do not receive feedback regarding their contributions and value. Indeed, feelings of belonging are especially challenged when GME learners feel their purpose is ambiguous or as though they are simply filling labor gaps, thereby meeting some department or societal "need." This separation between work and feeling personally valued for their work led some participants to have sensations of depersonalization. Depersonalization is characterized by impaired and distorted perception of oneself in one's environment and manifests as an affective-symptomatic lack of empathy. It may also be accompanied by loss of motivation and social isolation. Depersonalization, which can lead to burnout ¹², directly challenged participants' feelings of belonging and seemed to be exacerbated by the context of the COVID-19 pandemic.

Session 3; Participant 7: I don't know if I'm contributing, I don't know if it's, I don't know exactly how to put it.... I don't know if I'm valued, I don't know if I am being

a good doctor, and I can't always see how it's connecting to my goals in the future.

Session 2; Participant 6: I never truly felt like I was part of a team during this rotation and mostly just felt like a cog in the wheel, churning patients out for the sake of cheap labor rather than personal benefit.

Session 2; Participant 5: Rotation through other departments felt particularly hard because we are just filling a workforce gap for them. They mostly are not interested in teaching or getting to know outside residents.

As a prime example of how residents may feel separated from their value as medical professionals, a surgeon noted that he was told he would now have additional work and call responsibilities after his department "absorbed" a new hospital. The residents were not involved in the decision-making process. The lack of transparency and involvement in the discussion contributed to the resident's feeling depersonalized, valued only as a laborer.

Session 2; Participant 6: I think at the beginning of my second year where we absorbed a hospital, so it increased the call burden ... we kind of just absorbed all this work, which was shocking at first because it kind of gave us the idea that they were like, "Oh, it's just not that big a deal, the residents will just cover it" ... it wasn't really much of a discussion as much as an order for us to follow. For that brief period I didn't really belong as a resident, just kind of like a laborer.

The concept of value exists not only between the "system" and the worker, but also within the workers themselves. Do they find their work valuable or meaningful? For URiM individuals, value may additionally be found through involvement in efforts that reflect personally meaningful and valuable work. This may increase sensations and experiences of belonging; however, it was noted by many URiM learners that this workload may be disproportionately placed on URiM, in which case it could be viewed as a "minority tax." The minority tax describes the disproportionate workload and stress placed on URiM people for engaging in diversity, equity, and inclusion efforts, and for being subject to racism, isolation, lack of mentorship, and decreased rates of promotion ¹³.

As one participant notes about his work supporting LGBTQIA+ elements of his department's curriculum:

Session 1; Participant 4: Yeah, it could create a sense of belonging in that it could create a greater sense of purpose as I'm the one person here who represents this group and I can advocate and sort of have a voice at the table, but it can be draining. At times, it can be really hard, so whatever ways there are to support people in that position is good because you do get that sense of purpose and feel empowered but just to make sure that people don't burn out from that work.

For URiM, identity characteristics may either substantiate their sensation of feeling valued (if these differences are seen as strengths and celebrated) or they may detract from it (when minority characteristics are singled out negatively). This "singling out," or being seen as through a singular lens, contributed to feelings of non-belonging. Additionally, where URiM or BIPOC persons' unique contributions to patient care are not valued, belonging may suffer.

Session 8; Participant 2: You're so busy trying to fit in that you don't ... the way that you stand out ... [which] could be really helpful to, like, a lot of patients, is also not valued; and a lot of our patients are members of minority groups that have cultures very similar to the culture that I was raised in, and I'm able to communicate especially with women in that way, and like show a level for respect and communication, and that's not really valued or listened to.

Sensations of feeling valued may also relate to chosen medical specialty. One participant noted how actions taken by her institution implicitly signaled that her specialty seemed undervalued.

Session 3; Participant 6: They closed down [my program's inpatient ward] here at [our home institution], which took away a massive community resource, which just felt like it devalued [my program] as a whole. Like at the beginning of a pandemic, when we know there is going to be serious...health implications, to completely wipe out that service for our community, also kind of sent a message to [my

program] in general, we don't need you at [the home institution], just felt like a huge kick to the stomach.

In summary, personal value may be found through many avenues—in relation to patient care, team contributions, identity characteristics, unique team contributions, etc. It is important that colleagues and people in power acknowledge and value the resident and what they bring to the learning environment. This improves belonging among learners.

Theme - Opportunity: Is there an opportunity to belong? What are those opportunities? Is there an opportunity to become the professional I want to be, to reach my potential?

Learners become aware of their opportunities to be accepted within the space of medicine. Often, learners noted their personal identity characteristics related to their sense of opportunity to belong to the i(l)stitution of medicine.

URiM and BIPOC participants frequently noted that opportunities for growth within medicine appeared to be more limited, citing underrepresentation of leaders with similar identity characteristics. They also noted that having experienced or witnessed discriminatory behavior influenced their opportunity to belong to the i(l)stitution. Opportunities to safely discuss race and visibility of institutional DEI efforts increase feelings of belonging. One African American female noted the visible lack of Black leadership at her institution as directly influencing her opportunity to belong:

Session 4; Participant 7: Being closer to knowing how the hierarchy works and noticing the difference in race between who is on the top and who is on the bottom has changed my sense of belonging in the UW system in particular—as in, this isn't a place of belonging that can really be had for me. So, my sense of belonging on an interpersonal level within my program has been phenomenal, like I'm 100% a family within my program itself. The institute as a whole, I'm feeling like the sense of belonging is kind of being taken away from me—sort of—like, the opportunities for belonging past residency training is seeming like it's not really a thing.

A LatinX male described a challenging situation in which he felt he was being punished for reaching out after a challenging interaction with an attending who was discriminating against him. The resident brought these concerns to program leadership and was thus accused of being unprofessional. He noted his “opportunity” to belong was diminished thereafter, as he was scrutinized more closely than his colleagues.

Session 6; Participant 1: It was hard [for me] to be in a position that I felt constantly watched ... I felt like I was being constantly watched and over-supervised. That was a very unfortunate thing that happened, and I think it doomed a lot of my trajectories since then, and took away some of the motivation that I had to really, like, thrive in a place where you feel like people got your back and you have opportunities.... These circumstances made me feel like I don't belong here.

In contrast to URiM participants who had to look for opportunities to belong, the white male participants in the study group often noted that belonging felt like a “default” state or opportunity that was substantiated by their identity characteristics. Although the white male participants did not describe particular challenges with their own opportunities to belong, they did recall observing colleagues from underrepresented backgrounds who lacked similar opportunities to belong.

Session 5; Participant 2: I have seen, you know, times where others who identify with more underprivileged or underrepresented identity characteristics don't reap the same benefits and, you know, I think that thinking about how that's affecting their sense of belonging is something that I could spend more time doing.

One participant went so far as to describe his own evolution in medicine as an archetype that confirms larger cultural norms. This is in contrast to the students he taught at community college for pre-med prep classes. The participant described how this teaching experience taught him that “it was 100% not an even playing field” in terms of the opportunities his students had in comparison to himself.

Session 5; Participant 1: I think that a lot of my sense of belonging comes from assumptions and cultural norms based off of the history of medicine [that] has been primarily white space, a primarily male-dominated space, in the trade of being a physician, and I think that a lot of those historical inequities and bigoted views have favored my sense of belonging as being an overwhelming experience for me.

Session 5; Participant 1: While I have felt belonging a lot of the time, as I reflect on it, I think that the ethical connotations of our current healthcare system for teaching medical trainees is highly unethical in my perspective. Looking back on it, I question a lot of why I felt belonging, and I think that a lot of the belonging was out of ignorance that I personally had, and privileges that I had, that led me to be in kind of a comfortable situation where I didn't experience what many people who would like to be in this profession, have experienced as barriers or hurdles, you know? Brick walls that have prevented people from accessing this profession and educational opportunities that I've been lucky enough and privileged enough to experience.

In our dataset, participants did not note the phenomenon of “reverse-discrimination,” whereby those in the majority feel as though their opportunities for hiring or advancement are limited by an emphasis on increasing diversity, as has been previously described in studies on inclusion in medicine ¹⁰.

Theme - Relationships: (Personal, professional, medical, mentors, team, orientation)

Transitioning from undergraduate medical education to graduate medical education is a vulnerable time marked by many transitions—moving to new places, leaving family and friends, and graduating from medical school with the newly earned title of “doctor.” While previous relationships dissolve or transform, new relationships are formed in this liminal time at the start of GME training. Throughout the dataset it was iterated and reiterated how important in-person interaction is to developing strong relationships with peers. In fact, such interaction was seen as foundational to belonging. Specific events including orientation activities and in-person retreats were seen as vital to initial relationship

building. The nature of these events, which were described as “formative experiences” contributing to belonging, is explored later.

Session 4; Participant 5: I felt that I really belonged to my residency during our in-person retreats.

Session 4; Participant 7: I felt like I belonged in residency when we chose to hang out together after work for team bonding.

Session 8; Participant 4: For me, intern retreat was very transformative in my sense of belonging.

Session 2, Participant 7: My program actually put together an in-person, overnight stay [at a local destination] for our R2 retreat, which is an experience I will always cherish due to being able to finally meet nearly all of my co-residents in real life.

Session 5; Participant 2: I really do think that the first six months of residency I went through, or whatever, nine months. We were doing a lot of in-person orientation and events within [my program] but also within the GME in general. [GME] was hosting a lot of happy hours and that was, you know, some of my best residency friends, to this day. [They] are from other specialties that I met through GME-sponsored events, so I would say that that sort of groundwork—of kind of encouraging bonding and a sense of belonging through, you know, those kind of events in person—is important.

In contrast to the importance of in-person events and orientation activities, virtual interactions were noted to be inferior. Many participants found it difficult to establish “real” connections with classmates and colleagues at the beginning of residency, attributing such feelings to either the inability to gather in person or the virtual interaction necessitated by the COVID-19 pandemic.

Session 3; Participant 5: I found myself very much alone and depressed in [this]

new city, where my work schedule and restrictions from the raging pandemic afforded me very little opportunity to get to know my own co-residents or to participate in activities outside of work that would help me meet new people.

Session 2; Participant 5: My experience of belonging decreased over time. I can see a few reasons for it ... COVID deprived us of all socializing experiences within our program and/or class. While it should have developed over time I've already spent here, it did not, mostly because we didn't have an opportunity.

Within relationship building is the importance of the context of the interaction (including time and space). The *quality* of the interaction is also important to creating belonging. Positive affectations upon greeting, remembering names, and introductions to team members and orientation to teams and space—where present—contributed to positive feelings of belonging. When such interactions were absent, or when initial interactions were perceived as negative, participants were more likely to note challenges to their sense of belonging.

Session 5; Participant 2: From the beginning of the orientation to the rotation, my higher-level residents felt cold and rushed, which I think set the tone for the rest of my experience in the rotation.

Session 1; Participant 3: I went to a social gathering at a co-resident's place. Just as soon as I entered the room, people were like, "Oh, [my name] is here!" and people were cheering and they just seemed happy to see me.... I think that's a moment that sticks out to and meant a lot to me, and I feel like it was a sign that I made some good friendships.

Within medical teams, relationships to co-residents were important for sensations of belonging, as were relationships with faculty members. Notably, power structures in the hierarchy of medicine affected the perception of faculty members and the relationships within that hierarchy.

Session 2; Participant 7: I have also formed closer ties with my co-residents and

attendings and have formed relationships that will last past residency.

Session 1; Participant 3: I felt I belonged in residency once I made a good group of friends.

Session 6; Participant 1: And he was—because the chair of that service, who had a very busy clinic structure—like, so much work. And it was exhausting and his presence is very ... it's very much like what you were mentioning about power, privilege, patriarchy ... people can, like, hear his steps from several floors above, you know? It's like Miranda Priestly [a character from the movie *The Devil Wears Prada*] is walking into the building, literally, and, like, that presence, so everyone's, like, standing up straight in there, and they literally hold their breath.

The quality of the introduction or icebreaker also mattered. Participants noted the importance of both introductions and learning names in a variety of environments; conversely, participants also noted a perceived lack of effort to make introductions or learn names. This was noted at the start of residency, the beginning of rotations, and in particular settings such as the operating room.

Session 6; Participant 1: Yeah, you know, it's not just like, "Oh, the (your program) intern" or, you know, like, "that intern." I think it's just so powerful ... when people remember my name, I think, and I never really thought about that, which is interesting. I'm terrible at remembering names, but I make, like, a very conscious effort to call people in the operating room by their names, like Dr. So and So, or, like, there's X, Y, and Z.

Session 5; Participant 2: You know, and during the orientation something like not having an icebreaker, right? But that, like, really stood out to me ... that was just kind of an example of, okay, we're not here to harbor any sort of sense of belonging.

When names were harder for native English speakers to pronounce or participants had to explain their names, repeat their names, or accept a mispronunciation, several URiM participants who

graduated from international medical schools felt frustrated, which contributed to sensations of non-belonging.

Session 2; Participant 5: I feel like I don't belong every time coming to a new rotation or a new operating room when people don't know who you are and don't care to learn. No one can say my name correctly and doesn't bother to try.

As noted in the following text, an attending is also able to offer reassurance and quell internal doubt with regard to one's relationship with the (I)nstitution of medicine and being a "real" doctor. Similarly, clear boundaries and expectations offered at the beginning of the rotation increased the comfort and confidence of the resident as a learner who was doubtful about their own capabilities early in the transition to residency. This offering of support improved the intern's relationships with the team.

Session 5, Participant 1 (regarding his second rotation of intern year): I hadn't really had that experience of feeling like a real doctor yet, and so I think a lot of those fears and self-doubts were kind of eased a little bit by coming into a really welcoming, supportive team. I had an attending who, from the get-go, was like, "You guys, this is your second rotation of residency, I'm not expecting you to, you know, just go out there and make all these decisions on your own. You're probably still scared of prescribing Tylenol," which I was.... You know, like, he was in a position of power to kind of set the stage for us in terms of kind of our role within the rest of the team too and so the senior resident echoed a lot of what he was saying to us and she was also really supportive.

Conversely, one's relationship with the attending can also strain the developing relationship with medicine. The following quotation exemplifies many residents' observations of the power structures within medicine and how it influences how residents interact therein.

Session 5, Participant 1: A time when I felt I didn't belong in residency was when I heard an attending physician state some inaccurate information in front of a team

of healthcare providers and trainees, and I felt too embarrassed to speak up and correct him. I felt like he would be angry at me and give me a rebuking, publicly. This was based on my understanding of the “hidden curriculum” of medicine, that it is a hierarchy, and people lower on the hierarchy should not correct or question people higher. This is antithetical to my personal feelings of wanting to champion truth and question authority, but the fear and unhealthy cultural values of medicine prevented me from acting on my own values.

For learners with underrepresented identity characteristics in medicine, those identity characteristics may originally be seen as a threat to belonging; however, where relationships become strong, those relationships ultimately supersede those identity characteristics that may have initially seemed limiting.

Session 1; Participant 3: I think I did share a lot about my ideas as a Latino male and also kind of incorporated my program. I think, in general, initially I would ... think being a Latino and male in my program as something I've been very conscious about and aware of—and as I got to know the people around me I feel like it became less of ... a barrier and ... more of something that enhanced my sense of belonging.

Theme - Similarities and Differences: How individuals and groups unite in similarity and navigate difference directly contributes to feelings of belonging. It increased belonging when differences were celebrated or noted to improve the strength of the team.

As a prime example of how differences might be celebrated and highlighted, a letter of support noting what unique contributions an individual has made to a team environment improved that person's sense of belonging.

Session 7; Participant 1: As my class was coming in, our former program director sent out a message about a position in the ACGME, that if people were interested in, so that she could write a letter of support. It resonated with me because I was

like, “Oh, this position seems like it’s something I’m interested in.” So I’m just going to, you know, write a personal statement and see how it goes, and she supported me and wrote a really strong letter of support and when I read it ... it was my nationality—like me being Latino male, being different, and being a veteran—that served as strengths.... [Those characteristics] served to increase the diversity and perspectives of that position, and it ended up working out well.

In contrast, a LatinX male noted how his department acknowledged his differences. Outside of this excerpt, he did not ever experience his identity characteristics as celebrated.

Session 6; Participant 1: I did have a lot of anxiety of trying to fit in, and I think there are many reasons. I think when I immigrated to the [United States] there was, like, this cultural adaptation that involves language, accent, looking different, being perceived as someone different ... and also, like, being exposed in academia and kind of, like, reading and observing and feeling different.... Here there is this racial component I never had to think about ... and all of those things brought some sense of, like, dude, you’re always going to be the different-looking guy in the room—you know, you look different, you sound different, your last name looks different.

For minority participants, common verbiage used to describe feeling different based on their minority status was the assertion of being the “only one.” As described in the following section, this sensation evolved over time for some participants to be a platform through which team contributions could be made, enhancing belonging, or feelings of exclusion could be augmented if identity characteristics were negatively interpreted. Being “the only one” also served to bring some participants together across their differences. As a LatinX male noted his involvement in a particular outreach group that helped families that speak a language other than English:

Session 1; Participant 3: I’ve been doing work with families that speak a language other than English, so I became part of this group. I think I was the only Latino resident. There was, like, a nurse practitioner that was also identified as LatinX

that was a member of the group, despite the fact that most of the group was not LatinX, anything that was shared they had some knowledge of, they could relate to, they felt passionate about, maybe even if they don't feel that LatinX disparities are the things that they are most passionate about, like they may be passionate about some other inequity, there is common ground between all these different, whether it be inequities between the native/indigenous population or black population, or LGBTQ+, there is sort of that ... it's all very different but it's actually all the same.

Session 6; Participant 1: Actually, there was another international medical graduate in my class who left, and I always teased him, he was from India, and I was like you're gonna leave me here by myself in our class of thirty, and I'm going to be the fucking only one, like once he leaves...there's no one else that I can really seek guidance; to say hey, I'm struggling or feeling shitty... and can share similar experiences.

Several LatinX males noted their race and nationality to be barriers to belonging. As an example:

Session 7; Participant 1: Everyone was just different and had different interests that I felt were not similar to mine (however, amongst themselves they appeared to have similar interests and got along). I always felt like an outsider and that "I was the issue." During work I felt judged by literally everyone. Every word I said would be judged and it just made for an unbearable experience. I was the only LatinX in my program and the majority of my peers were white, so I also thought this had to do with how I perceived my experience, whether accurate or not.

Another underrepresented male in medicine noted this balancing of self within institution and society started with immigration, noting the descriptive language of "alien" on immigration paperwork. This larger societal nomenclature used to describe him was substantiated by institutional experiences of being asked how he had arrived at residency. Ultimately, he had to wait for concern and further scrutiny concerning his accent and medical decision making to dissipate,

before he could feel more belonging within the institution.

Session 6; Participant 1: When you go through immigration, on the paperwork you're called "alien"—you know ... you're very different from the majority. So then, when I got into residency, I think all these feelings were amplified. I think it was, like, the anxiety of ... performing well—kind of like having a different journey—being asked constantly, "How did you get here?" and sometimes in a very uncomfortable way. So, it mixes ... English as a second language, immigration, you know, like, racial differences, cultural differences, and then it would [concern me] how I was being perceived performing as a resident, until I really felt like people were not concerned with my accent or with the way I was approaching patients.

One African American female participant noted in her written reflection that she confronts her status as "different" frequently.

Session 4; Participant 7 (time when I did not belong): This happens more often than not—on a weekly basis in clinical work—never working with a Black attending in my program; I have never had a black [participant's program] attending. It reminds me daily I am in the extreme minority.

This participant also noted how having her differences highlighted and celebrated in a group setting was an important experience that contributed to her belonging:

Session 4; Participant 7: During intern year, I was rounding on inpatient in my program. We were meeting our new patient. I was on a team of all white doctors. The patient was black. Throughout the interview she kept looking at me—at the end, she said, "Hey, your hair looks like mine." [The patient] then went on to describe that she has never had a black doctor. I truly felt I belonged.... It was humbling, it reminded me of how important representation matters. It reenergized my dedication to increasing diversity in medicine. These moments where I have

powerful interactions with People of Color are usually something I internally process. This time was special because she said this in front of the whole team, reinforcing [that] I belong.

For majority participants (white, cisgendered men) in this study group, alignment with the dominant social construct of a “typical” physician were highlighted as conferring trust and respect without question. Participants also noted that this experience is likely different for women and People of Color. One participant, as follows, noted how important it is for those who don’t have to question their identity (or have their identity questioned by others) to understand that such feelings may be exclusionary to those who do question their identity.

Session 1; Participant 4: So for me, as a white male, my identity is never questioned in terms of walking into a room. People always assume I’m a doctor no matter what I’m wearing, whereas my colleagues of color or my colleagues who identify as female don’t garner the same respect from patients or from other staff members, even. And so I think that should also be a part of this conversation in terms of how we carry this forward ... the folks who don’t have to question that identity or don’t have to question their sense of belonging, how that can be exclusionary to other folks. Just that fact that they don’t have to question their belonging—the assumption always is that they are the doctor or they are whoever they are or whoever their role is that day.

Another white male participant noted similar experiences at a Veterans Administration hospital.

Session 5; Participant 2: When I walked into one of my first rotations at the VA in Seattle and people called me “doctor,” they assumed I was their doctor because ... my sense was that they were making assumptions about me because of my appearance as a white man wearing a white coat. And I've talked to tons of co-residents and other medical students and other learners who have had many microaggressions [committed] against them, many assumptions by patients and other folks that their role was not as the physician or the primary caretaker for

these patients.

Session 2; Participant 7: However, UW [participant's program] surgery residency has more females and individuals of color than average, and they make a point to continue to recruit them. As a result, I've been fortunate to become close to many who don't fit the typical mold and have hard experiences which at times are very different from mine. It has been eye opening to hear of examples when their identity characteristics have negatively impacted their sense of belonging.

A frequently occurring theme in this dataset among women was how identifying as a woman contributed to sensations of not belonging. This non-belonging presented itself in several contextual domains: comparison of "female" identity to the profession of medicine, to majority demographics on teams, and to differential treatment in the work environment for being female in comparison to men. Females noted this identity characteristic as being seen as different and conferring differential treatment.

Session 8; Participant 2: I think too, like sometimes as far as any level, it's always taken out so much more on the females. I mean, I've seen some male colleagues be really rude or really inappropriate and they don't get any backlash, and I say one thing that someone doesn't like and it's, like, such a big deal. And I remember one of my white male attendings on one of my very first rotations, called me abrasive, and to this day it has stuck on my evaluation, I just ... constantly think about it.

Session 8; Participant 1: I think females in general are just held to a higher standard. Like, you could be performing at the same level as a male counterpart and just be considered, like, okay or mediocre, whereas that male counterpart would be seen as a rockstar. I think, just, women have to work extra hard to get the same recognition.

Session 8; Participant 2: Almost all the interns that I've trained have been white

men.... I have noticed how things are.... They get to skate by more with things that were always pointed out with me.

Session 3; Participant 7: Of course, I would also be remiss not to mention how being a woman has also contributed to feelings of not belonging in ways I didn't anticipate during medical school.

Female identity may also contribute to sensations of belonging among females.

Online survey participant 1: As a woman, I found it easier to connect with other female physicians.

Online survey participant 2: I also enjoy working with female co-residents, as we are able to relate on obvious discrimination that males don't notice.

As noted, how similarities and differences of the resident are “adjudicated” by the learner in relationship to the environment, or by the environment in relationship to the learner, has a profound impact on the resident’s sensation of belonging. When the differences are noticed and celebrated, belonging is increased; when differences are seen as negatives, belonging decreases.

Theme - Evolution:

One’s sense of belonging within a group changes over time. It evolves in response to all the core elements noted.

As is self-evident in the human relationship to learned activities and identities, the relationship to belonging in medicine evolves over time. Participants noted an evolution of sensation of belonging that typically was lower at the beginning of the residency. The beginning of residency was often marked by elements of professional uncertainty and dynamic personal changes, including relocation (as noted in “relationship”), changing friendships from medical school, meeting new colleagues, and the initiation of GME training.

Session 4; Participant 6: And then like, you know, that's not even including the whole feeling not ready to be a doctor when you come out of medical school, right?

As learners progress through Noel Burch's conscious competence model—that is, as they progress from being unconsciously incompetent to consciously competent and ultimately to unconsciously competent¹⁴—feelings of belonging increase. Learners commonly noted that growing competence in their field of practice and their ability to contribute to their team's efforts increased sensations of belonging. This development of professional competence is integral to professional identity formation for learners (Cruess et al., 2015). Learners noted not only their internalized perceived sensations of competence as important, but also their ability to relate to attendings and the collegiality with which they were approached by people in power. Their medical opinion being trusted and valued directly contributed to these feelings. Positive feedback from attendings further augmented the evolution of professional growth, identity formation, and belonging (as noted in personal value).

Session 1; Participant 4: For me, especially as an outpatient-focused specialty, a sense of belonging comes from seeing patients in clinic. It was when I learned to triage a patient, assess their concerns, come up with an entire action plan, and have them feel comfortable with it ... followed by precepting the patient later with the attending and having them agree with everything or even acknowledging how much I've grown as a resident. Bonus points when it's the patients that I self-identify with.

Session 1; Participant 3: Yes, as I feel more competent I feel like I belong more.

Session 2; Participant 6: My experiences of belonging have improved in residency because I have a better sense of competency and have more connections with my colleagues on which I can rely.

Session 8; Participant 6: I was leading an interdisciplinary meeting. During the

meeting, my attending didn't say anything and all questions were directed toward me and I was able to answer the questions as well as facilitate further discussion. I felt other members respected my leadership and I felt like I was a competent physician.

Impostor syndrome was first described by psychologists Clance and Imes in the late 1970s. Impostor syndrome formally describes high-achieving individuals who, despite their objective successes, fail to internalize their accomplishments and have persistent self-doubt and fear of being discovered as an impostor or fraud. This term has become more prevalent in medical literature and understood to impact people in many professional settings ¹⁶. In this dataset, acknowledgment and navigation of "impostor syndrome" were noted as important elements of the evolution of professional belonging.

One learner remarked on the growth they experienced as he progressed from medical school to residency and found his belonging evolved through his effort and his work. Despite this, they still navigated impostor syndrome later into residency.

Session 4; Participant 3: Then, as a resident, everything kind of shifted where I made it through that crucible [of medical school] and I was now surrounded by people who had worked our asses off to get to where we were. And we all had more similar interests, and we were all in medicine, and I had moved across the country, so I was sort of away from my roots and I kind of found belonging in work because I'm a very hard worker, and so once I gained the knowledge and tried to apply that, then I thrived in residency and I felt good rapport with patients. I mean, the impostor syndrome always kind of pops up now and again even though I've been practicing medicine for years. It never really goes away.

This evolution of competency enhanced professional identity formation; feelings of acceptance in the community of practice; and ultimately, belonging. Such evolution is part of the process of belonging during GME. There were some learners who unfortunately noted that their sensations of belonging evolved negatively through their time in residency. While this was more an exception

than the rule, learners noted lack of faculty support, inability to establish a core friend group, and troubling formative experiences as reasons why their sense of belonging had decreased over time. This theme will be explored later.

Theme - Formative Experiences and/or feelings: Learners remember formative experiences that were often emotionally charged as contributing to feelings of belonging and non-belonging.

There was a contrast between majority and minority participants in this study. Subjectively, white male participants noted that overt experiences of belonging were harder to recall. Upon reflection, participants were able to remember when their feelings of belonging first started, with orientation and time out of the hospital with co-workers being frequently cited formative experiences that contributed directly to sense of belonging. In-person opportunities to meet and bond with teammates were critical, as noted previously under “relationships.”

Session 5; Participant 2: I really do think that the first six months of residency I went through—or, whatever, nine months. We were doing a lot of in-person orientation and events and within an actually that was within (my program) but also within the GME in general, was hosting a lot of happy hours and that was, you know, some of my best residency friends, to this day, are from other specialties that I met through GME-sponsored events, so I would say that, that sort of groundwork of kind of encouraging bonding and a sense of belonging, through, you know, those kind of events in-person

Session 8; Participant 4: I did my intern year at [the primary institution], mostly with [program X]. A couple of months into the year, there was an organized retreat for the [program X's residents]. As a [rotating] intern, I was in this strange place where I didn't really feel like a [program X intern], and I didn't feel like a [my program] resident (since most of [my program's] interns did their intern year elsewhere and the program was PGY2-4s); however, [program X's] department invited my program's interns to come with them to that retreat for the first time ever, and that was the first time in residency when I really felt like I belonged.

Participants noted sensations of non-belonging when they were publicly scolded, berated, or “othered,” especially by a person in power. In many stories of emotionally heightened events, the fact that feedback felt inappropriate in terms of content, timing, or setting was noted by participants. The experience of not feeling safe to speak one’s mind or interrogate provided care, further made them question their belonging to the team and medicine. One will note that feelings following these formative experiences—whether “psychological anguish” as one participant described or “sadness and annoyance” as another noted—compounded within the experience and often took time for the learner to resolve. In some instances, the experienced feelings had not yet been processed. One participant described a charged exchange with an attending on an outside service after a challenging start to the rotation.

Session 5; Participant 2: I was working with this attending who is, you know, pretty cold, pretty unapproachable. [He] made it very clear that ... he had very little interest in talking to residents and that he was just trying to get through his workday; and I feel like some of his frustrations and irritability came out when I was proposing a treatment plan for a patient and it didn't include a troponin as one of my proposed tests. He just kind of went off at that and just started berating me, like, in the public space with all the staff members, all the other residents, all the other attendings there too. You know, he even made some remark about, like, “Oh, this isn't a [your program] clinic, you gotta think better on your toes,” or whatever, and ... that's stuck with me and I can still remember it pretty vividly. But that ... just soured an already sour experience, and it definitely was something that caused me a lot of ... psychological anguish. And at a time where I was halfway through intern year and starting to feel a little bit more sure about myself, I feel like it set me a couple of paces back.

Several participants who speak English as a second language noted commentary on their accent as experiences that may cause feelings of frustration or annoyance. One participant was asked to stay out of the patient’s room because of his accent, which he remembered vividly as an experience that contributed directly to non-belonging:

Session 6; Participant 1: I remember this senior resident asking me to stay out of a room during rounds, because he wanted to have a conversation with the patient in a way [the patient] could understand what was being said. It felt discriminating and I was pretty annoyed and sad about it.

One female BIPOC participant described the overtly sexist experience of being appraised by a male attending as physically attractive or “hot” in front of her work colleagues as a seminal experience that made her feel excluded and othered. That same participant also noted the racist experience of being compared to chocolate as a formative experience in which she felt she did not belong. An African American male participant noted a racist comment by a patient regarding his role as a physician as a formative experience of non-belonging.

Session 8; Participant 2: I felt undermined and disrespected. I worked very hard to be here, and I would like to be valued for my intelligence and contribution to patient care rather than my appearance.

Session 8; Participant 2: I still get undermined ... all the time. And so I'm ... in an area that is also predominantly white, and my program is also predominantly white, and a lot of the leadership is white men. And I got othered for my skin color on the very first day of starting. I mentioned to a person that, because they're like, “Oh, what do you like?”—because they were ... trying to get to know me. I [said], “Oh, I ... really like scrolling through my Instagram and my Netflix, and I really like chocolate—it's ... my favorite food.” And they were like, “Oh, yeah, just like your skin color,” and I [thought], “Solid.”

Session 8; Participant 6: I think for me, my experience where I felt like I didn't belong was during my intern year where I was in a predominantly white program—one of the few black residents that have ever gone to that program—and I had a patient make an offhand comment about, like, how they thought I was custodial staff, and they were a little surprised ... when I introduced myself as a physician.

And when I said, “Why are you surprised?” and they were like, “Oh, well, based on the color of your skin, I thought you wouldn’t be a doctor.” I think that was ... one of those times where I felt like I didn’t belong.

BIPOC participants' stories related to race were not mirrored by those shared by white participants, who did not have stories of exclusion or “othering” based on their whiteness. Thus, formative experiences of non-belonging often differed in content between white and BIPOC participants.

Theme - Personal - Institutional and Societal Background and Power Structures:

Personal identity characteristics (gender, sex, sexual orientation, race, ethnicity, etc.) and personal lived experiences inform both how the individual interprets the environment and how the environment interprets the individual. One’s personal background (which, for this write-up will also include physical characteristics), serves as another comparator against which dominant archetypes of “physician” are assessed. The individual makes both conscious and subconscious (implicit) determinations of whether or not the group is safe and whether or not belonging is possible. For some, these personal identity characteristics may enhance belonging, as noted previously. For others, personal identity characteristics or lack of commonalities with the dominant social group may be a barrier to belonging. This “adjudication of self” happens in relation to other individuals, the team, the institution, and society writ large, and it directly relates to similarities and differences described earlier; indeed, those from underrepresented backgrounds, when comparing themselves to the institution, often described feelings of being “the only one.”

In supplement to “similarities and differences,” learners frequently interpreted (i)nstitutional and (l)nstitutional background in the context of power and hierarchy. Learners, as they progress through training, continue to interpret themselves in the context of these larger systems of power and hierarchy and the i(l)nstitutional background as a whole. One Black participant simply writes:

Session 4; Participant 7: As a black woman, it is a barrier to my sense of belonging in a predominantly white space.

A male URiM participant noted a challenging interaction with an attending:

Session 6; Participant 1: And, I mean, I think the way to have described it was like there was ... a cultural clash. Perhaps there is this, like, you know, power imbalance. Obviously, like you said, that attending that has, I don't know, 30 years of experience, and I'm just about to start learning and culturally, I think [he] felt like he was in a position where he could get away with treating people the way he believes education for adults should be.

A female participant described feelings of powerlessness after bringing up a safety concern about a fellow resident. She reached out to the fellow resident's advisor, who used his position of power to chastise the concerned resident—and take the focus off the safety issue. She felt her department leadership did not appropriately come to her aid.

Session 8; Participant 3: It just made me ... really realize that I didn't have a whole lot of power, and that I felt ... very much so that ... any, like, power that I thought I had or voice that I thought I had really wasn't important to those people who are hearing it.

Participants also noted frustration with the perception that their institution was not actively pursuing recruitment and retention of BIPOC individuals, feeling this has influenced their own willingness to stay at the institution. Learners noted this facet of power as being important—the alignment of messaging of institutional values and action to improve the Institution. Both were viewed as having the power to work on and *fix* the problem of belonging. This mismatch between stated institutional values and action frustrated many participants.

Session 4; Participant 7: I honestly am getting more mad at the fact that my institution is not actively addressing their mission to recruit [and] retain doctors of color, to the point where I am definitely not going to work for my institution after training.

Learners also noted the importance of alignment of personal beliefs with i(l)ntitutional beliefs and societal movements. People in positions of power who did not align with or at least address these societal concerns directly were described as contributing to URiM participants' sensations of non-

belonging.

Session 8; Participant 2: I felt isolated from the beginning and then further isolated in 2020, as someone who deeply cares about racial equity, since some of my faculty with great power as well as my chief residents at the time did not openly support the Black Lives Matter movement. That was a time where I felt, as a program, we had to openly voice our support. Even the national organizations were offering support and condemning racism at that time, but my program as an institution was not.

As described in previous excerpts, the navigation of medicine against a background of “whiteness” to be related to interpersonally, institutionally, and societally was an important theme. In fact, this theme was noted by white participants and minority participants alike.

Session 4; Participant 4: I am not a URiM, but as a minority there are still times when I feel that healthcare is ... run by older white men.

Session 6; Participant 1: And what is historically familiar is the image of the intimidating authority of the white male older doctor.

One minority female participant noted how she differed from the majority population of medicine and how those differences could make her feel marginalized.

Session 8; Participant 2: There's a lot of intersectionality at play when it comes to identity, and it's kind of obvious when you get “professionalized” that medicine has been run by elite white men for a very long time.... When you have identities that are different from that, you see how that's marginalized.

The same participant reiterated themes from other female participants of prejudicial treatment of female behavior in comparison to similar male behavior.

Session 8; Participant 2: I've been called out so many times for being casual and, like, not being assertive enough. And then, my co-resident says the exact same thing, and nothing happens just because he's tall and white. And I used to think, "Oh, maybe it's me," like, because I don't want to think that I'm being treated differently because of how I look—that's stupid! But ... it's just so obvious that one can't ignore it anymore.

The white male participants in this study noticed that their personal identity may have served them well with regard to the institutional and medical background.

Session 4, Participant 6: I am a tall, white, heterosexual, cisgendered, able-bodied man who was raised in a stable middle-class home in the United States of America. My phenotype has gotten me far in life, and I don't deny that. In fact, I seem to be more aware of my privilege than many of my counterparts, and this can feel like gaslighting at times.

As learners progress through residency, they interpret their similarities and differences in the context of existing power structures and within the hierarchy of medicine.

Theme - Professional Judgments and outcomes:

When learners feel judged, "othered," or challenged on the basis of identity characteristics, those learners may decide to more closely conform to the dominant social and cultural norms of the institution and society, or to "check out" and look after themselves.

In addition, as learners progressed through residency and had experiences that either contributed to belonging or not, they also judged how they could continue to relate to the medical profession. Multiple underrepresented participants, after particularly challenging experiences of inappropriate behavior by those in power, made judgments as to how medicine had supported them or not, and how they want to continue to relate to training and the i(l)stitution. Frequently, participants expressed that they did not want to continue to give to their institution when these transgressions occurred. One participant noted they had been involved in DEI initiatives and had been involved in

recruitment. He purposefully stopped these efforts after a challenging interaction with an attending.

Session 6; Participant 1: So, for me, I was involved with talking to underrepresented minorities in medicine, like applicants, but I got burned out because I felt that there is, like, the minority tax. You know, that you just ... have to get all this work in front of you, it was getting exhausting.... Why do I have to work this hard to make sure that I belong? Or to make myself feel like I belong? So I completely disengaged from those initiatives. I retracted from committees.... I am not involved with recruitment anymore ... so it's sad, because it should not be this way.... When all these conflicts happened I was like, this is not my place to be doing this, so I'm just going to focus on what I have to do, like getting my training, getting my experience, and getting my degree—then getting the hell outta here.

Another URiM male cited many instances of discrimination and had made the personal judgment to focus on himself.

Session 7; Participant 1: Over time, I had developed more of a “worry about yourself” attitude and always kept myself on top of written objectives/expectations so as to ensure nobody can technically “get me in trouble.” Knowing the rules/laws has served as a protective mechanism to bring up when someone tries to reprimand me or whatnot.

One female participant noted that she felt as though she had to refrain from modifying her personal appearance to avoid judgment and to be seen as competent prior to expressing herself.

Session 8; Participant 2: Even when it comes to passing rotations, I feel like I have had to over-perform and be extra good to get the respect that I've gotten. Like, I literally did not get these piercings (motions toward her ears) until ... I'd, like, scored a certain amount and had proven myself competent in ... multiple ways—so that nobody will question me until I literally have been branded as ... someone that's smart, you know? Only after that was achieved did I feel comfortable, like,

displaying my fashion sense.

These judgments are an important part of the progression toward belonging or not, and they contribute directly to learner behavior, involvement, and even physical appearance.

Improvement:

In each focus group and interview, participants were asked what their institution might do to improve the sense of belonging among learners. There was discussion of continuing important diversity, equity, and inclusion work and many recommendations for recruiting and retaining BIPOC faculty. The importance of URiM representation was noted frequently, as was incentivizing their recruitment. One participant, responding to the prompt *What might your institution/program/class/colleagues do to improve belonging?* wrote simply: “Do it better -> representation.”

Learners positively noted the importance of “protected” time and space for learner bonding, discussion, story sharing, and reflection. This was noted in nearly all focus groups. All participants who had experienced protected time during intern year and beyond reflected fondly on it—and noted that setting aside such purposeful, intentional time implied that their programs cared about the interns’ well-being.

Session 8, Participant 4: Create more avenues to normalize these shared experiences—whether it be micro- or macro-aggressions towards race/gender/sexuality, inferiority based on our identities, shared scary experiences, etc. Oftentimes I find that lack of belonging comes from feeling like my experiences are unique to me, and I don’t think that is always the case. Creating more safe, protected space to be without peers to decompress and share experiences during the workday would be helpful.

Throughout the focus groups there was an emphasis on story sharing and learning about each other’s backgrounds and experiences:

Session 7; Participant 1: In general, being open to hearing and learning about each individual's background, experiences, and identity.... There should be a way to get residents and faculty together to get to know each other in a non-work setting and just learn from each other.

Others noted frustration at their own "protected" time not actually being protected, which was exacerbated during surges of the pandemic. One participant noted the following:

Session 3; Participant 5: I think an issue for us is that our protected time off has really not been protected and people have been getting pulled.... We've been consistently depleting all pools and we've been pulling people off of electives and consult rotations.

Participants joked about being told to engage in "self-care" while lacking the time to do so. In addition, they joked about having to fill out wellness surveys and pleaded to avoid taking part in online modules on belonging or wellness. One participant noted the particular challenges faced by her focus group colleagues as a result of their specialties.

Session 3; Participant 6: I also feel like in specialties like yours, [they're like,] "Oh, just, like, engage in self-care"; that's just not helpful when you don't have the time.

Continuing education at the institutional level that celebrates diversity, teaches anti-racism, and acknowledges healthcare disparities was a common and important suggestion. One learner suggested implicit bias training for faculty, and her focus group members agreed. Many participants noted the changing times and the importance of educating staff about what is appropriate behavior. An underrepresented female described her department:

Session 4; Participant 3: Historically, the department has been just elderly white men. I mean, that's kind of just been across the board, but specifically in that, I mean educating these people who may not have gotten the education in their own

training about a lot of these things. Like, it's 2022, it's not 30 or 40 years ago; it wasn't okay then, but even now they need to recognize they need to change.

Caveated frequently was the importance of those in power to do the work of improving belonging.

A white male participant wrote the following:

Session 5; Participant 2: The power structure in medicine is still as active as ever, which is unfortunate and I hope it changes some day; however, given this, I really think the onus to improve a sense of belonging should be among those in power—namely, administrative forces with residency programs and individual attendings who supervise residents. They should prioritize the sense of belonging among each individual resident under their supervision, no matter how challenging that is given what it takes to foster that sense in different people.

Mentorship has known benefits for all learners and especially for learners from underrepresented backgrounds¹⁷. URiM participants commonly stated the importance of being able to connect with a mentor who understands their lived experiences, who may be able to offer advice, and who ultimately normalizes their experiences. They noted the importance of this starting early in residency and continuing throughout residency and how this might contribute to safety. An international medical graduate and URiM participant stated the following:

Session 6; Participant 1: I think it would have been very nice to have connected with a faculty that is part of my program that has a similar pathway ... [to] share overall experiences and help normalize that residency is hard, but you should not be dealing with discrimination on top of that—like, you shouldn't be accepting abuse.

Participants also noted the importance of accountability for inappropriate behavior by people in power, offering reeducation for those who have transgressed others. Participants noted frustration when inappropriate behavior was not addressed or when others in power served as “silent witnesses.” The importance of confidentiality in reporting was also noted. In many ways, the

participants' recommendations for improvement align with previous studies ¹⁰.

Reflexivity statement: The team of investigators are a group with a passion for improving diversity, equity, and inclusion in medicine. As physicians, educators, and practicing clinicians, they believe all learners deserve an equitable opportunity for success. Thus, the learning environment should support learners from all backgrounds, races/ethnicities, sexual orientations, and gender identities. The researchers also believe that there is currently much “room for improvement” in terms of safety, support, and inclusion for diverse learners in a medical system that has been historically run by Caucasian men. As researchers, they believe that, in order to enact real change, one must understand the problem as it currently exists and how it has come to be. It is critical to understand stakeholders' perceptions, lived experiences, and thoughts on how belonging happens (or doesn't) and how it might be improved. This exploration, as described in this study, seeks to do just that.

Discussion:

Residency is a dynamic time characterized by remarkable changes in learners' lives. Many learners relocate, move away from family, see friendships transform, and experience sensations of uncertainty as they establish themselves in society and in GME. This time is especially important in learners' lives as they navigate the new title of “doctor,” having only recently graduated from medical school but lacking a skillset that is adequate to deliver care—and that lives up to the “doctor” title and identity. Knowing one is contributing and is appreciated is a key factor in developing belonging during this vulnerable time for residents. While feeling appreciated is more closely studied in personal relationship literature, new studies relate these findings to the workplace. Feeling appreciated or valued is associated with a myriad of positive outcomes, to include improved connection, greater commitment to relationships, and increased prosocial behavior ¹⁸. In this study, being valued being an important component of belonging extended to all demographics.

Both learning and belonging—as cultivated by the described processes—are heavily influenced by the identity characteristics (race/ethnicity, gender, sexual orientation, specialty, lived experiences,

etc.) learners bring with them. Learners interpret those they encounter in GME through the learner's own identity, while those within GME and in the larger institutional and societal context, simultaneously interpret the learner.

This interpretation happens during interactions which are necessary to build relationships. The quality of these interactions validates the relationship or undermines it. As Baumeister writes in his article *The need to belong: Desire for interpersonal attachments as a fundamental human motivation*, "human beings have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships. Satisfying this drive involves two criteria: First, there is a need for frequent, affective, pleasant interactions with a few other people, and, second, these interactions must take place in the context of a temporally stable and enduring framework of affective concern for each other's welfare ¹. Strong relationships are necessary for belonging in academic settings, and threats to these relationships are more common for minoritized learners than for those from the majority ¹⁹. The importance of relationships was borne out throughout the dataset and a linchpin to belonging.

During the interactions necessary for building relationships, humans consciously and subconsciously notice differences immediately—and often implicitly—upon meeting new people ²⁰. Traditional understandings of who may become a physician and what a physician "looks" like create an environment especially primed for comparison of similarities and differences among learners in relation to each other, reciprocally in the patient-doctor relationship, and in relation to their superiors. When these immediate and implicit judgments subconsciously link noted identity characteristics with negative emotions, they are called implicit biases. Studies show that healthcare professionals exhibit the same level of implicit bias as the wider population (Fitzgerald & Hurst, 2017). These judgments are often biased toward some learners and are where there are frequently noted rifts between the dominant traditional cultures within medicine and URiM, BIPOC, and female learners. On the basis of larger societal context, power structures, and traditions, URiM, BIPOC, and female learners noted accelerated rates of perceived harsher judgments, microaggressions, and frank racism or sexism.

These judgments influence opportunity for learners. *Opportunity* is defined by *Merriam-Webster* as “a set of circumstances that make it possible to do something” (Opportunity Definition & Meaning - Merriam-Webster, n.d.). Opportunity for learners, represents the possibility of a continued relationship with the i(l)stitution of Medicine and unfortunately may be preferentially experienced by those who fit dominant sociohistorical patterns of who has the “most” opportunity within medicine²³.

Comparison, when positive, provides opportunity to relate to and include members within the group and to establish positive relationships and “belong.” The contrary is also true—when people are seen as different, judged, and excluded from the group, “othering” occurs. Othering describes the concept of how we engage with those who are perceived as different from “self”; it is typically considered an exclusionary phenomenon whereby those who don’t “fit” the social norm may be stigmatized and condemned. This is exacerbated if the “othered” group challenges the established social order (Canales, 2000). These highly charged emotional experiences are formative to a person’s worldview²⁵.

In looking at the thematic diagram derived from the current analysis, one will note that the backdrop for all of the themes are elements of the world that beget a larger “context” to experience. As is self-evident, “sense of belonging” and identity exist within and are influenced by socio-historical context, with certain contexts conferring greater sensations of belonging for people with specific identity characteristics²³. This context often informed interactions and how learners felt about specific power structures.

Continuing in the context of identity, the research team posed open-ended questions to participants about identity and how it relates to their sense of belonging. Interestingly, in all focus groups, participants often spoke about their identity as it related to sensations of non-belonging, even prior to being prompted by a reflective question. This may reflect the solicitation of BIPOC and URiM participants and thus “priming” them to reflect on their identity as it relates to belonging, or it may reflect the fact that certain populations are more cognizant of how their identity influences belonging, perhaps because they must be. Conversely, several white male participants in our study

population noted they have mostly felt like they belonged and often realized their identity characteristics gave them the privilege of not having to be as aware, within a socio-contextual context, of their identity characteristics. This was emphasized by stories where white participants noted the difficulty other nonwhite participants may experience as they work toward belonging.

Identity theories are many and within the context of graduate medical education have received increasing attention in recent years. Like all identity theories, they exist on a spectrum: at one end, identity is understood to be solely an individual construct, while at the other end, identity is understood to be an entirely social construct. The data gathered from participants supports several epistemological frameworks, primarily constructionist, in that identities are created and co-created through social interaction, as noted by participants' evolving relationship with the i(l)stitution of medicine and the title of doctor. There are also strong objectivist undertones in all interactions, in that the learner brings with them a formulated individual identity in the mind with which “the system” interacts. While this later component emphasizes a more individualistic approach to understanding identity, social and contextual factors also play dramatic roles in the educational environment ²⁶.

As noted, social identity theory relates identity to the level of the group, rather than solely the individual. This relationship to “group identity” is illustrated in participants' comments about their relationship with their specialty and to medicine. “Off-Service” rotations were often noted to confer lower sensations of belonging, while being on their “home service” offered greater sense of camaraderie and belonging to participants. Relationships to historical power structures and leaders in medicine (faculty, etc.) highlight the sociocontextual nature of identity. Within social identity complexity theory, the way identity characteristics are organized can reflect intersection, compartmentalization, merging, and dominance. The interactions between URiM learners and i(l)stitutional power structures mostly were seen as dominating, as in the learner often had to assimilate to dominant identity patterns to relate to the in-group. Learners noted that celebrating others' identity characteristics would lend the in-group to being more inclusive, which reflects merging of identity characteristics. Identity formation is complex, and how learners navigate their identity can be interpreted from a variety of theoretical perspectives.

For most learners in GME, belonging is a determination of **personal value and opportunity**, co-constructed through interactions within **relationships** in a context of learning and labor. Belonging

evolves as a resident: (1) is known and affirmed in **similarity and difference**; and (2) interprets the significance of their similarities and differences as they navigate formative **experiences and/or feelings** within **i/Institutional and societal** power structures. This “belonging synthesis,” pictorially represented previously, reinforces or drives changes in behaviors or beliefs, which ultimately influences **professional judgments and outcomes** for all residents.

For majority learners, belonging is most often an assumed and durable default state of being that relies heavily on similarity, experienced primarily as a feeling of welcome and agency within educational and clinical structures in which the learners' identities are highly represented.

For underrepresented and/or stigmatized learners whose presence challenges the status quo, belonging may be earned and tenuous, more process than position. Here, belonging is cultivated where personal relationships ultimately supersede identity differences. Belonging is experienced primarily through acts (of acceptance) that center/honor and safeguard the unique contributions of each resident, celebrate difference, and reflect alignment of words and actions of a majority willing to challenge the status quo.

Creuss and Creuss have described the process of professional identity formation for learners and have nested this within the larger process of “socialization” in medicine. Socialization is influenced by mentors and role models, as well as clinical and non-clinical experiences, which are supplemented by conscious reflection and unconscious acquisition of the traits that ultimately constitute professional identity. The authors note that the socialization process is further influenced by teaching and assessment, ritual, treatment by patients, the healthcare system, and the learning environment. The data collected in our study aligns closely with many of these concepts as belonging may be enhanced or challenged in each of these interplays. Importantly, this dataset also offers further understanding of how URiM, BIPOC, and female experiences relate to belonging and may influence authentic and full participation within the Community of Practice (COP) described by Creuss and Creuss. Thus, these findings underpin Creuss and Creuss' professional identity formation framework; subjective “belonging” should be considered a core element of “full

participation” within the community of practice; however, at present, certain identity characteristics, as noted, limit full participation within the COP. Ideally, the COP should allow for complete identity integration and representation by all members—but lack of subjective belonging will not preclude formation of a professional identity, albeit an altered one. Where belonging is absent or threatened based on any component noted in this paper, amends must be made by the majority in the COP, or identity suppression or assimilation by those transgressed may be used as surrogates.

This disproportionate effort made by URiM, BIPOC, and female populations to assimilate—or “code-switch”—may be considered part of the “minority tax” and “gender tax,” and leads to challenging decisions these learners must make to change behavior to be accepted by those in power within the COP. This, by definition, prohibits full participation within the COP and may hinder identity integration within the i(l)stitution of medicine.

This finding is significant, as it highlights the need for continued efforts to expand the COP to all learners. How to best do this is an area of needed research. Additionally, this work will help leaders in Graduate Medical Education recognize the potential impact (both positive and negative) of new policies and interventions on belonging. While data on the most meaningful ways to improve belonging is limited, interventions suggested within this dataset include focusing on recruitment and retention of diverse staff, as well as dedicating time to engage with members of the community of practice, share stories, relate to one another, commiserate, and bond in person.

Limitations:

This study has limitations. The population sampled was from a single geographic area and one primary institutional network. Additionally, the study population sought to focus on those who are underrepresented in medicine. While the total BIPOC percentage of this study population was approximately 60%, only 25% were ultimately from underrepresented backgrounds despite specific recruitment from this population. Participation was voluntary, though participants were thanked for their time with a gift card. The primary intention is to capture honest and meaningful qualitative data from participants so as to improve “belonging” for all throughout GME. The study group was from primarily medical backgrounds, and thus may not fully encompass how participants from surgical specialties interpret belonging.

Inherent within the call for participation is the likelihood of selection bias toward those with particularly robust positive or negative feelings on belonging or non-belonging; however, the qualitative data collected mirrors that of other studies assessing inclusion efforts in graduate medical education (Aysola et al., 2018). It also echoes stories of discrimination found in prior qualitative studies describing the minority experience in GME (Osseo-Asare et al., 2018; Salles et al., 2019).

Strengths of this study include the focus group setting and participants' ability to share stories with one another. Another strength of this study is its inclusion of several participants from the majority population—primarily white, cisgendered, heterosexual males, who offered valuable viewpoints from the “dominant” culture. Approximately half of the study population was female.

While there is concern about safety from sharing stories about transgressions in a group format, participants agreed on collective confidentiality; further, after each focus group, participants often commented on how they felt better being able to talk about their experiences. Including a silent writing portion with optional sharing reinforced safety within the groups. Participants often were primed from other participants' accounts and frequently offered immediate affective comfort to focus group members after challenging or hard stories. Participants often mingled after the group adjourned and shared contact information or other stories about DEI efforts. The in-person groups were even recognized by several participants as a method of improving belonging. While online surveys offer the most anonymity, focus groups in this context provided remarkably rich data.

Conclusion:

Belonging is a sensation that some learners experienced early in their GME training, while for others it may have taken longer, and a few have yet to experience this sensation. The process of how belonging may happen, is a balance between how the individual is treated within a larger social context, one that is particularly steeped in power and tradition. Certain identity characteristics may enhance or limit “access” to belonging for learners in graduate medical education. At each point, in the described process, there are opportunities for meaningful interventions to improve belonging for all learners.

It is intended that the data gathered be used to inform an intervention at the primary institution to improve belonging for students as they transition out of medical school and into intern year.

Additionally, there are many inflection points at which leaders in graduate medical education can intervene to improve belonging for all learners. While broader systemic efforts can be made to improve belonging as well as diversity, equity, and inclusion, small changes in how stakeholders interact with one another—that is, how they build relationships, give feedback, or comment on a teammate's value—can incite larger cultural change. Strong relationships ultimately trump identity differences, and leaders have tremendous power to foster safe and welcoming environments that encourage the development of such relationships and thereby improve belonging for all.

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AppendixA:

Focus-group guide:

Part 1: Substantive Reflection Exercises and Discussion (choose one or more, time permitting)

- ✓ Anonymous personal written reflections
 - Write (20-25 min)
 - Ask residents to consider their own experience during residency. These could be experiences with peers, faculty, or others, in hospital, clinics, classrooms, procedural areas, or other.
 - Tell them not to provide any identifying information, e.g., replace their specific program with “my program”
- 1. Tell me about a time you really felt you belonged in residency.
 - a. What happened?
 - b. What did it mean to you?
 - c. Why did it mean this to you?
- 2. Tell me about a time you felt that maybe you did not belong in residency.
 - a. What happened?
 - b. What did it mean to you?
 - c. Why did it mean this to you?
- 3. How have your experiences of belonging developed or changed over time in residency?

*After written reflection, open the discussion to the group. Ensure that people know they may share what they wrote about or something else. They are NOT obligated to share anything.

- ✓ Large Group Discussion (20-25 min): Are there any themes you are hearing about what belonging looks like in residency? What does this make you think? What made it get better?
 - If the group is large and you are concerned about time and have two facilitators, split into two groups.
 - Don't create expectation that everyone will talk. Say, “I'm going to ask a few of you to share...”
 - Discussion can be cut short if new themes aren't emerging. However, you want everyone to feel like contributors. You can ask, “Who has experienced something like this?” “Who has experienced something that hasn't been represented today?”

Part 2:

- ✓ Anonymous Personal Reflection: (10 minutes)
 - 1. Please reflect on ways in which any of your personal identity characteristics (e.g., race, gender, specialty, sexual orientation, etc.) may have enhanced, or were barriers to your sense of belonging in residency.
 - 2. How might your institution improve your sense of belonging? What initiatives might they take?

*Again, prior to large group discussions remind participants that sharing is optional and they may share what they wrote about or something different.

- ✓ Large Group Discussion (20-25 min): How does hearing these stories regarding personal identity characteristics further inform your concepts regarding belonging in residency?