Title

Qualitative Exploration of the Guilt Gap Among Physician-Faculty with Caregiving Responsibilities.

Journal

Journal of Womens Health, 34(1)

Authors

Takayesu, Jamie
Szczygiel, Lauren
Jones, Rochelle
et al.

Publication Date

2025

DOI

10.1089/jwh.2024.0106

Peer reviewed

JOURNAL OF WOMEN'S HEALTH
Volume 34, Number 1, 2025

DOI: 10.1089/jwh.2024.0106

Qualitative Exploration of the "Guilt Gap" Among Physician-Faculty with Caregiving Responsibilities

Jamie Takayesu, MD,[1] Lauren Szczygiel, PhD,[1] Rochelle D. Jones, MS,[1,2] Lydia Perry, BS,[1] Laura Balcer, MD,[3] Gail Daumit, MD,[4] Wonder Drake, MD,[5] Heather Gatcombe, MD,[2] Christina Mangurian, MD, MAS,[6] Bess Marshall, MD,[7] Judith Regensteiner, MD,[8] and Reshma Jagsi, MD, DPhil[2]

Abstract

Introduction: Differences in time commitments and resources contribute to the difficulties of work–life integration for many physician-scientists, particularly for women with family caregiving responsibilities. Understanding the challenges faced by this population is critical for the retention of these critical members of the workforce.
Methods: We conducted semi-structured telephone interviews with recipients of the 2017 Doris Duke Charitable Foundation's Fund to Retain Clinical Scientists (FRCS) and reviewed application narratives from the 2020 award recipients. Award recipients were asked about their caregiving responsibilities and careers, particularly as they related to the impact of the FRCS award and the aftereffects of the COVID-19 pandemic. Analysts then iteratively revised the coding scheme and interpreted the data using qualitative thematic analysis.
Results: Of the 14 interviewees and 19 narrative contributors, 25 (76%) were women. The main qualitative themes that emerged were as follows: (1) women experience unrealistically high caregiving burdens, (2) women are overburdened by disadvantageous and undervalued expectations at work, (3) work–life expectations increased during the COVID-19 pandemic, and (4) unrealistic work–life expectations led to guilt and burnout.
Conclusions: These findings provide a rich understanding of the factors contributing to guilt and burnout among physician-scientists, particularly women, and how work duties that increase physician obligations exacerbated these challenges. Understanding these experiences is critical to supporting and retaining a diverse workforce in academic medicine.

Keywords: physician-scientists, COVID-19, family caregiving, physician well-being, motherhood

Background

Physician-scientists are uniquely positioned to investigate patient-centered questions, and diversity in this pool is critical to designing innovative and relevant insights. While the number of women in medical school has increased, high attrition rates result in a disproportionately low representation among tenured faculty, independent physician-scientists, and leaders in academic medicine.[1–3] Woman physician-scientists face unique challenges; for example, they spend a disproportionate amount of time on domestic work compared with their

[1]University of Michigan, Ann Arbor, Michigan, USA.
[2]Winship Cancer Institute of Emory University, Atlanta, Georgia, USA.
[3]New York University Grossman School of Medicine, New York, New York, USA.
[4]John Hopkins University School of Medicine, Baltimore, Maryland, USA.
[5]Vanderbilt University School of Medicine, Nashville, Tennessee, USA.
[6]University of California San Francisco, San Francisco, California, USA.
[7]Washington University in St. Louis School of Medicine, St. Louis, Missouri, USA.
[8]University of Colorado Anschutz Medical Campus, Denver, Colorado, USA.

Table 1. Characteristics of Awardee Interviews and Narratives Included in Qualitative Analysis

Characteristic	*Awardee interviews and narratives*		
	Interviews (N = 14)	*Narratives (N = 19)*	*Total (N = 33)*
Gender, n (%)			
Female	11 (79)	14 (74)	25 (76)
Male	3 (21)	5 (26)	8 (24)
Age, n (%)			
<40	3 (21)	15 (79)	18 (55)
40–50	10 (71)	3 (16)	13 (39)
>50	1 (7)	1 (5)	2 (6)
Race/Ethnicity, n (%)			
White/Caucasian	11 (79)	11 (58)	22 (67)
Asian	1 (7)	3 (16)	4 (12)
Other	2 (14)	5 (26)	7 (21)
Marital status, n (%)			
Married/in a domestic partnership	12 (86)	14 (74)	26 (79)
Divorced/separated	0 (0)	1 (5)	1 (3)
Missing	2 (14)	4 (21)	6 (18)
Partner working status, n (%)			
Full time	8 (57)	13 (68)	21 (64)
Part-time	3 (21)	1 (5)	4 (12)
Unemployed	1 (7)	0 (0)	1 (3)
Not applicable	0 (0)	1 (5)	1 (3)
Missing	2 (14)	4 (21)	6 (18)
Caregiving responsibilities			
Number of children, mean (range)	2.33 (1–3)	1.53 (0–3)	1.89 (0–3)
Childcare—infants/toddlers (0–4 years), n (%)[a]	8 (57)	11 (58)	19 (58)
Childcare—school age children (5–12 years), n (%)[a]	7 (50)	4 (21)	11 (33)
Responsible for other adult/elder, n (%)	3 (21)	3 (16)	6 (18)
Missing, n (%)	2 (14)	4 (21)	6 (18)

[a]Respondents could report ages for more than one child.

male counterparts.[4,5] This limits time available to women to pursue professional goals.[6] Women of color are particularly likely to face extraprofessional caregiving demands[7] and also must navigate heightened challenges due to the unique intersection of biases they face.

Several academic institutions have developed policies to address these issues, including expanding childcare options or extending tenure timelines.[8] In 2015, the Doris Duke Charitable Foundation launched the Fund to Retain Clinical Scientists (FRCS), a national initiative at 10 U.S. medical schools with the goal of retaining early-career physician-scientists facing extraprofessional caregiving demands. The FRCS provided financial support ($30,000 to $50,000 per year for 1–2 years), which could be used by awardees to help cover direct research needs, but could not be used to pay for dependent care (i.e., nannies, day cares, and so on).[9,10] As a part of a larger evaluation of the FRCS, we are engaged in longitudinal collection of quantitative and qualitative data from these awardees.

The aim of this study was to gain further insight into the extent of caregiving challenges, including perceptions of the impact of gender on work–life integration, balance, and boundaries. The onset of the COVID-19 pandemic allowed us to explore the impact of caregiving in a world transformed by a pandemic, and the FRCS provided unique access to physician-scientists known to have family caregiving responsibilities.

Materials and Methods

We conducted a qualitative descriptive study[11] to explore early-career physician-scientists' experiences of caregiving during the COVID-19 pandemic. The full methods of the program evaluation were reported previously.[6] Briefly, we invited all 38 physician-scientists who received FRCS support in 2017 (the second cohort of awardees) to participate in semi-structured telephone interviews. These awardees received financial support for 1–2 years and could only use funds to cover direct research costs and could not use them to pay for dependent care costs. Of the 38 awardees invited, 14 consented and participated. We also analyzed written narratives in which applicants explained their unique caregiving responsibilities when they applied for the FRCS award. We received consent and obtained narratives from the 2020 cohort of awardees, which were selected to be contemporaneous with the 2020 interviews and to triangulate themes of the COVID-19 pandemic. This study was approved by the University of Michigan Institutional Review Board.

We conducted interviews between August and October 2020. We developed a semi-structured interview guide, which explored career development, caregiving responsibilities, reflections on the FRCS, and the impact of the COVID-19 pandemic.

Individual interviews were conducted by phone by two nonphysician interviewers and lasted 30–60 minutes. Audio-

recorded interviews were transcribed by a professional transcription service. Transcripts were deidentified and compared to audio-recordings for accuracy. We additionally reviewed 19 written narratives of those who received the FRCS award in 2020. Narratives were approximately 1 page.

The interview transcripts and written narratives were uploaded to MAXQDA (VERBI Software, 2021) for data management and analysis.

Analysis

The data were analyzed iteratively through steps informed by the framework method to thematic analysis.[12] Members of the coding team read all transcripts and narratives, making analytical memos and noting any preliminary codes. Two lead coders then independently open-coded the same three transcripts and came to consensus on an initial codebook. A process of refining and applying codes iteratively was repeated until no new codes were generated and we had established a final codebook.

The coding team systematically coded each transcript and narrative using the final codebook and identified meaningful passages. The coding team met to discuss impressions and form themes. We were able to achieve information power[13] with an interview sample size of 14 and a written narrative sample size of 19, as determined by the specificity of our sample and quality of dialog that produced information-rich cases.

Results

Of the 14 interviews and 19 narratives included in this study, 25 awardees (79%) were women. This sample was representative of the broader pool of 2017 and 2020 awardees (76% women). Eighteen (55%) were less than 40 years of age and 11 (79%) were Caucasian. Nineteen (58%) awardees were caregivers to children aged 0–4 years old, and 6 (18%) were responsible for another adult or elder. See Table 1 for demographic details.

Qualitative analysis identified that the caregivers in our sample of mostly women are burdened by strong feelings of guilt due to the unrealistic gendered expectations in the domestic sphere and workplace. This guilt was augmented by the effects of the COVID-19 pandemic, which led participants to experience emotional exhaustion and burnout. The thematic map (Fig. 1) illustrates the key findings of this study.

Theme 1: "The mom is always called first"—gendered caregiving responsibilities are perceived as unrealistically high and inescapable

Interviewees expressed that "*caregiving tends to fall on the shoulders of … the moms*" (Interviewee 08, White Female, 40s) (Table 2). On top of childcare expectations, many woman participants also shouldered other domestic responsibilities such as housework, eldercare, family health care, and schedule coordination. While many women expressed that they had supportive spouses, some noted that their husbands often took a "*very different … approach*" (Interviewee 12, White Female, 30s) to caregiving, often described as more hands off.

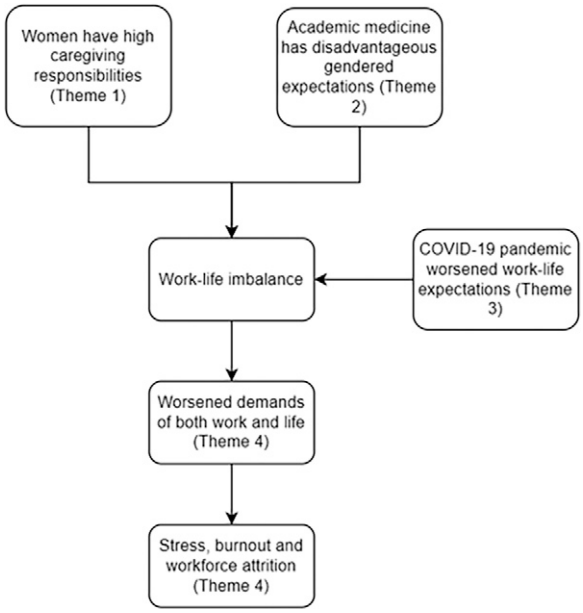

FIG. 1. Thematic map showing the relationship between women's caregiving responsibilities, gendered work expectations, and the impact of these and the COVID-19 pandemic on work–life balance and work–life guilt.

Participants described the following two primary factors that led to uneven distribution of childcare duties: (1) biological requirements of pregnancy and lactation and (2) gendered societal expectations surrounding childcare. Regarding the former, participant Interviewee 07 (White Female, 40s) described *the "physical symptoms, … limitations, and … sleep deprivation"* that came with pregnancy and breastfeeding, and how they *"disrupt[ed] [her] work schedule."* These work disruptions and additional domestic responsibilities were unique to the birthing parents and could not be outsourced to the nonbirthing parent.

These biological differences were often exacerbated by societal expectations of gendered roles in childcare. Interviewee 04 (White Female, 40s) described difficulties delegating childcare duties to her husband due to gender biases of schools and day cares:

> It doesn't matter how you list phone numbers at school, but the mom is always called first.

While several interviewees hired nannies to off-load a portion of their caregiving responsibilities, many woman interviewees expressed that they *"were not able to or interested"* (Interviewee 14, Asian Female, 40s) in off-loading these responsibilities.

Men, on the other hand, described off-loading their caregiving responsibilities to their wives or hiring help:

> She [my wife] did the lion's share of the childcare but stuff that I did was kind of able to be supplemented with someone from outside to be able to come in. *(Interviewee 09, White Male, 40s)*

Several participants also served as health care navigators for their families. Interviewee 06 (White Female, 40s)

Table 2. Theme 1: "The Mom is Always Called First"—Gendered Caregiving Responsibilities Are Unrealistically High and Inescapable

Subtheme 1: Women are expected to bear the brunt of caregiving responsibilities compared with men, especially if in a heterosexual relationship	The men who are successful in our profession ... have stay at home spouses, and that makes things easier. I can't tell you the last time I finished a 12-hour shift and I came home, and dinner was made. Interviewee 02 (White female, 40s)
	I think everything is expected of me. Interviewee 02 (White female, 40s)
	I think ... at least from a home perspective that less would be expected of me. I think my wife still does probably — well, she does still do the lion's share of this despite trying to split it up. Interviewee 11 (White male, 40s)
Subtheme 2: Biological requirements of childbearing (e.g., pregnancy and lactation) increase caregiving expectations for some women	I am a breastfeeding mom. I have to take time to pump. I am for this reason sort of more tied to like my babies' care than my partner is. Interviewee 07 (White Female, 40s)
	I've had three pregnancies during my five-year career development award, and that means physical symptoms and limitations and just regular routine care disrupting my work schedule. And then childbearing leave, and then the physical recovery from that. And then deciding to breastfeed I think also sort of sets you up for more of the sleep deprivation and interrupted work schedule for many months. ... I have had mastitis three times because I haven't been able to pump because we are doing direct patient care. Interviewee 07 (White Female, 40s)
Subtheme 3: Societal expectations reinforce women's caregiving expectations	It doesn't matter how you list phone numbers at school, but the mom is always called first. Interviewee 04 (White Female, 40s)
	And my partner, you know, didn't do any of that. Didn't really take parental leave. I think he took a week with our son and 10 days with our daughter so his absence from the work force was just not noted the way mine was. Interviewee 07 (White Female, 40s)
	The expectations of women in our society are different from the expectations of men. That certainly factors into being in a dual career household with a man, that like things fall on me a lot more than they do on him. Interviewee 04 (White Female, 40s)
Subtheme 4: Women feel less able to set up boundaries or off-load responsibilities that prioritize work over caregiving compared with men	I have a desk in the hallway that's sort of exposed to screaming children and like naked three-year-olds bombing my Zoom meetings. And my partner works in the garage where it's more protected. So I think there is still like a difference in the way the workload falls to us. Interviewee 07 (White Female, 40s)
	There is no necessarily way to avoid taking care of your children ... Maybe people are able to get more help, and we were not willing or able to, or interested in doing that, you know, having a nanny at home or whatever it is. I'm not sure. But we were not interested in doing that. Interviewee 14 (Asian Female, 40s)
	He [my husband] can be at his computer all day long and the kids, when I come back, the kids are [in their] pajamas eating cereal. ... It's not like he's careless, but he's very focused on his work. [I am] too, but I cannot have my kids eating cereal all day long in pajamas. It is totally different point of view of how the kids should be cared. Interviewee 10 (Other Female, 40s)
Subtheme 5: The intersection of gendered caregiving and physician roles means that women are more likely to take on health care navigator responsibilities	My brother is retired and lives in the same town as my mom but I am the person who calls her every day, and has taken over her finances, and manages her doctor's appointments, even though I have a nine hour drive away. So, and that is because I'm a woman—no question. Interviewee 06 (White Female, 40s)
	So, my partner is more invested than he had been, but like a lot of the medical stuff still falls to me because I'm a physician. Interviewee 07 (White Female, 40s)
	I function as a full-time case manager for each one of my kids, so it's basically an unpaid full-FTE position in addition to sort of the regular issues of life and managing a household. But it seems like coordinating appointments and all of the therapy and things that they do for kids with developmental issues, it has to be done at home as well. So, you have the time and energy of going to appointments, but then you have to set aside time and energy at home to be able to practice the skills that are being done in clinic appointments and then as they develop in age, then you

(*continued*)

Table 2. (Continued)

	have to modify all of that and you have to meet with teachers and implement behavioral management plans and track and see how well that's working and meet with their doctors and change their medicines and all of that. Interviewee 12 (White Female, 30s)
Subtheme 6: Intersectionality contributes to caregiving demands for women of color	So, of course you take more responsibility when you are a caregiver, you're a woman—especially in [minoritized race 1] culture. Lots expected. More if you're [minoritized ethnicity 2]. Interviewee 10 (Other Female, 40s)
	I think the stakes are just a little higher for my kids [in the context of speaking about their race/ethnicity] because there is so much in society that is working against them so that in many ways, I need to be available both to them, ... also be available to others in their school and other places where they interacting so that as much as I can, buffering some of the negative things that they are coming across every day. Interviewee 05 (Other Female, 40s)
	They were viewed as [minoritized] kids who really wouldn't amount to much and I see a pattern where they were not getting the attention that they needed. And so that meant that I had to take on the role of essentially being in school a lot of the time so that it was clear that, you know, they had parents that were involved and demanding that they get the attention that they require. Interviewee 05 (Other Female, 40s)

attributed her large role in her mother's care to being a woman:

> My brother is retired and lives in the same town as my mom but I am the person who calls her every day, and has taken over her finances, and manages her doctor's appointments, even though I have a nine hour drive away. ... That is because I'm a woman – no question.

She suggested that women are more likely than men to be involved in eldercare, even when there are geographical barriers. This highlights the intersection of gendered caregiving and physician roles leading to women being pushed into health care navigator responsibilities, which required a lot of *"time and energy"* (Interviewee 12, White Female, 30s).

The women of color in our cohort also mentioned that the strong gendered expectations in eldercare and childcare were augmented by their cultural expectations. Interviewee 10 (Other Female, 40s) described herself as being from two cultural backgrounds, which both placed heavy responsibilities on women as caretakers. This intersection of gender and cultural identity increased time-consuming domestic obligations, limiting time for academic obligations.

Furthermore, one of our participants—a woman of color—described how biases against minoritized people made it more difficult and time-consuming to meet the same expectations placed on nonminoritized populations. She described an urgent need to be *"engaged with [her] kids"* to *"buffer"* the negative social constructs placed on minoritized men and women:

> They were viewed as [minoritized] kids who really wouldn't amount to much, and I see a pattern where they were not getting the attention that they needed... I had to ... [be] in school a lot of the time so that it was clear that ... they had parents that were involved and demanding that they get the attention that they require. *(Interviewee 05, Other Female, 40s)*

She observed that the education system and her community were not offering the same opportunities to her children as to their White peers, and she felt obligated to bridge this gap with her own time and effort, further reducing time and mental bandwidth available to focus on her professional pursuits.

The women in this sample, including the women of color, expressed feeling pressured by societal, racial, and gendered factors to take an enormous role in caregiving and were often unable to adequately off-load these responsibilities to others.

Theme 2: "People don't expect ... women to be ... heavy hitting NIH researchers" — disadvantageous gendered roles in academic medicine led to the undervaluation of women

Compounded with heightened expectations around caregiving, women in this study also noted that gendered expectations in the workforce often limited their career advancement (Table 3).

Several participants noted that men were more likely to have stay-at-home spouses to shoulder extraprofessional responsibilities (Interviewee 02, White Female, 40s), whereas women did not (Theme 1). Thus, when they were compared academically to their male colleagues who had fewer commitments outside of work, these standards had a *"differential impact"* (Interviewee 06, White Female, 40s) and "*[made] it harder to keep up as a woman*" (Interviewee 13, White Female, 40s).

In addition to their substantial duties at home, many women also described being pushed into time-consuming, menial tasks or committees that did not contribute to their career advancement:

> There is an assumption that women will kind of do the cleaning up work, the crossing T's and dotting I's work. ... There is an assumption that women will do a lot of the heavy lifting but, somehow, that men end up getting credit for it. *(Interviewee 06, White Female, 40s)*

Table 3. Theme 2: "People Don't Expect . . . Women to Be . . . Heavy Hitting NIH Researchers"—Women Are Overburdened by Disadvantageous and Undervalued Expectations at Work, Which Inhibits Academic Progress

Subtheme 1: Women's increased time commitments at home limit their ability to take on time-consuming, career-advancing opportunities at work	I have worked with predominantly men on my floor that have labs and some of them see patients also, and some of them have families but they may have wives that don't work if they have kids and take care of them, or they don't have kids at all and so it sort of feels like you are running the same race but there are barriers in front of you that make it harder for you to keep up as a woman. Interviewee 13 (White female, 40s)
	I think the institution would say the expectation applies equally across the sexes, but it has a differential impact on me because I am a woman. Interviewee 06 (White Female, 40s)
	The men who are successful in our profession, particularly in [specialty], a lot of these men have stay at home spouses, and that certainly makes things easier. Interviewee 02 (White Female, 40s)
Subtheme 2: Women academicians are forced into time-consuming and devalued responsibilities within the team, department, and workforce scale.	I share this workload with the director of [specialty] care, who is a man, and my chief, who is a man, and I spend way more time on the administrative tasks than they do. Interviewee 07 (White Female, 40s)
	There is an assumption that women will kind of do the cleaning up work, the crossing T's and dotting I's work. ... There is an assumption that women will do a lot of the heavy lifting but, somehow, that men end up getting credit for it. Interviewee 06 (White Female, 40s)
	There is a lot of value in education; however, from an academic perspective there's not a lot of return on that investment. So, if I'm not careful I get pushed into education efforts. If I'm not careful, I get pushed into mentorship positions that maybe take more time than I have. Interviewee 12 (White Female, 30s)
	The high [king] specialties have many fewer women than—and women are getting promoted less because it's just harder to get through. Interviewee 04 (White Female, 40s)
Subtheme 3: With these additional burdens and societal pressures women reported perceiving that they had lower pay and less academic advancement.	I definitely see that in our institution there are many fewer women who actually make it all the way to full professor, and ...those factors must play a role. Interviewee 04 (White Female, 40s)
	Women, on average, make $25,000 less than men. Interviewee 04 (White Female, 40s)
	I also think that I am in an institution that wants to think that it's hospitable to women, but it isn't especially, and there are in my department, there have only been I think three MDs who have ever been promoted to full professor who are women in my department in the whole several hundred-year course of their history. Interviewee 06 (White Female, 40s)
	I think that people don't expect, in general, women to be kind of heavy hitting NIH researchers or like well-funded researchers. Interviewee 08 (White Female, 40s)
Subtheme 4: Men are more likely to be expected to hold leadership roles and value work over home life	I told people that I did have childcare responsibilities and responsibilities to older parents. They sort of looked at me and said, well, that as a White male your role is really in the medical center in a leadership position, that you should have someone to take care of this for you. Interviewee 11 (White Male, 40s)
	So, my wife is absolutely fine with my working late, working on weekends, so there's definitely I think the fact of, yeah, that a family that recognizes what structure of somebody working as a physician scientist is ... I think that's been absolutely critical, and so they've been very supportive in that sense. Interviewee 11 (White Male, 40s)
Subtheme 5: Women of color in particular may be perceived as being less likely to succeed at work and may be likely to ask for advancement opportunities	I asked the attending for feedback and he said to me, "You are a [minoritized] woman with an accent, nobody is going to listen to you." Interviewee 05 (Other Female, 40s)
	I think that being [of race/ethnic] descent ... the non-positive things is that you don't fight authority ...and that sometimes is no good because you can be manipulated. So, they may give you extra work, and you'll take it. You won't fight against that. ... If you're a woman in [typically collectivist culture #1] or in the [typically collectivist culture #2] society,

(*continued*)

Table 3. (Continued)

	that cannot be—it's [not] prudent to go against an authoritarian figure. Interviewee 10 (Other Female, 40s)
	I didn't look back and I said, how much are you paying to a man with the same qualifications? ... I think it's because, personally, I was so happy that I was being hired, I was a woman and I'm foreign and all of that, the day they offered me a job. Interviewee 10 (Other Female, 40s)

She pointed out that there is still a workplace culture where women are responsible for secretarial work, whereas men are allowed to focus on the bigger picture.

On the department scale, multiple women described being pushed into certain roles that were time consuming but undervalued:

> There is a lot of value in education; however, from an academic perspective there's not a lot of return on that investment... If I'm not careful I get pushed into education efforts. *(Interviewee 12, White Female, 30s)*

More broadly, one woman academician expressed that women were less likely to be in *"king specialties",* meaning specialties which were more competitive and higher paid, which led to women in her institution making *"on average, ... $25,000 less than men"* (Interviewee 04, White Female, 40s). In sum, women are spending their already limited time at work on undervalued tasks, which contributes to women being siloed into underpaid and undervalued positions.

In contrast, one male academician felt that his gender played a role in his department's feedback to prioritize leadership opportunities over his caregiving responsibilities:

> They...[replied]... that as a White male your role is really in the medical center in a leadership position, that you should have someone to take care of this [caregiving responsibilities] for you. *(Interviewee 11, White Male, 40s)*

Compared with the women in this study, Interviewee 11 (White Male, 40s) was encumbered by the expectation that men should pay less attention to home duties, while focusing on academic ambitions.

These gendered differences were pronounced for the women of color in our study. They expressed that less was *"expected of [them]"* at work because of their race and that they were less likely to be acknowledged (Interviewee 05, Other Female, 40s):

> [My attending] said to me, "You are a [minoritized race] woman with an accent, nobody is going to listen to you. *(Interviewee 05, Other Female, 40s)*

Another interviewee of color felt that she was being "*manipulated*" into doing menial tasks at work, but was unable to "*fight against that*" because of strong cultural principles of not "*going against an authoritarian figure*" (Interviewee 10, Other Female, 40s). As a result, she felt underqualified and unable to promote herself for fair pay.

Theme 3: "Maintaining productivity has become untenable"—work–life expectations were exacerbated by the aftereffects of the COVID-19 pandemic

The COVID-19 pandemic introduced drastic changes in work–life expectations that disproportionately affected women with caregiving responsibilities (Table 4). Depending on the provider's specialty, participants experienced a major increase in clinical duties, such as those working in the ICU, an increase in administrative and academic duties, or both. Participants described ways in which this unpaid and often unrecognized work that was already disproportionately placed on women increased during the pandemic.

For many in our study, research productivity was tied to their evaluations and promotion. The pandemic directly impacted research productivity as research projects became *"logistically non-tenable"* (Interviewee 03, White Female, 30s), and had to be *"shut down"* (Interviewee 01, White Male, 40s) to respect hospital policies. Interviewee 13 (White Female, 40s) described having a "*harder time helping people in the lab analyze data*" via Zoom compared with in person and felt that work *"was taking longer and [was] more difficult to do."* Many participants perceived that COVID increased the burden of administrative assignments, while making it more difficult to carry out those activities that are important to career advancement.

Nearly all participants expressed hardships with the decrease in access to childcare and eldercare, with one interviewee calling it an *"absolute nightmare"* (Interviewee 14, Asian Female, 40s). Parents were expected to take on the duties of *"childcare, virtual learning and mobility"* (Narrative 01, White Female, 30s), which *"require[d] more coordination"* (Interviewee 12, White Female, 30s), time, and effort. Women, already faced with an expectation to take on the majority of caregiving responsibilities, faced enormous increases in their responsibilities during the pandemic due to remote schooling and decreased access to help:

> We had to let her [the nanny] go because ... we cannot have somebody... coming in and out of our house. So, that was one of the things that we lost, that I lost. *(Interviewee 10, Other Female, 40s)*

Many participants also experienced WFH for the first time during the pandemic:

> They call it working from home. It should be called living at work, right, because, ... there really is no separation. *(Interviewee 02, White Female, 40s)*

Physically going to work allowed separation between work and home duties, but enforcing this separation in the WFH era caused new and significant guilt:

> There's the guilt of being sort of up here in the bedroom when everyone else has like crazy things happening. ... And those are things I feel like I should attend to even though I know that like this normally would happen, and I would be at

Table 4. Theme 3: "Maintaining Productivity Has Become Untenable"—Work–Life Expectations Were Exacerbated by the COVID-19 Pandemic

Subtheme 1: There was an increase in clinical and uncompensated administrative work expectations for many physicians during the COVID-19 pandemic	I have done a lot more academic work, projects, papers, editorials; worked with these boards I'm on. That kind of stuff has kind of increased. A lot of that is unpaid work, but it's like part of my job as an academic physician. Interviewee 01 (White Male, 40s)
	I got put onto a lot of different non-COVID services, but as ICU faculty, . . . you can imagine that unlike many other clinical facts currently, our clinical responsibilities have increased tenfold, twentyfold over the past couple months. Interviewee 02 (White Female, 40s)
	I'm [a clinical leader] and so like COVID has just like rocked my world in all respects, and there is this huge administrative list that happens for like launching a new . . .service and scheduling more physicians than we normally would, dealing with everyone's anxieties, and the changing landscape of PPE. Interviewee 07 (White Female, 40s)
	You know I think I work more now than I did before since it's all from home.... It's such a blurred boundary but, you know, I feel more pressure to work, and it's harder to not work, to kind of actively take time off. Interviewee 04 (White Female, 40s)
Subtheme 2: The COVID-19 pandemic had direct negative impacts on career-advancing research productivity	Particularly in the pandemic—I think there has been a lot noted nationally about research productivity for women plummeting, and the lack of recognition of what the pandemic has done to women's childcare responsibilities. Interviewee 06 (White Female, 40s)
	It's [COVID pandemic] definitely decreased that productivity. ...I [definitely] had a harder time helping people in the lab analyze data and such. And it was also just a lot harder I think to do that by Zoom rather than in person, where we couldn't be in person at the time. So, for me, everything just felt like it was taking longer and more difficult to do. Interviewee 13 (White Female, 40s)
Subtheme 3: There was an increase in caregiving expectations for physicians during the COVID-19 pandemic, especially for those with younger children	I think that the vast majority of caregiving does fall upon women, and that we work a second and a third shift a lot of the time, and COVID has only highlighted that for many of us. Interviewee 02 (White Female, 40s)
	My kids have not left the house since the first week of March. And nobody has come into our house since the first week of March... Everything is just a little bit more painful. School is remote for both kids, which requires more coordination. They're both really good on the computers, but, you know, it means they're here and they're loud and. . . there's not a great alternative. Interviewee 12 (White Female, 30s)
	We had to let her [the nanny] go because now with this nanny, we cannot have somebody, not part of the family coming in and out of our house. So, that was one of the things that we lost, that I lost. Interviewee 10 (Other Female, 40s)
	Maintaining productivity has become untenable as challenges with childcare, virtual learning, and mobility have accumulated. Narrative 01 (White Female, 30s)
Subtheme 4: Women caregivers were particularly affected by the breakdown of work–life boundaries in the WFH era	They call it working from home. It should be called living at work, right, because, ... there really is no separation. Interviewee 02 (White Female, 40s)
	So like if I do have 20 minutes, ... and I hear crying or banging, ... instead of [doing] what I would normally do, which is maybe prepare for the next patient or ... catch up on my email or something else that like would be a work related things, I would sort of gravitate towards going to see what's going on with my family which is right outside. And so, that limits my productivity. Interviewee 01 (White Male, 40s)

work and I would not even hear it and I would not know about it. *(Interviewee 01, White Male, 40s)*

Physicians used to off-load childcare duties to schools or other caregivers. However, WFH forced physicians to see their home and work responsibilities in the same space and forced them to choose which is more important every minute of the day. That stress of needing to constantly prioritize one while ignoring the other led to increasing guilt.

Theme 4: "Momma, are you happy?"—unrealistic caregiving and work expectations lead to guilt, stress, burnout, and workforce attrition

Women in our study described how failing to meet unrealistic caregiving and work expectations which were further heightened by the COVID-19 pandemic led to feelings of guilt, which contributed to stress, burnout, and, in some cases, pushed individuals to consider leaving academic medicine (Table 5).

Many participants expressed feeling *"a sense of guilt that [they] don't do more for [their] family"* (Interviewee 11, White Male, 40s). One female participant felt *"ashamed that [she] couldn't just . . . manage it all"* (Interviewee 08, White Female, 40s). If woman physicians are expected to do more in the household compared with men, then women are more likely to fall short of these unrealistic expectations, which provides more occasion for them to feel guilty about their perceived failures. One prominent example was Interviewee 07 (White Female, 40s) detailing her conversations with her son:

> I think there are days when I am less able to enjoy my children and be present with them. . . . My son, who is about to be four, can tell. Like he will ask questions like, 'Momma, are you happy?' which I think is him reading that I am like kind of tuned out or just exhausted. And that makes me sad.

She had an ideal of herself as a parent, but when her work and caregiving expectations become overwhelming to the point of exhaustion, she described feelings of guilt about not upholding her duty of being a "good" and engaged mother.

This same guilt also persisted in unmet workplace expectations. There were varying opinions within our cohort as to whether women were held to higher, similar, or lower standards compared with their male colleagues. The majority felt that "expectations are similar . . . for men and women" (Interviewee 13, White Female, 40s), but that trying to achieve these same benchmarks was harder for women because of the significant gendered imbalances of demands on their time. Many woman participants expressed a need to prove their value at work and exceed expectations to avoid being seen as underperforming:

> There's a fear of looking like you can't hack it if you ask for help but, especially, as a woman, especially as a mom. *(Interviewee 08, White Female, 40s)*

She additionally saw her personal failures as being reflective not only of herself but also of all women and mothers, which augmented her fear and guilt.

Many in this study additionally described feeling "*anxious*" (Interviewee 02, White Female, 40s), *"emotionally exhausted"* (Interviewee 04, White Female, 40s), and *"burnt out"* (Interviewee 07, White Female, 40s):

> I [felt] a lot of emotional fatigue when I was in clinic and [I think I cried like] every night . . ., you know, just feeling bad for what my patients were going through and, . . ., then also feeling bad that my kids were missing out on school and being with their friends. *(Interviewee 12, White Female, 30s)*

Our interviewees already had a precarious work–life integration, so the additional stressors during the pandemic made the situation for many almost untenable.

Interviewees cited leaning on their families, mentors, and the financial support from FRCS to cope with these worsening stressors:

> I don't think I would have continued if I didn't have that [FRCS] support because it was just impossible. *(Interviewee 05, Other Female, 40s)*

Although some interviewees mentioned institutional policies or programs aimed at alleviating these stressors, they were too "*expensive*" (Interviewee 02, White Female, 40s), too oversaturated such that there was *"not enough availability"* (Interviewee 02, White Female, 40s), or simply *"not enough"* (Interviewee 06, White Female, 40s).

Several women additionally coped by "*slowing things down*" and "*saying no*" to professional opportunities (Interviewee 08, White Female, 40s). A few of our interviewees felt they couldn't meet all their expectations at work and either took a step back from career advancement or considered leaving academic medicine altogether:

> I think my academic career is going to end. . . . I choose to do a bad job on my research work . . . so that I can spend time with my kids, so I can be present, so I can sleep, so I can exercise. Like every day I am consciously choosing to do a bad job in some aspect of my professional development, so it was like to preserve my family. *(Interviewee 07, White Female, 40s)*

This illustrates how the unrealistic expectations placed on women in their homes, coupled with the intense pressures placed on early-career academic physicians, leave many women with a feeling of having to choose between their careers and their families.

Discussion

In this qualitative study of early-career physician-scientists with extraprofessional caregiving responsibilities, we found that expectations around caregiving and domestic work were particularly acute for women and often conflicted with traditionally defined career success. Failing to meet these expectations resulted in noteworthy guilt, stress, burnout, and considerations of leaving academic medicine. This was exacerbated when caregiving demands increased during the COVID-19 pandemic.

Previous studies identified gendered differences in caregiving and work expectations, including the concept of "intensive mothering" where mothers are expected to devote more time and energy to childcare than fathers.[14–16] This concept holds for woman physician-researchers.[5,14] In our study women were also subject to the "motherhood penalty," a bias that assumes that women are less committed to their jobs due to caregiving responsibilities.[14,15]

Women are often held to the same ideal worker norm as men, which requires a relentless employee dedicated to their paid work without allowing their personal lives to intervene.[16,17] This is disadvantageous to women given the time demands of intensive mothering. This ideal worker norm is enhanced by the "culture of bravado" in medicine, which can contribute to self-neglect and burnout.[17] Motherhood is also portrayed culturally as a self-sacrificing pursuit;[15] thus physician-mothers may be particularly prone to self-sacrifice and self-neglect. Meanwhile, men may face pushback when they prioritize family over work, which further pushes

Table 5. Theme 4 "Momma, Are You Happy?" The Unrealistic Caregiving and Work Expectations Lead to Guilt, Stress, Burnout, and Workforce Attrition

Subtheme 1: Women academicians feel guilty when they feel they aren't meeting their expected caregiving demands	When I think back on the times when I asked for help, they were times of like dire, dire crises and even then, I felt guilty. I felt like I was putting other people out. I felt sort of ashamed that I couldn't just kind of manage it all. Interviewee 08 (White Female, 40s)
	I think there are days when I am less able to enjoy my children and be present with them. ... My son, who is about to be four, can tell. Like he will ask questions like, "Momma, are you happy?" which I think is him reading that I am like kind of tuned out or just exhausted. And that makes me sad. Interviewee 07 (White Female, 40s)
	I feel like a sense of guilt that I don't do more for our family, that even as I sit here talking to you right now, my wife is taking care of four kids and one of them requires a lot of needs and so it's hard to be the one that's doing the work like this and not being able to do more. Interviewee 11 (White Male, 40s)
Subtheme 2: Women academicians feel guilty when they feel they aren't meeting their expected work demands	There's a fear of looking like you can't hack it if you ask for help but, especially, as a woman, especially as a mom. I know that I had like hyper antennae up always waiting for somebody to make a comment about—some sort of disparaging comment about whether like my role [indiscernible] encroaching on [indiscernible] medicine and/or research or whatever it was. Interviewee 08 (White Female, 40s)
	I think you have an internal bias, and I recognize that and that you're not good enough because you weren't born in this country and you cannot—even though you've fought for the opportunities to advance your career. Interviewee 10 (Other Female, 40s)
	There's this sense of guilt associated with it where, like, I feel stupid and guilty for not doing a good job negotiating. Interviewee 12 (White Female, 30s)
Subtheme 3: The high demands on physicians with caregiving responsibilities lead to emotional exhaustion and burnout	The sleep, worsened anxiety, worsened burnout. The. . . yeah, I think a lot more on the anxiety side of things. Interviewee 02 (White Female, 40s)
	I think just really the fatigue, you know, like just exhaustion, you know, some of which is just mental, and part of it is physical because there is just so much more that is being done, especially with the cooking and the cleaning and the mommy-mommy-mommy-mommy! Interviewee 05 (Other Female, 40s)
	I think there's an undercurrent of worry all the time, and it's worry about my parents, are they going to get COVID. It's worry about two of my kids who are heading off to college this fall, and is that the right decision. So, I would say that's definitely an undercurrent of worry or anxiety that is not usually a part of my life that is there, but it hasn't been overwhelming. Interviewee 06 (White Female, 40s)
	Oh, yes. Definitely [laughs] I have been burned out. And, actually, we just administered a survey to our faculty and more than half of respondents identified feelings of burnout three days a week or more over the last like four months. Interviewee 07 (White Female, 40s)
Subtheme 4: The increased stressors introduced during the COVID-19 pandemic led to increased emotional exhaustion and burnout	It's kind of hard to tease out the feeling of burnout from all the transitions that happened in my professional and home life, on top of global pandemic. Interviewee 09 (White Male, 40s)
	[I think I cried like] every night for all of March and April, you know, just feeling bad for what my patients were going through and, you know, then also feeling bad that my kids were missing out on school and being with their friends. Interviewee 13 (White Female, 40s)
	It has been. . . incredibly challenging. [becomes emotional] The last several months [during the pandemic] have been very, very stressful ... I think everyone is tired. Interviewee 14 (Asian Female, 40s)

(*continued*)

Table 5. (Continued)

Subtheme 5: Physicians attempt to cope with these stressors by reprioritizing their commitments, reaching out to mentors, and utilizing the FRCS resources	I don't think I would have continued if I didn't have that [FRCS] support because it was just impossible. It's just not physically possible for one person to do all these things. Interviewee 05 (Other Female, 40s)
	I found a really good mentor, which was helpful. And, actually, the caregiving program, you know, outside of the funds themselves, the caregiving program and speaking with like-minded individuals has been helpful as a coping mechanism. Interviewee 02 (White Female, 40s)
	I think just like intentionally slowing things down helped me and, sometimes, that meant saying no to a few things that I wasn't sure I could say no to job-wise, like professionally. Interviewee 08 (White Female, 40s)
	There's just no way to really ever achieve balance, and it feels like this small summit, sort of, and this, like, [indiscernible] and if you don't achieve balance then you are somehow less than or you are like not making it work in the right way. What someone once told me was it's about boundaries and not about balance. Interviewee 08 (White Female, 40s)
Subtheme 6: When women physician-scientists feel unable to meet their home and work expectations, these stresses can push them to leave academia.	I think my academic career is going to end. ... I choose to do a bad job on my research work ... so that I can spend time with my kids, so I can be present, so I can sleep, so I can exercise. Like every day I am consciously choosing to do a bad job in some aspect of my professional development, so it was like to preserve my family. Interviewee 07 (White Female, 40s)
	So I actually think that this will be the end of my academic career. I am pretty sure that COVID will have prevented me from making up for the lost productivity that I had due to childbearing in the early part of my K-23 award. I just don't see—I don't think it's likely that I will be able to write an R myself. ...I mean there is. . . like a lot of disappointment, loss, and sadness but I am also like I am at peace with it ... and it is more important to me to set limits around my work and be with my family and see them sometimes, as much as I can, and it's more important to me to provide the direct care to patients who are in ICU with COVID 19 than it is to write grants and do scholarly work. Interviewee 07 (White Female, 40s)

caregiving burdens onto mothers.[18] The COVID-19 pandemic further exacerbated these gendered work–life challenges.[19]

Intensive mothering and the ideal worker norm, combined with gendered differences in clinical practice and office housework, reinforce the idea that time is a valuable commodity in academic medicine.[6] This work–family time conflict can bring about work–family guilt, which is worse in women.[20,21] The increased guilt that mothers have surrounding childcare and housework compared with fathers has been termed the "guilt gap."[22] Our study points to a work and family guilt gap contributing to higher levels of stress, exhaustion, and burnout in women in academic medicine.[23,24] With less time to dedicate to career-advancing opportunities and higher work–family guilt, women in academia experience increased anxiety, are less likely to achieve independent grant funding[25] and high-level leadership positions,[26] and experience higher rates of attrition.[27] Women are also prone to experiencing guilt when using family-supportive policies due to concern for potentially negative personal and professional consequences.[28]

Our study participants viewed the FRCS as a valuable tool for work–life integration, which is consistent with our prior qualitative work with FRCS recipients prior to the pandemic. These earlier participants reported that the FRCS flexible funds allowed them to allocate more time to career advancement and caregiving responsibilities, while also reducing the stigma and emotional strain associated with caregiving.[6,9,10] The flexible funds structured to relieve the tension between competing time demands in home and work–life align with a National Academy of Sciences report which recommends implementing and normalizing policies that support family caregiving and childbearing.[29] Continuing to add and expand similar programs could be instrumental in promoting the retention of women in academic medicine.

One limitation of our study is the small sample size; however, this unique cohort of academic physicians with significant caregiving responsibilities provides an illuminating perspective. Another limitation is the fact that the analytic team was all-female, although including diverse racial and professional backgrounds (sociology, psychology, medicine, and public health), which enriched the analysis. Finally, our study population had few underrepresented in medicine and no LGBTQIA representation, which limits our ability to analyze the intersectional impact of multiple marginalized identities. Future studies should consider oversampling for these characteristics.

This study provides a rich understanding of the gendered expectations within academic medicine, how the COVID-19

pandemic and WFH exacerbated these challenges, and the guilt that results when these expectations are not met, particularly for women with significant caregiving responsibilities. Providing resources to support this population is essential for the development and retention of a diverse workforce in academic medicine.

Authors' Contributions

J.T.: data curation, formal analysis, writing—original draft. L.S.: conceptualization, investigation, methodology, data curation, formal analysis, writing—original draft. R.D.J.: conceptualization, investigation, methodology, data curation, formal analysis, writing—review and editing. L.P.: data curation, formal analysis. L.B.: conceptualization, writing—review and editing. G.D.: conceptualization, writing—review and editing. W.D.: conceptualization, writing—review and editing. H.C.: conceptualization, writing—review and editing. C.M.: writing—review and editing. B.M.: conceptualization, writing—review and editing. J.R.: conceptualization, writing—review and editing. R.J.: supervision, funding acquisition, conceptualization, methodology, formal analysis, writing—review and editing. All authors contributed to and approved the final version of the article.

Author Disclosure Statement

R.J. reports funding from the Doris Duke Charitable Foundation (funding to R.J. as PI to conduct the program evaluation research at the University of Michigan and Emory University). Outside the current work, R.J. reports stock options as compensation for her advisory board role in Equity Quotient, a company that evaluates culture in health care companies; she has received personal fees from the Greenwall Foundation, Doris Duke Charitable Foundation, and the National Institutes of Health and grants or contracts for unrelated work from the National Institutes of Health, the American Cancer Society, the Greenwall Foundation, the Susan G. Komen Foundation, and Genentech. She has served as an expert witness for Kleinbard, LLC and Hawks Quindel Law.

L.B., G.D., W.D., C.M., B.M., and J.R. report funding from the Doris Duke Charitable Foundation for support of the FRCS program at their site/institution.

Funding Information

This work was supported by the Doris Duke Charitable Foundation. The funders played no role in the decision to submit for publication.

Ethics Approval

This study was approved by the University of Michigan Institutional Review Board # HUM00111446.

References

1. Ha GL, Lehrer EJ, Wang M, et al. Sex differences in academic productivity across academic ranks and specialties in academic medicine: A systematic review and meta-analysis. JAMA Netw Open 2021;4(6):e2112404; doi: 10.1001/jamanetworkopen.2021.12404
2. Blumenthal DM, Bergmark RW, Raol N, et al. Sex differences in faculty rank among academic surgeons in the united states in 2014. Ann Surg 2018;268(2):193–200; doi: 10.1097/SLA.0000000000002662
3. Lautenberger DM, Dandar VM. *The State of Women in Academic Medicine 2018-2019: Exploring Pathways to Equity*. Association of American Medical Colleges; 2020. Available from: https://books.google.com/books?id=VXIxzwEACAAJ
4. Schueller-Weidekamm C, Kautzky-Willer A. Challenges of work–life balance for women physicians/mothers working in leadership positions. Gend Med 2012;9(4):244–250; doi: 10.1016/j.genm.2012.04.002
5. Jolly S, Griffith KA, DeCastro R, et al. Gender differences in time spent on parenting and domestic responsibilities by high-achieving young physician-researchers. Ann Intern Med 2014;160(5):344–353; doi: 10.7326/M13-0974
6. Jones RD, Miller J, Vitous CA, et al. The most valuable resource is time: Insights from a novel national program to improve retention of physician–scientists with caregiving responsibilities. Acad Med 2019;94(11):1746–1756; doi: 10.1097/ACM.0000000000002903
7. Cynkar P, Mendes E. More Than One in Six American Workers Also Act as Caregivers. Available from: https://news.gallup.com/poll/148640/One-Six-American-Workers-Act-Caregivers.aspx Published July 26, 2011. Accessed [Last accessed: January 17, 2024].
8. Cutter CM, Szczygiel LA, Jones RD, et al. Strategies to support faculty caregivers at u.s. medical schools. Acad Med 2023;98(10):1173–1184; doi: 10.1097/ACM.0000000000005283
9. Szczygiel LA, Jones RD, Drake AF, et al. Insights from an intervention to support early career faculty with extraprofessional caregiving responsibilities. Womens Health Rep (New Rochelle) 2021;2(1):355–368; doi: 10.1089/whr.2021.0018
10. Jones RD, Miller J, Vitous CA, et al. From stigma to validation: A qualitative assessment of a novel national program to improve retention of physician-scientists with caregiving responsibilities. J Womens Health (Larchmt) 2020;29(12):1547–1558; doi: 10.1089/jwh.2019.7999
11. Sandelowski M. Whatever happened to qualitative description? Res Nurs Health 2000;23(4):334–340; doi: 10.1002/1098-240x(200008)23:4<334::aid-nur9>3.0.co;2-g
12. Gale NK, Heath G, Cameron E, et al. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. BMC Med Res Methodol 2013;13(1):117; doi: 10.1186/1471-2288-13-117
13. Malterud K, Siersma VD, Guassora AD. Sample size in qualitative interview studies: Guided by information power. Qual Health Res 2016;26(13):1753–1760; doi: 10.1177/1049732315617444
14. Eagly AH, Steffen VJ. Gender Stereotypes Stem from the distribution of women and men into social roles. Psychology Press 2000:160.
15. Malacrida C, Boulton T. Women's perceptions of childbirth "Choices": Competing discourses of motherhood, sexuality, and selflessness. Gend Soc 2012;26(5):748–772; doi: 10.1177/0891243212452630
16. Smith V. *Sociology of Work: An Encyclopedia*. SAGE Publications, Inc.; 2013. doi:10.4135/9781452276199
17. Padavic I, Ely RJ, Reid EM. Explaining the persistence of gender inequality: The work–family narrative as a social

defense against the 24/7 work culture. Adm Sci Q 2020; 65(1):61–111; doi: 10.1177/0001839219832310
18. Aycan Z, Eskin M. Relative contributions of childcare, spousal support, and organizational support in reducing work-family conflict for men and women: The case of Turkey. Sex Roles J Res 2005;53(7–8):453–471; doi: 10.1007/s11199-005-7134-8
19. Linos E, Halley MC, Sarkar U, et al. Anxiety levels among physician mothers during the covid-19 pandemic. Am J Psychiatry 2021;178(2):203–204; doi: 10.1176/appi.ajp.2020.20071014
20. Borelli JL, Nelson SK, River LM, et al. Gender differences in work-family guilt in parents of young children. Sex Roles 2017;76(5–6):356–368; doi: 10.1007/s11199-016-0579-0
21. Ernst Kossek E, Ozeki C. Work–family conflict, policies, and the job–life satisfaction relationship: A review and directions for organizational behavior–human resources research. J Appl Psychol 1998;83(2):139–149; doi: 10.1037/0021-9010.83.2.139
22. Goodman E. GUILT GAP. *Washington Post.* Available from: https://www.washingtonpost.com/archive/opinions/1990/05/12/guilt-gap/bae98108-958b-4fe9-8504-a3074b4e0297/ Published May 12, 1990. [Last accessed: January 15, 2023].
23. Gold KJ, Kuznia AL, Laurie AR, et al. Gender differences in stress and burnout: Department survey of academic family physicians. J Gen Intern Med 2021;36(6):1811–1813; doi: 10.1007/s11606-020-06287-y
24. Rabatin J, Williams E, Baier Manwell L, et al. Predictors and outcomes of burnout in primary care physicians. J Prim Care Community Health 2016;7(1):41–43; doi: 10.1177/2150131915607799
25. Jagsi R, DeCastro R, Griffith KA, et al. Similarities and differences in the career trajectories of male and female career development award recipients. Acad Med 2011;86(11):1415–1421; doi: 10.1097/ACM.0b013e3182305aa6
26. Carr PL, Gunn C, Raj A, et al. Recruitment, promotion, and retention of women in academic medicine: How institutions are addressing gender disparities. Womens Health Issues 2017;27(3):374–381; doi: 10.1016/j.whi.2016.11.003
27. U.S. Medical school full-time faculty attrition. AAMC. [Last accessed: January 15, 2023]. Available from: https://www.aamc.org/data-reports/analysis-brief/report/us-medical-school-full-time-faculty-attrition
28. Villablanca AC, Beckett L, Nettiksimmons J, et al. Career flexibility and family-friendly policies: An NIH-funded study to enhance women's careers in biomedical sciences. J Womens Health (Larchmt) 2011;20(10):1485–1496; doi: 10.1089/jwh.2011.2737
29. National Academies of Sciences, Engineering, and Medicine; Policy and Global Affairs;Committee on Women in Science, Engineering, and Medicine; Committee on Increasing the Number of Women in Science, Technology, Engineering, Mathematics, and Medicine (STEMM). *Promising Practices for Addressing the Underrepresentation of Women in Science, Engineering, and Medicine: Opening Doors*. (Helman A, Bear A, Colwell R., eds.). National Academies Press (US); 2020. [Last accessed: January 22, 2024]. http://www.ncbi.nlm.nih.gov/books/NBK554705/

Address correspondence to:
Reshma Jagsi, MD, DPhil
Department of Radiation Oncology
Emory University School of Medicine
Winship Cancer Institute
1365 Clifton Road
NE, Ste 1354
Atlanta
GA 30322
USA

E-mail: rjagsi@emory.edu