




EDUCATIONAL REVIEW

Evaluating the Women's Empowerment and Leadership Initiative: Supporting mentorship, career satisfaction, and well-being among pediatric anesthesiologists

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Abstract

The Society for Pediatric Anesthesia launched the Women's Empowerment and Leadership Initiative (WELI) in 2018 to empower highly productive women pediatric anesthesiologists to achieve equity, promotion, and leadership. WELI is focused on six career development domains: promotion and leadership, networking, conceptualization and completion of projects, mentoring, career satisfaction, and sense of well-being. We sought feedback about whether WELI supported members' career development by surveys emailed in November 2020 (baseline), May 2021 (6 months), and January 2022 (14 months). Program feedback was quantitatively evaluated by the Likert scale questions and qualitatively evaluated by extracting themes from free-text question responses. The response rates were 60.5% (92 of 152) for the baseline, 51% (82 of 161) for the 6-month, and 52% (96 of 185) for the 14-month surveys. Five main themes were identified from the free-text responses in the 6- and 14-month surveys.

Members reported that WELI helped them create meaningful connections through networking, obtain new career opportunities, find tools and projects that supported their career advancement and promotion, build the confidence to try new things beyond their comfort zone, and achieve better work–life integration. Frustration with the inability to connect in-person during the coronavirus-19 pandemic was highlighted. Advisors further stated that WELI helped them improve their mentorship skills and gave them insight into early career faculty issues. Relative to the baseline survey, protégés reported greater contributions from WELI at 6 months in helping them clarify their priorities, increase their sense of achievement, and get promoted. These benefits persisted through 14 months. Advisors reported a steady increase in forming new meaningful relationships and finding new collaborators through WELI over time. All the members reported that their self-rated mentoring abilities improved at 6 months with sustained improvement at 14 months. Thus, programs such as WELI can assist women anesthesiologists and foster gender equity in career development, promotion, and leadership.

KEYWORDS

career development, career mentoring, gender equity initiative, pediatric anesthesiology

1 | INTRODUCTION

Gender equity in medical leadership is essential for creating cohesive and productive teams, providing effective education, and advancing clinical care.¹ Although women account for almost half of graduating medical classes, only 25% of professors and 18% of academic department chairs are women.² The numbers are even lower within anesthesiology, at 18% and 13%, respectively.² Women physicians frequently encounter major career barriers, including gender bias, discrimination, unequal compensation, difficulty finding mentors, impostor syndrome, cultural challenges in the workplace, and difficulty with work–life integration.³ In 2018, in an effort to address the significant promotion and leadership gap between women and men in anesthesiology, members of the Society for Pediatric Anesthesia (SPA) founded the Women's Empowerment and Leadership Initiative (WELI, weli.pedsanesthesia.org).

WELI's goal is to support members in achieving equity, promotion, and leadership by focusing on six career development domains: promotion and leadership; networking; conceptualization and completion of projects; mentoring; career satisfaction; and sense of well-being. WELI programming includes protégé–advisor dyads, a rotating curriculum in career advancement and leadership topics, workshops led by business professionals, networking, and career development opportunities. Protégés are women within SPA who either self-nominate or are nominated by their Department/Division Chief/Chair or other leader. Selection into WELI occurs biannually, and participation is a minimum of 1 year with the option to continue in the program for longer. Advisors are established members of the pediatric anesthesia community who volunteer to support protégés in a 1:1 relationship and benefit from the WELI

curriculum. A small number of WELI members have both protégé and advisor roles.

We previously described the WELI program in detail, including quantitative and qualitative data from a baseline survey that was distributed in November 2020, 2 years after program inception. The results showed that members found WELI to be very to extremely valuable in a number of career development and well-being metrics, including clarity of priorities, career aspirations and purpose, ability to mentor, and optimism about professional future.⁴ Because regular program evaluation is a cornerstone to successful career development programs, we repeated the same survey 6 and 14 months later for program monitoring and enhancement.

2 | PROGRAM EVALUATION

The Johns Hopkins University Institutional Review Board approved this anonymous, voluntary survey study, and waived written informed consent. Survey response was considered consent to participate in the study. Development of the survey (Appendix S1) in Qualtrics has been described previously.⁵ The baseline survey was sent by email in November 2020, approximately 2 years after WELI began. We emailed the same survey 6 months later to all members who had joined WELI before February 2021 and again 14 months later to all members who had joined WELI before December 2021. Each survey period was open for 6 weeks, and emails were sent weekly to remind members to participate.

The surveys included 5-point Likert-type questions to assess how WELI's program components (protégé–advisor dyads, workshops, online content, and networking) influenced specific career

development areas, including project completion, goal setting, self-rated mentorship abilities, career advancement opportunities, and well-being. The questions were designed to assess WELL's specific contribution to members' career development rather than their development in general. We summarized these data using violin plots, which show the frequency distribution of the data, median, interquartile range, and range (GraphPad, v.8.3.0). Peaks in the data (more responses for a survey answer) are shown as wide sections in the violin plots. Survey answers with fewer respondents are displayed as narrower sections.

Open-ended survey questions with free-text responses included:

1. Please describe how participation in WELL impacted your career development and/or advancement.
2. Please describe any impact WELL has had on expanding your professional network and developing meaningful relationships.
3. Please describe any impact WELL has had on clarifying your sense of purpose or improving your well-being.
4. Please describe how specific WELL program features were valuable to you.
5. What can we do to improve WELL?

Three authors (N.D., J.K.L., and J.M.S.) qualitatively analyzed the free-text data to extract common themes in each survey. First, they reviewed responses to the open-ended questions separately. Because all the responses related to WELL's impact, data were analyzed after aggregating across responses. In an additional analysis, they reviewed protégé and advisor responses separately to identify role-specific themes. Each author identified themes independently; then they discussed their findings to achieve consensus. Two authors (N.D. and J.K.L.) selected quotes for examples of the themes with agreement from the third author (J.M.S.).^{4,6} In addition, themes were identified from notes taken during exit interviews of members who left WELL using the same method.

3 | SURVEY RESPONSES

Eighty-two of 161 (51%) members answered the 6-month survey, including 37/75 advisors (49%), 41/77 protégés (53%), and 4/9 dual protégé-advisors (44%). Sixty-eight respondents described their gender as female (83%), and 14 were male or declined to state their gender (17%). Among the 33 advisor respondents who provided their academic rank in the 6-month survey, 2 (6%) were assistant professors, 14 (42%) were associate professors, and 17 (52%) were professors. In addition, 12 (32%) were division chiefs or department chairs. Ranks of the 41 protégés at the time of the 6-month survey were assistant professor (26; 64%), associate professor (14; 34%), and professor (1; 2%). The protégés listed their career tracks as clinician (7; 17%), clinician-educator (23; 56%), clinician-researcher (8; 20%), and other (3; 7%). The dual protégé-advisor respondents held the ranks of clinical associate (1), associate professor (2), and professor (1), with one also serving as a division chief.

Ninety-six of 185 (52%) members answered the 14-month survey, including 43/86 (50%) advisors, 50/95 (53%) protégés, and 3/5 (60%) hybrid protégé-advisors. Seventy-eight respondents (81%) identified as female. Of the 40 advisors that provided their rank in the 14-month survey, there were 2 (5%) assistant professors, 16 (40%) associate professors, and 22 (55%) professors. Six (15%) were also division chiefs or department chairs. The 50 protégés had the following ranks: instructor (1; 2%), assistant professors (30; 60%), associate professors (18; 36%), and professor (1; 2%). The dual protégé-advisor respondents held the ranks of clinical associate (1) and associate professor (2), with one also serving as a division chief.

4 | QUALITATIVE ANALYSIS

We received 201 responses to the five open-ended questions in the 6-month survey and 248 responses in the 14-month survey. From the respondents' comments, we identified the following themes: (1) creating meaningful connections through networking, (2) fostering new opportunities, skills, and projects that support career advancement and promotion, (3) building confidence to try new things and grow beyond comfort zones, and (4) finding a better personal-professional life balance. Advisors provided the fifth theme of improving mentorship skills. In the 14-month survey, a decline of in-person connections and support during the coronavirus-19 (COVID-19) pandemic was also identified.

4.1 | Theme 1: creating meaningful connections through networking

At both 6 and 14 months, the responses demonstrated that WELL facilitates meaningful networking. This was seen to a greater degree among protégés than advisors.

"WELL has allowed me to stay connected with the pediatric anesthesia community outside of my institution (and) has given me a mentor whose interest is simply to help me achieve my goals with no hidden motives."

"WELL has thrown back the curtain on a lot of the "unknown" involved in networking and collaboration. It has opened doors, particularly because I am at a smaller institution without any big pediatric anesthesia "names" and has I think helped open up SPA and its opportunities more fully to everyone."

"I have met amazing mentors through WELL, which has led to promotion within (an anesthesia society), collaboration on (a) book chapter, as well as meaningful friendships."

4.2 | Theme 2: fostering new career opportunities, skills, and projects that support career advancement and promotion

The 6- and 14-month surveys indicated that WELI supports career advancement and promotion by providing new skills, projects, and other opportunities.

“WELI helped me align my passion and purpose, increased opportunities for academically productive projects, collaboration, and speaking opportunities.”

“I have been able to be a part of a review paper, been invited to speak at my mentor's institution, and been involved in SPA committee conversations due to my involvement in WELI.”

“I learned to say no. I learned that during grant writing one can totally disconnect from other obligations and that is ok. I learned to negotiate better. I learned to value myself more. I learned to see what I needed and work toward.”

4.3 | Theme 3: building confidence to try new things and grow beyond comfort zones

Both protégés and advisors reported that WELI helped build confidence. This was seen to a greater extent in the 14-month survey.

“WELI made me more bold in approaching potential mentors/sponsors in general.”

“WELI has been great for understanding my strengths and opportunities for improvement. It has allowed me to start to develop my leadership style.”

“WELI pushed me out of my comfort zone.”

“I've finally “seen myself” in women leaders, as this is absent in my current immediate workplace, where nearly all leaders are white, cis-males.”

4.4 | Theme 4: finding a better personal-professional life balance

Respondents reported that being a part of WELI helped them improve their well-being and personal-professional life balance.

“WELI has been very helpful in reducing the amount of guilt I feel when I spend time outside of the operating room on career projects. It has helped me realize it is ok (sic) to want to be good at both my “mom” and “academic anesthesiologist” hat.”

“Normalizing being a working mom and female pediatric anesthesiologist, it was uplifting and empowering to see other women doing the same hustle and learning from each other. Having a safe space to share hardships without judgement.”

“I feel that all the topics we have been covering are real life topics which happen during our daily lives at work and in our personal home. WELI has given me the sense of a family which shows me that our struggles are real and shared. I feel seen because of WELI, and I feel believed because of WELI. Only when you feel safe can (you) be (at) your best!”

“I think WELI has helped me reframe and cope with work stress/dissatisfaction.”

4.5 | Theme 5: improving mentorship skills

Several advisors and one dual protégé-advisor commented that WELI has improved their mentoring skills.

“Helping others work through challenges and choices provides remarkable clarity in analyzing my own personal and professional pathways”

“WELI has provided an opportunity for me to mentor (and) coach, both of which bring me great joy and purpose. My work with WELI is gratifying and confirms my career aspirations.”

“I realize that I have value as a mentor to junior faculty.”

“It has been an interesting challenge to help someone outside of my own personal network. I think this has opened my eyes to some of the difficulties of academic medicine being universal.”

4.6 | Theme 6: effects of the covid-19 pandemic

The desire to return to in-person meetings, which was limited by the COVID-19 pandemic, was voiced by several members in the 14-month survey.

"With the pandemic it has been hard to meet or engage with the other members as much as I would like. I hope there can be micro meet ups, even if meetings remain virtual throughout the year."

"I do hope that with in-person meetings I can further strengthen relationships within WELI."

5 | CRITIQUES ABOUT WELI

Members offered suggestions and expressed frustrations with some aspects of WELI.

"I wish there was some time dedicated to the program that didn't come 100% from my personal time."
(protégé).

"Maybe try to pack in less information in the workshops. Sometimes it can seem a little overwhelming with preparation beforehand and even the time crunch during the workshop. Make the GAIN (virtual Grow and Advance through Intentional Networking) sessions larger to include more people."
(protégé).

"It's hard to attend weekend sessions simply because this tends to be family time."
(protégé).

"I am not able to attend meetings on weekends since I have young children who I don't see much of in the week."
(advisor).

"Do you think there is value in changing up pairings after a certain amount of time (2-3 years)?"
(protégé).

6 | EXIT INTERVIEWS

Between its 2018 inception and December 2021, 119 protégés or dual protégé-advisors joined WELI. Thirteen protégés left WELI and six agreed to exit interviews. The most cited reasons for leaving WELI were pregnancy, having young children, and other family care demands. Several protégés left or were considering leaving academic anesthesiology in part due to stress from the COVID-19 pandemic.

7 | PROGRAM RATINGS OVER TIME

Figure 1 shows the WELI's perceived value within the mentoring, networking, and promotion and leadership domains. Across all three

surveys, protégés ranked the advisor-protégé pairings to be a median score of very to extremely valuable. The advisors considered the pairings to be somewhat valuable on average at baseline, and this increased to very valuable at 6 and 14 months. For all the members, value in the advisor-protégé pairings increased over time with more datapoints occurring at higher ratings. Workshops were consistently rated as very valuable on average. Relative to baseline, value in the workshops increased at 6 and 14 months. Being selected to be part of WELI became more valuable over time, particularly among advisors. The virtual Grow and Advance through Intentional Networking (GAIN)⁷ sessions had mixed results with a median ranking of somewhat valuable across most surveys.

The WELI helped many members conceptualize, conduct, and complete projects (Figure 2). Protégés endorsed that WELI helped them start a new project in the 6-month survey with a subsequent return to baseline. For protégés, being in WELI consistently contributed to improving and completing projects. All the members reported that WELI helped them find new collaborators over time with the greatest incremental benefit occurring among advisors. Protégés reported a temporary increase in applying for and receiving project funding at the 6-month survey. Most WELI members did not apply for funding.

Being a WELI member facilitated career opportunities within the promotion, leadership, and networking domains (Figure 3). Protégés reported that WELI consistently contributed to being invited as a visiting speaker/professor and applying for promotion. WELI's role in helping protégés with promotion increased at 6 months relative to baseline, and this benefit persisted at 14 months. Protégés appeared to benefit from WELI when applying for and receiving leadership positions within their institution and outside organizations at 6 months, but this trend was not sustained. Advisors showed a consistent increase in the number of meaningful relationships that developed from WELI over time.

WELI also contributed to members' self-rated ability to mentor others, goal setting, and wellness within the domains of mentoring, career satisfaction, and sense of well-being (Figure 4). All the respondents felt that WELI improved their ability to mentor others between the baseline and 6-month surveys. These improvements in mentoring skills were sustained at 14 months. Relative to baseline, WELI helped protégés improve their clarity of short- and long-term priorities and contributed to their personal sense of achievement and meaning in their work to a greater degree at 6 and 14 months. WELI helped members collectively increase their professional optimism over time.

8 | DISCUSSION

Survey feedback indicated that WELI supports career development for protégés and advisors. Members commented that WELI helped them form meaningful networking relationships, foster new opportunities, and skills to support the promotion and career advancement, and build confidence to try new things beyond

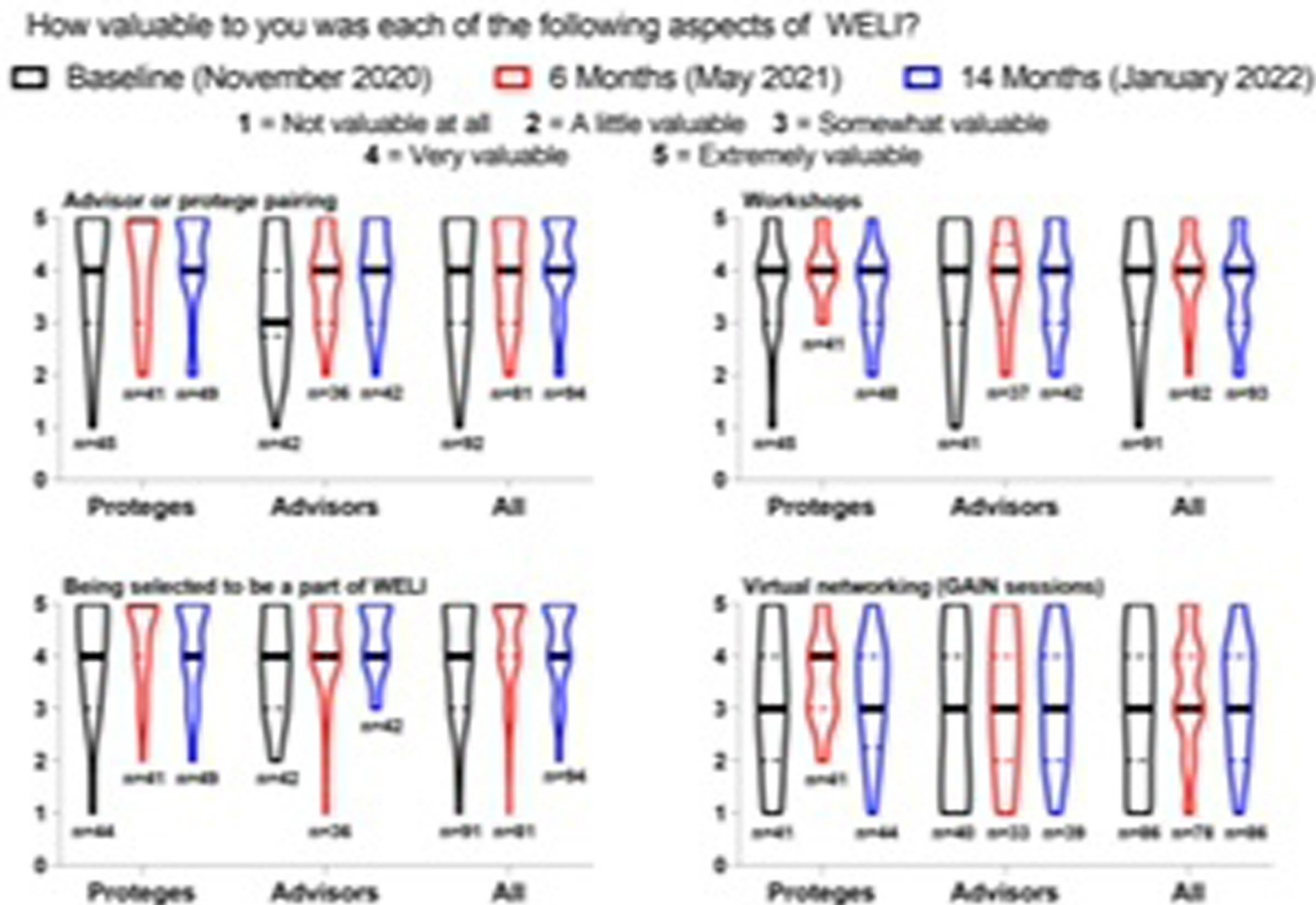


FIGURE 1 Survey ratings on different aspects of WELI. The “All” group includes members in the protégé, advisor, and protégé–advisor hybrid roles. WELI, Women’s Empowerment and Leadership Initiative; GAIN, Grow and Advance through Intentional Networking (virtual sessions for facilitated networking). The violin plots show the data’s range with medians (bold lines) and interquartile ranges (dashed lines). Wide sections indicate peaks in the data with more responses for a survey answer. Survey answers with fewer respondents are displayed as narrower sections.

their comfort zone for professional growth. Many members also thought that WELI supported work–life integration, and advisors noted that it improved their self-rated mentorship skills and gave them insight into the issues affecting early career members. The workshops, protégé–advisor dyads, and nomination to WELI were noted to have particularly high value. Protégés reported several improvements attributable to WELI between the baseline and 6-month surveys, including helping them clarify their priorities, increase their sense of achievement and meaning in their work, and getting promoted. These benefits persisted at 14 months. The advisors showed a growing number of new meaningful relationships, many which contributed to project collaborations, as time progressed. WELI helped improve all members’ self-rated mentoring abilities between baseline and 6 months, and this improvement persisted through 14 months. Moreover, WELI enhanced professional optimism for all members at 6 and 14 months relative to baseline. Thus, WELI successfully supported the career development of women protégés and advisors of all genders in pediatric anesthesiology with improvements between the baseline and 6-month surveys that were sustained at 14 months.

The importance of work–life integration was identified as a new theme in the qualitative analysis when compared with the baseline survey. This may be the result of people re-evaluating their expectations and priorities as the COVID-19 pandemic progressed. Adaptations by WELI to allow for continued participation in the program, such as virtual networking, sessions addressing well-being, and other programming related to these themes also may have had an impact.

WELI’s success stems from several key program attributes. New WELI members are screened for their engagement in career development. Protégés must be at least 3 years beyond their first fellowship and provide a personal statement about their career goals. Advisors must have a successful track record of mentoring and productivity.

Lane-Fall and colleagues describe how imposter syndrome can negatively impact self-esteem and the sense of belonging that is needed to succeed in the work environment.⁸ WELI emphasizes a focus on personal strengths to pursue career advancement, well-being, and individual goals. Each member can receive a Cliftonstrengths (Gallup; www.gallup.com) evaluation to identify individual strengths. Workshops to apply personalized results are

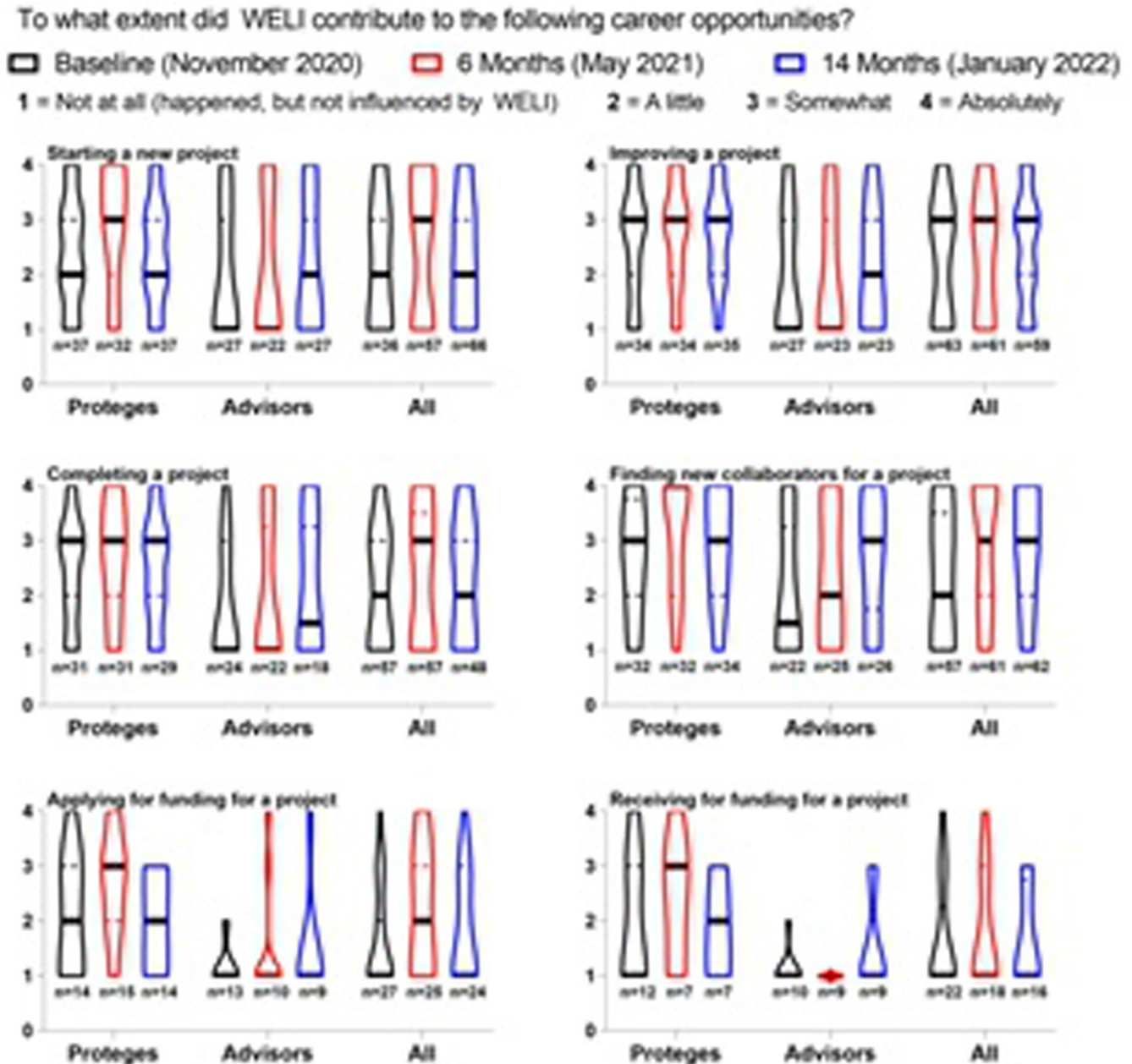


FIGURE 2 Survey ratings on whether WELI-assisted members with their projects. The “All” group includes members in the protégé, advisor, and protégé–advisor hybrid roles. WELI, Women’s Empowerment and Leadership Initiative; N/A, not applicable.

provided by two WELI Advisory Board members (S.D.Y and S.D.M). These sessions also allow for members to connect and share their experiences. Subsequent education reinforces reliance on strengths, particularly when in unfamiliar arenas. The advisor pairing and networking programs provide individual attention for engaged protégés. We provide education and programming for advisors about differences between mentoring and coaching.⁹ Through this education, WELI aims to provide the tools and connections that work to build self-esteem and result in career advancement.

WELI emphasizes virtual and in-person networking to promote career development. The COVID-19 pandemic stopped in-person national conferences, and when they resumed, fewer people

attended. Moreover, faculty who have family care responsibilities or cannot easily travel were excluded from conference networking. WELI used virtual meetings to increase opportunities for networking and workshops year-round.⁷ Evaluations for virtual programming had mixed evaluation results over time, perhaps reflecting the challenges of virtual meeting attendance and evolving membership needs over the pandemic. The new data from the 14-month survey did show a decline in value from the networking GAIN sessions between May 2021 and January 2022. This may have been due to a variety of potential factors, including a reluctance to attend GAIN sessions virtually when the pandemic caused virtual meetings to predominate many aspects of the work day (e.g., zoom fatigue). As

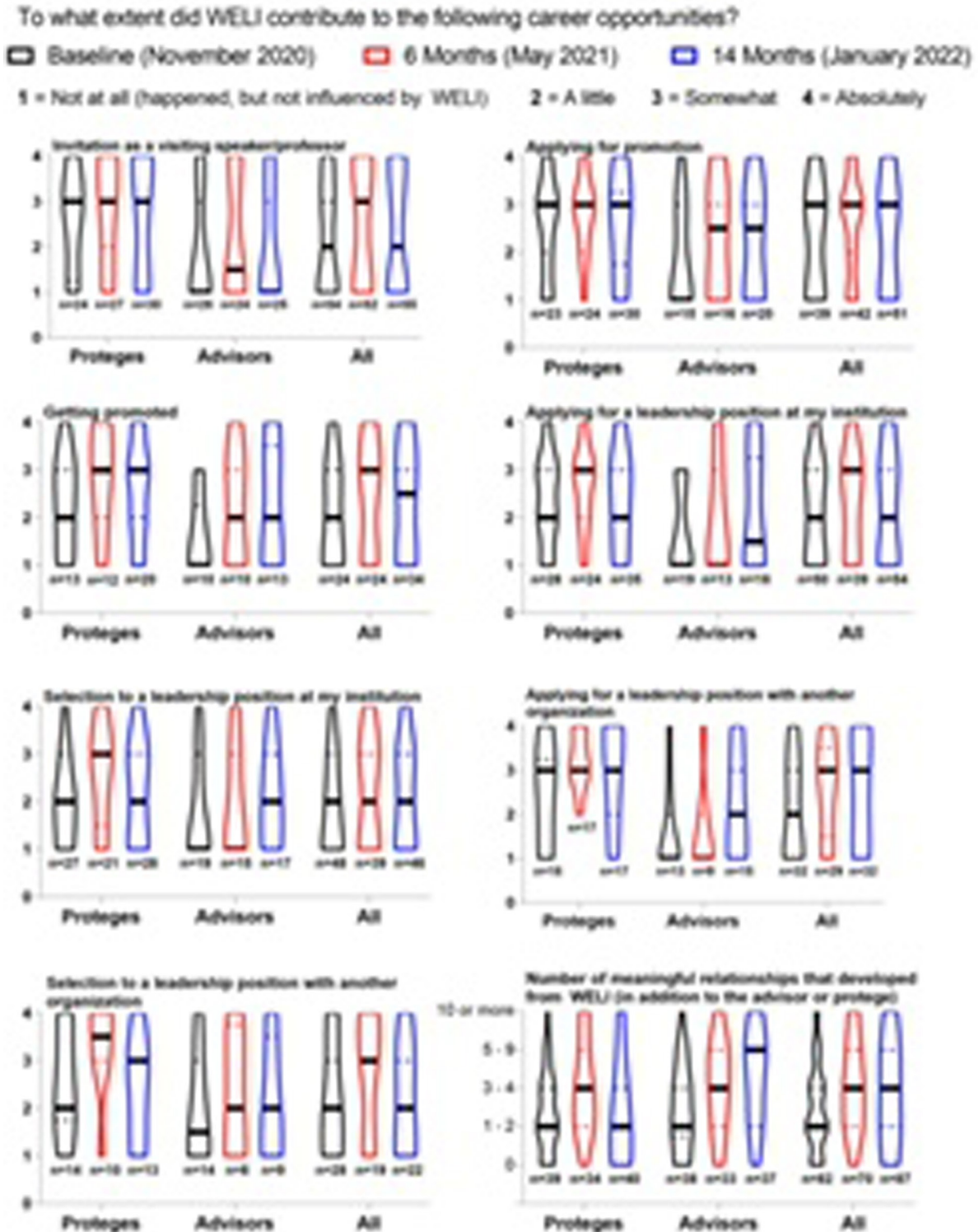


FIGURE 3 Survey ratings on whether WELI supported career advancement. The “All” group includes members in the protégé, advisor, and protégé–advisor hybrid roles. WELI, Women’s Empowerment and Leadership Initiative; N/A, not applicable.

such, the value of continuing the GAIN sessions is currently under discussion by the WELI leadership.

Burnout and insufficient support for well-being are associated with lower leadership effectiveness.¹⁰ Accordingly, WELI places heavy emphasis on supporting well-being via networking sessions

about resilience, adaptability, and other well-being topics.⁷ WELI supports sponsorship by encouraging members to nominate each other for leadership positions and promotion. We encourage WELI members to synergize by inviting other members to give lectures, join national committees, and contribute to projects.

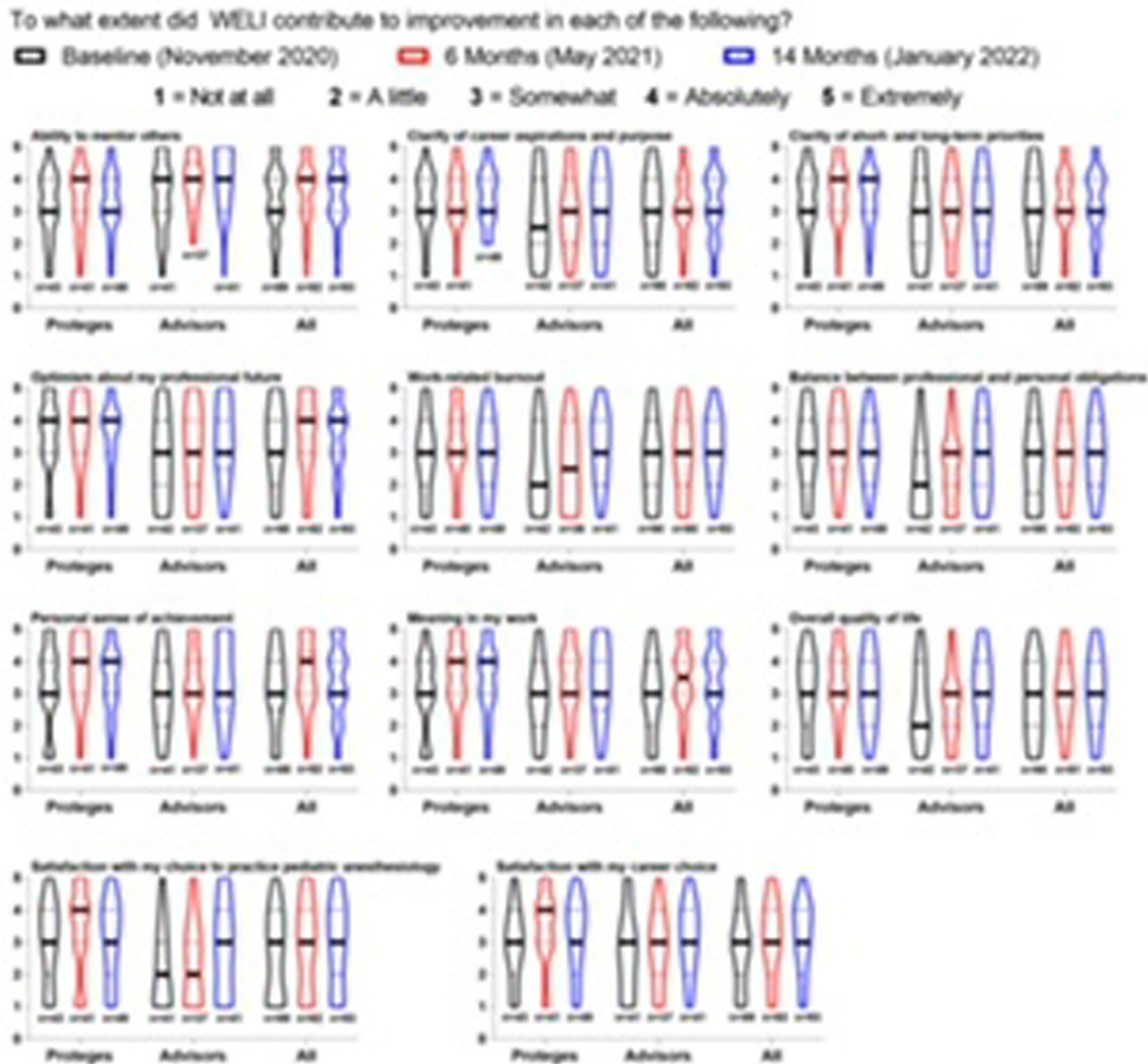


FIGURE 4 Survey ratings on whether WELI supported metrics of well-being and the ability to mentor others. The “All” group includes members in the protégé, advisor, and protégé–advisor hybrid roles. WELI, Women’s Empowerment and Leadership Initiative.

To evaluate WELI’s contemporary effectiveness, we conducted all three surveys during the COVID-19 pandemic. Anesthesiologists endured high levels of stress, burnout, and risk for contracting COVID-19 while providing in-person care to critically ill patients.^{11,12} Even during the pandemic, our surveys showed that WELI significantly improved members’ ability to find meaning in their work, mentor others, and recognize their achievements.

Several areas did not show a clear difference between the baseline, 6-month, and 14-month surveys. The protégé–advisor pairings, workshops, and selection to WELI were already rated as highly valuable in the baseline survey, and they remained high in the subsequent surveys. Other metrics to which WELI may have contributed, such as being in WELI, starting a new project, applying for

and receiving project funding, or obtaining speaking opportunities, demonstrated a temporary increase at 6-months but then returned to baseline values. Many of these metrics require years to achieve, including promotion, attaining leadership positions, and obtaining funding for projects. These longer-term outcomes will be tracked over time. It is too early in WELI’s timeline to assess whether the program helps members advance in these metrics, but the information acquired in these surveys will be used to inform future evaluations. Furthermore, continuing to promote WELI’s sponsorship resources, such as WELI’s database of members who have prepared lectures about their scholarly work, will continue to benefit members.

We are unable to determine why some survey questions showed limited improvement, but the low-response rate for answering both

surveys may be partly responsible. If follow-up surveys continue to show limited improvement in select areas, we will conduct voluntary, semi-structured interviews to evaluate and refine WELI's approach. Our current survey methods for evaluating WELI do not allow us to identify the specific needs of individual members.

Critiques about WELI included its intensive workshop content, need for in-person activities, dissatisfaction with using personal time for programming, and the request to rotate protégé–advisor dyads. WELI members who left the program cited childcare, pregnancy, other family demands, and COVID-19–related stress as contributing factors in exit interviews. The WELI Advisory Board considers time zones and work and home demands when choosing event timing. In addition, future workshops with a more focused scope will allow for more in-depth learning. We are considering a systematic method to introduce protégés to new advisors over time.

The presence of women in leadership roles has documented benefits in government and business. As of May 2020, states with female governors had fewer deaths from the COVID-19.¹³ Analysis of both global and American companies revealed that those with at least three women on the board of directors have a significantly greater financial return on investment.¹⁴ Gender equity in medical leadership should have a similar impact on medicine as a whole. However, female physicians encounter gender bias and inconsistent support for work–life integration.^{11,15} Fortunately, programs that promote gender equity are increasing. Woman-focused continuing medical education programs improve academic productivity.¹⁴ “Speed mentoring” in anesthesiology shows sustained improvements 12 months later.¹⁶ The organization Women In Anesthesiology provides a platform to educate female anesthesiologists (<https://www.womeninanesthesiology.org/>). Women of Impact in Anesthesiology tells the stories of successful women leaders in anesthesiology (<https://www.asahq.org/education-and-career/women-of-impact>).

Institutional efforts must build awareness about gender inequity.¹⁷ In a 2019 survey of female anesthesiologists, respondents reported having poor work–life balance, being responsible for most household duties, and having no lactation resources at work. Moreover, 35% of institutions did not offer paid maternity leave.¹⁸ Leaders must address these deficiencies to support women in their faculty.

Women with intersectional identities, including women of color, encounter particularly high barriers in academic anesthesia and research.^{19,20} WELI's programs to date have focused on gender, but partnering with organizations that promote equity among diverse populations is essential. It is possible that aspects of WELI could benefit other equity programs.

Regularly evaluating career development programs using anonymous methods is essential to identify areas of success or aspects that need improvement. Our evaluations achieved a 51% survey response rate on average over the 6- and 14-month surveys. Survey and professional fatigue for anesthesiologists who worked in person through all phases of the COVID-19 pandemic^{11,12} likely contributed to this response rate. Nonetheless, we identified important information about WELI's effectiveness among those who did answer

the surveys. Moreover, the proportions of respondents who were advisors, protégés, or dual protégé–advisors were similar to those of the non-respondents. We acknowledge the risk of survey bias, as members with strong feelings about WELI, whether positive or negative, may be most compelled to answer the survey.

Additional limitations to our program evaluations include the lack of comparison data from before WELI's initiation because the baseline survey was obtained approximately 2 years after WELI's inception. It is important to note that these surveys are a series of cross-sectional analyses of the program rather than a longitudinal study. All metrics were self-rated. Demographic characteristics, including ethnicity, were not recorded; therefore, we do not know whether WELI's impact differed among women of diverse backgrounds. Most WELI members are from academic hospitals, and we do not know whether WELI would be effective for anesthesiologists in private practice. Finally, spam filters may have blocked survey distribution by email, resulting in a lower response rate.

9 | CONCLUSIONS

Participation in WELI appears to support career development for pediatric anesthesiologists. Both protégés and advisors found benefits from participating. Members reported several improvements that they attributed to WELI between the baseline and 6-month surveys, including enhanced mentorship skills, getting promoted, greater sense of achievement, clarification of priorities, and productive networking. These benefits were sustained at 14 months. Programs such as WELI can support gender equity in career development, leadership, and promotion in anesthesiology and academic medicine.

10 | REFLECTIVE QUESTIONS

1. What aspects of a program such as the Women's Empowerment and Leadership Initiative (WELI) are helping to address the gender gap in medicine?
2. What other areas do career development programs need to address?

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CONFLICT OF INTEREST

Dr. J. Lee consults for the United States Food and Drug Administration and for Edwards Life Sciences.

DATA AVAILABILITY STATEMENT

Data availability statement: None. (Deidentified data will be provided by the authors upon request.)

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REFERENCES

- Tricco AC, Bourgeault I, Moore A, Grunfeld E, Peer N, Straus SE. Advancing gender equity in medicine. *CMAJ*. 2021;193(7):E244-E250. doi:10.1503/cmaj.200951
- The state of women in academic medicine 2018–19: Exploring pathways to equity; 2020. <https://www.aamc.org/data-reports/data/2018-2019-state-women-academic-medicine-exploring-pathways-equity>
- Butkus R, Serchen J, Moyer DV, et al. Achieving gender equity in physician compensation and career advancement: a position paper of the American College of Physicians. *Ann Intern Med*. 2018;168(10):721-723. doi:10.7326/M17-3438
- Schwartz JM, Markowitz SD, Yanofsky SD, et al. Empowering women as leaders in pediatric anesthesiology: methodology, lessons, and early outcomes of a national initiative. *Anesth Analg*. 2021;133(6):1497-1509. doi:10.1213/ane.0000000000005740
- Kiger ME, Varpio L. Thematic analysis of qualitative data: AMEE guide No. 131. *Med Teach*. 2020;42(8):846-854. doi:10.1080/0142159X.2020.1755030
- Steele MM, Pennell S, Prescott JE, Sweeney N, Steinecke A, Buckley PF. Leadership development for future medical school deans: outcomes of the AAMC Council of deans fellowship program. *Acad Med*. 2020;95(12):1887-1892. doi:10.1097/ACM.0000000000003341
- Margolis RD, Berenstain LK, Janosy N, et al. Grow and advance through intentional networking: a pilot program to foster connections within the Women's empowerment and leadership initiative in the Society for Pediatric Anesthesia. *Paediatr Anaesth*. 2021;31(9):944-952. doi:10.1111/pan.14247
- Lane-Fall MB, Gordon EKB, Valentine EA, Black SA, Kapur PA, Fleisher LA. Fostering belonging in academic anaesthesiology: faculty and department chair perspectives on supporting women anaesthesiologists. *Br J Anaesth*. 2020;124:e155-e159.
- Schwartz JM, Wittkugel E, Markowitz SD, Lee JK, Deutsch N. Coaching for the pediatric anesthesiologist: becoming our best selves. *Paediatr Anaesth*. 2021;31(1):85-91. doi:10.1111/pan.14041
- Shanafelt TD, Makowski MS, Wang H, et al. Association of burnout, professional fulfillment, and self-care practices of physician leaders with their independently rated leadership effectiveness. *JAMA Netw Open*. 2020;3(6):e207961. doi:10.1001/jamanetworkopen.2020.7961
- Aron R, Pawlowski J, Shukry M, Shillcutt S. The impact of COVID-19 on the status of the anesthesiologists' well-being. *Adv Anesth*. 2021;39:149-167. doi:10.1016/j.aan.2021.07.009
- Yakobi M, Nandigam H, Fallon J. Retrospective analysis of COVID-19 conversion rate among anesthesiologists in acute care centers. *Cureus*. 2021;13(8):e17131. doi:10.7759/cureus.17131
- Harris CE, Clark SD, Chesak SS, et al. GRIT: women in medicine leadership conference participants' perceptions of gender discrimination, disparity, and mitigation. *Mayo Clin Proc Innov Qual Outcomes*. 2021;5(3):548-559. doi:10.1016/j.mayocpiqo.2021.02.007
- Mukkamala S, Rodrigues Armijo P, Flores L, Shillcutt SK. Positive association of a women's continuing medical education conference on career advancement and promotion. *Med Educ Online*. 2021;26(1):1981127. doi:10.1080/10872981.2021.1981127
- Bosco L, Lorello GR, Flexman AM, Hastie MJ. Women in anesthesia: a scoping review. *Br J Anaesth*. 2020;124:e134-e147.
- Pollard EM, Sharpe EE, Gali B, Moeschler SM. Closing the mentorship gap: implementation of speed mentoring events for women faculty and trainees in anesthesiology. *Womens Health Rep*. 2021;2(1):32-36. doi:10.1089/whr.2020.0095
- Maurana CA, Raymond JR Sr, Kerschner JE, Ellinas EH. The IWILL MCW Campaign: individual actions to advance gender equity. *Acad Med*. 2021;96(6):817-821. doi:10.1097/ACM.0000000000004016
- Flynn B, Stiles K, Fritzel A, et al. Survey of workplace perceptions of female anesthesiologists. *Anesth Essays Res*. 2020;14(2):177-182. doi:10.4103/aer.AER_17_20
- Flexman AM, Shillcutt SK, Davies S, Lorello GR. Current status and solutions for gender equity in anaesthesia research. *Anaesthesia*. 2021;76(Suppl 4):32-38. doi:10.1111/anae.15361
- Armijo PR, Silver JK, Larson AR, Asante P, Shillcutt S. Citizenship tasks and women physicians: additional woman tax in academic medicine? *J Womens Health*. 2021;30(7):935-943. doi:10.1089/jwh.2020.8482

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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