Pediatric Resident Well-being: A Group Concept Mapping Study

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ABSTRACT

OBJECTIVE: Pediatric residency programs invest substantial resources in supporting resident well-being. However, no pediatric resident well-being conceptual model exists to guide interventions. This study aimed to understand how a diverse stakeholder sample conceptualized well-being.

METHODS: We used group concept mapping methodology. We sent a brainstorming survey to pediatric residents and program leaders at 24 US residencies with the prompt, "The experience of well-being for resident physicians includes…" Participants at 4 residencies sorted well-being ideas conceptually and rated idea importance. We performed multidimensional scaling and hierarchical cluster analysis to develop cluster maps. Using participant feedback and a consensus-driven process, we determined best cluster representation. We used pattern matching to compare domain ratings between subgroups.

RESULTS: In brainstorming, 136 residents and 22 program leaders from 22 residency programs generated 97 unique ideas. Ideas were sorted and rated by 33 residents, 14 program leaders. Eight domains aligning with 4 resident roles were identified. Domains were: 1) positive, safe, and diverse culture; 2) unity and connection; 3) professional fulfillment and mindset; 4) personal health and life satisfaction; 5) professional development and recognition; 6) schedule protections and downtime; 7) work systems and benefits; 8) proactive and compassionate leadership. Domains aligned with the following roles: 1) individual, 2) colleague, 3) employee, 4) emerging pediatrician. Residents placed higher value on schedule protections and downtime than program leaders, $P < .05$.

CONCLUSIONS: Pediatric resident well-being may be conceptualized as inter-related domains corresponding with various resident roles. Participants aligned on many well-being priorities but differed regarding work schedules.

KEYWORDS: burnout; fulfillment; pediatrics; residency; schedule; wellness

ACADEMIC PEDIATRICS xxxx; xxx:xxx–xxx

WHAT'S NEW

This stakeholder-driven concept map demonstrates 8 pediatric resident well-being domains and domain alignment with resident roles as individuals, colleagues, employees, and emerging pediatricians. The study also highlights divergent views between residents and program leaders on schedule protections and downtime.

Pediatric resident physician well-being is a national priority.[1] Pediatric residents are at increased risk of numerous emotional and mental health concerns that may have substantial negative impact on individual residents and health care systems.[1–3] Additionally, the Accreditation Council for Graduate Medical Education (ACGME) requires residency programs to evaluate whether residents achieve fundamental understanding of factors that impact well-being.[4] As a result, many pediatric residency programs have devoted considerable resources to support resident well-being and to teach about well-being drivers.[5] However, without a consensus framework to conceptualize pediatric resident well-being, program leaders may feel uncertain about how to strategically plan comprehensive resident well-being efforts and education.[5,6]

Several expert-informed well-being conceptual models exist. For example, resident well-being has been conceptualized using Maslow's hierarchy. Through this lens, residents experience well-being when their needs for health and safety, love and belonging, esteem, and self-actualization are met.[7] Physician well-being has also been described as meeting needs across multiple integrated and holistic domains, including physical, emotional, intellectual, spiritual, social, environmental, occupational,

and financial.[8–10] Others have used global or foundational philosophical frameworks, including the pursuit of joy (hedonism) or self-actualization and flourishing (eudaimonism), to conceptualize physician well-being.[11] While these models may inform understanding of resident well-being, they may not capture the unique perspectives of pediatric residency stakeholders for whom well-being interventions will be developed.

This study aimed to use Group Concept Mapping (GCM) methodology[12] to describe how a diverse sample of pediatric residency program stakeholders conceptualized resident well-being. Primarily, we aimed to create a conceptual model demonstrating key pediatric resident well-being domains. Secondarily, we aimed to compare well-being priorities between pediatric residents and pediatric residency program leaders to assess stakeholder subgroup alignment in developing well-being initiatives.

METHODS

This GCM study included a national sample of pediatric residency stakeholders and was conducted October 2020-March 2022. The institutional review boards at the University of Wisconsin School of Medicine and Public Health and the Association of Pediatric Program Directors Longitudinal Educational Assessment Research Network, a network providing infrastructure for multicenter pediatric residency research, approved this study.

GROUP CONCEPT MAPPING

GCM is a multistep stakeholder-driven research approach used to understand complex phenomena, in this case, "resident well-being." GCM relies on stakeholder input to generate a conceptual framework and unearth stakeholder priorities in education and program development. GCM methods have been used in several pediatric and medical education studies for these purposes.[13,14]

There are 4 GCM steps. Each stakeholder participant may participate in 1 or multiple steps. In step 1 (brainstorming), stakeholders provide an exhaustive list of responses to a single broad and open-ended exploratory prompt. In step 2 (sort and rate), each participant sorts the ideas generated in step 1 into conceptually related piles and then rates each idea's relative importance. In step 3 (representation), the study team uses an iterative, consensus-driven process and additional stakeholder feedback to develop a visuospatial cluster map representing how participants sorted ideas. In step 4 (interpretation), the cluster map and stakeholder importance ratings are interpreted to inform interventions[12] (Fig. 1). During each GCM step, study team members discuss their positionality to the data and assumptions that might influence map analysis, in order to mitigate interpretation biases.

PARTICIPANTS

Step 1 (brainstorming) commonly includes 45 to 150 participants to generate a representative and exhaustive list.[13–15] In step 1 of this study, the brainstorming prompt

was included as the final question on the PROmoting Med-Ed Insight into Supportive Environments (PROMISE) survey, a national, cross-sectional study across 24 pediatric residency programs that aimed to describe residents' "experiences and perspectives during training in relation to their self-identities."[16] The PROMISE survey aimed to reach a diverse sample of pediatric residents from residency programs varying in size, location, and UIM representation. We included pediatric residents in postgraduate years (PGY) 1 to 3 and residency program leaders. Program leaders included program directors (PDs), associate program directors, program managers, chief residents, and pediatric faculty who identified as wellness/well-being champions.

Steps 2 to 4 (sort, rate, representation, interpretation) commonly include 20 to 40 participants, consistent with other qualitative methods.[13–15] In steps 2 to 4 of the current study, we recruited senior pediatric residents (PGY 2–3) and program leaders at 4 pediatric residency programs varying in geographic location and program size. We included only PGY 2 to 3 in these steps because the post-brainstorming phases launched early in the academic year, before interns had extensive residency experience.

STEP 1: BRAINSTORMING

BRAINSTORMING PROMPT
The study team piloted several prompts with pediatric residents, program leaders, and researchers with GCM experience, aiming for a prompt that would yield an expansive and multifaceted list of brainstormed ideas. We ultimately selected the prompt, "The experience of well-being for resident physicians includes…" and asked participants to respond with as many ideas as possible.

BRAINSTORMING RESPONSE SELECTION
Recognizing that the PROMISE survey recruitment base would offer a diverse and nationally-inclusive list of ideas but that the participant number would far surpass that needed to attain brainstorming idea saturation, we decided a priori to use an iterative and team-based process to review small batches of resident brainstorming responses from the PROMISE survey. We stopped reviewing responses once consensus was reached and idea saturation was achieved.

To select batches of brainstorming responses, we intentionally over-sampled gender nonconforming, gender nondisclosed, and underrepresented in medicine (UIM) participants whose perspectives in medicine have been historically overlooked.[17,18] UIM participants included those who identified as American Indian or Alaska Native; Black or African American; Filipino, Cambodian, Hmong, or Vietnamese; Hispanic, Latino, or of Spanish Origin. We first selected brainstorming responses from all gender nonconforming (gender not aligning with sex assigned at birth) and gender nondisclosed resident participants. We then randomly selected batches of resident responses based on race-ethnicity-gender identity (UIM
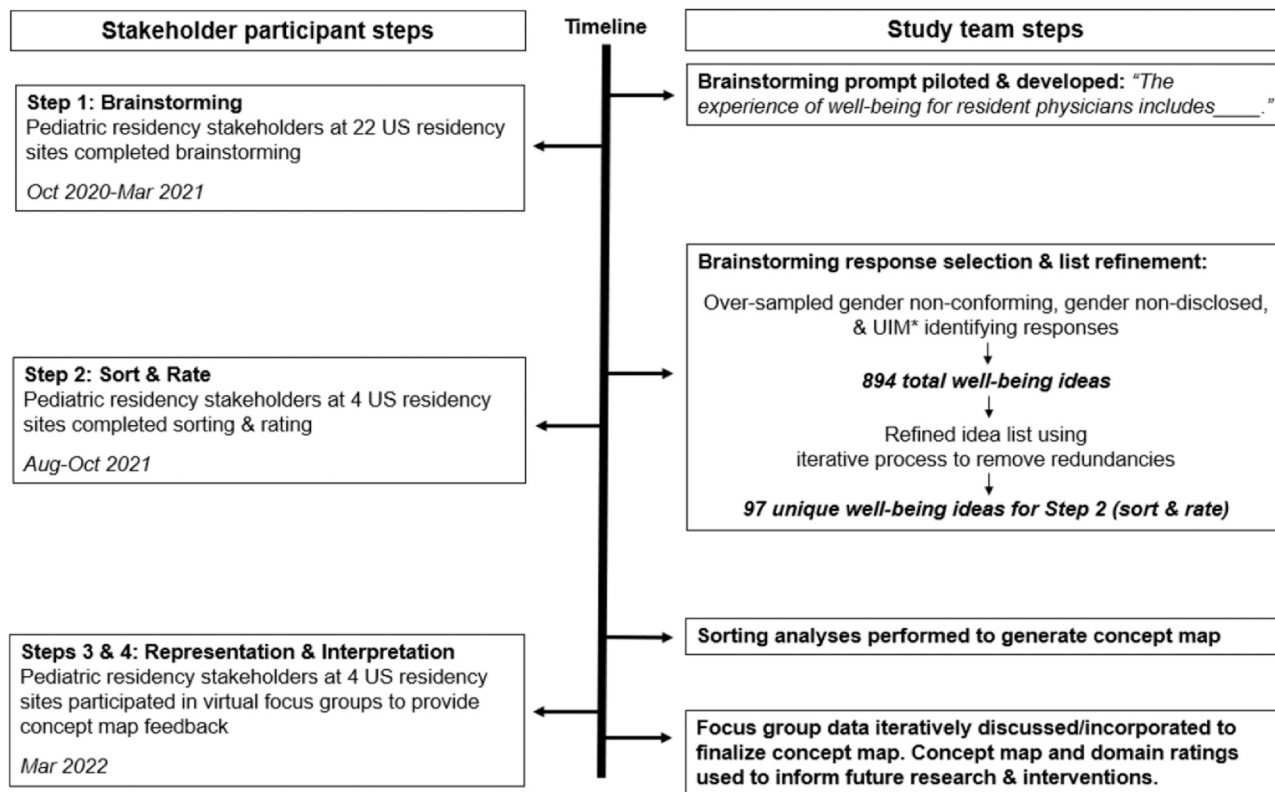
Figure 1. *Timeline of study team and participant steps using group concept mapping methods. *UIM indicates underrepresented in medicine.*

women, UIM men, non-UIM women, non-UIM men) in equal numbers. Study team members iteratively reviewed and discussed resident responses in small batches until consensus was reached that idea saturation was achieved (Table).

To recruit pediatric residency program leaders, PDs at the 24 participating PROMISE survey sites received recruitment emails from Association of Pediatric Program Directors Longitudinal Educational Assessment Research Network, inviting them to complete the brainstorming task via online survey and forward the survey to eligible program leaders at their site. To include exhaustive program leader expertise within these program sites, we decided a priori that all program leader responses would be included.

BRAINSTORMING LIST REFINEMENT

The brainstorming process typically generates redundant ideas. To refine the step 1 brainstorming list, we used an iterative, consensus-driven process to collapse redundant ideas into representative terms. Team members (J.B., E.L., H.K.) met multiple times to refine the list, and the remaining study team members (L.R., E.Z., D.S., R.C., M.M., R.S., S.W.) provided iterative feedback until the list of unique well-being ideas was finalized. We then presented the unique brainstorming ideas to step 2 participants.

STEP 2: SORT AND RATE

Participants completed step 2 (sort and rate) using the online platform, GroupWisdom Concept Systems (CS), (https://groupwisdom.com/groupconceptmapping).

In sorting, we asked participants to arrange the unique ideas from step 1 into virtual "piles" according to perceived conceptual relatedness. We asked participants to place each idea in a pile, generate at least 2 piles, and provide a representative label describing how ideas in each pile were related. Sorting by conceptual relatedness was required for inclusion. All sorting responses were separately reviewed by 2 team members (J.B., R.S.). Responses in which participants assigned value-based labels (eg, "Important," "Unclear importance") or relevance-based labels (eg, "Does not apply to me") instead of meaning-based labels were presented to the study team to assess for inclusion decisions. The study team reviewed and discussed each sorting response in detail until consensus was met on inclusion or exclusion, with the aim of remaining as inclusive as possible.

In rating, we asked participants to assign an importance value to each individual well-being idea relative to all other listed ideas. Response options ranged from *not at all important* to *extremely important* on a 5-point scale. Participants needed to complete at least 75% of the rating task for their rating responses to be included.

Table. Gender and Underrepresented in Medicine Demographic Characteristics

Gender Identity		UIM Identity[*]	Brainstorming Task n (%)	Sorting Task n (%)	Rating Task n (%)	Focus Groups n (%)
Cisgender identity[†]	Female	UIM				
		Resident	37 (23.4%)	1 (2.4%)	1 (2.1%)	1 (5.6%)
		Program leader	*Missing value[‡]*	3 (7.1%)	3 (6.4%)	1 (5.6%)
		Non-UIM				
		Resident	36 (22.8%)	21 (50.0%)	25 (53.2%)	9 (50%)
		Program leader	*Missing value[‡]*	8 (19.0%)	8 (17.0%)	3 (16.7%)
		"Prefer not to answer" or no response				
		Resident	0	1 (2.4%)	1 (2.1%)	0
		Program leader	*Missing value[‡]*	1 (2.4%)	1 (2.1%)	0
	Male	UIM				
		Resident	19 (12.0%)	2 (4.8%)	2 (4.3%)	1 (5.6%)
		Program leader	*Missing value[‡]*	0	0	0
		Non-UIM				
		Resident	37 (23.4%)	2 (4.8%)	3 (6.4%)	2 (11.1%)
		Program leader	*Missing value[‡]*	2 (4.8%)	2 (4.3%)	0
		"Prefer not to answer" or no response				
		Resident	0	0	0	0
		Program leader	*Missing value[‡]*	0	0	1 (5.6%)
Gender nonconforming or gender nondisclosed[§]	Trans-gender, nonbinary, or self-describe	UIM				
		Resident	0	0	0	0
		Program leader	0	0	0	0
		Non-UIM				
		Resident	1 (< 1%)	1 (2.4%)	1 (2.1%)	0
		Program leader	0	0	0	0
	Prefer not to answer	UIM				
		Resident	1 (< 1%)	0	0	0
		Program leader	0	0	0	0
		Non-UIM				
		Resident	5 (3.2%)	0	0	0
		Program leader	0	0	0	0
Total residents			136 (86.1%)	28 (66.7%)	33 (70.2%)	13 (72.2%)
Total program leaders			22 (13.9%)	14 (33.3%)	14 (29.8%)	5 (27.8%)
Total participants			158	42	47	18

[*] UIM, underrepresented in medicine; includes Black or African American, Native American, Hispanic, Latino, Filipino, Cambodian, Hmong, or Vietnamese identities.

[†] Gender identity aligns with sex assigned at birth.

[‡] Only gender demographics were obtained during program leader brainstorming. During brainstorming, n = 22 program leaders responded (cisgender female, n = 17, cisgender male, n = 5, noncisgender identity, n = 0). Race/ethnicity demographics were not obtained in program leader brainstorming.

[§] Gender identity does not align with sex assigned at birth or self-described gender identity or gender not disclosed.

STEP 3: REPRESENTATION

We used CS software to perform multidimensional scaling (MDS) and hierarchical cluster analysis (HCA) of sorting data. From MDS, we generated a *point map* displaying each unique idea as a preassigned randomly numbered point. On the point map, ideas (points) that participants frequently grouped together during sorting sat geographically closer on the map; ideas (points) less commonly grouped together sat farther apart.[12]

Using different dissimilarity thresholds and HCA, we generated multiple *cluster map* outputs, each output showing a different number of map clusters (2–20 clusters, shown as 2D shapes). Dissimilarity thresholds reflected frequencies with which participants grouped ideas. As dissimilarity thresholds became more stringent, clusters progressively split, increasing the cluster number. The study team used an iterative, consensus-driven approach to determine the best fit response clustering. The study team then met several times to incorporate stakeholder input from step 2 to generate preliminary representative cluster (domain) names.

STEP 4: INTERPRETATION

We presented the preliminary cluster map to 3 stakeholder focus groups (2 pediatric resident groups, 1 program leader group) for feedback. The primary aims of this GCM step are to ensure face validity of map content and incorporate stakeholder feedback on map development.[19] All eligible stakeholders at the 4 participating residency programs for steps 2 to 4 were invited to participate, regardless of participation in prior steps. To reduce the impact of power dynamics, we conducted separate focus groups for

residents and program leaders. Groups participated virtually. With assurance of domain face validity among stakeholders, we iteratively incorporated focus group feedback on domain labels using a consensus-driven process to develop the final map. After domain labeling, we recognized that domains aligned geographically with various resident roles, personal and professional. We iteratively reviewed the map to characterize the resident roles that aligned with the domains.

Finally, we used CS software to perform pattern match analysis, showing how dichotomous stakeholder subgroups rank domain ideas.[12] Pattern match results are displayed using a ladder graph demonstrating mean importance ratings for each domain by subgroup membership. Welch's *t*-test assuming unequal variance was performed to assess for statistical differences between domain ratings between pediatric senior residents and program leaders, *P* < .05.

RESULTS

STEP 1: BRAINSTORMING
Of the 1412 residents who received the PROMISE survey recruitment invitation at the time of our data collection, 824 had completed the PROMISE survey (58.4%), of whom 561 residents (39.7%) from 22 pediatric residency programs offered brainstorming responses. Resident responses were reviewed in batches. Through iterative and consensus-driven review, idea saturation was achieved by including 136 resident responses, and the remainder of resident responses were not reviewed. Twenty-two residency program leaders completed brainstorming, including 15 PDs (68.2%), 5 associate program directors (22.7%), and 2 faculty wellness champions (9.1%). Seventeen program leaders identified as cisgender women (77.3%) and 5 identified as cisgender men (22.7%) (Table). Brainstorming respondents generated 894 ideas. This exhaustive idea list was refined to include 97 unique well-being ideas (Supplementary Appendix 1).

STEP 2: SORT AND RATE
Forty-seven stakeholders (33 residents, 14 program leaders) sorted the 97 brainstormed ideas. Of the 33 residents, 12 were return participants (also completed brainstorming) and 21 were new. Sorting responses from 5 non-UIM, cisgender residents (4 female, 1 male) were extensively reviewed, discussed, and ultimately excluded because they were sorted according to perceived value or relevance to the participant rather than conceptual relatedness. The remainder of sorting responses were included. Rating responses from all 47 participants met inclusion criteria and were included (Table).

STEPS 3 AND 4: REPRESENTATION AND INTERPRETATION

CONCEPT MAPPING
The final cluster map, determined through HCA, MDS, and consensus-based discussion, included 8 domains. Eighteen

stakeholders (13 residents, 5 program leaders) participated in 3 focus groups to offer feedback on map content and domain labels. After several iterative, consensus-driven discussions incorporating focus group feedback, the final cluster map domain labels were: 1) positive, safe, and diverse culture; 2) unity and connection; 3) professional fulfillment and mindset; 4) personal health and life satisfaction; 5) professional development and recognition; 6) schedule protections and downtime; 7) work systems and benefits; and 8) proactive and compassionate leadership (Fig. 2, Supplementary Appendix 1).

Schedule protections and downtime and *work systems and benefits* were the domains most closely situated to one another, signifying greatest interdomain similarity in conceptual relatedness (ie, resident as employee), according to map position. The domain concepts, determined through iterative review and discussion, aligned with 4 distinct pediatric resident roles, including resident as: 1) individual, 2) colleague, 3) employee, and 4) emerging pediatrician. Supplementary Appendix 2 shows each domain, domain description, domain ideas with the highest importance ratings, and the resident roles that aligned with the domain.

DOMAIN PATTERN MATCHING
The range (3.90–4.12) was narrow for mean importance ratings assigned by senior pediatric residents compared with range (3.61–4.39) of mean importance ratings assigned by program leaders. The *professional fulfillment and mindset* domain ranked highly relative to other domains for both groups. However, the *schedule protections and downtime* domain ranked highest relative to other domains according to residents and lowest relative to other domains according to program leaders. The *schedule protections and downtime* domain received a significantly higher mean rating from residents than program leaders (*P* < .05) (Fig. 3).

DISCUSSION
In this national study of pediatric residents and program leaders, stakeholders identified 8 domains of resident well-being. Domains included elements of professional relationships and work culture, professional growth and development, systems and organizational factors associated with status as an employee, and individual experiences and needs. This study signaled potential areas of value alignment and divergence between pediatric residents and residency program leaders. These findings may be used to fill important gaps in developing pediatric resident well-being educational content standards, initiatives, and research.

Like resident and physician well-being models grounded in Maslow's hierarchy and whole health concepts,[8–10] the concept map embraces a holistic view of resident and physician well-being. Unlike prior models, which offer a more theoretical approach to conceptualizing well-being, the current map demonstrates
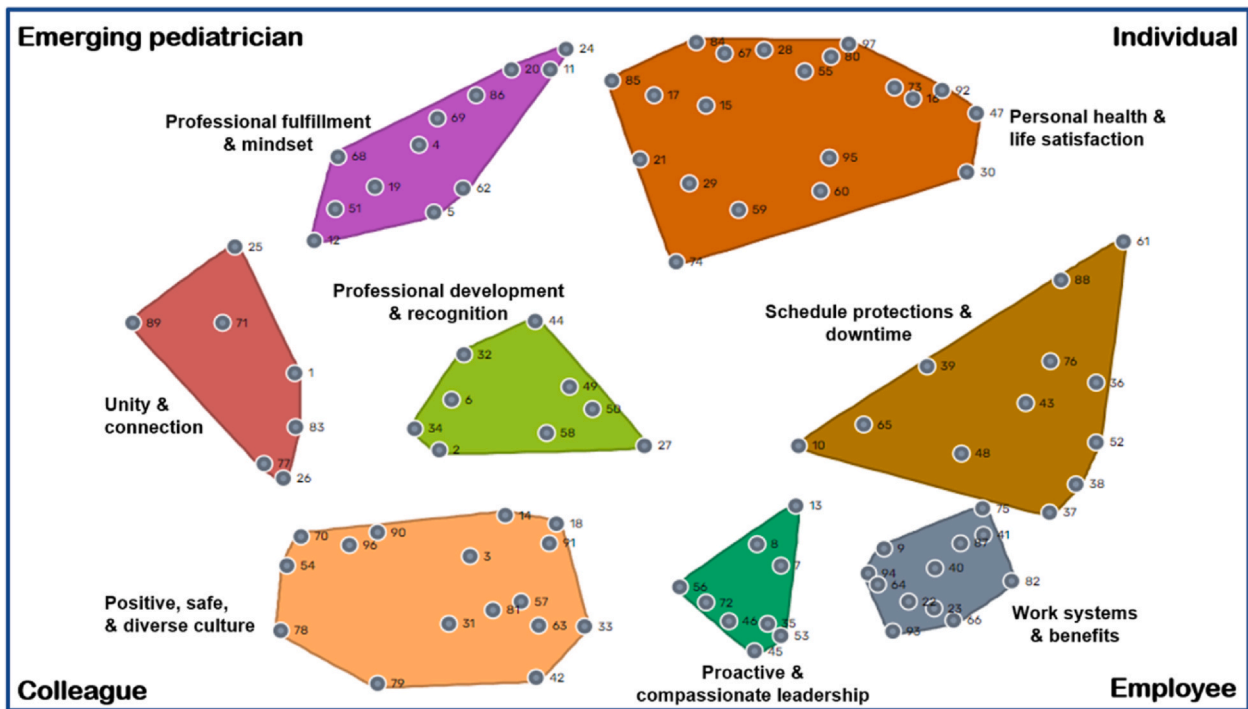
Figure 2. *Point map* and superimposed cluster map demonstrating 8 clusters (domains) of pediatric resident well-being and aligning roles. *Each well-being idea was assigned a random number (1–97) prior to the sorting and rating tasks and is displayed on the map as a numbered point, according to how frequently stakeholders grouped ideas together in sorting. Ideas frequently grouped together sit geographically closer on the map; ideas infrequently grouped together sit geographically farther.*
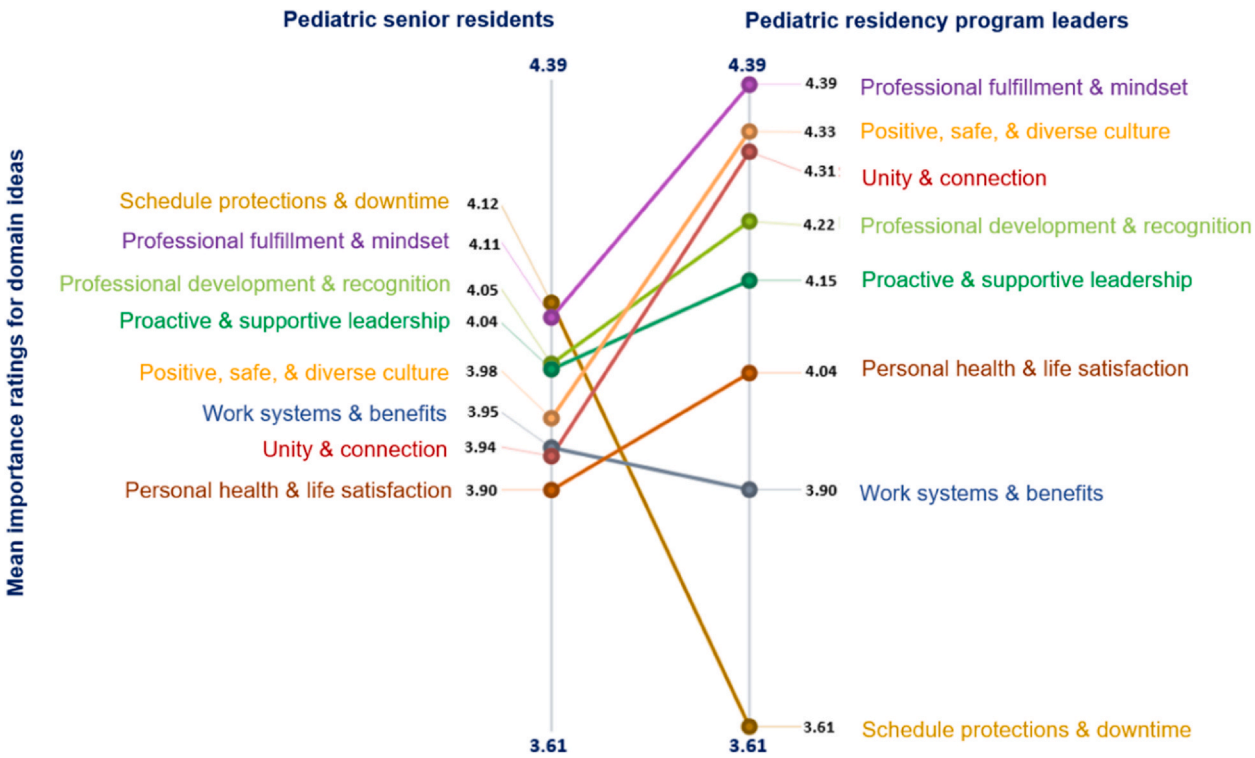

Figure 3. *Pattern match comparison: Mean importance ratings for ideas within each domain according to subgroup membership, pediatric senior resident, or pediatric residency program leader.*

domains specific to pediatric resident roles as individuals, colleagues, employees, and emerging pediatricians.

Conceptually, several domains on the map were rooted in the positive psychology framework, PERMA, for drivers of occupational well-being. PERMA suggests that *p*ositive emotion, *e*ngagement, *r*elationships, *m*eaning, and *a*chievement drive occupational well-being.[20] Several domains, including *positive, safe, and diverse culture*,

professional fulfillment and mindset, *unity and connection*, *proactive and compassionate leadership*, *professional development, and recognition*, aligned with PERMA concepts. This suggests that PERMA may offer a reliable partial framework for conceptualizing pediatric resident well-being.

However, as others have suggested,[21] the traditional PERMA framework may miss key organizational and systems drivers of well-being, as identified by map domains, such as *schedule protections and downtime*, *work systems and benefits*, and *proactive and compassionate leadership*. The importance of systems- and leadership-driven protections of physician well-being has been explored in physician well-being literature previously.[22] Yet, the timing of this study, occurring in the height of Coronavirus-19 and in the wake of a national reckoning with institutional racism following George Floyd's murder by police,[23] may have solidified stakeholder views that systems- and leadership-driven protections are fundamental to resident well-being.

Additionally, the current study expands on prior frameworks by offering a novel *role-based* lens to frame pediatric resident well-being needs and suggests that addressing pediatric resident well-being needs across multiple simultaneous roles as *individuals*, *colleagues*, *employees*, and *emerging pediatricians* may be important. While individual, contextual, and generational factors may shift residents' specific needs over time, the role-based lens offers a practical foundation for studying well-being that warrants further investigation.

Practically, consider a residency program that addresses well-being needs across multiple roles. This program may implement work-efficiency supports, including scribes,[24,25] resident assistants,[24–26] and optimized clinical note templates.[24,25,27] These efforts increase time in meaningful work and learning (*emerging pediatrician*) and promote work-life balance by decreasing after-hours charting (*individual*).[25,26,28] If that same program cultivates a collaborative and inclusive culture (eg, retreats, micro/macroaggression training), provides robust benefits (eg, paid parental leave), and delivers quality mentoring, residents may experience a holistic sense of professional well-being bolstered across many fronts.[29,30] ACGME well-being content standards might similarly convey that residents have complex work and learning environment needs spanning simultaneous roles as *individuals* with human needs, *colleagues*, *employees*, and *emerging pediatricians*.

Additionally, interventions optimizing *professional fulfillment and mindset* may offer particular gains. In this study, residents and program leaders assigned high mean relative importance values to *professional fulfillment and mindset*. Ideas in this domain included, "Enjoying the work that you do," "Feeling fulfilled by your work," and "Learning and growing continuously." Literature suggests that self-actualizing experiences are highly valued across US occupations, particularly medicine.[9,31] Therefore, finding ways to cultivate enjoyment, professional passion, and meaning in the workplace may be particularly beneficial.[25,28] Examples might include offering individualized

learning pathways (eg, research, primary care, global health),[31,32] humanities rounds or storytelling events that cultivate resilience,[33] and clinical debriefs that foster professional and emotional growth following challenging professional encounters.[34,35]

Our study suggests that, from the resident's perspective, interventions optimizing *schedule protections and downtime* may be highly valued. This finding suggests that *professional fulfillment and mindset* may have limitations in supporting well-being if individual human needs for rest and restoration are not met. Ideas in this domain included, "Having time to eat, drink, and use the restroom while working," "Feeling able and empowered to take sick/personal days when needed," and "Spending time unreachable by work communication technology (eg, pagers, work phone, email)." During residency, maintaining a sense of well-being may simply be difficult because of the demanding schedule, unpredictability of patient needs, sleep impairment, workload, and emotional stressors inherent to residency training.[1,3,35] There may be added challenges for residents with role demands at home, including parenting, caregiving for ill relatives, or holding community leadership positions.[36] The combination of high-intensity residency experiences, workload, and desire (need) to fulfill personal life obligations may drive residents to particularly value *schedule protections and downtime*.[36] Aforementioned efforts to address work inefficiencies may allow residents time to tend to their bodies' needs at work (eg, eat, drink, use restroom) and improve work-life balance. Additionally, addressing the physician "invincibility myth" embedded in medical culture,[37] which portrays physicians as superhumans, may also drive change.

Notably, ACGME states that residency programs should attend to "scheduling, work intensity, and work compression that impacts resident well-being."[38] However, compared to residents in this study, program leaders assigned significantly lower importance to *Schedule protections and downtime*. From a program standpoint, ability to provide schedule protections and downtime may be complicated by systems and cultural barriers. Systems barriers may include hospital staffing demands, especially during infectious disease surges (Coronavirus-19, RSV, influenza) when patient numbers and staffing challenges grow.[39] This may be particularly true for smaller or under-resourced residency programs. This study was conducted during the height of Coronavirus-19, and during that time, residency programs faced substantial resident staffing challenges and new demands to provide effective resident education through virtual platforms.[40,41] Recognizing how crucial face-to-face patient care experiences are for providing quality residency training, the context and timing of this study may have particularly shaped how program leaders prioritized *Schedule protections and downtime*.

Apart from study timing, cultural (generational, institutional) expectations that residents should sacrifice personal time during training to develop as pediatricians and perspectives gleaned from professional experience that other domains matter more, could have led program

leaders to place lower value on *schedule protections and downtime*.[42] As program leaders face increasing demands to provide resident schedule customizations and protections,[38,42] they will need to find innovative methods to adapt to these changes without sacrificing patient care and education. Ultimately, exploration of the discordant views between residents and program leaders on *schedule protections and downtime* was outside the current study scope. Follow-up studies using qualitative methods to explore subgroup perspectives on this domain are needed.

Finally, program leaders placed relative high rank value on *positive, safe, and diverse culture* and *unity and connection* domains, though not statistically different from resident ratings. Ideas in these domains included, "Positive work environment," "Sense of camaraderie among co-residents," "Being treated respectfully at work," and "Feeling that you are welcomed, included, and belong at work." Feeling supported (or unsupported) in the workplace has been associated with multiple well-being outcomes and workplace performance,[2,43,44] and this may be especially true for residents identifying as UIM and gender nonconforming.[17,18,29,44] ACGME has prioritized the development of inclusive and psychologically safe learning environments,[38] and how program leaders in this study rated these domains likely reflects shared values with these priorities. Future qualitative work exploring these domains among residents with underrepresented racial, ethnic, and gender identities will be important.

LIMITATIONS

There are several important limitations to consider. First, interpretation biases at each GCM step are possible. To mitigate bias, we used a rigorous team-based and consensus-driven approach, incorporated stakeholder input, and engaged in reflexivity throughout the GCM process. Second, data were collected during the height of Coronavirus-19, and therefore, our results reflect participant well-being values during that time. Obtaining stakeholder input at strategic follow-up intervals would be important to understand how well-being needs change over time. Follow-up studies should explore the generalizability of these GCM findings using national, representative samples. Qualitative studies should seek program leader and resident perspectives on *schedule protections and downtime* concepts.

Third, although we were able to over-sample residents identifying as UIM, gender nonconforming, and gender nondisclosed in brainstorming, we were less successful in achieving participant race, ethnicity, and gender diversity in sorting, rating, and focus group phases. Additionally, despite attention to oversampling UIM resident perspectives in brainstorming, only gender demographics were obtained during program leader brainstorming. The residencies from which we recruited program leaders for brainstorming were diverse in UIM resident representation, program size, and location; however, without program leader race and ethnicity data, we were unable to determine the extent of UIM program leader representation in brainstorming. Race and ethnicity data were obtained in all other

study phases for all participants. Future studies should ensure that these demographics are collected in every study phase and subgroup to contextualize UIM and gender nonconforming stakeholder experiences, as these stakeholders are more likely to experience discrimination and challenges related to underrepresentation.[17,29]

CONCLUSION

This stakeholder-derived framework offers novel insights about pediatric resident and program leader conceptualization of resident well-being that may be used to drive ACGME well-being content standards, interventions, and research. Our study suggests that well-being curricula and interventions should aim to meet residents' holistic needs across roles as individuals, employees, colleagues, and emerging pediatricians. Program leaders should explore ways to cultivate professional fulfillment among residents and optimize resident schedule protections and downtime needs without sacrificing patient care and education. Future research should explore areas of misalignment between pediatric residents and program leaders regarding *Schedule protections and downtime*, to optimize interventions in this arena.

DECLARATION OF COMPETING INTEREST

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

SUPPLEMENTARY DATA

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.acap.2024.01.004.

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