Eight Domains of Pediatrician Wellness: A Stakeholder Informed Model

Sarah Webber, MD; Ryan J. Coller, MD, MPH; Roger Schultz, MS; Elizabeth E. Rogers, MD; Maren E. Olson, MD, MPH, MEd; Megan A. Moreno, MD, MSEd, MPH; Jessica C. Babal, MD

From the Department of Pediatrics (S Webber, RJ Coller, R Schultz, MA Moreno, and JC Babal), University of Wisconsin School of Medicine and Public Health, Madison, Wis; Department of Pediatrics (EE Rogers), University of California San Francisco; Department of Pediatrics (ME Olson), University of Minnesota, Minneapolis, Minn
Address correspondence to Sarah Webber, MD, Department of Pediatrics, University of Wisconsin School of Medicine and Public Health, H4/472, Mailcode 4108, 600 Highland Ave, Madison, Wis 53792-4108 (e-mail: sawebber@wisc.edu).
Received for publication August 18, 2023; accepted December 28, 2023.

Abstract

Background: Physician wellness is important to health care systems and quality patient care. There has been limited research clarifying the physician wellness construct. We aimed to develop a stakeholder-informed model of pediatrician wellness.

Methods: We performed a group concept mapping (GCM) study to create a model of pediatrician wellness. We followed the four main steps of GCM and recruited pediatricians at multiple sites and on social media. During brainstorming, pediatricians individually responded to a prompt to generate ideas describing the concept of pediatrician wellness. Second, pediatricians sorted the list of brainstormed ideas into conceptually similar groups and rated them on importance. Sorted data were analyzed to create maps showing each idea as a point, with lines around groups of points to create clusters of wellness. Mean importance scores for each cluster were calculated and compared using pattern match.

Results: Pediatricians in this study identified eight clusters of wellness: 1) Experiencing belonging and support at work, 2) Alignment in my purpose, my work, and my legacy, 3) Feelings of confidence and fulfillment at work, 4) Skills and mindset for emotional well-being, 5) Harmony in personal, professional, and community life, 6) Time and resources to support holistic sense of self, 7) Work boundaries and flexibility, and 8) Organizational culture of inclusion and trust. There were no significant differences in mean cluster rating score; the highest rated cluster was Harmony in personal, professional and community life (3.62).

Conclusion: Pediatricians identified eight domains of wellness, spanning professional and personal life, work, and individual factors.

Keywords: concept mapping; pediatrician wellness; physician wellness; work-life integration

Academic Pediatrics xxxx; xxx:xxx–xxx

What's New

Pediatrician well-being was described in eight domains; an integration of elements spanning personal life, relationships, working environment and meaning of work. Issues like work-life integration and systemic factors spanned multiple domains and were not separated from individual factors.

Concerning rates of physician distress and burnout are well known within the literature.[1,2] Research has expanded our understanding of the multifactorial drivers of physician distress,[3–6] increased attention toward less commonly studied types of distress such as moral injury,[7] and explored the prevalence and negative impacts for physicians and patients.[8–11] This has led to broad promotion of physician well-being efforts[10,12] such as the recommendation of clinician well-being as a fourth aim of quality care,[11] the addition of wellness elements to the common residency program requirements by the Accreditation Council for Graduate Medical Education (ACGME),[13] and the prioritization of clinician wellbeing by the National Academy of Medicine.[14]

As these efforts unfold, there is no consensus construct of physician wellness or well-being to guide the work. While there are standard definitions for types of physician distress, such as burnout and depression,[15,16] wellness is not simply the opposite or absence of physician burnout, and is considered a complex and multifaceted state.[17–19] While a definition for physician well-being has been proposed,[19] there has been limited inquiry or validation of this or other expert-informed constructs in the literature.[20] Previous reviews of existing conceptual models of physician well-being found several models representing aspects of well-being such as resilience, coping, and professional fulfillment, but no models specifically and holistically describing the physician wellness concept.[20] Given its intrinsic importance and attention within health care, greater understanding of the physician wellness construct is warranted.

We aimed to advance the knowledge of the physician wellness concept and develop a stakeholder-informed model of pediatrician wellness. We secondarily aimed to identify potential differences in wellness priorities across pediatrician identities, considering that wellness needs and perspectives may differ across identities due to social, cultural, and environmental factors.[21,22] To achieve these goals, we used Group Concept Mapping (GCM), a participatory research method which utilizes qualitative and quantitative methodologies to create a conceptual model of a complex topic and allows participants to rate the importance of clusters within the model.[23,24]

METHODS

STUDY DESIGN

We designed a multi-site GCM study. The four major steps in GCM methodology are: 1) Brainstorming, 2) Sorting and rating, 3) Representation, and 4) Interpretation.[23,25] These steps and our methods are outlined in Figure 1 and explained in detail below. Eligible participants had completed pediatric residency and were not in clinical fellowship at the time of the study. Participants were screened for inclusion criteria by Qualtrics survey at time of study participation. This study was designated exempt by the University of Wisconsin-Madison and University of Minnesota Institutional Review Boards.

RECRUITMENT STRATEGY

Our recruitment strategy was multi-pronged in order to identify a broad range of pediatrician experiences, within a manageable scope. The authors first utilized our local networks of pediatricians through existing meetings and listserves in four geographic areas (two Midwest, one west coast, one east coast). These listservs included academic medical centers and private, free-standing children's hospitals. We additionally shared on our social media accounts to open the opportunity to folks from a broader geographic region. We also sought intentional ways to promote racial diversity within our sample during sort and rate and focus group stages by recruiting through the American Academy of Pediatrics Minority Health, Equity and Inclusion special interest group listserv.

STEP 1: BRAINSTORMING

The goal of Brainstorming is to create a stakeholder-generated list of ideas in response to a central question. This can be done through multiple venues, including online or through focus groups.

FOCUS GROUP BRAINSTORMING

The study team first collected brainstorming data through focus groups with pediatric faculty at a single academic institution in 2018. During these focus groups, we asked "What is physician wellness?" Details of the setting, participants, recruitment, consent and data collection have

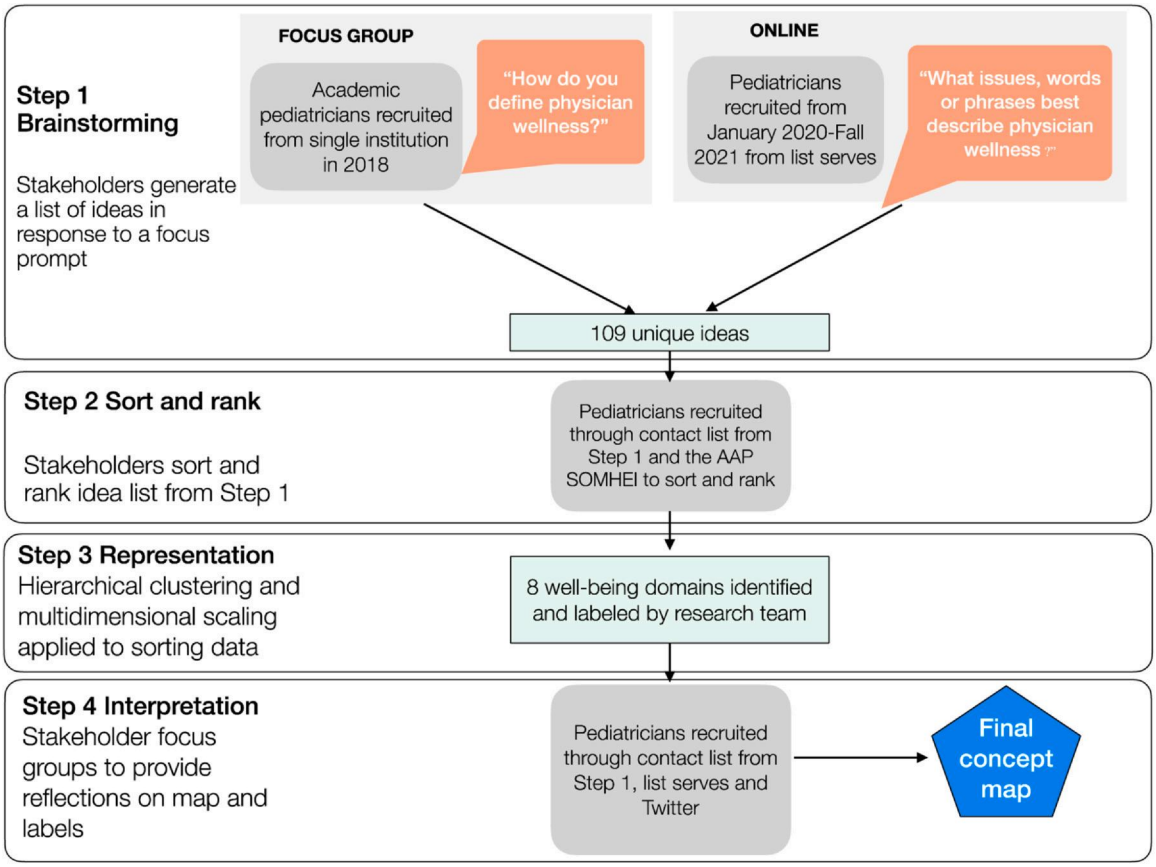

Figure 1. *Key steps in generating pediatrician wellness concept map.*

been published.[26] There was no participation incentive for brainstorming.

ONLINE BRAINSTORMING

Recruitment for online brainstorming occurred from January 2020 to August 2021. Duration of recruitment was paused and prolonged due to onset of the COVID-19 pandemic. Invitations were sent through email listservs at several children's hospitals in the Midwest, East, and Pacific regions of the US. Invitations were also posted by the authors on the personal Twitter accounts of the research team, in order to widen the geographic net of participants. We also encouraged sharing of the invitation with colleagues. Recruitment continued until we reached our goal of at least 50 participants. This number was slightly higher than the GCM standard found to reach theme saturation in other studies to allow for representation from each site and social media participants.[24,27] There was no participation incentive for brainstorming.

Brainstorming occurred online using The Concept System Groupwisdom software: Concept Systems, Inc. Copyright 2004–2022; all rights reserved. First, pediatricians individually viewed a page from the GCM website informing of the study procedure, risks, and benefits of participation. Consent was indicated by clicking ok and agreeing to participate. Participants were asked about gender (man, woman, non-binary, trans-woman, trans-man, prefer not to share), race and ethnicity, practice type (academic, community, or other), and whether they were a physician wellness content leader/expert. During brainstorming, participants were instructed to provide as many answers as possible in response to the prompt, "What issues, words or phrases best describe physician wellness? Please list as many as possible." Though they responded individually, they were able to see previous participant's ideas during brainstorming.

DATA ANALYSIS

Upon completion of brainstorming, ideas from the focus group transcripts and the online brainstorm list were reviewed by two members of the study team (SW and RS, or SW and EH) who identified duplicates, redundancies, and nonsensical ideas and generated a final list of unique ideas. The final idea list was uploaded to the Groupwisdom site.

STEP 2: SORT AND RATE

During sort and rate stakeholders provide opinions about how the ideas from brainstorming relate to each other, and which ideas are more or less important.

PARTICIPANTS AND RECRUITMENT

Sort and rate recruitment and participation occurred from October 2021–January 2022. We sent invitations to Brainstorming participants who had shared contact information and consented to being contacted for future steps. Additionally, to improve representation of pediatricians from traditionally marginalized groups in medicine, we also recruited on the American Academy of Pediatrics Minority Health, Equity and Inclusion special interest group listserv. We aimed to recruit 20–40 participants for this step, consistent with other GCM studies.[24,27,28]

DATA COLLECTION

New sort and rate participants were asked the same demographic information as online brainstorming participants. After consenting online, they were instructed to independently sort each idea from the list into groups, based on conceptual relatedness (not order of importance), and to have at least two groups of ideas. Participants were also asked to provide a label for each group summarizing the ideas within that group. Then, participants rated each statement on a scale from 0–4 indicating the idea's relative importance to their wellness. Participants were given a $40 incentive for completing sort and rate. Responses were reviewed by a member of the research team and excluded if the participant did not complete sorting or rating (defined as fewer than 75% of statements sorted or rated).

STEP 3: REPRESENTATION

During this step, the sorted data were analyzed onto a visual point map applying multidimensional scaling (MDS) through the Groupwisdom software.[24] On this map, each statement was represented by one point, and the distance between points demonstrated how frequently statements were grouped together (closer points were sorted together more often). Next, hierarchical clustering (HC) was applied to the map.[24] This created cluster maps, where boundaries were created around points on the map that were likely conceptually related. Groupwisdom provided several cluster map options, starting with maps with only a few clusters (more lumping of ideas) to several clusters (more splitting of ideas). As the number of clusters increases, clusters are split in two; ideas are never moved from one cluster to another. Two researchers (SW and RS) iteratively examined the cluster maps starting with five clusters up to 11 clusters and selected four that best represented the ideas. This smaller selection of maps was reviewed by the entire research team, who discussed and reached consensus on the map that best represented the data. Pilot cluster labels for clusters in the map were iteratively revised by the entire research team.

Once the clusters were finalized, rating scores for all ideas within each cluster were analyzed within Groupwisdom to create a mean rating score for each cluster. Then, pattern match figures were created to compare cluster rating differences between groups. Pattern match uses a ladder graph representation to compare the cluster ratings across criteria such as a stakeholder group.[24] We analyzed rating responses comparing responses by the following identifiers: gender, race, and ethnicity Groups were compared within the pattern match figure if five or more people identified within that group.

STEP 4: INTERPRETATION

Participants and recruitment. The purpose of interpretation was to allow stakeholders to view and discuss the map and provide comments on the cluster labels. Focus group participants were recruited from April to May of 2022. We invited those who had previously participated in step 2, and new participants from pediatric department listservs and Twitter.

Data collection and analysis. Focus groups were held virtually and facilitated by a researcher with previous experience in focus group facilitation (SW). Participants were given a brief introduction to the concept mapping process and current cluster map. Information about the study, risks, benefits, and consent were completed at the beginning of the focus group. Participants were invited to provide feedback on the cluster labels and identify suggestions to improve or clarify the cluster label. Next, the final map was reviewed, and participants were asked to share general thoughts about the map, strengths, and weaknesses of the map in describing pediatrician wellness, as well as potential gaps or surprises in the map. Participants were given a $40 gift card incentive for participation. After the focus groups, the audio recordings were transcribed verbatim, identifiers were removed, and the data were evaluated by two researchers (SW and RS). Key themes identified by the two researchers were applied to the map labels and the map was reviewed by the research team to finalize the labels.

RESULTS

One hundred forty-three pediatricians participated in brainstorming, 32 in sort and rate and 12 in interpretation. Demographics are described in Table 1. Subsets of participants participated in multiple steps, but we did not track this on an individual basis. One hundred nine unique statements were generated through brainstorming. After MDS and HC were applied to the sorted ideas, eight clusters were included in the final cluster map (Fig. 2). They were: *1) Experiencing belonging and support at work, 2) Alignment in my purpose, my work, and my legacy, 3) Feelings of confidence and fulfillment at work, 4) Skills and mindset for emotional well-being, 5) Harmony in personal, professional, and community life, 6) Time and resources to support holistic sense of self, 7) Work boundaries and flexibility, and 8) Organizational culture of inclusion and trust.* A full list of the ideas organized by clusters is in the appendix.

CLUSTER DESCRIPTIONS

EXPERIENCING BELONGING AND SUPPORT AT WORK

Several ideas in this cluster related to relationships with colleagues, including, "Working with colleagues toward common goals" and "Proud of the people you work with." Others described feelings of support, including being acknowledged and valued: "Expertise and effort are acknowledged at work" and "Feeling valued and appreciated by colleagues, patients and organization." Statements related to belonging included "Anti-racist leaders, policies, and organization" and "Feeling you belong in your workplace."

ALIGNMENT IN MY PURPOSE, MY WORK, AND MY LEGACY

This cluster included ideas connecting individual purpose and desire to leave a legacy with work activities. Example ideas included: "Engaging in work in ways that are most personally meaningful," "Contributing to the organization," and "Seeing the lasting value of one's contributions." Positive experiences from work were described, including: "Satisfied patients and families," and "Alignment of work responsibilities, time and

Table 1. Pediatrician Participant Demographics by Group Concept Mapping Step

		Focus group brainstorming		Online brainstorming		Sort and Rate		Focus Group	
		n=54	%	n = 89	%	n = 32	%	n= 12	%
Gender identity	Woman	28	54%	66	74%	17	53	8	67%
	Man	24	44%	15	17%	7	21.9	3	25%
	Non-binary			0	0	1	3.13	0	0%
	Prefer not to share & other			2	2%	0	0	0	0%
	Trans-woman			0	0	0	0	0	0%
	Trans-man			0	0	0	0	0	0%
	Did not respond	2	4%	6	7%	7	21.8	1	8%
Race or ethnic identity	Black or African American			4	4.49	5	15.6	1	8%
	Asian			9	10.11	3	9.4	1	8%
	Hispanic, Latino			4	4.49	2	6.25	0	0%
	Native American, Pacific Islander			0	0	1	3.13	1	8%
	American Indian, Alaska Native			0	0	0	0	0	0%
	Other			4	4.49	2	6.25	0	0%
	Prefer not to share			1	1.12	1	3.13	0	0%
	White, European American			60	67.42	11	34.38	8	67%
	Did not respond			7	7.87	7	21.88	1	8%
Practice type	Academic	54	100%	65	73.03	12	37.5	8	67%
	Private practice	0	0%	4	4.49	4	12.5	1	8%
	Community hospital	0	0%	6	6.74	3	8.98	0	0%
	Other	0	0%	6	6.74	6	18.75	1	8%
	Did not respond	0	0%	8	8.99	7	21.88	1	8%
Well-being expert	Yes			6	6.74	3	9.38	1	8%
	No			72	80.9	22	68.75	10	83%
	Did not respond			11	12.36	7	21.9	1	8%

Grey shaded boxes indicate that survey responses or questions were not offered to this cohort of participants.

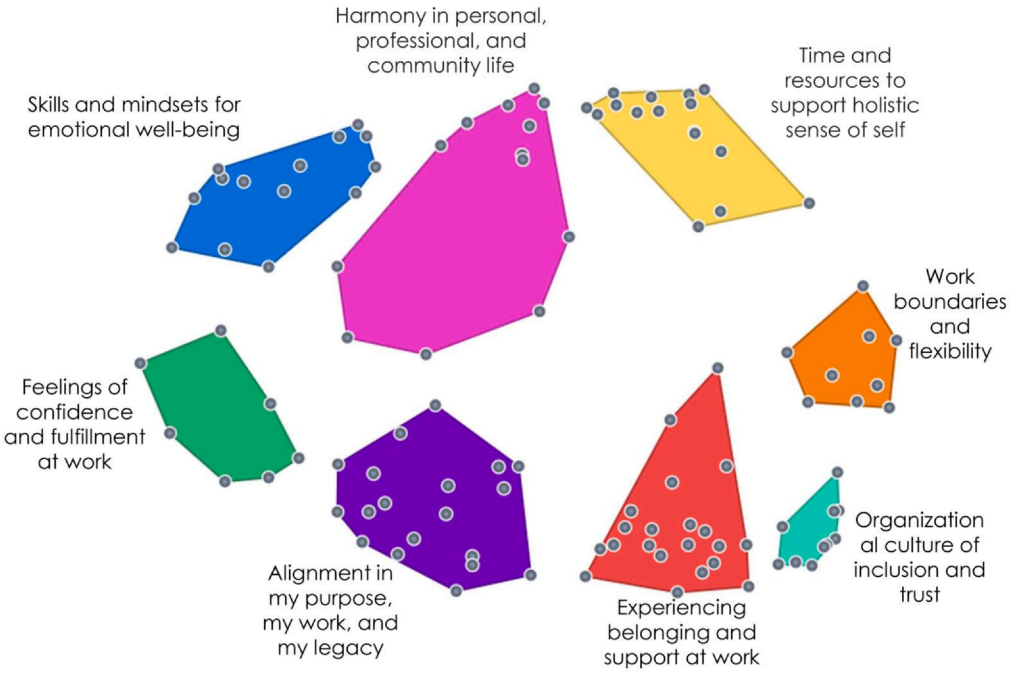

Figure 2. *Pediatrician well-being concept map.*

energy with one's values, skills and expertise." There were also ideas related to aligning one's work with one's other needs, including: "Feeling that time spent at work is worth the personal sacrifices you have made" and "Some control of one's career destiny."

Feelings of Confidence and Fulfillment at Work

Ideas suggesting confidence included "Ability to effectively lead a team" and "Overcoming imposter syndrome." Professional fulfillment was described by ideas including "Having passion for work," "Feeling intrinsically motivated," and "Finding joy in work."

Skills and Mindset for Emotional Well-Being

This cluster included mindsets and skills such as "Appreciating the small things", "Positive outlook" and "Realistic expectations of self." Positive emotions were represented by ideas such as "Happiness" and "A sense of being grounded."

Harmony in Personal, Professional, and Community Life

This cluster spanned the largest physical area on the cluster map, signifying ideas were sorted together less often than in other clusters. Overall, the ideas related to the experiences of global wellness, or thriving, and connection across areas of life. Connection-related ideas included "Valued by own family" and "Perceived positively by others." Other ideas included "Having emotional and physical energy for life outside of work," "Financial security" and "Comfortable asking for help."

Time and Resources Support Holistic Sense of Self

This cluster integrated many human needs with logistics to support those needs. Time was commonly paired with needs. Examples included, "Time and resources to support a healthy diet" and "Time and ability to process, cope and recover from emotionally difficult work." There were several comments about restoration and reflection, including "Periods of disconnection from electronics and technology" and "Ability to experience calm, relaxation and peacefulness." Boundaries around work also came up in this cluster for example, "Ability to effectively set boundaries between work and non-work."

Work Boundaries and Flexibility

This cluster described work strategies to protect home life and limit work: "Limited charting, meetings, and other administrative work at night" and "Flexibility and control over work hours and schedule." Some ideas described environmental elements to support work boundaries and personal life: "Knowing patients and work are being cared for when you are at home" and "A system, colleagues and leaders that facilitate uninterrupted time away from work."

Organizational Culture of Inclusion and Trust

This was the smallest cluster, signifying the ideas were consistently sorted together. It included organizational qualities of inclusion and equity such as: "Not experiencing

Table 2. Domains of Pediatrician Wellness, Mean Importance Rating Scores

Domain Name	Mean (SD)
Harmony in personal, professional, and community life	3.62 (0.22)
Organization culture of inclusion and trust	3.57 (0.22)
Time and resources to support holistic sense of self	3.56 (0.27)
Work boundaries and flexibility	3.52 (0.19
Experiencing belonging and support at work	3.46 (0.30)
Skills and mindset for emotional well-being	3.42 (0.24)
Alignment in my purpose, my work, and my legacy	3.39 (0.29)
Feelings of confidence and fulfillment at work	3.11 (0.66)

microaggressions at work" and "Fair, equitable and transparent compensation." Descriptions of leaders' contribution to culture and trust included: "Competent leadership" and "Realistic and clear expectations from employer" and "Institutions and leaders identify and communicate solutions to work problems."

Cluster Rating

Mean cluster rating scores are in Table 2. The cluster with the highest mean score was *Harmony in personal, professional, and community life* (3.62), and the lowest was *Feelings of confidence and fulfillment at work* (3.11). Pattern match comparing pediatricians by gender and race and ethnicity identifiers are in Figure 3. Comparing mean ratings by men and women, women rated all clusters higher on the absolute scale. *Harmony in personal, professional, and community life* was highest rated for both genders. The second highest cluster for women was *Organizational culture of inclusion and trust;* this cluster was rated second lowest by men. *Work boundaries and flexibility* was third highest for women and lowest for men. Two racial groups had five or more respondents identifying within that group and were compared by pattern match (White (n = 11) and Black/African American (n = 5)). There were differences in the highest rated cluster: Black pediatricians rated *Work boundaries and flexibility* highest (3.73), while White pediatricians rated *Harmony in personal, professional, and community life* highest (3.64). Both groups rated *Sense of confidence and fulfillment at work* lowest.

Focus Group

Participants described several strengths of the cluster map as a model of pediatrician wellness. Overall, they felt it provided a good representation of pediatrician needs, and the factors that could contribute to improved pediatrician wellness. Participants noted the importance of the model including both individual and system factors and one participant highlighted the importance of "shared responsibility with your organization and yourself". Another participant appreciated that the model included both work and personal elements. "I like how it includes both things in and outside of work that will contribute to wellbeing. I think it takes work on the systems part, but I also think it takes work on a personal level to get there". Potential gaps that were noted by participants included outside factors like insurance reimbursement and public health issue, "Something that was missing […] how things outside of our family, outside of our workplace can affect policy and advocacy […] I do not see those reflected by that all plays a role in wellness". One participant noted that spirituality was not explicitly noted within the cluster labels, while it was felt to be important to that individual.

Discussion

Using group concept mapping, pediatricians in this study conceptualized and rated eight clusters representing domains of pediatrician wellness. Similar to others' suggestions, pediatricians have a broader conceptualization of wellness than simply a lack of burnout.[14,19,29] For example, pediatricians conceptualized wellness across personal and life clusters, and included relationships, skills, and characteristics of the working environment. Pediatricians identified inclusion and belonging as elements of wellness, a unique finding among existing physician wellness constructs, though important across inclusion, diversity and equity work.[18–20] Overall, the domains in this model may help move toward a consensus wellness model, holistic measures, and help leaders and organizations set goals for what pediatrician wellness programs can aim to achieve.

Our findings provide empirical evidence for what others have theorized about pediatrician wellness.[19,29,30] First, pediatricians view their wellness from an integrated perspective. This aligns with models of wellness and wellbeing outside the physician wellness paradigm, for example the Veteran's Affairs *Circle of Health* and the social-ecological model of health.[31] These models describe wellbeing as an integration of many facets of life: personal, professional, and relational. Previous clinician research has documented that seemingly ''personal'' issues (eg, work-life integration or sufficient sleep) impact outcomes at work.[8,9,32] For health care institutions looking to make meaningful improvements in pediatrician wellness, it may be helpful to approach from a perspective that takes into account the whole-person perspective of wellness.

Our study suggests complexity of the work-life integration concept. Our model did not have a single "work-life integration" domain; but instead, several domains reflected the experience of work and life intersecting with each other.[33] Domains describe contributing factors (work flexibility and boundaries) as well as experiences and feelings (harmony in personal, community and work life) related to work-life integration. This observation extends and refines the notion of the work-life integration concept, which has not been consistently defined in the physician wellness literature.[33] Further research is needed to better understand the interaction of physician work and personal life and impacts on overall wellness, and work-specific outcomes.

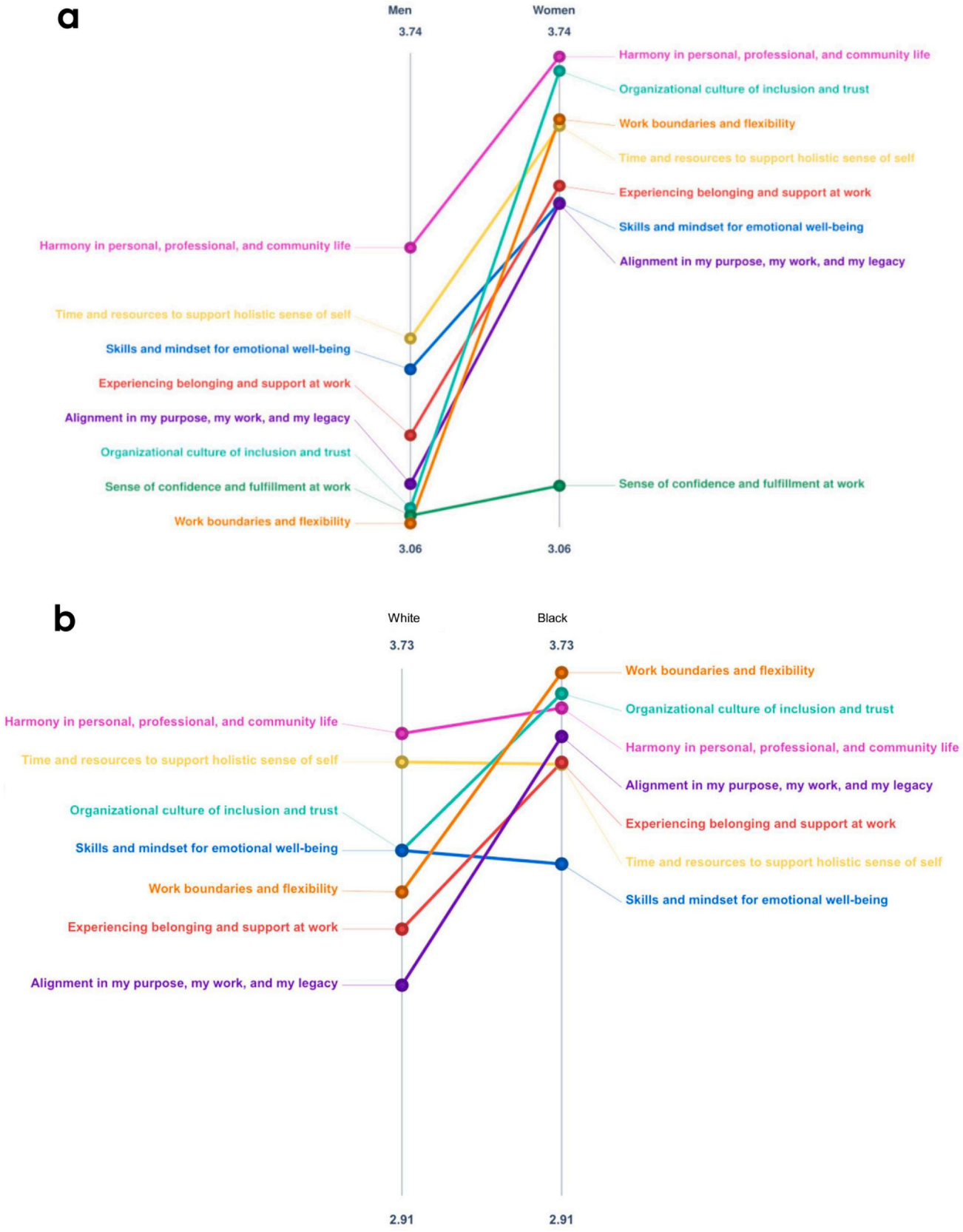

Figure 3. *(a) Mean cluster importance rating by demographic identifiers. (b) Mean cluster importance rating by demographic identifiers.*

Similar to the National Academy of Sciences Systems Model of Clinician Burnout and Professional Well-being, our model expands beyond binary conceptualizations of physician wellness efforts as system or individual.[14] Rather than sorting ideas into domains that clearly demarcated individual, local, and organizational factors, these factors were distributed across domains and within ideas. For example, the idea "Alignment of work responsibilities, time and energy with one's values, skills and expertise" combines systems (work responsibilities), personal needs (time and energy), and fulfillment and efficacy (skills and expertise). There have been recent concerns about conceptualizing well-being as individual vs system, for concern that it may pit individual physicians and system leaders against each other,[29] or artificially separate experiences that are driven by both individual and system factors. More wellness conversations that explore shared responsibility that recognizes work system and individual factors together may be important in making meaningful change.[14,29]

Previous work has suggested differences in well-being experiences across physician identities.[21,34] Results of pattern match rating suggest possible differences in wellness priorities when comparing physicians by gender and race though identifying significant quantitative differences would require additional study. Overall, women physicians scored domains higher than men. Potential reasons include a bias towards higher scoring or that the domains resonated more with women than men physicians. Women and Black pediatricians rated organizational culture of inclusion and trust second highest, while men ranked it fifth. It is possible that pediatricians who identify within groups historically marginalized within medicine see the value of inclusion differently than those with more privileged identities.[22] While wellness preferences are likely to differ within racial and gender groups of pediatricians, our findings provide preliminary information as to which areas of intervention may best help pediatricians across gender and racial identities. Improvement initiatives may need to be evaluated by a diverse subset of pediatricians to fully understand the equity of their impact. Future work should further examine differences in wellness priorities by pediatrician identity with larger sample sizes and across more variables (eg, career stage and practice setting).[35]

This model may support the development of pediatrician wellness efforts. Leaders could use this model to identify areas of priority for improving wellness, starting with small tests of change targeting ideas within each domain. Such tests of change can occur at the system, division or work unit, or individual levels, or span multiple levels. For example, if pediatricians are experiencing dissatisfaction related to the domain *Time and resources support holistic sense of self*, teams could work together to create and facilitate boundaries that support time away from work. This might include personal boundary setting, for example turning off email notifications when at home, as well as work-based tactics like scribes or inbox management protocols to decrease documentation time. In addition to organizational efforts, this model can inform development of more nuanced wellness measures that incorporate a holistic perspective of pediatrician wellness.

There are limitations to consider. This study utilized a convenience sample and small sample size, consistent with other GCM studies. GCM is not meant to be generalizable, but rather to advance understanding of stakeholder conceptualizations of a complex topic. This model may not identify conceptualizations of wellness for all pediatricians. For example, our sample had a high percentage of academic pediatricians, and their values and priorities may be represented more than others. While we intentionally sought a diverse population of pediatricians for this study, several racial groups were under or not represented during brainstorming and focus group steps. Future work should further explore the prioritization of wellness elements across physician identities. As with all studies including a qualitative or interpretive component, introduction of bias by the research team is possible during each step. Data were collected before and during the COVID-19 public health emergency, and this model reflects perspectives across a time that involved vast changes in health care and larger society. Finally, while the wellness domains in this model are intrinsically important to pediatrician wellness, it is unknown how positive experiences in these domains correlate to outcomes such as quality patient care and workforce sustainability.

Conclusion

This is the first study to generate a stakeholder-driven model of pediatrician wellness. Our model's domains reflect the vastness of concepts comprising pediatrician wellness and integration of personal and professional elements to achieve wellness. work provides a foundation for a consensus wellness model, future improvement initiatives, and refined wellness measures for pediatricians.

Declaration of Competing Interest

The authors declare no conflict of interest.

Acknowledgments

The authors would like to thank the pediatricians who participated in this project.

Financial statement: This work was supported by the Department of Pediatrics at the University of Wisconsin through a research and development grant.

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