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• Toni Schmader
• The Biases that Bind Us

• Research Symposium

GENDER & WORK:

CHALLENGING CONVENTIONAL WISDOM

STEREOTYPES

GENDER & WORK

THE BIASES THAT BIND US:

How Stereotypes Constrain How We Think and Whom We Become

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Over a century ago, one of Harvard's best and brightest, William James, observed that as infants, our view of the world is "as one great blooming, buzzing confusion" (James, 1890, p. 462). We gradually come to make sense of all this complexity by using mental structures known as schemas to "carve nature at its joints" (Plato, *Phaedrus* 265d-266a). Schemas allow us to categorize and store away information associated with a concept: Boston is cold in February; Dobermans make good guard dogs; referring to women being stored in binders is not a way to appeal to female voters. But the fact of the matter is that we all carry around in our heads our own metaphorical binders full of women, and of Dobermans, and of cities on the Eastern seaboard. When we build a mental binder of information about a group of people, we call that a stereotype. However, these mental binders in our head can put blinders on our vision, constraining how we view each other as well as the path we can see for ourselves.

Stereotypes develop automatically based on patterns of covariation we perceive in our environment. When our children grow up in a world where the vast majority of television programs, movies, Wikipedia entries, and opinion pieces are written or produced by men, and where leaders in government and business are also more likely to be men, we cannot be surprised that most of the time our mental binders on leadership, technology, and success are populated by images of men and the traits associated with masculinity. As Alice Eagly has so clearly pointed out in her work, we have a very automatic tendency to infer that people are what we see people do. So when we see men and women occupy such starkly different roles and occupations in society, we assume that women are caring, nurturing, and people-oriented whereas men are mechanical, task oriented, and leaders (Eagly, 1987; Eagly & Carli, 2007). Because boys and girls often see the same gendered distribution of labor, they share the same biased associations of what men and women must be like.

This information about the roles that men and women occupy is much more salient than information about the actual skills that people possess. Janet Hyde's review of meta-analyses across many different domains finds more evidence of similarity between the sexes than of difference (Hyde, 2005). If you want someone who can throw an object the fastest or farthest, hiring a man over a woman is a safe bet. However, the average effect size for gender differences in problem solving or leadership potential, the skills that are important for success in modern society, is small or close to zero. If the stereotype of women lacking the skill for science, technology, or leadership has any kernel of truth, that kernel has been very hard to find.

Once in place, our stereotypic associations function at an automatic level, leading us to seek out evidence that confirms our implicit associations about men and women, and explain away, question, or derogate those who break these stereotypic norms. Other essays in this collection are likely to touch on the ways in which these cultural stereotypes bias how women are perceived. I'll focus more on the ways in which stereotyped expectancies constrain the path we

choose and our ability to perform up to our potential, often outside of our awareness, ultimately recreating the same unbalanced distribution of men and women into distinct roles.

Culture Recreates Itself

One way that stereotypes bind our behavior is by constraining where we feel we belong and whom we can become. Even as young children, our beliefs and preferences are subtly shaped by the stereotypes around us. Kids pick up and learn the stereotypes held by their parents (Tenenbaum & Leaper, 2002). In a recent study, we explored how parents' stereotypic beliefs also predict how young girls come to see themselves. In this work, we found a particularly startling relationship between stereotypes held by dads and the preferences of their daughters (Croft, Schmader, Block, & Baron, 2013). Dads who had more egalitarian views of which parent does the cleaning and child-care in the home had daughters who were significantly more likely to imagine a future where they would have balance between work and family. These daughters of egalitarian dads also had less stereotypically feminine preferences for TV shows, toys, and future occupations. Because mothers' stereotypes did not predict their daughters' preferences, fathers in particular might be the more influential gatekeepers for the roles their young daughters choose. Of course, these relationships reflect what dads explicitly reported about gender roles. What about their actual behavior? Over and above the explicit gender stereotypes dads reported, the actual amount of time they spent helping around the house was uniquely predictive of their daughters' behavior. When dads help with the housework and childcare, their daughters tend to be less stereotypically feminine.

As kids grow up and choose a career path, stereotypes can exert an unseen force on their choices and behavior, steering them toward domains that seem to be the best fit with their interests and abilities. The problem is that the stereotypes we have about various professions are not always a good fit with the way we see ourselves. Sapna Cheryan and colleagues had college undergraduates indicate their interest in different courses and majors while sitting in the office of a computer science graduate student (Cheryan, Plaut, Davies, & Steele, 2009). When the objects in this office confirmed the stereotype that computer scientists geek out on Star Trek and down energy drinks, women (but not men) reported less interest in computer science courses and careers than if the room contained more neutral items. Careers that are a poor fit with our own self-views simply do not attract our interest.

Research like this suggests that attracting more women into certain professions requires an acknowledgment of an image problem. For example, research by Amanda Diekmann and colleagues is showing that women are more attracted to science when they see those careers as affording their greater interest in collaboration and helping people (Diekmann, Clark, Johnston, Brown, & Steinberg, 2011). Women in engineering advocate this approach as well. For example, Alexandra Knight, a Senior Consultant at Frazer-Nash Engineering Consultancy says, "I try to get the message across that engineering is about designing the future and making a change for the better in the world. The girls tend to respond to that" (Professional Engineering, February 2013). Women seek out careers where they feel the best sense of fit and belonging. Stereotypes provide subtle signals of where that fit can be found.

A Threat in the Air that Constrains Cognition

Stereotypic notions of different careers are one of the reasons women don't "choose" to step into arenas where men have traditionally excelled, but those who buck these trends face other challenges. Because of stereotypes, traits like "incompetent" and "irrational" have the potential to bind to our concept of being a woman in a way that these traits don't stick to men. They create implicit assumptions and expectations that hang in the air even when no one explicitly endorses them to be true. As a result, for women working in a man's world, any misstep or mistake runs the

risk of confirming a broader cultural notion of women's inability to excel. When situations bring this possibility to mind, women run the risk of experiencing stereotype threat.

Stereotype threat has been one of the most studied topics in social psychology since Claude Steele and Josh Aronson published the first evidence of the phenomenon in 1995 (Steele, Spencer, & Aronson, 2002; Inzlicht & Schmader, 2012). Since then, hundreds of studies have shown that situations that bring negative gender stereotypes to mind can impair women's performance in math, spatial skills, and even driving. For example, women taking a math test alongside men tend to perform more poorly than those taking the same test alongside other women (Inzlicht & Ben-Zeev, 2000). The mere absence of women in an environment can remind young women of three cognitions that do not sit comfortably together: I am a woman, I want to do well here, but women are not expected to do well.

The cognitive inconsistency created in these situations triggers a chain reaction of psychological processes (Schmader, Johns, & Forbes, 2008). In fact, the threat of being stereotyped constrains cognition in much the same way that even the best athletes can sometimes choke under pressure (Beilock, 2011). When we fear that our performance might confirm a stereotype about our group, we show a stronger pattern of physiological threat (Vick, Seery, Blascovich, & Weisbuch, 2008) and become more conscious of ourselves and our own behavior (Schmader, Forbes, Zhang, & Mendes, 2009). For example, in his recent book *The Secret Life of Pronouns* (2011), Jamie Pennebaker reveals that only leaders who lack self-confidence use the pronoun 'I' a great deal. Whereas confidence in your abilities frees you to act without evaluating those actions, when we fear that we might be stereotyped, our confidence is shaken, and instead of simply being ourselves, we become more conscious of the self we feel we should be (Schmader, Croft, & Whitehead, in press). In addition, when we find ourselves experiencing self-doubt or anxiety, we quickly try to push these feelings out of mind (Johns, Inzlicht, & Schmader, 2008).

The consequence is that many of these reactions create a functional friction against fluid cognition. When environments are engineered for and by people like you, everything in that context cues more selfless automatic thought, enabling you to focus cognitive resources only on the task at hand, maximizing your performance and providing a clear sense of being engaged in your work. In contrast, the processes that are cued when we try to buck prevailing stereotypes push us into a more reflective and deliberative way of thinking that makes it difficult to regulate attention and perform up to our potential.

Over a decade of research has established the potential for stereotype threat to create a subtle barrier for women trying to perform up to their potential on standardized tests of stereotyped abilities. Meta-analyses reveal that the size of the performance impairment created when one is concerned about being negatively stereotyped is similar to the score reduction you might expect if a student's family earned \$50,000 less a year ($d = .36$; Nguyen & Ryan, 2008). As we see in this body of research on stereotype threat, the threat of being negatively stereotyped has the potential to constrain women's cognition and performance.

To Talk or Not Talk Shop: Stereotype Threat at Work

After women run the gauntlet of standardized testing and make it into graduate programs or even careers in STEM, they still find themselves in contexts where the concern that they might be judged through the lens of a stereotype can rear its head. For example, when female engineers find themselves working alongside men who themselves hold implicit gender biases, they tend to perform more poorly on a subsequent engineering test (Logel et al., 2009). Interestingly, coding of their interactions did not reveal that men made any blatantly sexist or demeaning comments. Instead, the men with more sexist beliefs were somewhat more dominant and flirtatious in the partnership. As a result, women actually liked these men more, even though their performance

suffered as a result. Such findings reveal how gender biases can constrain behavior in ways that are quite difficult to detect.

Even if women are not interacting with men who hold either blatant or subtly sexist beliefs, the mere concern that such interactions could be biased by gender stereotypes can still disrupt the degree to which these conversations feel authentic and facilitate engagement. For example, in a recent study we had a matched sample of male and female science faculty wear a device that recorded snippets of their conversations with colleagues across four workdays (Holleran, Whitehead, Schmader, & Mehl, 2011). We coded these conversations for whether participants were talking with male or female colleagues about research. We also measured how engaged they reported feeling with their work. Men showed a rather obvious pattern. The more they spoke to male colleagues about research, the more engaged they reported being with their work. Women, however, showed the opposite pattern. The more they were having daily conversations with male colleagues about research, the more disengaged they reported feeling in their work. Their conversations with women did not show this same pattern. Additional coding of the conversational snippets revealed that when men talked shop with men they sounded much more competent than when women talked shop with men. Something about cross-sex interactions seems to be shaking women's sense of competence and engagement in their work.

To look at this more closely, we are currently conducting a study of professional engineers working in industry (Schmader, Hall, & Croft, 2013). We are asking participants to complete a two week daily diary of their most salient workplace conversations. Perhaps not surprisingly, women more than men report a greater concern that gender stereotypes play a role in how they are perceived at work. Furthermore, these feelings of stereotype threat are particularly pronounced on days when their conversations with men leave them feeling inauthentic and incompetent. In contrast, the positivity of these workplace conversations is less predictive of stereotype threat for any other dyadic combination: men talking to men, women talking to women, or men talking to women. The positive implication of these preliminary findings is that in workplace environments like engineering where women are in the minority, men can play a stronger role in affecting women's experience, placing them in a unique position to mitigate feelings of stereotype threat. For example, on days when women are less likely to feel they are being judged through the lens of gender stereotypes, they report feeling happier and more energized by their work.

Climate Change

I've focused thus far on the ways in which stereotypes constrain both the paths women choose and their ability to perform. The take-away message is that stereotypes can be cued by situations themselves and constrain women's performance and preferences in ways that are often invisible to them. But because these stereotypes are cued within a context, we can also change contexts so that those binders of women are never pulled from their mental shelf.

We can do this in a variety of ways. First, role models are incredibly important. They create a sense of possibility and point the way to a path ahead. But the effect here is not just motivational. As Buju Dasgupta and colleagues have shown, when women are exposed to successful female role models, their automatic tendency to associate leadership with men is weakened (Dasgupta & Asgari, 2004; Stout, Dasgupta, Hunsinger, & McManus, 2011) and confidence is restored.

Secondly, until women are equally represented in certain professions, policies need to focus on fostering a sense of belonging. When we are in the minority, it's easy to imagine that our struggles are unique to us. But in recent research, Greg Walton and colleagues (Walton, Logel, Spencer, & Zanna, 2013) have shown that when female engineers are taught that everyone experiences stress when starting out in engineering, they are more likely to develop friendships with their male peers and the gender gap in engineering grades is diminished. Interventions like these

can break down the assumptions that only women experience stress in STEM environments. Men experience stress as well, but women are more likely to interpret their stress as a signal that they might not belong.

Finally, we might wonder whether organizations can do anything to change the negative conversational climate that might exist. The new data we are collecting suggest that the answer might be yes. In our study of engineers, we are asking them to report the number of gender-friendly policies at their firm or organization. In companies that have more gender-inclusive policies that allow for flexible hours and preclude workplace harassment, both women and men report having more positive conversations with their male colleagues and experiencing less stereotype threat as a result. The benefit of creating climate change is not just psychological. Companies care about maintaining a high level of organizational commitment because of the enormous costs in time, productivity, and money to retrain new workers when turnover is high. Engineers who report higher levels of stereotype threat during our two week assessment also reported lower organizational commitment, but only if they believed their organization in general suffers from a negative climate. When the overall climate is supportive, daily experiences of stereotype threat are not predictive of organizational commitment. Both men and women show these effects. Everyone wins when companies have policies that foster support for employees and their families.

This collection of essays underscores how far we have come in promoting and celebrating women's admittance into domains once exclusive to men. But as we all know, being given a ticket to play does not guarantee that the rules will be fair or the field will be level. Our automatic tendencies to associate men more than women with leadership, competence, and innovation act like magnets that facilitate a more frictionless progression up the career ladder for men. The same stereotypes that favor men disadvantage women, and, like magnets that are flipped and in opposition to one another, women's progress is less smooth, more easily stalled, if not rerouted to a more traditional path of less resistance. Although these gender stereotypes still exist and can be slow to change, as women and men increasingly share the same roles, our mental binders for gender become less useful ways to carve up the social world of the workplace. Looking forward, the next steps are not just to continue the progress in breaking down these social psychological barriers to women excelling in domains once exclusive to men, but we must also address the barriers to men entering and embracing domains and roles that continue to be exclusive to women. We cannot expect women to really have it all until we have the same expectations for men.

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