



Information Sheet: Communication Styles in Engineering and Other Male- Dominated Fields



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Reflecting on a student team project she had just completed, Natalie shared that she found one of her teammates, Keith, impossible to work with because he did not respect her. She commented:

I try to talk to people like that, but when I sense that I'm not being listened to or just being passed over, I'd rather just not waste my breath, so I usually just kept to myself a lot of times.

In fact, Natalie did much more than refrain from speaking—to avoid Keith, she stopped attending team meetings and class, ultimately receiving a low grade as a consequence. Keith, meanwhile, was unaware of the effect his interactions were having upon Natalie, whom he perceived as uninterested in the project and insecure about what ideas she did have (Wolfe, 2010).

Natalie's negative experience on this project is at least partly attributable to gender-related differences in communication styles and norms. A communication norm is what a given social group will perceive as normal interaction in a particular situation. On this team, Keith exhibited a highly competitive communication style in which interruptions are the norm and individuals are expected to promote and trumpet their own expertise—often at others' expense. Such competitive styles are associated with male identities and are often expected and rewarded in male-dominated fields such as engineering (Ely & Meyerson, 2010; McIlwee & Robinson, 1992; Miller, 2004). These stereotypically masculine styles create a double bind for female engineers who are perceived as unlikeable and difficult to work with if they engage in competitive communication and as insecure or incompetent if they do not (Bowles, Babcock, & Lai, 2007; Farley, 2008; Phelan, Moss-Racusin, & Rudman, 2008).

Unfortunately, Natalie's reaction to these conflicting expectations is not unusual. Focus groups suggest that female engineering students often stop participating in teams because they feel their male teammates refuse to listen to them or credit their ideas (Natishan, Schmidt, & Mead, 2000). Such communication conflicts can contribute to a sense of social isolation that erodes women's sense of belonging and leaves them vulnerable to dropping out of STEM programs. In the case above, Natalie was deeply offended by Keith's behavior, but another teammate, Mark, perceived the group as "fun" and professed strong satisfaction with the team, despite recognizing that Keith's competitive behaviors were problematic.

Competitive communication styles and their effects on women

Two communication styles that particularly work to women's disadvantage are self-promotion and interruptions. Both are prevalent in engineering settings.

Self-promotion

Self-promotional communication is characterized by aggressive displays of confidence that assert one's own superiority—often at the expense of others—as in the following:

I found that [my team] kept looking toward me. Whenever we would get bogged down, when something wasn't right, it seemed to invariably come to me to be fixed (Wolfe, 2010, p. 94).

Self-promotion tends to be particularly pronounced when work involves technology, and it is pervasive in engineering (Ely & Meyerson, 2010; McIlwee & Robinson, 1992). However, women who self-promote are vulnerable to backlash or social sanctions for counterstereotypical behavior (Moss-Racusin & Rudman 2010; Amanatullah & Morris, 2010). For instance, individuals viewing videotapes of self-promoting male and female job applicants rated the female candidates as less likeable, and employers are less willing to hire them, than the male applicants—even when both followed the exact same script (Bowles, Babcock, & Lai, 2007; Phelan et al., 2008).

In fact, rather than self-promote, women are more likely to self-deprecate by talking about their own shortcomings and displaying modesty, as in the following:

I did learn quite a bit about computers, and I'm saying that only because I knew so little about that beforehand (Wolfe, 2010, p. 95).

Women are particularly prone to self-deprecate about their technical competence (Ingram & Parker, 2002; McIlwee & Robinson, 1992; Woodfield, 2000), possibly as a way to avoid backlash for violating gender stereotypes (Rudman & Fairchild, 2004). Men often perceive such self-deprecating speech as evidence of insecurity or incompetence—a trend that is particularly pronounced in engineering settings (Wolfe & Powell, 2009).

The self-promotional communication styles favored in engineering are not harmful only to women. Self-promotional styles also encourage behaviors that harm the profession as a whole. Research suggests that self-promotional behaviors inhibit individuals from assessing their own shortcomings, learning from their mistakes, and asking others for help (Crocker & Park, 2004; Ely & Meyerson, 2010). In addition, self-promotional behaviors interfere with successful teamwork and encourage counterproductive work habits (Leonardi, Jackson, & Diwan, 2009; Nowaczyk, 1998).

Interruptions

Interruptions are another competitive communication style that works to women's disadvantage. Interruptions are associated with status in a group. Those who successfully interrupt others tend to be perceived as having higher status in a group, while those who are interrupted are seen as lower status (Farley, 2008). Research has found that men are more likely than women to make intrusive interruptions that silence other speakers and women are more likely to be the targets of these interruptions (Anderson & Leaper, 1998; Rhoades, McFarland, Finch, & Johnston, 2001). Moreover, a woman who interrupts is perceived as less likeable than a man who interrupts (Farley, 2008).

Recommendations for practitioners

- **Work to change the self-promotional culture in engineering.** Self-promotion often interferes with both individual learning and team performance since it makes individuals resist criticism and prevents them from acknowledging (and therefore learning from) mistakes. Working to moderate this communication style will not only make engineering settings more hospitable to women but can benefit the field overall. Practitioners can link self-promotional communication to performance problems and call students out for this behavior if it is observed. Evaluations at the end of team projects could ask students to identify any teammates who engaged in self-promotional behaviors, and this feedback could be relayed back in a constructive manner to individuals.
- **Provide women with models for negotiating competitive communication environments.** Although we must work to improve all engineers' communication abilities, women must also be prepared to face masculine environments as they currently exist. Research suggests that women can avoid backlash for self-promoting their competence if they actively display communal values, for example, by declaring that they are "team players" or are interested in helping others (Rudman & Glick, 2001). Other women have advocated using humor to develop a "soft" interruption style (Sherman, 2005) or developing strategies to avoid excessive self-deprecation (Sherwood, 1994). When possible, women should be encouraged to develop specific model phrases that they can use to negotiate the double bind of being a female engineer.
- **Consider moving to electronic forms of communication.** Online communication makes interruption impossible and thus may be more hospitable to women's participation than face-to-face discussion. For instance, Lind (1999) found that women in virtual teams perceived their groups as more cohesive and supportive—and were more satisfied with their group experience—than did women in face-to-face teams. Other research suggests women in technical settings may prefer online to face-to-face communication (Alha & Gibson, 2003), although these preferences may not be shared by women of all ethnic backgrounds (Wolfe, 2000). Moreover, evidence shows that student teams could benefit from learning to use online communication more effectively (Wolfe 2005; 2010).
- **Teach everyone about gender differences in communication.** In particular, students need to be made aware that women and men are often judged differently for displaying identical behaviors and that women's failure to engage in certain competitive communication styles is not a sign of insecurity or incompetence. Increased self-awareness among students will enable them to recognize and try to change traditional communication patterns and will thus help them once they are in the work force.

Future research on communication styles should focus on finding ways to discourage self-promotional communication and discovering model strategies that successful women use in the workplace. More research is needed on the best ways to deliver such models to those entering the profession. Finally, most of the research on gender and communication styles has focused on White women. Future studies are needed to discover whether women of other ethnic backgrounds experience the same or different barriers to communication.

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