"Afraid of Being Witchy with a 'B'": A Qualitative Study of How Gender Influences Residents' Experiences Leading Cardiopulmonary Resuscitation

Christine Kolehmainen, MD, MS,
Physician, William S. Middleton Memorial Veteran's Hospital and a clinical adjunct assistant professor, Department of Medicine, University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin

Meghan Brennan, MD, MS,
Women's health fellow, William S. Middleton Memorial Veteran's Hospital and a clinical instructor, Department of Medicine, University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin

Amarette Filut,
Research assistant, Center for Women's Health Research, University of Wisconsin, Madison, Wisconsin

Carol Isaac, PhD, and
Assistant professor in research, Mercer University, Atlanta, Georgia

Molly Carnes, MD, MS
Professor of medicine, psychiatry, and industrial & systems engineering and director of the Center for Women's Health Research, University of Wisconsin and director of Women Veteran's Health, William S. Middleton Memorial Veteran's Hospital, Madison, Wisconsin

Abstract

Purpose—Ineffective leadership during cardiopulmonary resuscitation ("code") can negatively affect a patient's likelihood of survival. In most teaching hospitals, internal medicine residents lead codes. In this study, the authors explored internal medicine residents' experiences leading codes, with a particular focus on how gender influences the code leadership experience.

Method—The authors conducted individual, semi-structured telephone or in-person interviews with 25 residents (May 2012 to February 2013) from 9 U.S. internal medicine residency programs. They audio recorded and transcribed the interviews then thematically analyzed the transcribed text.

Correspondence should be addressed to Dr. Kolehmainen, Geriatric Research Education and Clinical Center (GRECC) – 11G, 2500 Overlook Terrace, Madison, WI 53705-9895; telephone: (608) 280-7000; ckolehmainen@wisc.edu.

Results—Participants viewed a successful code as one with effective leadership. They agreed that the ideal code leader was an authoritative presence; spoke with a deep, loud voice; used clear, direct communication; and appeared calm. Although equally able to lead codes as their male colleagues, female participants described feeling stress from having to violate gender behavioral norms in the role of code leader. In response, some female participants adopted rituals to signal the suspension of gender norms while leading a code. Others apologized afterwards for their counter normative behavior.

Conclusions—Ideal code leadership embodies highly agentic, stereotypical male behaviors. Female residents employed strategies to better integrate the competing identities of code leader and female gender. In the future, residency training should acknowledge how female gender stereotypes may conflict with the behaviors required to enact code leadership and offer some strategies, such as those used by the female residents in this study, to help women integrate these dual identities.

In-hospital cardiopulmonary resuscitation (CPR) requires a multi-professional team to assemble efficiently and provide coordinated care under time pressure with potentially high stakes outcomes.[1] Effective leadership is critical.[2,3] Ineffective leadership[4,5] has been linked to CPR interruptions, delayed defibrillation, and delayed administration of epinephrine, any of which can decrease a patient's likelihood of survival.[6] The 2010 American Heart Association *Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care* recommend specific training in teamwork and leadership skills.[7]

In a review of the literature on leadership during CPR, Hunziker and colleagues noted that individual traits, like gender, affect the status of team members and might be important in code team dynamics so deserve further exploration.[2] In most teaching hospitals, internal medicine residents in their second and third years (postgraduate year [PGY] 2 and 3) are expected to learn to lead CPR ("codes"). Women comprise approximately 44% of internal medicine residents[8] and, despite a large body of research on gender and leadership,[9–11] few studies have examined how gender influences code leadership experiences. In a thorough review of the literature on leadership in health care teams, Künzle and colleagues included no mention of gender.[3] Wayne and colleagues assessed resident performance leading 64 actual CPR events and found no gender difference.[12,13] Others studied only untrained medical students during simulated codes.[14,15]

We undertook the present study to explore internal medicine residents' perceptions of and experience with leadership during codes. Specifically, we examined what behaviors internal medicine residents associate with effective code leadership and how gender influences their experiences.

Method

Study design and recruitment

For this qualitative study, we recruited a purposeful sample of internal medicine residents with experience leading codes from teaching hospitals in different geographic regions within the US. At the University of Wisconsin-Madison (UW), we recruited volunteers at resident educational conferences. To identify residents at other institutions, we used a snowball

sampling method--we asked participating UW residents to recommend residents in other programs who might be interested in participating.[16] We then sent email invitations to those residents.

We conducted semi-structured telephone or in-person interviews with the 25 residents who agreed to participate between May 2012 and February 2013. We selected this sample size based on our previous experience and planned to enlarge the study sample if we did not achieve thematic saturation.[17–19] However, we achieved saturation after 18 interviews. Residents received no incentives for participating in the study. The UW Health Sciences institutional review board approved the research protocol, and all participants provided written informed consent.

Data collection

We asked participants to complete an interview about their experiences leading codes. The first author (C.K.) conducted all interviews. The interview guide included broad questions about the participants' experiences leading codes, allowing the interviewer to probe about specific situations and their thoughts on gender and other traits (see List 1). Two individuals (one coauthor A.F.) de-identified the digitally audio-recorded interviews and transcribed them verbatim. The interviews averaged 44 minutes (range 27–60 minutes) and yielded 536 total pages of transcript. Participants verified the interview text prior to analysis.

Analysis

We took a series of iterative steps to analyze the text. Three authors (C.K., M.B., C.I.) analyzed three interviews line by line to identify and descriptively label different content areas that emerged. Four authors (C.K., M.B., A.F., M.C.) read all transcripts in full. We met regularly to revise and refine the labels, group statements with similar content and meaning, and develop the final thematic structure.[16,20] Three authors (C.K., M.B., A.F.) compared the newly analyzed text to the previously labeled text to refine and expand the themes and to discuss disagreements until consensus was reached. We used qualitative analysis software (NVivo 10, QSR International Inc., Burlington, MA) to facilitate data retrieval and labeling. Agreement among three independent readers of five transcripts was 96.7% (95.0%–97.7%).

Results

Of the 30 residents invited to participate, 25 (83%) from 9 residency programs agreed (see Table 1). Of those who did not participate, four did not respond to the invitation emails and one declined due to time constraints.

We identified a total of 81 unique content areas and organized the data into five themes: (1) learning to be a code leader, (2) leadership defines code success, (3) ideal code leadership behaviors, (4) leadership and gender, and (5) integrating conflicting identities. In this report, we address the last four themes.

Leadership defines code success

Most participants acknowledged that codes had "pretty dismal prospects." In reflecting back, both male and female participants described the experience as successful if the code was controlled and had effective leadership. One participant said that he thought "less about the actual patient outcome" and more about his "control" of the room. Another described a code that ended when the "patient was getting better and was wheeled away" but, because the room was chaotic, said it "wasn't a good code." Poor leadership was consistently cited as the major contributing factor to a chaotic code: "if you're quiet and wishy-washy, it just goes horrifically."

Ideal code leadership behaviors

Both male and female participants described the ideal code leader as a person who has an authoritative presence; speaks with a deep, loud voice; uses clear, direct communication; and has emotional control. The uniform advice to "assert yourself" was given by both male and female participants, who thought that "the most important thing" was to "establish yourself as a leader." Participants overwhelmingly reported that it was important to be "authoritative"; to have a "strong presence" by being both seen and heard. One participant established her role as a leader by being "the focal point in the room…you know that I'm running the code because I'm the one who's talking and I'm the one who's standing at the foot of the bed and telling people what to do." Others also mentioned the importance of being "tall."

The code leader also must be "the main voice in the room" by "speaking in a very loud, calm, controlled voice." Both male and female participants described raising the volume of their voice and being cognizant of their tone, choosing an "assertive version." One participant said that he tried to have "authority" in his voice and would "spit out orders."

Participants explained that the code leader should be the "chaos control factor" and project a composed demeanor to "help calm other people down." They also described often being "panicked" but trying to appear as the "calmest person in the room." One likened his behavior to a duck, saying: "If you've ever watched a duck on a pond, it looks as though it's floating effortlessly across the lake. But if you've ever looked underneath at a duck's feet, they're paddling feverishly."

Leadership and gender

All participants thought that men and women were equally effective leaders. One male PGY-3 participant remarked, "I can think of women that are just as assertive as any men when they're running codes." Both male and female participants described the same ideal leadership behaviors and described their struggle to achieve them at times. For example, the same male PGY-3 participant then said: "I'm not by nature extremely assertive…I don't really like ordering people to do things, so it took me a little while to just get comfortable." A few male participants commented on the need to act more assertively during codes, but largely female participants expressed this discomfort: "I just try my best to look authoritative…but it's stressful" (female PGY-3 participant).

Although both genders perceived leader performance in a similar manner, several participants noted that adopting leadership behaviors was easier for men. One female PGY-3 participant observed that "tall men with a deep voice may naturally appear more authoritative" and that male residents have it "easier." A male PGY-3 participant noted his advantage, saying:

> Anyone who tells you that being a white male with a deep voice and who's a little bit taller is not an advantage to being perceived positively, or perceived as in control, would be lying, in really any situation not just a code.

A female PGY-2 participant said:

> I act differently during a code than my normal day-to-day behavior…the male residents do not have to alter their behavior quite as much…and [they] still command authority…In addition to remembering the ACLS algorithm and everything else you have to do during a code you're also trying to assume this persona of being in charge and I think that's probably a little more stressful [for women].

Both male and female participants described using directive language in leading codes, but women more than men felt uncomfortable with that communication style. One female PGY-3 participant said: "women are always afraid that they're going to come across witchy with a 'b'". Almost half of the female participants described their apprehension in appearing "bossy" when leading codes, whereas no male participants expressed this concern. A female PGY-2 participant noted: "it can come off as bossing people around. Whereas I never felt that way when I see a male run a code; it just seems natural." A few female participants talked about feeling "weird" or "awkward" about adopting such directive behavior. For example, a female PGY-3 participant said: "you just aren't sure if people's feelings are going to get hurt or if they're going to be mad about it."

Generally, the participants did not mention race and ethnicity, even when asked whether gender, race, or other factors might influence leadership. Of the five participants born outside the US, we found little difference in their ideal leadership behaviors. However, one female PGY-2 participant, born outside the US in a culture where gender norms are explicitly reinforced, was unable to abandon her normal communication style in codes. She explained: "I don't give orders, I cannot. I just cannot. I find it very awful."

Integrating conflicting identities

Female participants described strategies they individually discovered to help mitigate discomfort and provide confidence in assuming code leadership. For some, the physical indicators of institutional authority were important: "wearing your long coat, having a badge that says 'resident'" (female PGY-2 participant). In addition, some noted that the shared knowledge that they were the institutionally designated CPR leader because they were carrying the "code pager" was affirming. Several female participants talked about the importance of mentally preparing and "assuming a code persona" when on call. One female PGY-3 participant said:

> I do have to prepare mentally beforehand. I am a woman, my voice is not deep and I'm not tall or authoritative-looking…I have to mentally prepare to talk in an authoritative way so people respect and listen to me.

Physical signals helped some female participants look and feel more in control. One female PGY-3 participant prepared to lead by carrying a hair tie when she carried the code pager. At the beginning of a code, she would "put [her] hair back and just stand there and just order people around." To her, putting her hair back meant: "I'm all business here and nothing is going to get in my way." Several participants described adopting a powerful posture and would stand with their "chest pushed out" or arms crossed. One PGY-2 participant said that it was important that she assumed a wide "code stance" gripping the patient's bed and leaning over it. A few female participants would ask to stand on a stool; one female PGY-2 participant said she will "stand on my toes to bring the focus to me."

Both male and female participants talked about how the urgency of codes requires them to act in a directive, assertive manner. Most female participants felt able to suspend their usual "niceties" during codes, saying: "in that room it's fine." However, one female PGY-3 participant said that she is "super apologetic afterward"; she felt the need to tell one team member "I'm so sorry I was mean to you!" after leading a code. Knowing that she would apologize afterward allowed her to act uncharacteristically assertive during codes.

Female participants also acknowledged that their advice to other women leading codes would be different than their advice to men. They emphasized the intersection of gender and personality, and one female PGY-3 participant said: "the big thing is if you are a shy female, you're probably going to have the most trouble." Another said: "just be really encouraging [to] women to feel ok about dropping the 'pleases' and 'thank yous.'" One suggested: "tell her to wear a ponytail holder."

Discussion

The internal medicine residents in this study confirmed that effective leadership is critical to a successful code.[2,6,21,22] While a wealth of research has found little if any difference in the effectiveness of male and female leaders,[9,23–25] gender has not been evaluated specifically in the task-oriented, time limited, urgent setting of a code.[3] Our study therefore adds to the literature on code leadership by directly exploring gender. The male and female residents in our study expressed similar levels of confidence in their own abilities to lead, and many had observed effective code leadership enacted by both men and women, consistent with the findings of Wayne and colleagues.[13]

Cultural stereotypes about men and women are well known, even among those who do not endorse their content.[26] The ubiquitous reinforcement of these stereotypes throughout life leads to implicit prescriptive rules about how men and women should and should not behave.[10,11] Specifically, "agentic" behaviors, including being assertive, dominant, forceful, and acting as a leader, are socially more acceptable for men, while "communal" behaviors, including being cooperative, warm, soft-spoken, and polite, are socially more acceptable for women.[26,27] Both men and women in our study described the ideal code leader in highly agentic terms--as a person who has an authoritative presence; speaks with a deep, loud

voice; and uses clear, direct communication. In the literature, others also have described effective leadership in life-threatening situations in agentic terms. Bergs and colleagues,[28] for example, found that the code leader needs to "take command and give direction," and Yun and colleagues[29] found that team members preferred directive (agentic) leadership in cases of major, life-threatening trauma. Cooper and Wakelam decided that the "consideration" (communal) aspect of leadership was relatively unimportant in a code situation compared to the more directive "initiating structure" leadership style and that poor leadership resulted from failing to "take command and give direction."[6]

Figure 1 provides a conceptual presentation of our findings. Although a few male residents commented on how the need to become louder and more assertive during a code was contrary to their nature, more often women expressed the need to modify their "normal day-to-day" behavior to adopt the more directive and agentic behaviors required to enact code leadership. In adopting these agentic behaviors, female residents frequently expressed discomfort in violating prescriptive gender norms. In addition to receiving repeated admonishments to conform to the female gender norms of being "nice," "polite," and not too "bossy," women learn from experience that they can suffer social penalties for engaging in behavior that is too agentic.[10,30,31] Koch found that, even when viewed as more competent than men in leading a small task-oriented group, women elicited more non-verbal displays of negative affect from other team members.[32]

Rudman and colleagues named the social censure women receive from counter stereotypical behavior as "backlash" and noted that women express a fear of this backlash.[33,34] The mental model of a leader is of a man[35]; thus, simply acting as a leader may be enough to trigger female residents' fear of backlash, especially when forced to lead in a directive manner as they are during a code.[36] In our previous study of internal medicine residents, we found that women frequently expressed concern about behaving in counter stereotypical ways by giving directive orders and that even men acknowledged that women had more constrained communication styles they could use for directing patient care.[19] We were not surprised that female residents again expressed this concern given their need to behave in a highly agentic manner to lead a code. Many residents spoke about increased anxiety before codes, a numb feeling during codes, and anxiety afterwards that some described as "PTSD" like. However, only women voiced stress from needing to behave in the agentic, stereotypical male manner required for code leadership.

Our findings align with a large body of empirical research and are particularly important because we have uncovered strategies that female residents found useful to help integrate the conflicting identities of gender and code leader. Many of these strategies provided psychological reassurance that women could suspend female gender behavioral norms when leading a code. Some of these strategies find empirical support from research on embodied cognition, which argues that motor actions influence cognition and emotional states. In an experimental study manipulating body posture, Carney and colleagues[37] found that participants who assumed a powerful versus a non-powerful posture felt more confident and were more likely to take action. Thus, the "code stance" that many residents described may be valuable in the same way, as a means of increasing confidence. In addition, Adam and Galinsky found that the symbolic meaning of wearing the white coat of a doctor improved

cognitive performance.[38] The benefit of what they referred to as "enclothed cognition" may be reflected in residents' descriptions of the symbolic importance of holding the code pager, wearing a white coat, or tying back one's hair in assuming code leadership.

Our study was exploratory and relied on the recollected lived experiences of the participants. Thus, the generalizability of these themes deserves further study. However, experimental research in social psychology supports that women would experience stress when engaging in counter stereotypical behaviors, such as leading a code, and that the strategies the resident's identified would be helpful. Therefore, our study has implications for teaching CPR leadership to internal medicine residents. Training should include an "identity safety" statement reinforcing that both male and female residents are equally competent to lead codes.[39] In other settings, providing information about how gender stereotypes might cause anxiety in male-gendered tasks has improved performance[40] and appears to promote leadership self-efficacy in women at early career stages in science, engineering, and medicine.[41]

We recommend that future resident training in code leadership:

- Provide clear affirmation that research finds no difference in the effectiveness of male and female code leaders,

- Acknowledge that directive code leadership generally requires a greater departure from cultural gender behavioral norms for women than men, and

- Describe some strategies (and the supporting research evidence) that have helped other women suspend gender expectations and adopt highly agentic behaviors while leading codes.

In summary, our findings support the importance of effective leadership in CPR. Male and female residents both described code leadership in highly agentic terms and acknowledged that enacting code leadership required female residents to make greater adjustments than male residents to their normal behaviors. Some female residents found such counter stereotypical behavior stressful. To mitigate this stress, female residents frequently adopted intentional rituals to give themselves permission to suspend gender role expectations while leading a code. Because of the importance of effective code leadership for team performance, our findings have implications for improving patient outcomes.

Acknowledgements

References

1. Tschan F, Semmer NK, Gautschi D, Hunziker P, Spychiger M, Marsch SU. Leading to recovery: Group performance and coordinative activities in medical emergency driven groups. Human Performance. 2006; 19:277–304.

2. Hunziker S, Johansson AC, Tschan F, et al. Teamwork and leadership in cardiopulmonary resuscitation. J Am Coll Cardiol. 2011; 57:2381–2388. [PubMed: 21658557]

3. Künzle B, Kolbe M, Grote G. Ensuring patient safety through effective leadership behaviour: A literature review. Saf Sci. 2010; 48:1–17.

4. Marsch SC, Müller C, Marquardt K, Conrad G, Tschan F, Hunziker PR. Human factors affect the quality of cardiopulmonary resuscitation in simulated cardiac arrests. Resuscitation. 2004; 60:51–56. [PubMed: 14987784]

5. Høyer CB, Christensen EF, Eika B. Junior physician skill and behaviour in resuscitation: A simulation study. Resuscitation. 2009; 80:244–248. [PubMed: 19084318]

6. Cooper S, Wakelam A. Leadership of resuscitation teams: 'Lighthouse leadership'. Rescuscitation. 1999; 42:27–45.

7. Field JM, Hazinski MF, Sayre MR, et al. Part 1: Executive summary: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation. 2010; 122:S640–S656. [PubMed: 20956217]

8. Jolliff, L.; Leadley, J.; Coakley, E.; Sloane, RA. Women in U.S Academic Medicine and Science: Statistics and Benchmarking Report 2011–2012. Washington, DC: Association of American Medical Colleges; 2012.

9. Eagly AH, Johannesen-Schmidt MC, van Engen ML. Transformational, transactional, and laissez-faire leadership styles: A meta-analysis comparing women and men. Psychol Bull. 2003; 129:569–591. [PubMed: 12848221]

10. Eagly AH, Karau SJ. Role congruity theory of prejudice toward female leaders. Psychol Rev. 2002; 109:573–598. [PubMed: 12088246]

11. Heilman ME. Description and prescription: How gender stereotypes prevent women's ascent up the organizational ladder. J Soc Issues. 2001; 57:657–674.

12. Didwania A, McGaghie WC, Cohen ER, et al. Progress toward improving the quality of cardiac arrest medical team responses at an academic teaching hospital. J Grad Med Educ. 2011; 3:211–216. [PubMed: 22655144]

13. Wayne DB, Cohen ER, McGaghie WC. Leadership in medical emergencies is not gender specific. Simul Healthc. 2012; 7:134. author reply 134–136. [PubMed: 22476328]

14. Streiff S, Tschan F, Hunziker S, et al. Leadership in medical emergencies depends on gender and personality. Simul Healthc. 2011; 6:78–83. [PubMed: 21358565]

15. Hunziker S, Laschinger L, Portmann-Schwarz S, Semmer NK, Tschan F, Marsch S. Perceived stress and team performance during a simulated resuscitation. Intensive Care Med. 2011; 37:1473–1479. [PubMed: 21695475]

16. Creswell, JW. Qualitative inquiry and research design: Choosing among five approaches. 2nd ed.. Thousand Oaks, CA: Sage Publications; 2007.

17. Corbin, J.; Strauss, AL. Basics of qualitative research: Techniques and procedures for developing grounded theory. 3rd ed.. Thousand Oaks, CA: Sage Publications; 2008.

18. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variablilty. Field methods. 2006; 18:59–82.

19. Bartels C, Goetz S, Ward E, Carnes M. Internal medicine residents' perceived ability to direct patient care: Impact of gender and experience. J Womens Health (Larchmt). 2008; 17:1615–1621. [PubMed: 19049356]

20. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006; 3:77–101.

21. Hayes CW, Rhee A, Detsky ME, Leblanc VR, Wax RS. Residents feel unprepared and unsupervised as leaders of cardiac arrest teams in teaching hospitals: A survey of internal medicine residents. Crit Care Med. 2007; 35:1668–1672. [PubMed: 17507825]

22. Yeung JH, Ong GJ, Davies RP, Gao F, Perkins GD. Factors affecting team leadership skills and their relationship with quality of cardiopulmonary resuscitation. Crit Care Med. 2012; 40:2617–2621. [PubMed: 22732290]

23. Eagly AH, Karau SJ, Makhijani MG. Gender and the effectiveness of leaders: A meta-analysis. Psychol Bull. 1995; 117:125–145. [PubMed: 7870858]

24. Rosser VJ. Faculty and staff members' perceptions of effective leadership: Are there differences between men and women leaders? Equity Excell Educ. 2003; 36:71–81.

25. Isaac C, Griffin L, Carnes M. A qualitative study of faculty members' views of women chairs. J Womens Health (Larchmt). 2010; 19:533–546. [PubMed: 20156081]

26. Prentice DA, Carranza E. What women and men should be, shouldn't be, are allowed to be, and don't have to be: The content of prescriptive gender stereotypes. Psychol Women Q. 2002; 26:269–281.

27. Bem SL. The measurement of psychological androgyny. J Consult Clin Psychol. 1974; 42:155–162. [PubMed: 4823550]

28. Bergs EA, Rutten FL, Tadros T, Krijnen P, Schipper IB. Communication during trauma resuscitation: Do we know what is happening? Injury. 2005; 36:905–911. [PubMed: 15998511]

29. Yun S, Faraj S, Sims HP Jr. Contingent leadership and effectiveness of trauma resuscitation teams. J Appl Psychol. 2005; 90:1288–1296. [PubMed: 16316282]

30. Heilman ME, Okimoto TG. Why are women penalized for success at male tasks?: The implied communality deficit. J Appl Psychol. 2007; 92:81–92. [PubMed: 17227153]

31. Biernat M, Tocci MJ, Williams JC. The language of performance evaluations: Gender-based shifts in content and consistency of judgment. Soc Psychol Personal Sci. 2012; 3:186–192.

32. Koch SC. Evaluative affect display toward male and female leaders of task-oriented groups. Small Group Research. 2005; 36:678–703.

33. Rudman LA, Glick P. Prescriptive gender stereotypes and backlash toward agentic women. J Soc Issues. 2001; 57:743–762.

34. Rudman LA, Fairchild K. Reactions to counter stereotypic behavior: The role of backlash in cultural stereotype maintenance. J Pers Soc Psychol. 2004; 87:157–176. [PubMed: 15301625]

35. Schein VE, Mueller R, Lituchy T, Liu J. Think manager--think male: A global phenomenon? J Org Behav. 1996; 17:33–41.

36. Eagly AH, Johnson BT. Gender and leadership style: A meta-analysis. Psychol Bull. 1990; 108:233–256.

37. Carney DR, Cuddy AJ, Yap AJ. Power posing: Brief nonverbal displays affect neuroendocrine levels and risk tolerance. Psychol Sci. 2010; 21:1363–1368. [PubMed: 20855902]

38. Adam H, Galinsky AD. Enclothed cognition. J Exp Soc Psychol. 2012; 48:918–925.

39. Davies PG, Spencer SJ, Steele CM. Clearing the air: Identity safety moderates the effects of stereotype threat on women's leadership aspirations. J Pers Soc Psychol. 2005; 88:276–287. [PubMed: 15841859]

40. Johns M, Schmader T, Martens A. Knowing is half the battle: Teaching stereotype threat as a means of improving women's math performance. Psychol Sci. 2005; 16:175–179. [PubMed: 15733195]

41. Isaac C, Kaatz A, Lee B, Carnes M. An educational intervention designed to increase women's leadership self-efficacy. CBE Life Sci Educ. 2012; 11:307–322. [PubMed: 22949427]

List 1

Interview Guide for a Study of the Role of Gender in Cardiopulmonary Resuscitation Leadership among Internal Medicine Residents, 2012–2013

1. Tell me about a code you've led in the past.

2. How did you learn to lead a code?

3. Can you talk about the dynamics among team members?

4. What does it feel like to run a code?

5. What advice would you give to a resident before she or he started running a code?

6. Would the advice be different for a man or a woman?

7. Have you seen men and women run codes differently?

8. Are there any traits, such as gender, race, or personality, that make you more or less successful at running a code?
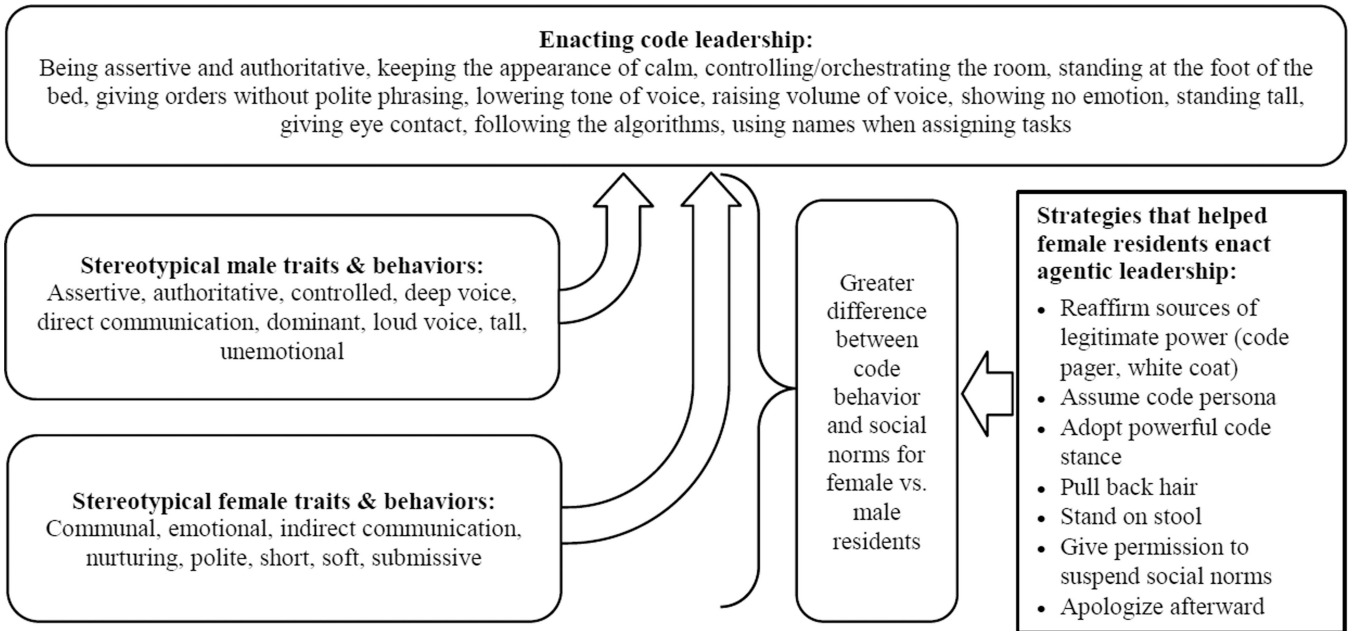
Enacting code leadership:
Being assertive and authoritative, keeping the appearance of calm, controlling/orchestrating the room, standing at the foot of the bed, giving orders without polite phrasing, lowering tone of voice, raising volume of voice, showing no emotion, standing tall, giving eye contact, following the algorithms, using names when assigning tasks

Stereotypical male traits & behaviors:
Assertive, authoritative, controlled, deep voice, direct communication, dominant, loud voice, tall, unemotional

Stereotypical female traits & behaviors:
Communal, emotional, indirect communication, nurturing, polite, short, soft, submissive

Greater difference between code behavior and social norms for female vs. male residents

Strategies that helped female residents enact agentic leadership:
- Reaffirm sources of legitimate power (code pager, white coat)
- Assume code persona
- Adopt powerful code stance
- Pull back hair
- Stand on stool
- Give permission to suspend social norms
- Apologize afterward

Figure 1.
Conceptual framework for the role of gender in how internal medicine residents enact leadership during cardiopulmonary resuscitation ("code"), 2012–2013.

Table 1

Characteristics of 25 Internal Medicine Residents Who Participated in a Study of the Role of Gender in Cardiopulmonary Resuscitation Leadership, 2012–2013

Characteristic	No. (% of 25)
Postgraduate year (PGY)	
2	5 (20)
3	20 (80)
Gender	
Women	16 (64)
Men	9 (36)
Race/Ethnicity [a]	
White	3 (12)
East Asian	1 (4)
Asian American	1 (4)
African American	2 (8)
Born outside US	5 (20)
Not specified	13 (52)
Primary residency setting	
University of Wisconsin Hospitals & Clinics	16 (64)
Other residency program	9 (36)
Academic	24 (96)
Community	1 (4)
Residency program geographic region	
Midwest	17 (68)
South	1 (4)
West Coast	4 (16)
East Coast	3 (12)

[a]Self-described during the interview.