ORIGINAL CLINICAL RESEARCH REPORT

Gender Gap: A Qualitative Study of Women and Leadership Acquisition in Anesthesiology

Ellen R. Basile, DO,* Heather Byrd, MD,† Melissa Powell-Williams, PhD,‡ Javier J. Polania Gutierrez, MD,† and Efrain Riveros-Perez, MD, MBA†

See Article, page 2

BACKGROUND: The representation of women among leaders in the field of anesthesia continues to trail that of their male counterparts. This qualitative study was conducted to understand the pathway of leadership acquisition among women in the field of anesthesiology.
METHODS: Using constructivist grounded theory, we sought to determine whether there were specific internal or external factors that were common to women in leadership in the specialty field of anesthesiology, and specifically, how they obtained leadership positions. Semistructured interviews were conducted for data collection. A total of 26 women in leadership positions in anesthesiology participated in this study.
RESULTS: The analysis of these interviews resulted in the development of 4 common themes related to career pathways for these women in leadership. Each theme was examined in depth to determine the qualities necessary for individuals to advance in the field and the pathway to obtaining leadership positions. The findings of this study showed that early-career, high-value mentorship and sponsorship were important factors in leadership acquisition. Most participants (n = 20; 76%) had early mentors. Of those with early mentorship, 13 (65%) had high-value mentors, who we define as someone with power or authority. Sponsorship was the leading factor contributing to leadership acquisition.
CONCLUSIONS: The results of this qualitative study may serve as a guide for encouraging female anesthesiologists with leadership aspirations. We suggest that the specialty field of anesthesiology institute targeted measures to help increase the percentage of women leadership with formal sponsorship programs at the local and national levels. (Anesth Analg 2023;136:6–12)

KEY POINTS

- **Question:** How do female anesthesiologists close the gender leadership gap in anesthesiology?
- **Findings:** Early-career, high-value mentors may be advantageous, and sponsorship is crucial to acquiring leadership positions for women in anesthesiology.
- **Meanings:** Opportunities exist in the specialty field of anesthesiology to reduce the gender gap in leadership with formalized mentorship and sponsorship programs at the local and national levels.

GLOSSARY

AAMC = American Association of Medical Colleges; **ABA** = American Board of Anesthesiology; **ASA** = American Society of Anesthesiologists; **CEO** = chief executive officer; **CGT** = constructivist grounded theory; **COO** = chief operating officer; **IRB** = institutional review board; **N** = no; **PD** = program director; **R** = retired; **SRQR** = Standards for Reporting Qualitative Research; **Y** = yes; **Y-physician** = married to practicing physician

From the *Department of Anesthesiology, University of Central Florida, Nemours Children's Hospital, Orlando, Florida; and Departments of †Anesthesiology and Perioperative Medicine and ‡Social Sciences, Augusta University, Medical College of Georgia, Augusta, Georgia.

Accepted for publication April 1, 2022.

Funding: Support was provided solely by departmental sources. Audio equipment (2 microphones and 2 headsets) for recording purposes and Nvivo software were supplied by the Department of Anesthesiology and Perioperative Services, Augusta University, Augusta, GA.

DOI: 10.1213/ANE.0000000000006073

The authors declare no conflicts of interest.

Supplemental digital content is available for this article. Direct URL citations appear in the printed text and are provided in the HTML and PDF versions of this article on the journal's website (www.anesthesia-analgesia.org).

Listen to this Article of the Month podcast and more from OpenAnesthesia.org® by visiting http://journals.lww.com/anesthesia-analgesia/pages/default.aspx.

Reprints will not be available from the authors.

Address correspondence to Ellen R. Basile, DO, Department of Anesthesiology, Nemours Children's Hospital, 6536 Nemours Pkwy, Orlando, FL 32827. Address e-mail to ellenbasile4@gmail.com.

Women belong in all places where decisions are being made. They should not be the exception.

Ruth Bader Ginsburg

Leadership is associated with a vision, effective communication, encouraging others to work toward that vision, and being accountable for the principles of the organization.[1]

Women holding leadership positions in health care remain an exception and parallel the gender gap found in other industries.[2,3] Among medical specialties, anesthesiology stands out as a specialty in which there are large disparities in the representation of women in leadership.

In anesthesiology, positions of leadership in academics and national societies are overwhelmingly male dominated.[4–7] The American Association of Medical Colleges (AAMC) reported in 2020 that the total percent of female professors in academic anesthesiology was 21% versus 79% for male professors.[4] Based on a 10-year update, the odds of a woman reaching the rank of full professor in anesthesiology over a 5-year period increased by 2.9%; this trailed an increase of 3.9% for women in all other clinical departments.[5] In the United States in 2020, 16% of academic anesthesiology chairs were women; the national average for this position held by women across all academic specialties is 21%, as reported by the AAMC.[6] Some authors recommend increasing gender diversity in leadership at the level of national agencies to mold the overall diversity in the specialty field.[7] Unfortunately, female representation in leadership positions of the American Society of Anesthesiologists (ASA) remains low. A 2014 survey of the ASA House of Delegates showed that the majority (79%) were men.[8]

Despite the long tradition of male leadership, women occupy positions of influence and leadership in anesthesiology. The pathways for women achieving leadership positions are not fully understood. To understand how women acquire leadership positions in anesthesiology, the following questions should be answered: What are the external or internal forces necessary for career advancement? What is the leadership acquisition process? How does gender bias affect women's careers? Although previous studies have focused on the barriers for women in leadership, few studies have discussed the process of leadership emergence, and virtually no studies have discussed the role of self-promotion.[9] This is a qualitative study using the constructivist grounded theory (CGT) to understand the leadership pathway for women in anesthesiology from the perspective and life experiences of leaders in the United States and Canada.

METHODS

Design

Qualitative research was selected as the methodology for this study because it is well suited for expanding our tacit knowledge of the transition of female anesthesiologists from clinical practitioners to effective leaders.[10] Specifically, this study adopts the CGT approach. CGT generates a conceptual theory to account for behaviors or a phenomenon while considering the role of the participant and researcher in the process of generating knowledge.[11,12] This process aims to gain an in-depth understanding of the lives of the research participants.[13] The study team included 3 anesthesiologists, 1 sociologist, and an anesthesiology resident. The gender distribution of the team was comprised of 3 women and 2 men. The sociologist was an experienced qualitative researcher who provided an overview of the study design and mentored data collection and analysis. Approval by the institutional review board (IRB) was obtained on June 11, 2021 (IRB 1736953-3). The authors have complied with the Standards for Reporting Qualitative Research (SRQR) guidelines. Written consent was obtained from the participants to record, process, analyze, and store audio files for semistructured interviews.

A purposive sampling strategy was used to recruit female leaders in the field of anesthesiology across the United States and Canada. Participants were selected based on their experience and leadership accomplishments. Those considered eligible for this study were current and former presidents of national societies, chairs of academic anesthesiology departments, or influential contributors to anesthesiology. Influential contributors in the field of anesthesiology included published authors, American Board of Anesthesia (ABA) examiners, and hospital executives. A list of 31 female leaders in anesthesiology was generated using the following resources: the ASA website, the Association of Academic Anesthesiology Chairs, and the ASA Committee of Women in Anesthesiology.

Participants were contacted via email to participate in the study. Those who agreed to participate were sent a follow-up email that included a schedule for the interview and instructions on the use of an online podcast platform. Two participants who did not respond to the initial email were sent 2 additional emails. A total of 3 participants were known to 1 author, and 1 participant was known to 4 of the authors.

Semistructured interviews were chosen as the primary source of data for the study to gain insights into leadership pathways.[14] Interviews were conducted using Squadcast Inc, version 4.8, for recording purposes. A semistructured interview format was developed from a literature review, including studies evaluating female leadership in medical and nonmedical fields, as well as literature for constructing and improving the design of questions. We considered instruments related to cognitive pretesting and outcomes of academic careers as a guide.[15–18] Interviews were individualized utilizing the participants' training

background, leadership positions, and data obtained from their curriculum vitae. The interviewers provided flexibility in terms of the order of the questions asked; follow-up and probing questions were included to fit the participants' responses. The interview questions were not pilot tested (Supplemental Digital Content 1, Appendix 1, http://links.lww.com/AA/D954).

Theoretical sampling was performed, which resulted in the modification of preexisting interview questions to elicit a more detailed understanding based on emerging themes (Supplemental Digital Content 2, Appendix 2, http://links.lww.com/AA/D955). Theoretical sampling requires examining the incoming data and generating additional probing questions to further detail specific themes. Theoretical saturation, a point at which no new data or themes are derived, was achieved three-fourths of the way through the interview process (interview 18).

Data Collection

Data source triangulation, using multiple sources for data collection, was obtained using 2 sources. The primary source of data was semistructured interviews. The secondary source of data was participants' curriculum vitae. Two researchers (E.R.B. and H.B.) conducted the interviews between June 2021 and August 2021. Individual interview durations ranged from 23 to 45 minutes, with an average of 34 minutes.

Analysis

A deidentified, verbatim transcript was created for each interview. Transcripts were analyzed using a CGT approach. Constant comparative analysis resulted in 3 phases of coding: initial or open, focused, and theoretical.[19]

Each team member conducted the initial coding. All 5 researchers independently reviewed transcripts 1 to 5 to identify and label patterns observed in the data (Supplemental Digital Content 3, Appendix 3, http://links.lww.com/AA/D956). Independently reviewing identical transcripts reduces inherent biases and helps promote reproducibility. The team developed focused codes based on the initial coding and emerging consistencies shared across the interviews. The focused codes narrowed the analysis of the most salient and frequent patterns: early influences, mentorship, leadership attainment, self-perception, how to succeed, and gender bias.

The written transcripts and focused codes were imported into NVivo 12 (QSR International [America] Inc 2018), a qualitative analysis software program, for further analysis. Each researcher was assigned additional transcripts to review and extract data utilizing Nvivo. Transcripts were assigned to each researcher by numbers 1 to 5, 5 to 10, etc. Analysis of the interviews identified 4 central themes. The lead author completed theoretical coding in consultation with other team members, resulting in a cohesive theoretical framework based on the codes developed, the extant literature, and her experience in the field.

RESULTS

The results of this study were based on the perspectives and lived experiences of 26 women, all leaders in the specialty of anesthesiology (Table 1). A total of 31 participants were contacted for participation; 2 participants did not respond to the invitation, and 3 declined participation. The participation response rate was 83.8%.

Leadership roles of the participants were as follows: department chair, 13 (50%); president of a national society, 8 (30.7%); section chief, 3 (11.5%); ABA examiner, 2 (7.7%); hospital executive, 2 (7.7%); vice chair, 1 (3.8%); and residency program director, 1 (3.8%). At the time of this study, 2 of the participants had retired from clinical practice. The participants' race was as follows: White, 24 (92.3%); and Black, 2 (7.7%). Academic histories: 11 (42.3%) were chief residents; 22 (84.6%) had completed a fellowship program; and 16 (61.5%) had completed formal leadership courses. At the time of the study, 21 (80.7%) were married; 15 (71.4%) had spouses who were working physicians; and 21 (80.7%) had children.

Analysis identified 4 central themes: personality traits, leadership preparation, gender-related considerations, and leadership acquisition. The following are verbatim excerpts from the participants (A–Z).

Personality Traits

Participants self-described their strengths. We found the following traits expressed by many participants. Perseverance and ability to overcome failures were mentioned consistently.

Adaptability and Hard Work. Being adaptable was an integral component of success. Progress naturally involves changes to work-related expectations.

> (V) The skills that I need to lead the department today are very different than the skills I needed to learn to lead the department 15–20 years ago, or even 10 years ago. It is all about making sure that you continue to refresh and keep your leadership style contemporary. And not only your style, but the styles of your leadership team.

The ability to lead requires possessing the initiative to unapologetically take charge of new spaces.

> (X) I had no problem stepping into the space and working. It is different than some of my peers that were either asking permission or trying to determine if it was safe. Or, you know, I just seemed to step into the space and say, this is the work that needs to be done, and I'm going to do it.

Perserverance and Ability to Overcome Failures. Throughout the interviews, leaders

Table 1. Participant Demographics

Participant	Sex	Chief resident	Fellowship	Leadership course	Academic rank	Leadership position	Married	Children
A	F	N	Y	N	Professor	Chief	Y-physician	Y
B	F	N	Y	Y	Professor	Chair	N	N
C	F	N	Y	N	Professor	Chair	Y	Y
D	F	N	Y	Y	Professor	Chair	Y-physician	Y
E	F	N	N	N	Professor	Chair	Y-physician	Y
F	F	N	Y	Y	Professor	Chair	Y-physician	Y
G	F	N	Y	N	Professor-R	Chair	Y-physician	Y
H	F	N	Y	N	Professor	Chair	N	Y
I	F	N	Y	Y	Professor	Chair	Y-physician	Y
J	F	Y	Y	N	Professor	Chief/president	Y-physician	N
K	F	N	Y	Y	Assistant professor	President/ABA examiner	Y-physician	Y
L	F	N	Y	N	Professor	Chief	Y-physician	N
M	F	Y	Y	Y	Professor	President	Y-physician	Y
N	F	Y	Y	Y	Professor	Chair	N	Y
O	F	Y	Y	Y	Professor	Vice chair	Y	Y
P	F	N	Y	Y	Professor	President	Y-physician	Y
Q	F	N	Y	Y	Professor	President	Y-physician	Y
R	F	Y	Y	Y	Professor-R	Chair/president	Y	N
S	F	Y	Y	N	Professor	Program director	N	Y
T	F	Y	N	Y	Professor	Chair	Y-physician	Y
U	F	Y	Y	Y	Professor	Chair	Y	Y
V	F	Y	Y	Y	Professor	Chair	Y	N
W	F	Y	N	N	Private practice	COO/president	Y-physician	Y
X	F	Y	N	Y	Professor	CEO	N	N
Y	F	N	Y	N	Private practice	ABA examiner	Y	Y
Z	F	N	N	Y	Professor	President	Y-physician	Y

Abbreviations: ABA, American Board of Anesthesiology; CEO, chief executive officer; COO, chief operating officer; N, no; R, retired; Y, yes; Y-physician, married to practicing physician.

emphasized their ability to reframe failures and obstacles as opportunities for growth.

> (S) For me, I do not see anything as a setback. That is a way to improve and get them to the next level. I actually look at it as an opportunity to improve and do something differently to overcome it.
> (E) You cannot get into that college, cannot be first trombone, you cannot, and you cannot. Well, yeah, I can, so that means, I can do this.
> (U) One of my favorite quotes is from Michael Jordan: "You miss 100% of the shots you do not take, and I think that you have got to take the shot."
> (Y) I think probably that I persevered in the face of big challenges or exhaustion. I always feel like I know that I can continue on.

Leadership Preparation

Leadership preparation was different for each participant. Many participants discussed formal training via either leadership courses or executive coaching. Networking was ubiquitous within their departments and national societies.

Leadership Courses and Coaching. Participation in formal courses and groups was vital to the development of leadership skills.

> (Q) I also pursued a lot of education through the ASA, through the practice management group, but a lot of it was definitely trial and error.
> (V) I'm continuing to use external coaching as well as folks at the University. I just completed a course in public health policy.
> (B) I am pursuing a course at the XXX in chair level leadership, also, I have a coach.

Networking. Networking was emphasized within their departments, hospitals, and national societies.

> (W) I was coming as a very young delegate to the XXX Society of Anesthesiologists. When I spoke at the microphone, after that meeting, one of the past XXX presidents came up to me and said, "I really liked what you said, and thank you for speaking up."
> (U) Being a part of a program with approximately 60 other female leaders across the country, there was so much group work, it was like studying great leaders at their best.

Early Mentorship. Most of the participants (20; 77%) reported having a mentor in their early career, half (13; 50%) identified their chair, chief, or program director as a mentor (Table 2).

> (R) I've been blessed to have lots of different mentors over the years. They opened many doors for me, and I hope that throughout my career, I was able to do the same for other folks with whom I worked. So yes, lots of mentors along the way. This is not a solo trip, journey, or path. You need help.
> (B) I had good guidance very early on from another female chair of anesthesiology who recommended that I put together my own mentoring, she said, "think of the women in anesthesia and leadership that you would most want to be mentored by."
> (T) I have fond recollections of my chair at the time. Dr XXX would have myself and my co-chief come in every week for a chief meeting. It did not matter if you are post call, you still showed up.

Gender-Related Considerations

While differing in their perceptions of its effects, the majority of participants agreed that gender bias exists in their workplace. Common experiences included

Table 2. High-Value Mentors

Participant	Leadership role	Early mentor
D	Chair	Chair
E	Chair	Chair
F	Chair	Chair
I	Chair	Chair
M	National society president	Chief
P	National society president	Chair and chief
Q	National society president	Chair and chief
T	Chair	Chair
U	Chair	Chair
V	Chair	Chair
X	CEO	Chair
Y	PD/ABA examiner	PD and chief
Z	National society president	Chair

Abbreviations: ABA = American Board of Anesthesia; CEO = chief executive officer; PD, program director.

being held to a higher standard or overly scrutinized, undervalued, and dismissed. Specific examples of delayed promotions secondary to gender were given.

Workplace Bias

(O) I have faced barriers and sexism because of my gender. A hundred percent. And I say that because it is true. To say that it is not true and only present the positive aspects of my career path would be an insult to the women who have gone before me.

(X) I do remember being at a chairs meeting when I was presenting with another chair and he referred to me as his Vanna White. I had a very measured response and referred to the fact that the division between us was the blood-brain barrier. And I was the brain.

(D) I was given a job. I was appointed a lecturer. Another resident colleague of mine who was two years behind me and was just finishing his residency was appointed by the chair as an assistant professor. When I asked the chair, why had that been done? The response was, "I am told to do it, so that it takes the pressure off you."

(P) A very specific example of a promotion that did not happen because I was pregnant. I was told "Ahh! You are pregnant? You'll be on maternity leave. We will just get you through once you come back from maternity leave."

Family Obligations. Our participants were asked whether they have a family. Career and family obligations were discussed. Participants expressed the continuous negotiation and management of the expectations of motherhood with their career aspirations. Issues addressed included maternity leave, role conflict, maintaining work-life balance, and maintaining work commitments.

(V) We tend to take a longer time away from the workforce for whatever reason, usually for childbearing. As an example, I have two very capable female faculty in leadership positions, who took six months of maternity leave each. That puts you at a bit of a disadvantage because you are completely out of commission for six months, where things are happening, and appointments and leadership offers are being made.

(N) I would say without any question that the greatest challenge I have ever faced is being a mother and a professional. I have also gone through divorce. I was a single parent, balancing the needs of my children and parenting has made attaining any of the accomplishments in a professional setting that much more difficult.

(G) At one point, I needed to employ six different people to help around the house and the yard, and manage the paperwork for salaries and so on. It was quite a challenge, but I figured it out because I was fairly determined to practice actively.

(A) I was basically running the main operating room at XXX and it was a huge job. And so, I told my boss, you know, I am going to have to step away from this leadership position, and in fact, I may even have to cut down on some of my workload because I need to spend more time with the kids.

Leadership Acquisition

When discussing their leadership acquisition, participants described self-promotion and sponsorship.

Self-Promotion. Many examples of putting oneself forward into a leadership position were expressed.

(Z) The chair at the time, I remember him shrugging his shoulders and saying, "Why would anyone want to go home after surgery?" That perspective had not yet reached mainstream. I practiced for weeks with my husband to say, "Hi I'm Dr Z and I am a member of your department. XXX needs an ambulatory surgery program, and I would like to set it up for you." I still have it memorized. It just needed to be done.

(Y) I actually self-nominated. I did it because when I was at the University of XXX, there were no active board examiners on faculty, and I wanted to be a resource for the residents.

(S) No one in the department had ever gone for promotion. After a couple of years in this department, I decided to apply for a promotion. I had to go and talk to someone in the institution, and you know what that person said? "Oh, I do not think you have what it takes to go up there."

(L) When XXX became chairman of anesthesia, I went over with my curriculum vitae and said to him, "you know, this is something that I am interested in." He said, "whoa, you know no woman has ever been promoted to full professor," and I said, "well, you know, I am not really interested in what has not been."

Sponsorship. Sponsorship was the dominant pathway for women moving into leadership roles. Participants consistently shared that their leadership was moved forward by powerful sponsors who made an effort on their behalf to secure a leadership role.

(M) He initially put my name up and sponsored me and said, "take her, she is great." And then it was really up to me to do the work. I worked my butt off.

(J) I have had some wonderful mentors and supporters who thought that I had the skills to do it. That helped me. Like one of the ASA presidents said, "I opened the door but you walked through it." But you need people to open that door.

(I) XXX was an outstanding sponsor. She helped me access opportunities to present at XXX, to write chapters for Chestnut. She introduced me to a lot of people and got me involved in many ways. Hence, I was able to do good work and have a bigger audience relatively quickly.

(U) We had a dearth of midcareer faculty who would be appropriate to fill that position. And XXX sponsored me. I am quite sure she was in XXX office, saying, "gosh, I know she is young. I know that this would be out of the box and something different, but I know she can do it, and I will support her." (C) I am very grateful to the former chair, XXX. He was wonderful in letting me move forward with work and putting me in places where I would be seen. And that is a really important thing, when you have faculty who is trying to move ahead.

DISCUSSION

Leadership gaps have been identified in anesthesiology, and opportunities for improvement remain. The process of attaining leadership is neither straightforward nor transparent, and few resources describe it. We sought to determine how women in leadership roles in anesthesiology were able to close the gap for themselves. The 26 participants in this study provided detailed descriptions of how they perceived themselves, their journey to leadership roles, and the obstacles they overcame.

Personality traits were a common theme. In a similar study of female surgical chairs, adaptability was found to be a consistent internal factor that was cited in career advancement.[20] Perseverance and the ability to overcome obstacles were persistent traits expressed. Perseverance and leadership have been associated with each other. Duckworth et al[21] described a strong correlation between what they referred to as grit and the potential for success. Grit is described as perseverance and passion for long-term goals, working strenuously toward challenges, and the ability to maintain effort despite failure or diversity. The participants in this study reinforced these findings; grit was a recurring theme.

Leadership preparation is necessary. Networking, formal training, coaching, and early mentorship are central to leadership pathways. Networking provides an avenue for meeting potential mentors and sponsors. In addition to networking, most of the participants took part in formal leadership courses. Professional coaches were reported by chairs. Most participants acknowledged early mentorship in their careers. Many noted that they were mentored by a high-value mentor, someone who has power or authority, such as a chair or division chief. The literature supports that faculty members who identify mentors are more likely to be promoted.[22] Mentors play a crucial role, and it is considered of greater importance for women, as they report more barriers to advancement than men. Half of the participants reported early-career high-value mentors.

Self-efficacy refers to one's belief and abilities in themselves. Historically, men tend to self-promote more than women. This does not mean that women lack the necessary experience, talent, or confidence. Moss-Racusin and Rudman[23] found that women who self-promote face a "double-edged sword," as it can increase perceptions of self-confidence, but at the cost of discrimination for women who show counteraction in gender stereotypes. Women's self-promotion can elicit backlash effects that have both social and economic penalties.[24] We did not find that self-promotion was a dominant leadership pathway.

Gender bias can obstruct leadership identity and development for women.[25] A study on female leadership in anesthesiology in Canada found that women recognized that implicit bias plays a role in achieving equity, but despite men articulating the need for gender equity, discrimination still exists.[26] Despite many personal examples of gender bias, all participants achieved leadership at the highest levels. These leaders remain the exception in anesthesiology. To improve diversity in leadership, reductions in gender bias must be at the foundation of interventions.

Based on our participants' experiences, leadership acquisition requires sponsorship. Sponsorship is an episodic, transactional relationship that focuses on the visibility and talent of a protégé.[27] The sponsor places a protégé in a position to benefit from a specific career-advancing opportunity.[28] A sponsor is someone who has power to advocate publicly for the advancement of talent.[29] Many of the sponsors identified by the participants were within their own departments; however, for the women holding chair positions, the sponsor(s) was often never identified. Unfortunately, many women do not have the same access to sponsorship as men do. Many reasons have been cited for this lack of sponsorship, ranging from gender bias, work-life choices, and failure to intentionally cultivate these relationships.[30] Participant B remarked, "Men often have opportunities for mentoring and sponsorship much earlier in their careers than women do. Men often advocate for other men, especially on the sponsorship side."

Leadership courses, networking, and hard work are prerequisites for leadership; however, they may not ultimately lead to promotion or leadership positions. Someone must open the door. We found that high-value mentors were associated with future leadership roles. Early mentorship with a high-value mentor may provide many benefits like sponsorship. We also found that sponsorship is an essential component of leadership acquisition. The specialty of anesthesiology should invest in the future of women's leadership. Formal sponsorship programs at local and national levels are needed. With equal opportunities for sponsorship, women in leadership will not be an exception.

Limitations

The limitations of the study include confining the study participants to North America. Cultural aspects may affect how our leaders trained, the environments in which they worked, and how they acquired leadership roles. All participants were accomplished leaders. An understanding of failure to progress to leadership is not provided in this study, but it may provide significant insights to improve diversity in leadership. A limitation of constructivist qualitative studies is the potential for the researcher to influence the findings. Researchers have inherent biases that can influence how they interpret the data and present the results.

ACKNOWLEDGMENTS

The authors wish to thank the highly accomplished leaders who took time to participate in this study. We also thank Andy Nguyen, a medical student at the Medical College of Georgia at Augusta University, for audio and technical support; Jungmin On, MD, an anesthesia intern at Northside Hospital Gwinnett; and Amelia Vu and Farhan Lakhani, medical students at the Medical College of Georgia at Augusta University, for transcribing the interviews.

DISCLOSURES

Name: Ellen R. Basile, DO.
Contribution: This author helped design the study, perform interviews, collect and interpret the data, and write the manuscript, and approved the final version.
Name: Heather Byrd, MD.
Contribution: This author helped design the study, perform interviews, collect and interpret the data, and write the manuscript, and approved the final version.
Name: Melissa Powell-Williams, PhD.
Contribution: This author helped design the study, collect and interpret the data, and write the manuscript, and approved the final version.
Name: Javier J. Polania Gutierrez, MD.
Contribution: This author helped design the study, collect and interpret the data, and write the manuscript, and approved the final version.
Name: Efrain Riveros-Perez, MD, MBA.
Contribution: This author helped design the study, collect and interpret the data, and write the manuscript, and approved the final version.
This manuscript was handled by: Edward C. Nemergut, MD.

REFERENCES

1. Hastie MJ. *Perceptions of leadership among women in academic medicine: a case study comparing the perspectives of full-time faculty with and without institutionally defined leadership titles.* 2019. Accessed October 7, 2021. [doctoral dissertation]. Teacher's College, Columbia University. https://academiccommons.columbia.edu/doi/10.7916/d8-20zg-e758.
2. Valantine HA, Grewal D, Ku MC, et al. The gender gap in academic medicine: comparing results from a multifaceted intervention for Stanford faculty to peer and national cohorts. *Acad Med.* 2014;89:904–911.
3. Berlin G, Darino L, Greenfield M, Starikova I. Women in the healthcare industry. 2019. Accessed October 7, 2021. https://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/women-in-the-healthcare-industry.
4. Association of American Medical Colleges. Distribution of full-time US medical school faculty. 2020 US Med Sch Fac Sex Rank Dep. 2020. Accessed October 1, 2022. https://www.aamc.org/media/8866/download?attachment. Table 13.
5. Bissing MA, Lange EMS, Davila WF, et al. Status of women in academic anesthesiology: a 10-year update. *Anesth Analg.* 2019;128:137–143.
6. Association of American Medical Colleges. Department Chairs, Table C. 2020. Accessed September 30, 2021. https://www.aamc.org/data-reports/faculty-institutions/report/faculty-roster-us-medical-school-faculty
7. Leslie K, Hopf HW, Houston P, O'Sullivan E. Women, minorities, and leadership in anesthesiology: take the pledge. *Anesth Analg.* 2017;124:1394–1396.
8. Toledo P, Duce L, Adams J, Ross VH, Thompson KM, Wong CA. Diversity in the American Society of Anesthesiologists Leadership. *Anesth Analg.* 2017;124:1611–1616.
9. Alwazzan L, Al-Angari SS. Women's leadership in academic medicine: a systematic review of extent, condition, and interventions. *BMJ.* 2020;10:e032232.
10. Larsson J. Studying tacit knowledge in anesthesiology: a role for qualitative research. *Anesthesiology.* 2009;110:443–444.
11. Chun Tie Y, Birks M, Francis K. Grounded theory research: a design framework for novice researchers. *SAGE Open Med.* 2019;7:2050312118822927.
12. Timonen V, Foley G, Conlon C. Challenges when using grounded theory: a pragmatic introduction to doing GT research. *Int J Qual Methods.* 2018;17:1–10.
13. Carter SM, Little M. Justifying knowledge, justifying method, taking action: epistemologies, methodologies, and methods in qualitative research. *Qual Health Res.* 2007;17:1316–1328.
14. Foley G, Timonen V, Conlon C, O'Dare CE. Interviewing as a vehicle for theoretical sampling grounded theory. *Int J Qual Methods.* 2021;20:1–10.
15. Carr PL, Gunn CM, Kaplan SA, Raj A, Freund KM. Inadequate progress for women in academic medicine: findings from the National Faculty Study. *J Womens Health (Larchmt).* 2015;24:190–199.
16. Lo Sasso AT, Richards MR, Chou CF, Gerber SE. The $16,819 pay gap for newly trained physicians: the unexplained trend of men earning more than women. *Health Aff (Millwood).* 2011;30:193–201.
17. Collins KA. The CRISP system: an untapped resource for biomedical research project information. *Bull Med Libr Assoc.* 1989;77:8.
18. Willis GB. *Cognitive Interviewing: A Tool for Improving Questionnaire Design.* SAGE Publications; 2004.
19. Charmaz K. *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis.* SAGE Publications; 2006.
20. Columbus AB, Lu PW, Hill SS, Fields AC, Davids JS, Melnitchouk N. Factors associated with the professional success of female surgical department chairs: a qualitative study. *JAMA Surg.* 2020;155:1028–1033.
21. Duckworth AL, Peterson C, Matthews MD, Kelly DR. Grit: perseverance and passion for long-term goals. *J Pers Soc Psychol.* 2007;92:1087–1101.
22. Cho CS, Ramanan RA, Feldman MD. Defining the ideal qualities of mentorship: a qualitative analysis of the characteristics of outstanding mentors. *Am J Med.* 2011;124:453–458.
23. Moss-Racusin CA, Rudman LA. Disruptions in women's self-promotion: the backlash avoidance model. *Psychol Women Q.* 2010;34:186–202.
24. Rudman LA. Self-promotion as a risk factor for women: the costs and benefits of counterstereotypical impression management. *J Pers Soc Psychol.* 1998;74:629–645.
25. Matot I, De Hert S, Cohen B, Koch T. Women anaesthesiologists' attitudes and reported barriers to career advancement in anaesthesia: a survey of the European Society of Anaesthesiology. *Br J Anaesth.* 2020;124:e171–e177.
26. Lorello GR, Cil T, Flexman AM. Women anesthesiologists' journeys to academic leadership: a constructivist grounded theory-inspired study. *Can J Anaesth.* 2020;67:1130–1139.
27. Levine RB, Ayyala MS, Skarupski KA, et al. "It's a little different for men"-sponsorship and gender in academic medicine: a qualitative study. *J Gen Intern Med.* 2021;36:1–8.
28. Ibarra H, Ely R, Kolb D. Women rising: the unseen barriers. *Harv Bus Rev.* 2013;91(9):60-66.
29. Ayyala MS, Skarupski K, Bodurtha JN, et al. Mentorship is not enough: exploring sponsorship and its role in career advancement in academic medicine. *Acad Med.* 2019;94:94–100.
30. Travis EL, Doty L, Helitzer DL. Sponsorship: a path to the academic medicine C-suite for women faculty? *Acad Med.* 2013;88:1414–1417.