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Identifying successful interpersonal communication strategies for women in masculine settings

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"Facts matter; feelings don't matter": Identifying successful interpersonal communication strategies for women in engineering teams

Abstract
Women in masculine fields such as engineering often face a paradox when it comes to interpersonal communication: if they speak like a woman they may be perceived as weak or emotional, but if they speak and act like a man they may be perceived as difficult to work with. This project attempts to uncover the tacit knowledge that successful engineering women have accumulated about communicating successfully as an engineer so that we can pass this knowledge down to students. Discourse completion interviews with 23 female engineering professionals and 19 female undergraduates asked participants to identify how they would respond to situations where a teammate is dominating a project. We find that while students tend to either avoid conflict or correct teammates' behaviors, professional engineers used structured, semi-formal procedures and appealed to team and individual goals to drive the conversation forward. They focused on presenting solutions, rather than dwelling on problems, and avoided mentioning feelings or needs to prevent appearing emotional. We also found that professional women strategically used flattery to accomplish their ends and rehearsed difficult conversations. Such strategies need to be shared with engineering undergraduates to help them develop and draw upon range of successful interpersonal strategies for handling difficult situations.

1. Introduction

> *I think we all start out—we want to communicate in the style that's comfortable for us and what comes natural…I think what you learn over time is that you have to adapt to whoever and whatever you're dealing with, and it may not be what's comfortable for you, but it's what they need and how they will respond. (White female engineering professional)*

When it comes to interpersonal communication, women in engineering have to navigate uncomfortable terrain. If they speak and act in ways that are noticeably feminine, they are likely to receive negative attention and be perceived as weak, insecure, or emotional [1, 2]. However, if they act and speak just like the men around them, there is evidence that they will be perceived as unlikeable and difficult to work with [3, 4]. As the epigraph above suggests, women can benefit by adapting their communication style to one that their male colleagues will respond positively to. But how do they go about doing this?

Our project is based upon the assumption that women who have been successful in engineering schools and workplaces have developed *tacit knowledge* (assumptions, habits, and strategies that individuals know but usually cannot articulate explicitly) about how to interact successfully in this environment [5]. Although tacit knowledge is difficult to uncover and communicate, recent research suggests that it can be made explicit and successfully communicated to novices [6, 7] and that women attach particular importance to acquiring tacit knowledge [8]. In the case of women undergraduates in engineering, we believe that understanding the tacit knowledge of how

and when to address the problems that seem to be systemic in the undergraduate engineering experience will help them persist in their educational and later, workforce, careers.

Consequently, we are working to uncover the tacit knowledge that successful professional engineering women possess about how to communicate in engineering environments. In this particular stage of our project, we focus on tacit knowledge for interacting with domineering teammates who take over a project. We concentrate on this particular problem because over half of the engineering undergraduates participating in an earlier stage of our project reported problems with "alpha," or domineering, teammates who dismissed their input or excluded them from participating. Since engineering women often cite the competitive climate of engineering as a reason for leaving the field [9, 10] and women often face this competitive climate when working on team projects [11-13], teaching women successful strategies for handling this competition seems likely to boost their self-efficacy.

In this paper we focus on tacit knowledge that successful female professionals have developed for handling domineering teammates, contrasting it with students' approaches to these problems. Our goal is to discover what tacit knowledge professionals have that students lack so we can develop resources that will help students better navigate these difficult situations. Such resources, we hope, will increase women's self-confidence in their abilities to persist in an engineering career, which is a common and troubling reason women cite for leaving the field [14, 15].

2. Methods

2. 1 Overview:

This study uses a methodology known as *discourse completion interview*. In a discourse completion interview, participants are given a specific problem situation and asked to describe exactly how they would respond, providing specific wording when possible. We also prompted participants with potential responses to the problem and asked them to comment on the merits and drawbacks of these responses. The goal was to find out as much detail as possible about specific word choices, interactional strategies, and variables that would affect participants' decisions on how to proceed.

Our discourse completion interviews were conducted in two stages. In the first stage, participants were asked to comment on general approaches to addressing the problem. In the second stage, we used the results from the earlier interviews to develop more specific wording and asked participants to comment on nuances in phrasing. Participants' comments on the pros and cons of similar—yet different—responses helped draw out tacit knowledge about what is and is not appropriate communication in engineering.

2.2 Participants:

2.2.1 Professional participants

Twenty-three female engineering professionals, all of whom had a least five years of professional experience (the average professional experience was 16 years), participated in this project. Of these, 17 were White, three African-American, two Native American, and one Hispanic. Professionals worked in a variety of sectors, including small private companies, large public corporations, and government. Of these 23 professionals, six participated in *stage one*

(commenting on *general approaches* to the problem) and 17 in *stage two* (commenting on more *specific wording)*. All participants were native English speakers.

2.2.2 Student participants

Nineteen female engineering undergraduates participated—seven in *stage one* (general approaches) and twelve in *stage two* (specific wording). The undergraduates were primarily juniors and seniors at a range of universities, including public and private research I universities and non-research universities from multiple geographic locations in the U.S. Of these students, six were White, four Asian, four Hispanic, three African-American, and two Native American. All participants were native English speakers.

2.3 Discourse completion scenarios

From our prior research we pulled two scenarios representing two different types of domineering teammates and asked students and professionals to describe specifically how they would respond to the scenarios. We chose the *exclusion* scenario because such situations can have high negative consequences for students' learning and grades. We chose the *alpha guy* scenario because it represents a very common and highly frustrating situation that can also have negative consequences for students' grades. The scenarios are presented in students' own words with only slight modifications.

2.3.1 The exclusion scenario:

I was on a three-person team with this guy who was very smart and I had so much respect for him. He knew our capstone professor and he knew the professor wanted to see certain things. So he took those important parts for himself and just divided the work up without asking. And when I asked him about it, he said "Don't worry about it. We just did it. We went to the lab and just finished it." He's really smart so I know he did a good job, but I'm upset about being left out.

2.3.2 The alpha guy scenario:

My group had three people. One of the guys was very alpha male and caused a lot of problems because he kept saying, "Oh, yeah, we should do it this way." Every time I pointed out problems he was like "Well, I know better. We can use this really expensive steel or aluminum."

2.3.3 Responses to the scenarios

In ***stage one,*** participants were asked to comment on general strategies for responding, such as

- Say nothing and spend the time you would have spent on the project studying
- Explain to your teammate how upset you are
- With the other teammate, talk to alpha guy outside of the group meeting and ask him to listen to other people's ideas.

In ***stage two,*** the responses were more specific. Participants were asked to comment on the pros and cons of different wording such as

- Talk to your teammate one-on-one: "I appreciate your work, but I feel excluded from the project. Can we proceed differently next time?""
- Tell your teammate "I really appreciate your work, but I need to learn how to do this. Can we go over what you did so I can understand it?"

- With the other teammate, talk to alpha guy outside of a group meeting and say "You aren't listening to other people's ideas. We have some disagreement in the group and you really need to hear what other people are saying."
- Say to alpha guy, "It sounds like you are really confident and passionate about this project, but I don't understand where you are coming from. I need you to explain to me why this is the right solution." Keep asking questions until he hopefully sees the problems with his approach.

2.4 Procedures:
These two scenarios and the potential responses were among the materials participants received in advance of our interviews. Participants were asked in the interviews to identify the pros and cons of the different responses and supply us with what they found were the "right" answers to any of the scenarios. We also asked participants to reflect on whether or not there might have been a time when their responses would have been different. Finally, participants were asked if they had ever experienced similar situations. Participants received an honorarium for participating in the interviews and all IRB procedures at participating institutions were followed (IRB: HS12-318).

2.5 Analysis
We used MaxQDA qualitative software to code the interviews for various patterns in participants' responses, using a loosely structured grounded theory methodology. However, we also attempted to quantify how common various trends in the responses occurred to give readers a sense of how to weight our findings and to draw out contrasts among our two groups. Since the interviews were open-ended (allowing us to discover a variety of nuanced approaches to these problems), the numbers we report reflect topics that naturally emerged from the conversation. These numbers are therefore not as high as they would be if participants had specifically been asked to comment on all of the topics. In other words, the fact that an interviewee did not mention a particular strategy or concern does not mean that they do not use the strategy or share that concern.

3. Results
3.1 Participants have faced similar situations in school and the workplace
Over three-fourths of the engineering professionals (19/23) and nearly one-half of the students (9/19) indicated that they had faced similar situations with dominating teammates, with many professionals saying that these situations are common in the workplace. These responses suggest that these scenarios are realistic and worth studying. The lower reporting among students is likely due to the fact that many students we interviewed had limited experience with teamwork.

3.2 Students often opted out of confrontation
A common student response to the scenarios—particularly the exclusion scenario—was to do nothing for the time being. Over one-third (7/19) of female students said that they would not take any action for the time being with the "exclusion" scenario. Several students indicated they knew "do nothing" was the wrong answer, but it is realistically what they would have done.

> I think I'm just one of those people who's not—**I don't like being too confrontational**….That's just how I am in general, which I guess is not really a good thing (Asian student)
>
> I would want to go talk to the guy outside the group, but **realistically I don't know if I would've said anything**. (Hispanic student)
>
> I'm just usually that middle-of-the-road kid that's like if you're the 4.0 student,…then I guess you know what you're doin' more than I know what I'm doin'…**I'm more of a let them kinda take the reins.** (African American student)
>
> Usually, people that have that attitude, "We should do it this way; you should"—**I kinda just let them. I just let it slide off. It doesn't bother me too much**. I'll give my two cents in and try to make the most of it. (White student)

By contrast only one professional suggested that "do nothing" was a good option. Many professionals and some students revealed that in the past they would have said nothing, but they have learned the hard way the importance of speaking up:

> I've done that before, not said anything, and tried to wait to see if that person would help me out, and they didn't. **It didn't get me anywhere.** (African American professional)
>
> Well, this actually has happened to me before, and **I did [say nothing], but I would not do it again**….Yeah, the sooner you ask questions the better. (Hispanic student)

These findings reinforce the assumption that students need strategies for dealing with problematic behaviors in teams.

3.3 When students did confront teammates, they focused on correcting behavioral issues

When students did say they would take action, over half (10/19) said they would confront the offending teammate over the perceived interpersonal violation, telling the teammate their behavior was not "right," "cool," or "fair." Their confrontations were motivated by a strong sense of "right" or appropriate behavior. In many cases, the students stopped at pointing out the offense:

> I had to be forceful in saying, "**Look, you're making me angry. This isn't fair to me. You can't do this."** (White student)
>
> **"Well, you're rejecting everyone's ideas. You're not even giving everyone a chance. Who are you to—it's not fair** for your ideas to take hold while you reject our ideas. You should at least listen. We can be critical of your ideas, too, but at least have the decency to listen." (Asian student)
>
> "**Look, there are other people here** that need to be involved and need to have some input also, *[laughs]* **you're not the only one here."** (Hispanic student)

> I would probably say, **"You know what, you need to put your ego aside…"** (Hispanic student)
>
> You just wanna let them know **it's not cool if you just take over everything** cuz we're supposed to be working together…. **You just need to be honest with them.** Because chances are, unless the person is really mean, then they're not gonna be like, "Well, I don't care that you feel excluded." (Native American student)

The students we interviewed tended to treat interpersonal relationships as a primary component of teamwork, emphasizing the importance of building relations and creating "team chemistry." Perhaps consequently, they often assumed that if they just pointed out problems with interpersonal behaviors—if they were just "honest" with their teammates—the problem teammate would be motivated to change his behavior.

By contrast, the professional women we interviewed tended to realize that pointing out problems in individuals' behaviors triggers counterproductive defensiveness. They also realized that not everyone is motivated to improve their interpersonal skills:

> **They think, "If I tell them that they're being this annoying person, they'll stop being an annoying person,"** and really, you're just telling them they're an annoying person, and they're like, "Yeah. I know. I've always been that way, and I always will be, and thanks for pointing it out because now I feel like a jerk." (Native American professional)
>
> **You have to expect them not to want to change.** (White professional)
>
> **You don't want to be negative.** You don't want to come out and go, "You know, you're being a butt"… **Then he's going to shut down.** (White professional)
>
> I think if you approach anybody in an approach that **"You're doing things wrong," or whatever, then they tend to be more defensive, and then you end up arguing more than you do trying to resolve the issue.** (White professional)

Thus, where students' interpersonal problem solving often relied upon pointing out problematic behaviors, professionals have learned that other approaches are needed because individuals may not understand how to change their behavior—or may not care to change. As one professional described her co-workers: "They're all strong headed, they all have their opinions, they don't want to be shown up, and they can't back down" (Hispanic professional). Such strong-headed people require tactics that do not directly point out flaws in their behaviors.

3.3 Professionals used structured procedures to facilitate difficult communication

Whereas students tended to dwell on problematic interpersonal behaviors, over half of the professionals (13/23) recommended using structured or semi-structured procedures as impersonal tools for solving interpersonal problems. Procedures mentioned included formal brainstorming, thoroughly documenting pros and cons, systematically rotating leadership roles, and formally agreeing upon group responsibilities. In fact, several of the professionals noted that, had such procedures been in place, the student teams might not have encountered problems.

One professional noted that the more difficult the behavior, the more important it is to have a process in place:

> **The harder your communication with somebody, the worse it is personally, the more you have to formalize a process.** There's always a formal process for communication in the workplace anyway. There's always some planning time, some meeting. You have to formalize that. (White professional)

One reason that procedures may be so effective is that they influence future behavior rather than harp on past problems. For instance, one professional noted that formal brainstorming procedures "**driv[e] the conversation forward**" (White professional) by providing a means to hear from everyone in the group. Rather than focusing on interpersonal relationships, formal procedures can provide a mechanism for hashing out ideas.

By contrast, less than one-fourth of students (4/19) mentioned following formal procedures or establishing ground rules as a means for addressing team problems. Even when students did mention formal procedures, they primarily focused on procedures for delegating the work rather than establishing norms for group conversations or practices for making group decisions. A more common student approach was "just building relations" (White student) rather than attempting to establish a group infrastructure that could prevent problems before they occurred.

3.4 Professionals appealed to team and individual goals to solve interpersonal problems

The procedures professionals recommended for structuring team communication often involved reflecting on team goals and priorities. Such priorities refocus the decision-making process and can encourage individuals to reconsider their behaviors without being explicitly corrected. For instance, several professionals noted that the team in the "exclusion" scenario needed to realize that the goal of the project is for everyone to learn. Once such a goal is agreed upon, it no longer makes sense for one individual to do all the work. Over one-fourth (6/23) of the professionals interviewed mentioned the importance of articulating goals and objectives in order to reach agreement.

> I would—require is the wrong word, but use the **win-win negotiation skills to sit us all down and say, "What are we after here?** Are we after the good grade? Maybe, but ultimately we're all after this to learn something." (White professional)

> Again, in those cases, and I think this is one of the things that's helped me get into a team leadership position, **is really trying to help everybody step back.** Say, "Okay, let's as a team, **let's talk about what we're looking to get out of this project….** Let's make sure that we're meeting each of those key priorities," and we may even go through some rating and ranking of those to make sure that, while this may be nice to have, we really have to meet this need. (White professional)

By contrast, only one student mentioned the importance of a team agreeing upon shared goals.

Articulating individual, or personal, goals also seemed to be a legitimate strategy. Several professionals indicated that individuals should try to clearly identify for themselves their personal goals for a project before attempting to trouble-shoot an interpersonal conflict. Others

indicated that they would ask their teammate for assistance in achieving their personal goals of learning and visibility:

> You have to bring it from your perspective, so you'd say, "**I think this would really help me grow in these areas,**" and say, "I know that I'm not strong in this, and I want to work on this. You can help me, but I think it will benefit me to do this. (White professional)

> Instead of pointing to someone and saying, "You're doing this and it's making me mad," just pointing out all the positive things about a person, the work they do and saying, "I feel like I'm not getting enough of my input into this project and **I need some visibility here for my own development."** It's a phenomenal strategy and it's amazing how well it works. (White professional)

3.5 Professionals advised appealing to egos to defuse defensive behavior

One of the biggest surprises for us in this research was how often the professional women we interviewed stated that they had learned the importance of stroking egos. Over one third (8/23) described using flattery as a strategy for dealing with headstrong individuals:

> Ten years ago, I wouldn't have said this. I would've said this is shenanigans, but there's a way to kind of word things to a person and just kinda make them feel good. Like, you're—how do I say this—to kind of appeal to somebody's ego and say, "You've got such great ideas and you're so passionate about this work and that's really appreciated. Sometimes I think you're overlooking my thoughts." **Ten years ago, I would've been like, "That's bologna. You've gotta go in there and just tell somebody they're wrong," but really you get more results by being positive with people and, like I said, sort of appealing to their ego and pointing out the things that they've done well** also, and then segue into the fact that maybe you've got some issues with them dominating a project. (White professional)

> **Yeah, I like first playing up to the ego.** Confident, passionate. "You really care about it." (White professional)

> A lot of times, with men, you have to make them feel like they—or dominant men, you have to make them feel—**make them feel like you really want to learn from them. That makes them more compelled to give you information,** compared to you being the smarter one or you know everything**….** I mean that makes them feel more comfortable sometimes. (African American professional)

By contrast, only two students mentioned using ego-stroking, and neither discussed it in any detail. One professional did question the ego-stroking strategy as trying to "fluff them up before you work with them on what the problem is" (White professional). However, even this professional stated that she would begin by complimenting the domineering teammate's idea.

3.6 Professionals avoided mentioning feelings or needs

Focusing on team goals and following structured procedures seemed to help professionals avoid the emotional appeals that seemed to characterize undergraduates' responses. In contrast to

students who might tell their teammates that they were angry or upset, 30% of the female professionals (7/23) explicitly stated that women should avoid mentioning feelings or emotions.

> You can't say, "I feel excluded from the project…." Who cares? **Why does he care if you feel excluded from the project?** ….Feelings don't matter, especially in engineering….**Facts matter. Feelings don't matter.** (White professional)

> She shouldn't say, "But I feel excluded." It's not—when you're dealing with men, **how you feel isn't important.** That's a female thing, too. I feel hurt. I feel. They don't care, and that's putting you in a box that you don't need to be in. (White professional)

> What I've learned is that I would have to **take the emotion out of it**…. I think emotion makes you look a little weaker too. That's one of the things I've learned: Go in. **Be rational. Have examples….Keep it not personal.** (White professional)

> If you can keep it with **thought processes and not feelings** like, "I feel left out." **I don't think they know what to do with feelings**. (White professional)

This advice is consistent with results from other parts of our project which found that engineering professionals were less likely than students to select feelings-based statements to resolve a conflict. This finding is intriguing because it contradicts conflict management advice that recommends using "I" statements and beginning confrontations with "I feel…" to avoid assigning blame. While three of the professionals we interviewed appeared to use feeling statements in this non-blaming way, the weight of our evidence suggests that feeling statements go against an engineering ethos of fact- and data-based rationality.

Three of the professionals mentioned that they specifically tried to avoid using the word "need":

> **I was counseled strongly that women tend to say "I need" a lot,** and the person who told me didn't necessarily tell me what to substitute—*[chuckles]*—but just warned that we shouldn't be saying, "I need, I need, I need." (White professional)

> I don't know that I'd necessarily use that expression, "I need you to explain to me," because that sounds like a defensive—**to me, that sounds like a defensive statement. (**White professional)

In place of a phrase such as "I need you to explain it to me" these women suggested ***"Please explain it to me"*** or ***"It is important that I learn this."*** In general, these women seemed to suggest eliminating phrases from their vocabulary that imply any kind of weakness.

3.7 Professionals rehearsed difficult conversations

Although only four of the professionals (17%) mentioned rehearsing difficult conversations, we find this strategy noteworthy since none of the students mentioned practicing conversations in advance. We suspect that students believe they should be able to handle such situations, and it would be eye-opening for them to learn that some experienced engineers prepare these conversations in advance:

> Me personally, I have to think about it. I actually have to kinda run through scenarios of, if I say this and they say that, how do I respond, so that I at least have a game plan. If it goes well, here's our end result. If it goes poorly, I'm not blindsided. **I always kinda have a little bit of a self-talk to myself about it.** (White professional)

> Just trying to play it out loud and then telling myself, "Oh, wait, wait. Don't use that word. Okay, start over…." " and I'll be talking to myself because you can hear how your flow starts to—you get at ease with the topic or whatever, and then something will pop out that you know is not gonna be conducive to your end goal. **Then you can correct yourself before you actually do it for real.** If I don't spend that time ahead of time, sometimes I get lucky and it works well, and sometimes it doesn't, but when I spend the time…. I think most of the time I'm much more likely to be successful. Even when I'm not, I feel like I did what I could have. (White professional)

3.8 Professionals cautioned against making assumptions about individual's behaviors

One-third (8/24) of the professionals mentioned that domineering teammates may be unaware that they have done anything wrong. For instance, several professionals mentioned that the teammate who completed the project in the "exclusion" scenario may have thought he had done a good deed by saving his teammates time. Others noted that conflicts may just reflect differences in communication styles and not any substantive disagreement.

> What you have to do, I think, as a student is realize that the person, one, may not realize they're doing it because they have as little experience as you do. **It may be unintentional.** (White professional)

Giving the problem teammate the benefit of the doubt helped these professionals avoid emotional responses to the situations. Many professionals also stated that the first step in trouble-shooting the problem should be to find out why the teammate acted as he did since the way one would approach an individual who thought he was helping by completing the project on his own would be different than the approach to an individual who did not trust others.

3.9 Best solutions

3.9.1 Best solutions: the exclusion scenario

For the exclusion scenario, 80% of the professionals and 73% of students in stage two incorporated some element of the following option into their response:

> Tell your teammate "I really appreciate your work, but I need to learn how to do this. Can we go over what you did so I can understand it?"

The most common modifications to this solution were (1) first ask the teammate *why* he proceeded as he did; (2) articulate team goals, such as learning the content or learning to work as a team; and (3) eliminate the phrase "I need." One professional added that she would also emphasize the skills she brought to the project.

Many professionals moreover noted that if the project had followed good management principles from the beginning—such as creating a task schedule—this problem would never have been encountered.

3.9.2 Best solutions: the "alpha guy" scenario

For the alpha guy scenario, 80% of the professionals and 50% of the students in stage two incorporated some element of the following option into their response:

> Say to alpha guy, "It sounds like you are really confident and passionate about this project, but I don't understand where you are coming from. I need you to explain to me why this is the right solution." Keep asking questions until he hopefully sees the problems with his approach.

The most common modification to this solution was to adopt a semi-formal procedure for discussing the pros and cons of alternative approaches. Many emphasized that it would be unproductive to simply focus on what was wrong with alpha guy's approach without proposing alternatives. As one professional noted, focusing on alternatives avoids forcing the alpha teammate to admit he was wrong, which could trigger counterproductive defensive behaviors, but instead can let him participate in a discussion that points out why another solution is better.

4. Discussion

This project found that dealing with domineering teammates is a common situation in both professional and student work, and professional engineering women have developed often sophisticated and nuanced tacit knowledge for handling these situations. Where professional women invoked structured procedures and discussed team and individual goals as ways to move problems out of the affective, interpersonal dimension, students tended to either avoid problems or focus on correcting interpersonal behaviors.

Students' emotional approaches to interpersonal conflict often put them at odds with an engineering ethos of rational decision-making where feelings and emotions are perceived as irrelevant—a finding supported by other sources [16]. The professional women we interviewed had mostly developed a reservoir of tacit knowledge about how to handle interpersonal interactions that avoided emotional appeals and direct challenges about behavior. Instead, professionals focused on developing a team infrastructure that could allow them to change behaviors without correcting them. This infrastructure included instituting structured procedures—such as formal brainstorming in which everyone on the team weighs in with ideas—and articulating team goals.

The finding that most surprised us was how many professional women had learned to appeal to the egos of difficult teammates in order to influence their behaviors. In many ways, this ego-stroking strategy plays into the culture of engineering, which has been found to favor self-promotional communication styles in which individuals assert their competence and avoid mentioning weaknesses. [1, 17-19]. Self-promotional communication is strongly associated with masculinity [2, 20, 21] and women who self-promote typically face social sanctions for doing so [3, 4, 22]. It may be that ego-stroking is a necessary strategy for women to adopt in an environment where masculine boasting is the norm. Future research is needed to determine how widespread ego-stroking is and what drawbacks there are to this strategy, particularly given that self-promotional behaviors have been found to have negative consequences for learning and teamwork [17, 23].

Some professionals had also developed a strong awareness of words to avoid—including the word "feelings" and the phrase "I need"—in order to avoid appearing weak. Several professionals found that they had to practice difficult conversations in order to choose the correct words and eliminate emotion from their responses.

Our findings are limited by our small sample size and the open-ended nature of our interviews. This open-endedness does not allow us to determine if the failure to mention a particular strategy means the participant does not use this strategy—or if she merely did not think to mention it. Additional research is needed to further determine how applicable, widespread, and trustworthy the advice we have uncovered is.

Research on stereotype threat suggests that even reading examples of individuals who have performed successfully can be enough to reduce the anxiety and negative impacts of stereotype threat for students [24]. We hope that by providing examples of how successful women engineers have navigated difficult situations such as domineering teammates, we will help reduce the anxiety students feel in such situations. We do not, however, mean to suggest that engineering women should uncritically adopt all of the strategies we have uncovered here: there is an argument to be made for changing a culture rather than adapting to it. But the more information individuals have about the rules and expectations of an environment—and the more examples they have of successful ways to negotiate this environment—the more informed decisions they will be able to make and the better they will be able to present themselves as a competent and confident engineer.

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