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Masculine Defaults: Identifying and Mitigating Hidden Cultural Biases

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Understanding and remedying women's underrepresentation in majority-male fields and occupations require the recognition of a lesser-known form of cultural bias called *masculine defaults*. Masculine defaults exist when aspects of a culture value, reward, or regard as standard, normal, neutral, or necessary characteristics or behaviors associated with the male gender role. Although feminist theorists have previously described and analyzed masculine defaults (e.g., Bem, 1984; de Beauvoir, 1953; Gilligan, 1982; Warren, 1977), here we define masculine defaults in more detail, distinguish them from more well-researched forms of bias, and describe how they contribute to women's underrepresentation. We additionally discuss how to counteract masculine defaults and possible challenges to addressing them. Efforts to increase women's participation in majority-male departments and companies would benefit from identifying and counteracting masculine defaults on multiple levels of organizational culture (i.e., ideas, institutional policies, interactions, individuals).

Keywords: masculine, default, bias, culture, gender

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> While organizations were being defined as sex-neutral machines, masculine principles were dominating their authority structures.
>
> —Rosabeth Moss Kanter (1975, p. 46)

> Men in power . . . have used their position of public power to create cultural discourses and social institutions that automatically privilege male experience and otherize female experience.
>
> —Sandra Bem (1993, p. 79)

In the last two decades, many majority-male academic departments and companies in the U.S. have worked to increase the number of women in their organizations. Companies have launched support groups for women and invited speakers to discuss gender issues in organizations (Douglas, 2008). With the help of experts, departments and companies have run diversity workshops for employees (Bezrukova, Spell, Perry, & Jehn, 2016). They have anonymized resumes to make hiring managers blind to gender (Joseph, 2016) and incorporated clear criteria into their promotions processes (Stamarski & Son Hing, 2015). Many companies have also implemented more generous parental leave policies and encouraged flex time (O'Connor, 2016). These appear to be important potentially culture-shifting changes, yet the proportion of women in these companies and departments remains low (Ortutay, 2017). Why?

We propose that these substantial and well-intentioned organizational changes are not fully successful because they leave in place a hidden but powerful foundation of masculine ideas and values, policies, interaction styles, norms, artifacts, practices, and individual beliefs that prevent the full participation of women. Some current elements of this unseen masculine foundation include the valuing and rewarding of employees who behave independently, policies requiring that employees nominate themselves for promotion, interaction styles in which assertively interjecting is necessary for being heard and having influence, and leaders' beliefs that successful employees have an innate brilliance. Perhaps it is not surprising that corporate and department leaders have not revised these features of their cultures. On their surface, such attitudes and behaviors may seem gender neutral and not manifestly connected to gender disparities. Yet, as we will argue, they are not gender neutral. Instead these aspects of the culture advantage many men and disadvantage many women, and they leave women's talents and contributions unrecognized and undervalued. Recognizing and addressing these and many other unseen masculine aspects of organizational cultures is essential for creating fields and organizations that successfully recruit and retain women.[1]

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[1] Masculine defaults share some features across cultures, but their specific form and meaning vary depending on many significant cultural contexts that intersect with gender such as region of the world, nation, social class, race, ethnicity, sexual orientation, religion, and occupation. The defaults in focus here are those currently associated with men in majority-male fields and occupations in the U.S.

In this article, we define masculine defaults and describe how they contribute to women's underrepresentation in majority-male settings. We begin with two case studies illustrating how a formerly majority-male department and a company substantially increased their percentage of women by attending to their masculine defaults (Part 1). After providing definitions and background (Part 2), we describe the theoretical foundation underlying masculine defaults and how they broaden our current understandings of gender bias (Part 3). Next, we provide empirical evidence for masculine defaults on multiple levels of culture (Part 4). We then discuss how to counteract these defaults in majority-male organizations to reduce gender disparities in participation and success (Part 5). We conclude with a discussion of possible challenges to addressing masculine defaults (Part 6). Remedying the underrepresentation of women requires recognizing that (a) many organizations contain masculine defaults in which characteristics and behaviors typically associated with the male gender role are valued, rewarded, or regarded as standard, normal, neutral, or necessary; and (b) successfully addressing masculine defaults requires simultaneous and aligned changes on multiple levels of culture.

Part 1: Two Case Studies

We begin by presenting two success stories, one from academia and one from industry, in which addressing masculine defaults increased the participation of women.

The first example of a majority-male organization successfully changing masculine defaults and increasing the participation of women comes from Harvey Mudd College, a small science and engineering school with approximately 200 declared computer science majors. In 2006, women received only 10% of Harvey Mudd's undergraduate computer science degrees (Staley, 2016). At that time, the department culture valued and rewarded students who came into the program with prior programming experience (Alvarado, Doods, & Libeskind-Hadas, 2012). Valuing prior programming experience constitutes a masculine default because of its association with men, and men are more likely than women to take precollege computer science courses (Nord et al., 2011).

The cultural value placed on prior programming experience was present in multiple places in the department. For instance, students who had less prior programming experience had a lower sense that they belonged in the introductory course than students with more prior programming experience (Xia, 2017). Students with prior programming experience would often dominate classroom discussions and intimidate other students (Klawe, 2013). These masculine defaults made it more challenging for women to enter and remain in the computer science major than men.

Between 2006 and 2016, the percentage of undergraduate computer science degrees going to women at Harvey Mudd College increased from 10% to 55% (Staley, 2016). How did Harvey Mudd bring about this rapid increase of women? The department recognized that this preference given to students with prior programming experience was interfering with efforts to diversify and went about making multiple changes to their culture.

First, they split the introductory course into two courses: one for students with prior programming experience and the other for students without prior programming experience. This policy change enabled students with less experience—more often women than men (Barron, 2004; Nord et al., 2011)—to learn in an environment that was less intimidating. They were careful not to more highly value the students with additional experience in the names they gave the courses (gold = no experience; black = previous experience) and in the way students were assigned to the courses (self-selection rather than a test; Taylor, 2013). The course curriculum was designed such that students would enter advanced courses on equal footing (see also Margolis & Fisher, 2002, for a similar successful intervention at Carnegie Mellon).

Next, the department taught faculty in all introductory courses how to deliberately redirect students who would show off their knowledge and potentially intimidate other students (Klawe, 2013). The department also sent women majors to the annual Grace Hopper Celebration of Women in Computing to get a broader view of computer scientists (Alvarado et al., 2012). By making mutually reinforcing changes in multiple places to address masculine defaults, Harvey Mudd was able to dramatically increase the proportion of women graduating with computer science degrees (Klawe, 2013).[2]

Harvey Mudd computer science has only become more successful since addressing these masculine defaults. For example, in 2020, their computer science department was ranked by U.S. News & World Report (2020) as the third best computer science department (of schools that do not offer doctorate degrees). Addressing their masculine defaults allowed this department to draw from a broader population and improve their program.

Our second example is from Zymergen, a biotechnology start-up in Emeryville, California that launched in 2013. Zymergen, like many biotechnology start-ups, used to have little gender diversity. Their culture valued employees who behaved in accordance with the "lone superstar" model of science—a traditionally masculine model that formed the blueprint for behavior throughout their organization. They assessed potential employees using whiteboard interviews, a job test that requires candidates to code on a whiteboard in front of an interviewer. They tended to judge traditional "hot-shot" potential employees who performed quickly and confidently as better than those who did not fit that image. Reflecting the lone superstar idea, collaboration between people from different fields (biologists, chemists, statisticians, and programmers) in the company was not a major focus (Mehta, 2017).

Zymergen's technical team is now one-third women (Mehta, 2017), higher than other tech companies that have been actively working to recruit women, including Google (26% women in tech; Brown & Parker, 2019), and Facebook (23% women in tech; M. Williams, 2019). Like Harvey Mudd, Zymergen accomplished this by intentionally changing masculine defaults in multiple ways to make their culture more welcoming to women.

To increase their gender diversity, Zymergen dropped the lone superstar model in favor of one valuing collaboration and interdependence. Whiteboard interviews were eliminated because they did not reflect the organization's emphasis on teamwork over individual contributions. These interviews were replaced with talks in which candidates spoke about their portfolios of previous work and were asked questions about them, including how they collaborated with others. Collaboration between people from different

[2] Harvey Mudd College has also increased their percentage of Black students from 1% to 5% and Latinx students from 5% to 20% (Nickelsburg, 2019).

fields became a central part of the culture as people were brought together to develop products. Managers explicitly discussed favoring employees who had more maturity over "hot-shots" (Mehta, 2017). These changes (along with others made during the same period, such as hiring a chief people officer) coalesced to create a culture that was more welcoming and supportive of women. Zymergen's success has been increasing since these changes were made. They now have over 800 employees and raised $400 million in venture funding in December 2018 (Avalos, 2019).

Both of these examples demonstrate how intentional and coherent changes to existing masculine defaults can help diversify departments and companies. Both organizations also increased their performance and reputation since addressing their masculine defaults.

Part 2: Definition and Background of Masculine Defaults

Below we define masculine defaults, describe why masculine defaults disadvantage women, and provide historical context explaining why masculine defaults exist in majority-male fields and occupations. See online supplemental materials for a list of fields and occupations that are currently majority-male in the U.S.

Definition of Masculine Defaults

Masculine defaults are a form of bias in which characteristics and behaviors associated with the male gender role are valued, rewarded, or regarded as standard, normal, neutral, or necessary aspects of a given cultural context. Masculine defaults include ideas, values, policies, practices, interaction styles, norms, artifacts, and beliefs that often do not appear to discriminate by gender but result in disadvantaging more women than men.

Definitions of masculine and feminine. We refer to aspects of a culture associated with the male gender role as masculine and with the female gender role as feminine. Gender roles are cultural norms and expectations that dictate which characteristics and behaviors are seen as typical and appropriate for women and men (Eagly, Wood, & Diekman, 2000; Prentice & Carranza, 2002).[3] Gender roles can be thought of as cultural scripts that people do or are expected to perform in their daily lives (Butler, 1988; West & Zimmerman, 1987). We chose gender roles instead of other ways of conceptualizing masculinity such as stereotypes (e.g., attributes typically associated with men) when defining masculine defaults because roles connote attributes, behaviors, expectations, and more general ways of being. However, we see gender roles and gender stereotypes as largely interchangeable in this article and present the more specific stereotypes when relevant.

The emergence of gender roles likely stemmed from both biological differences and social environments, and their interaction (Wood & Eagly, 2013). Biological differences between women and men (e.g., childbirth involvement) likely played a role in the association of women with caretaking and men with work outside the home (see Buss & Kenrick, 1998 for a review). In addition, social environments may have interacted with these initial biological differences to influence the extent to which gender roles were differentiated (Wood & Eagly, 2013). As an example, regions that adopted the plow for farming tend to have more traditional gender role beliefs today than regions that adopted the hoe. Plows and the animals that pull them are heavy and unwieldy. Hoes are lighter and more maneuverable, thus easier to use for women who were more likely than men to have children in tow and lower average upper-body strength. Regions that adopted the plow may have been more likely to delegate the work of field to men and the work of home and childcare to women (Alesina, Giuliano, & Nunn, 2013). Traditional gender beliefs may have originated in part from the distribution of women and men into differing roles (Alesina et al., 2013; Eagly & Steffen, 1984).

Starting from a young age, parents (Bleeker & Jacobs, 2004; Crowley, Callanan, Tenenbaum, & Allen, 2001; Morrongiello & Hogg, 2004; van der Pol et al., 2015), teachers (Gunderson, Ramirez, Levine, & Beilock, 2011; Robinson-Cimpian, Lubienski, Ganley, & Copur-Gencturk, 2014), and peers (Leaper & Friedman, 2007; Stockard, 2006; Witt, 2000) often perceive and treat girls and boys in line with their respective gender roles. Gender roles for girls and women in the U.S. involve being other-oriented and interdependent while gender roles for boys and men involve being self-oriented and independent (Eagly et al., 2000; Gilligan, 1982; Markus & Conner, 2014; Markus & Oyserman, 1989; Prentice & Carranza, 2002; see Table 1 for a list of stereotypical masculine and feminine characteristics in the U.S.). Current conceptions of masculinity include more traditional conceptions (e.g., physical prowess) as well as newer forms (e.g., obsession with technology, social awkwardness; Cheryan, Plaut, Davies, & Steele, 2009).

Four caveats are important when discussing gender roles and stereotypes. First, much of the research on masculinity and femininity in the U.S. has been conducted on middle- and upper-class White Americans. As a result, current constructions of masculinity and femininity in the U.S. are racialized as White and may not capture the full experiences of people of color and working-class people (e.g., Fragoso & Kashubeck, 2000; Livingston, Rosette, & Washington, 2012). Women of color often get forgotten in research that focuses on gender or race and not their intersection (Purdie-Vaughns & Eibach, 2008; Warner, Settles, & Shields, 2018). When discussing masculine defaults throughout this article, we provide information that breaks down gender differences by race and class when possible. We also include a fuller discussion of race, class, LGBTQ identity, and masculine defaults later in the article.

Second, related to the first point, current conceptualizations of masculinity and femininity are not fixed but vary with cultural context (Bosak, Eagly, Diekman, & Sczesny, 2018; Cuddy et al., 2015; Diekman, Eagly, Mladinic, & Ferreira, 2005; Wood & Eagly, 2012) and over time (Twenge, 1997; Wood & Eagly, 2012; see Paoletti, 2012, for how pink used to be a boys color). For example, in some interdependent cultures (e.g., Korean culture),

[3] Whereas sex is determined based on an "application of socially agreed upon biological criteria" (West & Zimmerman, 1987, p. 127), gender is a fluid, socially constructed identity that manifests in many different forms in individuals (Ely & Padavic, 2007). The man/woman dichotomy obscures the actual complexity of gender and people's lived experiences (Fine, 2017; Hyde, Bigler, Joel, Tate, & van Anders, 2019). Though we focus in this paper on increasing women's representation in majority-male fields and occupations, we believe that changing cultures should occur in a way that will result in more inclusion of people with other currently marginalized identities, including people of color, people who identify as LGBTQ, including those who do not identify with the gender binary, and people from lower socioeconomic backgrounds (see Cech & Waidzunas, 2011).

Table 1
Examples of Stereotypical Masculine and Feminine Characteristics and Behaviors in the U.S.

Stereotypically masculine	Stereotypically feminine
agentic	communal
self-reliant	nurturing
assertive	agreeable
competitive	collaborative
influencing	adjusting
confident	modest
analytical	holistic
brilliant	warm
decisive	restrained
independent	interdependent
individual	relational
self-promotional	other-promotional
risk-taker	patient
separate	connected
leader	follower
context-independent	context-dependent

Note. Belenky, Clinchy, Goldberger, & Tarule, 1986; Cejka & Eagly, 1999; Gaucher, Friesen, & Kay, 2011; Heilman, 1983; Jordan, 1997; Leslie, Cimpian, Meyer, & Freeland, 2015; Markus & Conner, 2014; Prentice & Carranza, 2002; Stewart & Lykes, 1985; Witkin & Goodenough, 1977.

the male gender role includes being communal to a greater extent than the female gender role (Cuddy et al., 2015). In addition, men's greater competitiveness than women's in patrilineal societies is not existent in matrilineal societies where resources are controlled by women and handed down maternally (Andersen, Ertac, Gneezy, List, & Maximiano, 2012; Gneezy, Leonard, & List, 2009). Masculine defaults in one cultural context may not be masculine defaults in a different cultural context.

Third, there is greater variability within than between the genders, and women and men overlap significantly on many traits, skills, and behaviors (Hanel, Maio, & Manstead, 2019; Hyde, 2005, 2014). Though women's and men's gender roles prescribe characteristics and behaviors that are quite different from one another, women's and men's actual characteristics and behaviors are not always so divergent.

Fourth, some so-called "masculine" or "feminine" characteristics are reinforced as masculine and feminine by society and by how they are assessed (Valian, 2014). For example, risk-taking is seen as masculine and often assessed with stereotypically masculine behaviors (e.g., sexual behaviors, drug use, reckless driving; Morgenroth, Fine, Ryan, & Genat, 2018). However, when risk is assessed in less stereotypically masculine domains (e.g., betting on the outcome of a dating show), women score just as high on risk-taking as men (Morgenroth et al., 2018). In another example, women have been found to be relatively more interested in people and men relatively more interested in things (e.g., Graziano, Habashi, & Woodcock, 2011; Woodcock et al., 2013). However, in some measures, "things" are defined along masculine lines (e.g., interest in taking apart computers; Graziano et al., 2011). The exclusion of stereotypically feminine items such as clothing or food from the "things" category may help to explain its masculine association (Valian, 2014).

Gender roles are powerful drivers of behavior when salient (Deaux & Major, 1987). People who explicitly (but not implicitly) violate their gender role prescriptions are seen as deviant and penalized with social and economic sanctions (Heilman, Wallen, Fuchs, & Tamkins, 2004; Moss-Racusin, Phelan, & Rudman, 2010; M. J. Williams & Tiedens, 2016; Rudman & Fairchild, 2004). As a result, people may try to avoid gender role violations (Amanatullah & Morris, 2010; Wallen, Morris, Devine, & Lu, 2017) and react to perceived violations by adhering even more to gender role prescriptions (Bosson, Vandello, Burnaford, Weaver, & Arzu Wasti, 2009; Cheryan, Cameron, Katagiri, & Monin, 2015; Willer, Rogalin, Conlon, & Wojnowicz, 2013).

Definition of defaults. Defaults are conditions that are imposed, preselected, or assumed to be the standard (E. J. Johnson & Goldstein, 2003; E. R. Smith & Zárate, 1992; Miller, Taylor, & Buck, 1991). Defaults influence who gets included (e.g., E. J. Johnson & Goldstein, 2003) and determine how people behave (e.g., Thaler & Sunstein, 2008). They typically reflect what is valued or seen as important in a given culture.

Our definition of defaults is broader than previous work on choice architecture showing that changing defaults changes decisions (e.g., E. J. Johnson & Goldstein, 2003). We conceptualize defaults as including all features (e.g., ideas, policies, practices, norms, and beliefs) that are valued, rewarded, or regarded as standard, normal, neutral, or necessary in a given culture. Cultural features that are not valued, rewarded, standard, normal, or necessary would not be considered defaults.

How do defaults differ from norms? Norms are commonly defined as socially sanctioned patterns and standards that guide behavior (Cialdini & Trost, 1998; Gelfand, Harrington, & Jackson, 2017; Morris, Hong, Chiu, & Liu, 2015). Norms are defaults, but not all defaults are norms. Masculine defaults exist in many other aspects of culture as well, such as policies, artifacts, interactions, and individual beliefs.

Why Masculine Defaults Disadvantage Women

A culture with masculine defaults is more difficult for many women to enter and thrive within for three reasons.

First, perhaps due to socialization, many girls and women have or display some masculine characteristics and behaviors to a lesser extent than their male peers (Crowley et al., 2001; Stockard, 2006; Valian, 1998). These masculine characteristics and behaviors are rarer or relatively less practiced in women than men (Eagly, 1987; Hyde, 2005; P. Cortes & Pan, 2017). When masculine characteristics, behaviors, practices, and artifacts in a given context are valued, rewarded, or regarded as standard, normal, neutral, or necessary, women feel a lower sense of belonging and anticipate less success there (Bian, Leslie, Murphy, & Cimpian, 2018; Cheryan et al., 2009; Cheryan, Siy, Vichayapai, Drury, & Kim, 2011; Gaucher, Friesen, & Kay, 2011; Heilman, 1983; Wynn & Correll, 2017).

Second, even when women and men have masculine characteristics and behaviors to the same extent, women may not be recognized and treated as such (e.g., Bian, Leslie, & Cimpian, 2018; Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012; Reuben, Sapienza, & Zingales, 2014; Valian, 2014; but see W. M. Williams & Ceci, 2015). For instance, even if women and men are equally like to take risks (Morgenroth et al., 2018), the perception that women are less likely to be risk-takers (Croson & Gneezy, 2009) will cause them to be overlooked in instances

where risk-takers are preferred. Firefighters who watched a video on the importance of a masculine (i.e., physical strength) over a feminine (i.e., compassion) characteristic in firefighting were more likely to oppose women being firefighters than those who watched a video emphasizing the feminine over masculine characteristic (Danbold & Bendersky, 2019). Masculine defaults advantage men due to stereotypes that they are more likely than women to have masculine characteristics.

Third, some women who engage in explicit stereotypically masculine behaviors anticipate and encounter social and economic sanctions for deviating from their gender role (Amanatullah & Tinsley, 2013; Brescoll & Uhlmann, 2008; Cheryan et al., 2019; Heilman et al., 2004; M. J. Williams & Tiedens, 2016; Rudman & Fairchild, 2004). Anticipating or encountering backlash for engaging in stereotypical masculine behaviors (e.g., dominance) is more likely for White than Black (Livingston et al., 2012) and Asian American (Toosi, Mor, Semnani-Azad, Phillips, & Amanatullah, 2019) women.[4] At the same time, Asian American women report pressure to behave in stereotypically feminine ways, and Latinas report being characterized as angry and emotional if they behave assertively (J. Williams, Phillips, & Hall, 2016). Cultures with masculine defaults expose many women to the possibility of anticipating or receiving backlash for engaging in masculine behaviors.

Recall what public buildings were like before the American with Disabilities Act (ADA, 1990). Masculine defaults can be thought of as similar to heavy doors, or stairs and curbs without ramps. At first thought, such architectural features may seem standard and even necessary, but they were deemed discriminatory by the ADA because they restrict access to and use of these facilities. Moreover, these barriers are symbolic— communicating who is found, belongs, and can succeed in that environment (Cheryan et al., 2009; Cheryan, Ziegler, Plaut, & Meltzoff, 2014). Just as buildings that are not fully accessible hinder many people with disabilities, masculine defaults impede the entry and success of many women.

History of Masculine Defaults

Why and how did masculine characteristics and behaviors become valued and rewarded in majority-male fields and occupations? Current theories support the view that men took and were also granted power. Evolutionary psychologists argue that men's power resulted from them evolving to be more aggressive and competitive and women to be more nurturing due to their different fitness-related goals and sexual strategies (Buss & Kenrick, 1998). Social role theory argues that men's power arose from the occupation of different social roles, perhaps due to men's average greater size and strength and relatively low involvement in childbearing, in combination with environmental affordances that enabled their work outside the home (Eagly & Wood, 1999; Wood & Eagly, 2013). Whatever the sources of their power, once men held power, they used it to create workplace cultures that reflected their perspectives, norms, values, and interests (Acker, 1990; Bem, 1993; Cox, 1994; Gilligan, 1982; Ridgeway, 2011).

With relatively few women accessing the power needed to change these cultures, masculine values, norms, and practices were institutionalized and persisted. There was little interrogation of whether less masculine and more feminine norms and practices may actually yield equal or better levels of motivation, productivity, creativity, fairness, or ethics in these settings (Ely & Meyerson, 2000). Masculine defaults may be particularly likely to exist when masculine characteristics and behaviors are valued and prescriptively normative, such as in mainstream U.S. contexts (Bellah, Sullivan, Madsen, Swidler, & Tipton, 2007; Markus, 2017; Markus & Kitayama, 1991; Van Berkel, Molina, & Mukherjee, 2017).

The field of computer science provides a recent example of the privileging of characteristics and behaviors associated with the male gender role over the female gender role in the U.S. and Western Europe (Misa, 2010). During WWII, women entered computing as they did many jobs. One woman programmer at Raytheon in the 1950s remarked about men in computer science, "It really amazed me that these *men* were programmers because I thought it was women's work!" (Abbate, 2012, p. 1). At first, programming was seen as largely clerical and intellectually undemanding, in part because challenges involved in programming were unanticipated and unrecognized by the men who built computers and supervised the programmers (Abbate, 2012; Ensmenger, 2010).

During the 1950s, computer science began to acquire a reputation for being highly technical, mathematical, and incomprehensible (Ensmenger, 2010). This reputation stemmed partly from the idiosyncratic and specialized programming techniques that were required to address the slow performance and limited memory of electronic computers at the time (Ensmenger, 2010). The "combination of mathematics, engineering 'tinkering', and arcane technique attracted a certain kind of male" to computer science (Ensmenger, 2010, p. 125). In the decades that followed, computer science acquired greater status as its importance to economic, social, and political life became increasingly clear (O'Mara, 2019). Many women who had previously been programmers but took time off to raise children were left behind because of rapid changes that were occurring in the field (O'Mara, 2019). Aptitude and personality tests to identify potential computer scientists assessed for skills that men were more likely to have, such as chess abilities and advanced math skills (despite many in the field claiming that mathematical training was not relevant to commercial programming; Ensmenger, 2010). The profiles of successful programmers began to emphasize attributes such as extreme attentional focus and little interest in interacting with others (Ensmenger, 2010). These masculine defaults came together to drive women out of and invite men into computer science.

The masculinity of computer science was further heightened during the PC revolution in the 1980s with the creation of companies like Microsoft and Apple. The image of the male "computer geek"—someone who is intensely focused on technology and socially awkward (Cheryan, Plaut, Handron, & Hudson, 2013)—crystallized in the cultural consciousness with stories about cultural heroes such as Bill Gates and Steve Jobs and movies such as

[4] Women of color may be "invisible" because they are not seen as prototypical of either their race or gender (Sesko & Biernat, 2010; Toosi et al., 2019; see also Schug, Alt, & Klauer, 2015, for evidence that Asian American men are nonprototypical). Being nonprototypical may make women of color less of a target for backlash but also leave them more vulnerable to other negative outcomes, such as having their contributions be forgotten or misattributed to others (Purdie-Vaughns & Eibach, 2008; Sesko & Biernat, 2010).

Revenge of the Nerds and *Real Genius*. Gender disparities in interest in computer science are greater when this male-oriented image is associated with computer science compared to less stereotypical depictions (Cheryan et al., 2009; Kerger, Martin, & Brunner, 2011; Master, Cheryan, & Meltzoff, 2016; Wynn & Correll, 2017). For example, when an introductory computer science classroom contains objects stereotypically associated with computer science (e.g., videogames, Star Trek posters), high school girls express less interest than high school boys in taking that class. However, when the same classroom portrays a different image of the field (e.g., art posters, plants), high school girls' interest in introductory computer science increases to meet the level of boys' interest (Master et al., 2016). It was during the 1980s that the proportion of undergraduate degrees in computer science granted to women began to decline from its peak of 39.5% (National Science Foundation, 2015) to its current 19.2% (Misa, 2010; National Center for Education Statistics, 2017). The association of computer science with male-oriented stereotypes prevents many girls and women from becoming interested in the field.

Valuing stereotypically masculine characteristics and behaviors in fields like computer science is not universal. For instance, Malaysia graduates more women than men in computer science, due in part to cultural beliefs that computer science is "indoor work" and therefore more appropriate for women than other types of engineering (Mellström, 2009). In Armenia, there are no gender disparities in computer science interest because both women and men pursue fields that will "provide a comfortable and secure future" (Gharibyan & Gunsaulus, 2006). Computer science in the U.S. provides a modern example of how a field came to value, reward, and regard as standard, normal, neutral, or necessary characteristics and behaviors associated with the male gender role.

Hospital administration offers another example of how masculine defaults flipped an occupation from majority women to majority men (Arndt & Bigelow, 2005). More than three quarters of hospital superintendents in the early 1900s were women (usually nurses). However, men (usually physicians) had disproportionate influence because they ran the larger hospitals and were leaders in the occupation's professional organization (Arndt & Bigelow, 2005). In 1913, this professional organization began publishing a journal in which success in the superintendent job was paired less with patient care and more with business management. Associating the hospital administration job with business acumen created a masculine default because women were excluded from business management jobs at the time (Arndt & Bigelow, 2005). This masculine default, along with more blatant sexism (e.g., referring to hospital administrators generically as "Mr. Superintendent" in the trade journal; Arndt & Bigelow, 2005), contributed to men largely replacing women as the head of hospitals.

Despite dramatic changes in workforce demographics in the past century, men and masculine styles of working and living are privileged and seen as the social default in many fields and occupations (Acker, 1990; Ely & Meyerson, 2000). Masculine defaults continue to be created and perpetuated as White men are still the majority of entrepreneurs (McManus, 2017), hedge fund, mutual fund, and private equity firm owners (Lerner, Leamon, Madden, & Ledbetter, 2017; Lyons-Padilla et al., 2019), chief executives (Bureau of Labor Statistics, 2020b), lawyers and doctors (Bureau of Labor Statistics, 2020b), high-ranking government officials (Center for American Women & Politics, 2019), and full professors and administrators in universities (H. L. Johnson, 2017; W. M. Williams et al., 2017).

Part 3: Theoretical Foundation and Contributions

In Part 3, we present the theoretical foundation underlying masculine defaults and their contributions to current work on gender bias.

Theoretical Foundation

Our definition of masculine defaults is specifically inspired by a rich and powerful tradition of feminist theorizing and particularly by the writings of: Simone de Beauvoir ("The terms masculine and feminine are used symmetrically only as a matter of form, as on legal papers. In actuality the relation of the two sexes is not quite like that of two electrical poles, for man represents both the positive and the neutral"; de Beauvoir, 1953, p. 143), Carol Gilligan ("the failure of women to fit existing models of human growth may point to a problem in the representation, a limitation in the conception of human condition, an omission of certain truths about life"; Gilligan, 1982, p. 2), Charlotte Perkins Gilman ("Men have made a human institution into an ultra-masculine performance; and, quite rightly, feel that women could not take part in politics as men do. That it is not necessary to fulfill this human custom in so masculine a way does not occur to them"; Gilman, 1914, p. 223), and Sandra Bem ("There are institutional practices that have the effect of treating males and females differently even though the practices themselves are not explicitly based on sex"; Bem, 1984, p. 184).

Androcentrism has been an essential construct in understanding why women and women's experiences are often devalued and seen as deviant (Bem, 1993; Gilman, 1914). Androcentrism is defined as the "propensity to center society around men and men's needs, priorities, and values" (Bailey, LaFrance, & Dovidio, 2019, p. 1; see also Hegarty, 2006). Examples of androcentrism include using male terms and representations to depict all people (Bailey et al., 2019; Hamilton, 1991), valuing traits that are consistent with the male gender role (Bailey et al., 2019; Cross & Madson, 1997; Cross & Markus, 1993), and using men's bodies to determine medical symptoms and dosing (Hamberg, 2008).

Androcentrism involves two distinct biases: the privileging of *men* and the privileging of *masculinity*. Empirical evidence for androcentrism (and gender bias as we will discuss in the next section) has primarily investigated the privileging of men (e.g., men come first in language; Hegarty, 2006; Miller et al., 1991; see Bailey et al., 2019, for a review). However, the privileging of men is not the same as the privileging of masculinity. In this article, we discuss the privileging of masculinity as a unique construct that has distinct consequences for gender disparities and requires distinct solutions.

Contributions of Masculine Defaults to Current Definitions of Gender Bias

Gender bias in psychology is traditionally defined as negative treatment or judgment of women compared with men (Koch, D'Mello, & Sackett, 2015; Moss-Racusin et al., 2012). Differential treatment, or the explicit or implicit negative treatment or evalu-

Table 2
Distinguishing Masculine Defaults From Differential Treatment

Property	Masculine defaults	Differential treatment
Definition:	Characteristics and behaviors associated with the male gender role are valued, rewarded, or considered standard, normal, neutral, or necessary aspects of a given culture	Women are explicitly or implicitly treated or judged more negatively than men
Who is disadvantaged:	Women (and men) who have a mismatch with characteristics and behaviors associated with the male gender role and women who encounter backlash for not fitting the female gender role	Women
Results from:	Historically-derived cultural ideas that characteristics and behaviors associated with the male gender role are superior or necessary, standard, neutral, or normal; neglecting ways that women on average differ from men (e.g., caretaking obligations, collaborative, other-focused)	Historically-derived cultural ideas that women are less competent and do not fit into majority-male cultures
How it looks:	Absence of negative treatment or judgment of women and thus may not appear overtly discriminatory on surface	Explicit or implicit negative evaluation or mistreatment
How disadvantage is assessed:	A cultural feature values, rewards, or regards as standard, normal, neutral, or necessary characteristics and behaviors associated with the male gender role, even if it appears equitable on surface	Women are treated or evaluated more negatively than men
Remedy:	Creating a balanced culture that does not privilege characteristics and behaviors associated with the male gender role over those associated with the female gender role	Eliminating negative treatment or judgment of women relative to men

ation of one group relative to another, exists when women are treated badly more often than men (e.g., sexual harassment; National Academies of Sciences, Engineering, & Medicine, 2018) or denied more opportunities than equally qualified men (e.g., offered lower starting salaries, passed over for promotion; Koch et al., 2015; Milkman, Akinola, & Chugh, 2012; Moss-Racusin et al., 2012). In contrast, masculine defaults exist when characteristics and behaviors associated with the male gender role are valued and rewarded, or regarded as standard, normal, neutral, or necessary aspects of a culture (see Table 2). These defaults are often perceived as objectively necessary or good and assumed to be the only or best way for an environment to be arranged.

To clarify the distinction between masculine defaults and differential treatment, consider the case of interruption during a conversation, that is, when one person interrupts another and takes over the floor (K. J. Anderson & Leaper, 1998). The fact that women get interrupted in this manner significantly more than men is differential treatment and has negative consequences for women (Blair-Loy et al., 2017; Jacobi & Schweers, 2017; Karpowitz & Mendelberg, 2014). Imagine you notice this dynamic on your team and decide to remedy it by intrusively interrupting men more to create equality in interruptions. Now you have eliminated differential treatment between women and men. However, you have created a masculine default by fostering a *culture of intrusive interruptions*, in which interruption to clarify or make one's own point is normative and valued as the right way to converse (as opposed to other interaction styles, such as validation, waiting one's turn, asking a question, or connecting with the previous comment in a supportive way).

Even though increasing intrusive interruptions of men could result in equal interruption of women and men, women may find this new environment more difficult because the intrusive interruption interaction style is less common, valued, and practiced among women than men (K. J. Anderson & Leaper, 1998; Karpowitz & Mendelberg, 2014). Valuing intrusive interruption as necessary for a productive discussion relies on masculine notions of an independent self that privileges the immediate expression of thoughts and feelings with relatively little regard for the intent or goal of conversation partners or the trajectory of the communication (K. J. Anderson & Leaper, 1998).

Moreover, because intrusive interruption is inconsistent with female gender role prescriptions to be modest and take others' feelings into account (Cejka & Eagly, 1999; Markus & Conner, 2014; Rudman, 1998), women, especially White women (Livingston et al., 2012), may be more likely to receive backlash if they interrupt in this manner (M. J. Williams & Tiedens, 2016; Rudman & Fairchild, 2004). With masculine defaults, the gendered nature of the behavior is hidden beneath the surface because women and men are ostensibly being treated identically, making that aspect of the culture appear gender-neutral and fair even though it is not.

We illustrate the concepts of differential treatment and masculine defaults in Figure 1. With *differential treatment*, women are evaluated, judged, or treated worse than men— depicted by a door that is open for men but not for women.[5] With *masculine defaults*, women and men encounter the same open door. Initial access seems equal, but the layout of the environment and the rules of the game are configured in ways that advantage men and disadvantage women. We depict the mismatched environment using a male-typed body shape inside the door that makes it more difficult for women to enter and succeed even after the doors are open. Women who enact stereotypically masculine characteristics and engage in stereotypically masculine behaviors may be more able to enter and achieve success there than those who do not enact these masculine characteristics and behaviors. Yet some women enacting stereo-

[5] In Civil Rights Law, differential treatment is analogous to disparate treatment, whereas masculine defaults are analogous to disparate impact. According to the disparate impact principle, policies or practices can be discriminatory if they "fall more harshly on one group than another" (*International Brotherhood of Teamsters v. United States*, 1977), even if they are formally "neutral in terms of intent" (*Griggs v. Duke Power Co.*, 1971; Sullivan, 2004).

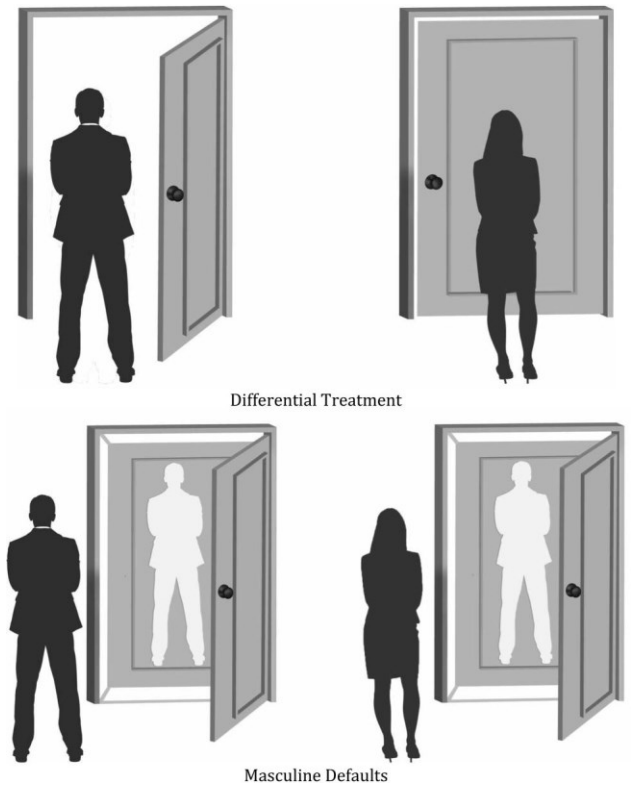

Figure 1. Differential treatment, or the disparate treatment and judgment of women and men. *Masculine defaults*, or aspects of the culture that do not involve differential treatment but value, reward, or regard as standard, normal, neutral, or necessary characteristics and behaviors associated with the male gender role.

typically masculine characteristics who fit through that door may also face a gender backlash on the other side—social and economic penalties for explicit violation of their gender role prescriptions (Amanatullah & Tinsley, 2013; Heilman et al., 2004; M. J. Williams & Tiedens, 2016; Rudman & Fairchild, 2004). Men who violate their gender role prescriptions by not being masculine also face difficulties in cultures that value and reward masculinity (Moss-Racusin et al., 2010).

Part 4: Empirical Evidence for Masculine Defaults

Below we review current empirical evidence for masculine defaults, extend the concept of cultural defaults to other identities, and consider feminine defaults.

Masculine Defaults on Multiple Cultural Levels

We use a systems-level approach that describes masculine defaults as existing on multiple levels of culture. Analyzing masculine defaults in this manner is responsive to recent calls by researchers and practitioners to consider the larger system in explaining gender disparities (Barker, Cohoon, & Thompson, 2010). Psychology has often focused on bias in individuals (Dovidio & Gaertner, 2010; Fiske, 1998; Moss-Racusin et al., 2012). However, acknowledging other cultural levels in addition to the individual level is key to fully understanding masculine defaults and their reach in majority-male fields and occupations.

For our system-level analysis, we adapt the culture cycle framework (Hamedani & Markus, 2019; Markus & Conner, 2014; Markus & Kitayama, 2010) to organizational culture. Like other models of organizational culture (e.g., Cox, 1994; J. Martin & Siehl, 1983; Schein, 1985; Scott & Meyer, 1994), the culture cycle includes multiple levels of culture that fit together and influence one another. The four cultural levels—*ideas, institutions* (which we adapt here to *institutional policies*), *interactions,* and *individuals*—influence one another and none are theoretically prior to the others (Markus & Conner, 2011, 2014; see Figure 2 for the culture cycle with changes that Harvey Mudd Computer Science made to each level of their culture, as described earlier).

Below we define and describe each level of the organizational culture cycle, describe an existing known masculine default on each level, and describe how these masculine defaults contribute to gender disparities. Though we focus on the cultural levels within organizations, these levels could be analyzed at the field or occupation level as well. See Table 3 for more examples on each level.

Ideas level. Organizational ideas define the purpose of the organization, organizational values and ideologies, and who makes a good, effective, and successful member of the organization (and explicitly or by implication who is bad, ineffective, and unsuccessful; Hamedani & Markus, 2019). Ideas often manifest in organizational narratives, mission statements, value statements, and prevalent images. Most models of organizational culture begin with ideas, values, and assumptions (J. Martin & Siehl, 1983; Schein, 1985) because they animate the practices and structure of the other levels of culture (J. Martin & Siehl, 1983; Murphy & Dweck, 2010; Plaut, Thomas, & Goren, 2009; Schein, 1985). Organizational values are also important because they predict job satisfaction and organizational commitment among employees (Chatman, 1991; O'Reilly, Chatman, & Caldwell, 1991).

A powerful example of a deeply rooted and typically hidden masculine default at the ideas level is when organizations emphasize meritocracy, a belief that organizations hire and promote the best and most talented employees (Son Hing et al., 2011). Believing that one's organization is a meritocracy does not appear to be discriminatory against women on its surface. Indeed, leaders may believe that hiring "the best and the brightest" is a shield against discrimination. However, majority-male organizations that espouse so-called meritocracy as a core value are more likely to discriminate against women than majority-male organizations that do not emphasize meritocracy (Castilla & Benard, 2010; Cech, Blair-Loy, & Rogers, 2016).

So-called meritorious criteria often reflect the qualities that the successful members of the organization perceive in themselves (termed "mirrortocracy"; Bueno, 2014; Rivera, 2012; Wehde, 2018). Merit in majority-male fields is often conflated with valuing attributes that are more associated with the male than the female gender role, such as acting independently, taking risks, displaying confidence, promoting oneself, being assertive, and expressing one's thoughts freely with little regard for their impact on others (Chamorro-Premuzic, 2016; Correll, 2017; Correll & Mackenzie, 2016; Guinier, 2015; Morgenroth et al., 2018; Rudman, 1998;

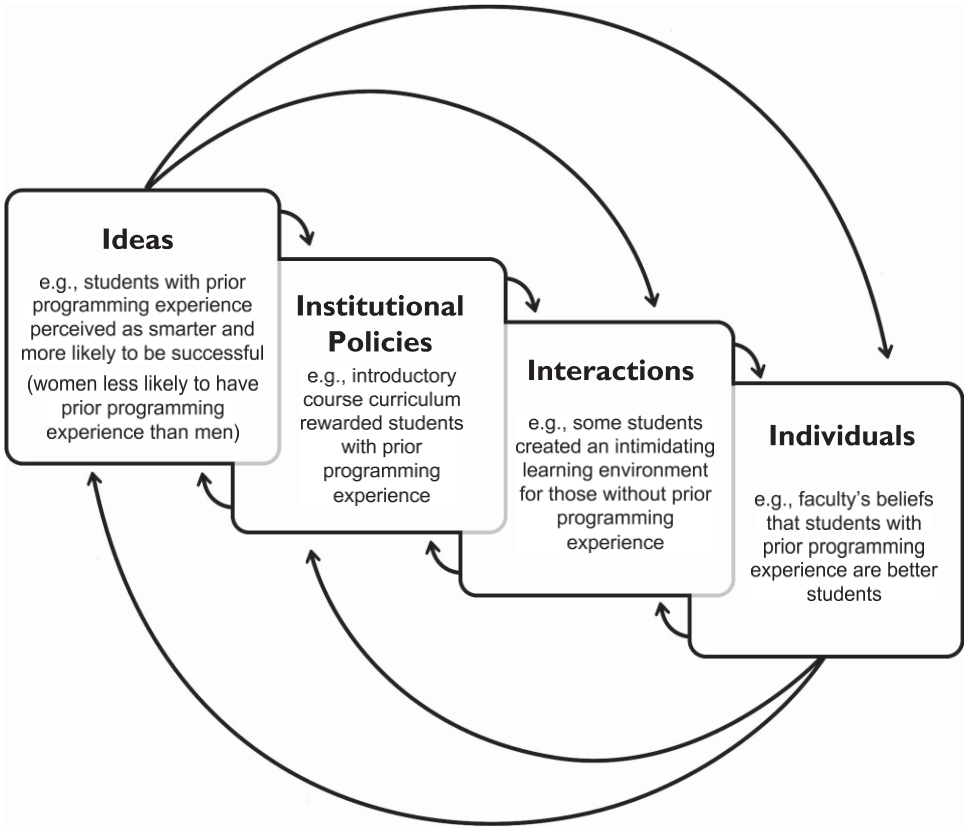

Figure 2. An example (taken from Harvey Mudd's computer science department, see p. 2) of how an institutional culture can reflect and promote masculine defaults on multiple levels of culture. Adapted from Markus and Conner (2014).

Wallen et al., 2017).[6] The qualities that women are perceived as having are not considered as relevant or important (Danbold & Bendersky, 2019; Uhlmann & Cohen, 2005).

Institutional policies level. Policies represent the formal laws and regulations in the organization. Laws and policies exert influence on organizational members directly and indirectly through the incentives that they create in the organization (Hamedani & Markus, 2019). Policies that do not involve differential treatment but result in valuing or rewarding behaviors associated with the male gender role contain masculine defaults.

For example, although the gender-neutral tenure clock stoppage policy—the addition of a year to a professor's tenure clock for the birth or adoption of a child—is explicitly gender blind, it increases gender disparities in tenure rates in economics departments (Antecol, Bedard, & Stearns, 2016). A gender-neutral tenure clock stoppage policy is a masculine default because this policy rewards people who use that extra time to work instead of caretake. The policy is inattentive to the reality that women tend to spend more time than men on childbirth and caretaking.

Interactions level. The interactions level is where most members engage with the organization in their day-to-day work (Hamedani & Markus, 2019). This level of culture includes interactions between people and also interactions with organizational norms, practices, and artifacts. Examining interactions is important because "the enactment of gender primarily takes place within the context of social interactions" (Deaux & Major, 1987, p. 370; Ely & Meyerson, 2000; Maccoby & Jacklin, 1974; Ridgeway, 2011). In addition, what is happening on the interactions level may prevent otherwise fair policies from being followed or enacted.

The ideal worker norm is an example of a masculine default. Prescribing long hours, constant availability, and singular dedication to one's work is an expectation that is challenging for more women than men to fulfill (Correll, Kelly, O'Connor, & Williams, 2014; Dumas & Sanchez-Burks, 2015; Glick, Berdahl, & Alonso, 2018; Hewlett & Luce, 2006; Reid, O'Neill, & Blair-Loy, 2018). The ideal worker norm was built around a model of a traditional marriage in which one person (almost always a woman) assumes the position of the homemaker and caretaker. This masculine default is thus inattentive to the specific social situation and gender role pressures faced by many women in the labor market (Correll et al., 2014).

Individuals level. The individual level includes members' beliefs, attitudes, thoughts, emotions, goals, self-concepts, identities, actions, and behaviors (Hamedani & Markus, 2019; Markus &

[6] Some of these tendencies are less likely to be associated with merit and masculinity in contexts outside middle-class U.S. White American cultural contexts (Cross and Madson, 1997; Lu, Nisbett, and Morris, 2020; Markus and Kitayama, 1991, Markus, 2017).

Table 3
Empirical Examples of Masculine Defaults in Majority-Male Fields and Occupations on Multiple Levels of Culture

Cultural level	Examples
Ideas	Organization is perceived as a meritocracy, with merit indexed by characteristics commonly associated with the male gender role (Castilla & Benard, 2010; Cech, Blair-Loy, & Rogers, 2016) Innate brilliance is perceived as essential for success, with brilliance indexed by characteristics commonly associated with the male gender role (Leslie et al., 2015) Idealization of strength, toughness, and infallibility (Ely & Meyerson, 2010) Valuing confidence (Hardies, Breesch, & Branson, 2013; Lerchenmueller, Sorenson, & Jena, 2019) Valuing risk-takers (Morgenroth, Fine, Ryan, & Genat, 2018) Valuing visionaries (Ibarra & Obodaru, 2009) Organizational fixed mindset, idea that intelligence and abilities are unchangeable instead of malleable (Emerson & Murphy, 2015)
Institutional policies	Curricula that use masculine topics to teach science and engineering (e.g., designing graphics for computer games; Kerger, Martin, & Brunner, 2011) Educational policies that make computer science, engineering, and physics optional in high schools (Cheryan, Ziegler, Montoya, & Jiang, 2017) Fostering a culture of intrusive interruptions (K. J. Anderson & Leaper, 1998; Karpowitz & Mendelberg, 2014) Gender-neutral tenure clock stoppage policies (Antecol, Bedard, & Stearns, 2016) Policies that do not adequately compensate for emotional labor and service (Guy & Newman, 2004; O'Meara, Jaeger, Misra, Lennartz, & Kuvaeva, 2018) Requiring self-nominations for promotion or awards (Kang, 2014) Rewarding individual contributions over collaboration and teamwork (Diekman, Brown, Johnston, & Clark, 2010) Rewarding negotiations on behalf of oneself (Amanatullah & Morris, 2010; Kray & Thompson, 2004)
Interactions	Colder office temperatures (Kingma & van Marken Lichtenbelt, 2015) Combative, adversarial, and judgmental environments (Haslanger, 2008; Moulton, 1983) Holding meetings after work hours (Correll, Kelly, O'Connor, & Williams, 2014; Hewlett & Luce, 2006) Cutthroat and competitive environments (Catanzaro, Moore, & Marshall, 2010; Croson & Gneezy, 2009; Gaucher et al., 2011; Glick, Berdahl, & Alonso, 2018; Kleinjans, 2009; Maier, 1999; Reid, O'Neill, & Blair-Loy, 2018; Riegle-Crumb, Peng, & Buontempo, 2019) Ideal worker norm based on masculine characteristics (Correll et al., 2014; Hewlett & Luce, 2006) Masculine words in job ads (Gaucher et al., 2011) Rewarding abstract rather than concrete speech (Joshi, Wakslak, Appel, & Huang, 2020) Rewarding participation in a masculine sport (Agarwal, Qian, Reeb, & Sing, 2016) Rewarding self-promotion and individual accomplishment (Diekman et al., 2010; Haslanger, 2008; Rudman, 1998) Rewarding volubility (Brescoll, 2011) Stereotypical décor (e.g., Star Trek posters; Cheryan, Plaut, Davies, & Steele, 2009) Recruiting sessions with stereotypically masculine behaviors and references (e.g., StarCraft; Wynn & Correll, 2018) Work that is primarily independent rather than collaborative (Diekman, Clark, Johnston, Brown, & Steinberg, 2011)
Individuals	Masculine defaults from the ideas level as they manifest on the individual level, e.g., believing that confidence (Hardies, Breesch, & Branson, 2013; Lerchenmueller, Sorenson, & Jena, 2019), risk-taking (Morgenroth, Fine, Ryan, & Genat, 2018), and being a visionary (Ibarra & Obodaru, 2009) are desirable attributes

Note. The impact of a masculine default within an institutional culture will depend on how many other masculine defaults exist in the culture, what levels masculine defaults exist on, and the balance between masculine and feminine defaults. See Part 5: Counteracting Masculine Defaults.

Conner, 2011).[7] Individuals' beliefs and behaviors are a crucial aspect of the culture cycle. This perspective derives from the paradigm of cultural psychology (Adams & Markus, 2004; Bruner, 1990; Markus & Kitayama, 2010; Rogoff, 2003; Shweder, 1990; Tomasello, 2011; Vygotsky, 1978; Wertsch, 1985) and is grounded in the idea that the individuals and their psychologies are constituent parts of cultures. Individuals can resist organizational ideas, institutional policies, and interaction patterns, but successful members of an organization often come to incorporate (sometimes unintentionally) the pervasive and shared cultural features of an organization into their beliefs and behaviors.

As a consequence, individuals' beliefs and behaviors that are not explicitly gendered on the surface can also be biased against women. For example, one of the beliefs that circulates among individual employers and faculty in many majority-male fields is that "brilliance" is required for success in their field (Leslie, Cimpian, Meyer, & Freeland, 2015). Brilliance, however, is not a gender-neutral descriptor. Brilliance (as currently used in American English) is regarded as innate rather than learned (Bian, Leslie, Murphy, et al., 2018) and is more associated with White boys and men than White girls and women (Bian, Leslie, & Cimpian, 2017; Del Pinal, Madva, & Reuter, 2017; Grunspan et al., 2016; but not more associated with Black men than Black women; Jaxon, Lei,

[7] Ideas are important at both the ideas level and the individuals level of the culture cycle. At the ideas level, the focus is on pervasive ideologies, collective representations, narratives, cultural models, and shared mindsets that circulate and are inscribed in organizations. At the individuals level, the focus is on specific beliefs and attitudes of organizational members. Individual beliefs and attitudes likely reflect some of the organization's pervasive ideas, yet individuals can resist or try to change these ideas. Moreover, individual beliefs and attitudes depend on other culture cycles (of nation, region, race, ethnicity, religion, social class, etc. that intersect with the organizational culture cycle). As such, any individual's beliefs and behaviors may not be a direct reflection of the culture's pervasive ideas.

Shachnai, Chestnut, & Cimpian, 2019). Brilliance in majority-male fields may connote stereotypically masculine characteristics such as intellectual and financial risk-taking, competitiveness, confidence, disruption, and nonconformity (see Farber, 1986). The more that faculty endorse the idea that brilliance is important to success in their field, the fewer women and Black PhD graduates are present in that field (Leslie et al., 2015). Women and girls face negative consequences when the current masculine version of brilliance is believed to be a prerequisite for success (Bian, Leslie, Murphy, et al., 2018).

Cultural Defaults in Other Contexts

Though we focus on majority-male fields and occupations, the concept of masculine defaults may be useful to other domains of society that men originally founded and controlled. For example, psychology is now majority women at the undergraduate, graduate, and assistant professor levels, but the field was constructed by men, and the senior faculty are still mostly men (Christidis, Wicherski, Stamm, & Nigrinis, 2014). As a result, much of what is valued in psychology may contain masculine defaults (e.g., valuing confidence and criticism). In medicine, though women are the majority of enrollees in U.S. medical schools (Heiser, 2017), masculine defaults are reflected in the long hours and lack of flexibility in many specialties (Valantine & Sandborg, 2013), especially in surgical subspecialties (McCord et al., 2007). Masculine defaults are also present in many other aspects of society that were developed and continue to be controlled largely by men, such as athletics, commercial music, and construction and mechanical maintenance.

The idea of masculine defaults can also be extended to explain disparities based on other social identities, such as race, nationality, and class. Extending the concept of masculine defaults to race and nationality, many institutions contain White American defaults because they reward and regard as standard characteristics and behaviors that are typically associated with White Americans instead of other racial groups (Ray, 2019). Black scientists are less likely to receive funding from NIH than White scientists. Racial gaps in funding are due in part to NIH offering less funding for topics that are relatively more popular among Black scientists (e.g., interventions, disparities) and more funding for topics that are relatively more popular among White scientists (e.g., fundamentals, mechanisms; Hoppe et al., 2019; see also Hofstra et al., 2020). Understanding why Native American students tend to underperform in school compared with White students benefits from a cultural approach that considers how schools default to culturally independent ways of being, such as working alone and carving one's own path, instead of culturally interdependent ways of being, such as working with others and adjusting to others' expectations (Brady, Germano, & Fryberg, 2017; Fryberg & Markus, 2007). Similarly, understanding why Asian students are perceived as "too quiet" or "disengaged" in the American classroom benefits from a cultural analysis that reveals how American classroom practices value and reward culturally independent practices such as self-expression and distinguishing oneself from others (H. S. Kim, 2002).

Extending the concept of defaults to social class, American universities and workplaces promote independent norms (e.g., working independently, developing personal opinions) that are often a mismatch with the interdependent motivations that drive students from working-class backgrounds to attend college (Dittman, Stephens, & Townsend, in press; Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). These examples illustrate the negative consequences for other groups when important institutions value and reward characteristics and behaviors typically associated with middle- and upper-class White Americans over characteristics and behaviors typically associated with other groups.[8]

Feminine Defaults

Do majority-female fields and occupations (e.g., nursing) or those that were set up by women (e.g., midwifery) have feminine defaults? Majority-female fields and occupations may value and reward stereotypically feminine characteristics, such as being a good caretaker (Croft, Schmader, & Block, 2015; Wood & Eagly, 2012) and interpersonal warmth (Fiske, Cuddy, Glick, & Xu, 2002; Prentice & Carranza, 2002). Men, who are less likely to be socialized to have stereotypically feminine characteristics (Croft et al., 2015; Ridgeway, 2011), report a lower sense of belonging in majority-female fields (e.g., English) than do women (Cheryan & Plaut, 2010). Moreover, men who behave in a stereotypically feminine manner (e.g., succeeding at stereotypically feminine tasks) receive less respect and are perceived as less deserving of advancement (Heilman & Wallen, 2010; Moss-Racusin et al., 2010; Rudman & Fairchild, 2004; Rudman & Mescher, 2013). Recruiting more men into majority-female occupations may involve reducing the gender role conflict men experience (Bagilhole & Cross, 2006; Croft et al., 2015; Dodson & Borders, 2006; Simpson, 2005), perhaps by changing feminine defaults where possible.

On the other hand, men do not encounter greater hiring discrimination than women in majority-female occupations (Koch et al., 2015). Within low- and medium-skilled majority-female occupations, men's careers tend to get enhanced (i.e., the "glass elevator"; C. L. Williams, 1992), and they receive more pay than women (C. L. Williams, 1993; Hegewisch & Hartmann, 2014; Simpson, 2005). Though men may be underrepresented in majority-female occupations, they may continue to have disproportionate influence as leaders and executives (C. L. Williams, 1992). Future research could investigate whether feminine defaults in majority-female fields may not be as hindering to men as masculine defaults in majority-male fields are to women.

Part 5: Counteracting Masculine Defaults

We begin by reviewing current efforts to mitigate bias in majority-male organizations and examine how attending to masculine defaults can contribute to these efforts. We then describe steps to addressing masculine defaults, how to ensure effective

[8] The field of psychology and academia in general are also inflected with a model of behavior rooted in male-associated independent ways of being common in much of the West and particularly in North America. These independent tendencies are valued, rewarded, and regarded as standard, normal, neutral, or necessary, while interdependent tendencies are cast as supporting or secondary and sometimes deficient or even immoral (Estrada-Villalta & Adams, 2018; Markus, 2017).

cultural change, and whether there is a different route to successful cultural change.

Current Efforts to Mitigate Bias in Majority-Male Organizations

Current efforts to mitigate bias in majority-male organizations have involved two primary strategies: bias education and changing policies and practices (e.g., blinded review of resumes) to minimize the ability of bias to influence decisions. As we will discuss below, neither effort attends adequately to masculine defaults and neither has yet to result in large-scale improvements to the proportion of women, especially women of color, in majority-male organizations.

Bias education. Educating people about their biases, also referred to as diversity training or unconscious bias training, has been widely adopted in majority-male companies and departments (Lublin, 2014; Zarya, 2015). Though there has been some promising (but not statistically significant) evidence in support of bias education in universities (e.g., Devine et al., 2017; J. L. Smith, Handley, Zale, Rushing, & Potvin, 2015), a study of more than 700 companies revealed that companies with mandatory bias education had fewer Black and Asian American women and the same proportion of White women and Latinas five years later (Dobbin & Kalev, 2016). Voluntary bias education predicted an increase in the proportion of Asian women but did not affect the proportion of Black women, Latinas, and White women (Dobbin & Kalev, 2016). American employees at a large organization who engaged in an online voluntary diversity training were more likely to acknowledge they have gender biases, and women who underwent the training were more likely to engage in mentorship of other women. However, the online training was not more likely to result in greater behavioral intentions to support women in the workplace (Chang et al., 2019). The negative consequences of individual biases have been firmly established, but intervening to mitigate these biases has proven difficult (e.g., Lai et al., 2014, 2016).

Why has bias education in organizations been largely ineffective in increasing the proportion of women? One reason may be that current bias education efforts appear significantly more attentive to differential treatment than masculine defaults (see Dobbin & Kalev, 2016, for other possible reasons). Solutions suggested in bias education efforts, including stereotype replacement, bringing to mind positive counterstereotypes, perspective taking, individuation, and opportunities for contact (Carnes et al., 2015), are designed primarily to reduce differential treatment rather than counteract masculine defaults. One of the tools used in many bias education efforts to reveal bias, the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998), assesses for differential associations with social groups and not masculine defaults. A count of the studies presented in Google's unconscious bias training (Norton, 2014) reveals that of the 11 works cited on bias, nine relate predominantly to differential treatment (i.e., Banaji & Greenwald, 2013; Bertrand & Mullainathan, 2003; Brooks, Huang, Kearney, & Murray, 2014; Hebl, Foster, Mannix, & Dovidio, 2002; Heilman, Block, Martell, & Simon, 1989; Heilman & Haynes, 2005; Martell, Lane, & Emrich, 1996; Moss-Racusin et al., 2012; Spencer, Steele, & Quinn, 1999), and only two relate to masculine defaults (e.g., masculine objects in computer science environments; Cheryan et al., 2009; Uhlmann & Cohen, 2005). Focusing on differential treatment of women and men is useful but not sufficient for creating unbiased environments for women.

A second limitation of current bias education efforts is that they currently focus primarily on educating individuals (e.g., Pietri et al., 2017). Educating people about masculine defaults may help to the extent that people have the power and will to change them. However, based on current evidence on bias education which does not yet demonstrate large-scale changes to diversity in organizations (Chang et al., 2019; Kalev, Dobbin, & Kelly, 2006) and sometimes even backfires (Duguid & Thomas-Hunt, 2015), we do not believe that educating people about masculine defaults will be adequate without also making aligned changes to other levels of organizational culture. Recall that Harvey Mudd's computer science department did not start with trying to change cultural ideas or individual beliefs about who could be successful in their program. The commonly held belief that the best and most meritorious students could be identified by looking at who had prior experience in the field would likely have been difficult to change. Instead, making changes to curriculum (institutional policies) and classroom practices (interactions) caused faculty to encounter great students who did not fit their prior conceptions of who could be successful and subsequently revise their beliefs about who has potential.

Policies and practices to mitigate bias. Policies and practices—such as anonymizing resumes and applications (Goldin & Rouse, 2000) and standardizing interviews so that everyone is asked the same questions (Clifford, 2010; University of Michigan Office of the Provost, 2018)—are used to mitigate effects of differential treatment. Anonymizing resumes, test results, and project proposals can prevent people from using their inferences about applicant gender to influence their treatment of candidates and increase the participation and success of women in majority-male domains (Goldin & Rouse, 2000; Roberts & Verhoef, 2016; Witze, 2019). Standardizing interview questions prevents interviewers from selecting easier or fewer questions for candidates they already favor (Clifford, 2010; University of Michigan Office of the Provost, 2018).

However, other gender-blind policies and practices have been unsuccessful in increasing the proportion or success of women in majority-male organizations. For example, blind review has been shown to be ineffective in increasing acceptance rates of female-authored articles (Webb, O'Hara, & Freckleton, 2008; see also Tomkins, Zhang, & Heavlin, 2017) or in eliminating bias against women in grant proposals (Kolev, Fuentes-Medel, & Murray, 2019; but see Marsh, Bornmann, Mutz, Daniel, & O'Mara, 2009, for a meta-analysis showing no evidence of gender bias in peer reviews of grant proposals but pro-male bias in peer reviews of proposals for research fellowships). Among grant proposals submitted to the Gates Foundation from 2008 to 2017, women received lower scores than men even though name and gender information were blinded (Kolev et al., 2019). One reason may be that blinding did not sufficiently address masculine defaults. In the Gates Foundation study, reviewers were more likely to select proposals that used broad language (i.e., words that appeared at similar rates across diverse proposals) compared with narrow language (i.e., words that were topic-specific and limited to specific proposals; Kolev et al., 2019). The use of broad language was rarer among women than men, perhaps because the use of broad language to describe a concept draws upon stereotypically mascu-

line behaviors such as confidence, assertiveness, and self-promotion (Cooper, Krieg, & Brownell, 2018; Rudman, 1998; Wallen et al., 2017). Importantly, the use of broad language did not predict postfunding scientific output (Kolev et al., 2019), suggesting that this possible masculine default is interfering with the ability to identify the best proposals.

What should the Gates Foundation do? The authors of the study conclude that "there is significant scope for female applicants to improve their scores by altering the words they use to describe their proposals" (Kolev et al., 2019, p. 19). However, because broad language did not predict greater subsequent scientific output (Kolev et al., 2019), changing women's language to be more similar to men's language is unwarranted. Moreover, doing so would serve to reinforce this possible masculine default rather than change it. Instead, the Gates Foundation could find a way to remove this masculine default or prevent it from affecting funding decisions (a process we describe in the next section). Gender-blind solutions do not result in gender equality when masculine defaults are present.

Moreover, some interventions to address differential treatment may even *exacerbate* masculine defaults. For example, bringing to mind counterstereotypical exemplars reduces negative judgments (Lai et al., 2014). However, bringing to mind counterstereotypical women who fit masculine defaults—such as women with stereotypically masculine characteristics and behaviors—reinforces masculine defaults in majority-male fields by suggesting that these characteristics are necessary and desirable for success (Cheryan, Drury, & Vichayapai, 2013; Cheryan et al., 2011). In another example, creating criteria for promotions prevents the uneven application of criteria (Uhlmann & Cohen, 2005) but does not protect against the criteria themselves having masculine defaults (e.g., valuing confidence; C. Anderson, Brion, Moore, & Kennedy, 2012). Without knowledge of masculine defaults, some efforts to mitigate gender biases may make gender disparities worse rather than better.

Steps to Addressing Masculine Defaults

The ultimate goal of addressing masculine defaults is to no longer privilege masculine characteristics and behaviors. Below we discuss the three steps to addressing masculine defaults: identifying them on all levels, determining whether they are essential to the organization's viability, and cultural balancing.

Step 1: Identify masculine defaults on multiple levels of culture. Masculine defaults exist when both of the following criteria are met: (a) the feature in question is an aspect of the culture (e.g., idea pervasive in the organization, institutional policy, interaction pattern, individual belief or behavior); (b) the feature results in valuing, rewarding, or regarding as standard, normal, neutral, or necessary characteristics and behaviors associated with the male gender role. Masculine defaults can be subtle and hard to see (e.g., an award that requires people to self-nominate[9]) or more overt and obvious (e.g., a company-planned golf outing). They may be exclusive unintentionally (e.g., rewarding confidence in interviews) or intentionally (e.g., holding a meeting after work hours when it is more difficult for some people to attend).

A promising place to start looking for masculine defaults is the ideas level. Values that advantage men in the organization (e.g., valuing public assertiveness; Wallen et al., 2017; Facebook's old "move fast and break things" motto; Taneja, 2019) can pervade multiple cultural levels. Company mission statements, speeches by executives (J. Martin, 1990), employee-generated lists of organizational values, and other products (e.g., employee descriptions of companies on Glassdoor; Canning et al., 2020; Corritore, Goldberg, & Srivastava, 2019) could be coded for references to masculinity (see Table 1; Cejka & Eagly, 1999; Gaucher et al., 2011; Prentice & Carranza, 2002, for lists of stereotypically masculine characteristics). Assessing for how these masculine defaults affect women of color will be important to ensure that any changes made do not confer greater advantage upon White women than women of color.

Once a cultural value has been identified as a masculine default, the next step is to identify its manifestation at different levels of organizational culture. For instance, Steve Jobs valued his employees "bumping up against each other, having arguments, having fights sometimes" (Sande, 2011). Valuing arguing and open conflict is a masculine default because such behaviors are consistent with the male gender role (Karpowitz & Mendelberg, 2014; Tannen, 2013). Leaders could assess the extent to which this value exists in organizational policies (e.g., getting promoted requires "winning" disputes), interactions (e.g., rewarding those who take on an argumentative tone), and employee beliefs (e.g., beliefs that the best way to know if an idea is valuable is to try to destroy it). Some organizations may need to engage this process for multiple cultural values, whereas others may only have one cultural value that needs to be addressed to meaningfully increase the participation of women.

Other levels need to be investigated for masculine defaults. At the institutional policies level, apps (e.g., Textio) have been developed that scan job ads for phrases that are likely to deter women more than men (e.g., "hard-driving," "rock star"). The large Australian software company Atlassian used Textio and made other changes to their recruiting process (e.g., emphasizing collaboration). After these changes were made, their percentage of women hired into entry-level technical roles increased from approximately 10% to over half in 2017 (Blanche, 2017; Silverberg, 2018). After the European consulting company Made by Many changed their senior designer job ad from looking for someone who is "unreasonably talented" and "driven" to someone who is "deeply excited by the opportunity of creating thoughtful digital products that have lasting impact," the proportion of women applicants went up from 15% to 35% (Pinnock, 2014).

On the interactions level, apps can record masculine defaults such as the frequency of interruptions in an environment ("Woman Interrupted," n.d.) and also code for masculine defaults in the physical space (e.g., stereotypical computer science objects; "Stanford | SPARQ Toolkits," n.d.). Software can also tag e-mails for overt displays of power (e.g., "I need the answer ASAP"; Prabhakaran, Rambow, & Diab, 2012) and detect low levels of politeness in online requests (Danescu-Niculescu-Mizil, Sudhof, Jurafsky, Leskovec, & Potts, 2013). On the individual level, assessing for

[9] Indeed, in some cases, self-nominations were originally proposed as a way to diversify pools (C. Rummel, personal communication, December 16, 2019).

individual beliefs that "the best" is defined in line with the male gender role would identify masculine defaults.

More tools and measures to assess masculine defaults could be developed. For example, questionnaires that currently measure workplace climate (e.g., Cech et al., 2016; W. Hall, Schmader, Aday, Inness, & Croft, 2018) could expand from measuring perceived differential treatment (e.g., "Women must work harder than men to convince colleagues of their competence"; Cech et al., 2016) to also measuring perceptions of masculine defaults (e.g., "My organization rewards people who self-promote more than people who do not self-promote"). In collaboration with computer scientists, software could be developed to assess the masculinity of language used in employee evaluations, promotion discussions, and speeches. Implicit measures could assess the extent to which employees associate the organization with masculine versus feminine characteristics. Tools like InHerSight could be used by employees to anonymously report masculine defaults in their companies. Tools should be tested to ensure that adopting them ultimately reduces gender disparities.

Some masculine defaults may not be immediately identifiable as masculine and will need closer consideration to identify how they might value and reward characteristics and behaviors associated with the male gender role. For instance, requiring engineers to spend significant time traveling abroad and be in contact with teams in other countries around the clock is a masculine default because of pressures on women with children to be present for their families. To identify masculine defaults that may not appear explicitly masculine on their surface, data could be collected to ascertain whether a certain aspect of the culture causes gender disparities in participation, performance, promotion rates, salary disparities, or any other outcomes important to the integration and success of women in majority-male fields and occupations. Data on women of color should be separately examined when possible. However, these long-term sociological outcomes can take years to collect and necessitate negative outcomes for women before researchers can identify disadvantage. Thus, we recommend simultaneous use of more proximal assessments—including interviews, focus groups, surveys, or experiments—to identify cultural features that predict women's lower participation (e.g., self-reported belonging; Cheryan et al., 2009; Good et al., 2012) and success (e.g., anticipated success; Cheryan et al., 2011; Wigfield & Eccles, 2000).

Step 2: Determine whether masculine defaults are essential. The second step to addressing masculine defaults is to determine whether they are essential to the organization's viability. Organizational leaders can use different strategies to determine whether a masculine default is essential or can be eliminated. One way is for leaders to ask themselves whether they could change the masculine default and still have viable organizations. For instance, if a professional organization has a self-nomination system for awards, leaders could ask themselves whether replacing such a system with another way of determining eligibility (e.g., developing criteria for who is in the pool that would not disadvantage women to the same extent) would be possible. A second way is to do a "dry run" without the practice, such as going back through a list of candidates and evaluating them using different criteria to see whether the updated list of candidates would be significantly less qualified (measured by things that are actually important to achieving success in the organization). A third way is to ask why the practice exists, what it predicts, and whether there is another way to do it that would not disadvantage women. For example, to become a firefighter in the U.S., one must pass a strength test—a masculine default because strength is associated with the male gender role. One could argue being a successful firefighter requires considerable strength to drag hoses and carry other equipment. However, these tests have not been shown to predict on-the-job performance as a firefighter (Hulett, Bendick, Thomas, & Moccio, 2007). In addition, they focus on measuring aspects of strength that are more associated with men (e.g., upper body strength) and are missing other aspects of strength that are also important to firefighting and may be more common in women (e.g., stamina; Hulett et al., 2007). Masculine defaults that seem initially essential may not be upon closer inspection.

Determining what is essential should focus on business viability and not how much people will like it or how difficult it would be to address. Current law supports maintaining aspects of organizational cultures that are vital to the survival of an organization, even if they are hindering the entry and success of members of some groups (S. S. Grover, 1996). This defense, termed a *business necessity defense*, "should require an employer to prove that its discriminatory practice is essential to its continued operation" (S. S. Grover, 1996, p. 429). It may not be enough for an organization to say that a masculine default is necessary because it makes the organization more efficient or productive. Many current masculine defaults could be justified as increasing efficiency or productivity because organizations currently reward these behaviors and characteristics. To effect change, we recommend that masculine defaults be maintained only if there is no way to eliminate or replace them. Exceptions for business necessity need to be construed as narrowly as possible. Ideally, organizations would work together in making changes to their cultures, perhaps with incentives from governments or other entities, so that individual organizations do not perceive engagement in culture change as putting them at a competitive disadvantage.

Step 3: Removing masculine defaults and cultural balancing. Cultures are products of human agency and as such can be changed through human agency. Masculine defaults can be addressed by making thoughtful and purposeful changes to organizational cultures.

Nonessential masculine defaults can be dismantled and replaced with cultural features that do not disproportionately disadvantage women. Associating brilliance with confidence, criticism, risk-taking, and independence could be replaced by a version of brilliance that values those characteristics but also values conscientiousness, teamwork, and careful consideration of all ideas. Meeting rules could ban intrusive interruptions (e.g., Lev-Ram, 2016). Masculine words in job ads could be replaced with words that are more gender-neutral (Gaucher et al., 2011). Ideally, this approach would "take into account the range of possible human responses" and be maximally inclusive (Stewart & Valian, 2018, p. 291). For example, changes to masculine defaults should result in cultures that are equally good for marginalized women (e.g., women of color, poor women) as for heterosexual White women from higher socioeconomic status backgrounds (hooks, 2000).

There are many examples of organizations successfully replacing masculine defaults. In northern Sweden, cities cleared snow from main roads before side streets and sidewalks. This was a masculine default because it advantaged commuters who were

driving (mostly men) and disadvantaged pedestrians and those who had to make short and often successive trips away from the main roads (mostly women dropping kids at school and running errands; Criado Perez, 2019). The city switched the order in which snow was cleared and noticed immediate benefits when hospital admissions due to pedestrian falls decreased (Criado Perez, 2019). In American hospitals, evidence-based toolkits have been developed to improve hospital culture by creating learning environments and improving communication between team members ("Clinical Toolkits," n.d.). A longitudinal intervention found reduced mortality in hospitals that adopted the recommended strategies (Curry et al., 2018). Dismantling masculine defaults has improved many lives, improved organizational performance, and saved money.

If masculine defaults cannot be dismantled, either because they have been deemed essential or because efforts to dismantle them have not been successful, another approach is to balance the culture by elevating feminine defaults. Feminine defaults are aspects of the culture in which characteristics and behaviors associated with the female gender role are valued, rewarded, or regarded as standard, normal, neutral, or necessary. Perhaps organizational leaders have determined a stereotypically masculine word in their job ad is essential to the viability of their organization. The job ad could also include a descriptor that is typically associated with the female gender role (e.g., collaborative; Gaucher et al., 2011). Perhaps leaders have noticed that their hiring criteria result in hiring more men than women. The organization could add another important and valuable merit criterion that elevates a feminine default, such as contributions to diversity and inclusion at the organization (e.g., see Gallimore, 2019, for an example from the University of Michigan College of Engineering that helped create gender parity among top leadership). Perhaps leaders have decided the ability to distinguish good ideas from bad ideas is essential to the functioning of the organization. In service of this goal, the organization currently values and rewards being openly critical and questioning others' intelligence and ideas. Leaders could maintain their emphasis on openly distinguishing good from bad ideas through discussion. However, they could also identify good ideas through consensus, cooperation, and getting all ideas on the table before evaluating them. Perhaps when hiring a new colleague, faculty favor candidates who deliver assertive and confident job talks. Hiring committees could balance out the emphasis on job talk delivery with other criteria that value critical aspects of being a successful faculty member, such as successful mentoring. Feminine defaults need to be selected and integrated into the culture in ways that do not feel condescending or pander to women (e.g., making a pink version) or cause women to feel that success is less attainable for them (Betz & Sekaquaptewa, 2012). The ultimate goal of this approach is to encourage majority-male organizations to accommodate and value characteristics and behaviors associated with the female gender role, as well as the male gender role, instead of privileging the latter.

Volunteer firefighting organizations in Japan provide an example of cultural balancing that helped to recruit more women. These organizations were traditionally very hierarchical (Haddad, 2010). The jobs were physically demanding and the main social activities consisted of drinking with other men. After WWII, the mandatory membership requirement for men was removed and resources decreased (Haddad, 2010). To maintain the organization, the group had to "transform their culture from a militaristic, hierarchical, majority-male one to a culture with more humanitarian, egalitarian, and open practices" (Haddad, 2010, p. 44). One way this was accomplished was by expanding the range of activities from only fighting fires to fire prevention activities and community outreach. As a result, the original "masculine values of honor and bravery" were maintained and "supplemented by more feminine values that seek to serve the weaker members of the community— elderly and children" (Haddad, 2010, p. 53). Though women still comprise a very small percentage of volunteer firefighters in Japan (1.5%), their numbers have been increasing rapidly as a result of these cultural changes (Haddad, 2010).

Cultural balancing is not an easy or trivial process. It involves upending the foundational status hierarchy that privileges men and masculinity (Ridgeway, 2011). Though piecemeal changes to masculine defaults at one level of culture may influence other cultural levels (e.g., Powers et al., 2016), making a solitary change on one cultural level may not be enough to counteract other opposing cultural forces. Like other models of organizational culture (e.g., Cox, 1994; J. Martin & Siehl, 1983; Schein, 1985), we recommend moving beyond piecemeal fixes and considering all levels of the larger system to produce change (Barker et al., 2010).

Cultural balancing within an organization also needs to be attentive to influences outside the organization and even outside the broader field or occupation. If an aspect of the culture disadvantages women because of outside obligations or experiences, balancing the culture will only be possible if these outside factors are addressed. For example, although the gender-neutral tenure clock stoppage policy discussed previously is explicitly gender-blind, it increases gender disparities in tenure rates (Antecol et al., 2016). Making a gender-neutral tenure clock stoppage policy equitable would require addressing existing societal inequalities, for instance, by providing childcare relief to women or incentivizing men's greater participation at home. The source of current disparities may be bigger than an individual manager, an organization, or even an entire field. Organizations may bear no responsibility in producing inequalities, but they will be required to help remedy them if they want to achieve gender equality. Organizations have the power and resources to work toward remedying disparities rather than amplifying them.

Ensuring Effective Cultural Change

Leaders can engage in certain activities to make culture change more effective and more likely to be successful. At the ideas level, entering the process of cultural change will be more successful if goals for culture change have been precisely defined (Grenny, Patterson, Maxfield, McMillan, & Switzler, 2013; Kotter, 1996). In addition, even if there is a great deal of enthusiasm for diversifying, these efforts will be less effective if there is another value or commitment that is perceived as conflicting with it (Stewart, Malley, & Herzog, 2016; Stewart & Valian, 2018). For instance, an emphasis on merit may constrain the ability to diversify (Castilla & Benard, 2010) because diversifying is often seen as at odds with getting the "best" people (Margolis, Estrella, Goode, Holme, & Nao, 2008). At the institutional policies level, providing adequate resources to help with change, forming necessary stakeholders into coalitions for change, and putting into place reliable measures to assess programs will make cultural change more likely

to occur (Grenny et al., 2013; Kotter, 1996). At the individual level, accepting that there is a diversity problem and ensuring leadership commitment to diversity enables more successful cultural change (Kotter, 1996; Mitchneck, Smith, & Latimer, 2016; Stewart et al., 2016). Departments and companies that have been less successful in diversifying have entrenched elements that make diversifying challenging (e.g., difficult personalities; Stewart et al., 2016). Effective cultural change requires attending both to factors that encourage change and those that are constraining the ability to make change (Lewin, 1952).

Cultural change is most effective when these multiple levels of culture are aligned and change is addressed in a systemic fashion (Gelfand, Nishii, Raver, & Schneider, 2007; Hamedani & Markus, 2019; Markus & Conner, 2014). Leaders who implement mismatched change—for instance, their stated values conflict with the culture on the ground—send mixed messages, making effective change more challenging (Bowen & Ostroff, 2004).

Organizational change can also occur outside of leadership activities. Change can originate from subcultures or individuals in a more bottom-up fashion (Meyerson & Martin, 1987) or from people or forces external to the organization (Stewart & Valian, 2018; Sloan, 2009). Efforts to change masculine defaults could be conducted by members or external stakeholders.

A Different Route to Change?

What is considered masculine and feminine is dynamic and changes over time (Twenge, 1997). Could changing women's behaviors to fit masculine defaults be one way to make these defaults no longer masculine? Perhaps training women to be- have in a more masculine manner (Sandberg, 2013) or changing defaults such that more women engage in these masculine behaviors (He, Kang, & Lacetera, 2019) can shift what is currently considered masculine and eliminate some masculine defaults. Indeed, characteristics like dominance and aggressiveness, once considered highly masculine, have been increasingly associated with women (Diekman & Eagly, 2000; Twenge, 1997).

At the same time, even with women's large-scale participation in the labor market during and after WWII, gender roles remain largely intact (Diekman, Goodfriend, & Goodwin, 2004). Even in the most gender-equal societies, women tend to rate themselves as more agreeable and warm while men rate themselves as more assertive (Costa, Terracciano, & McCrae, 2001). Training the few women in majority-male fields to behave in a more masculine manner might not be sufficient to flip or neutralize gender roles. Moreover, asking women to change themselves maintains masculine behaviors as preferred when other less masculine behaviors may actually be better for the organization and for society. The best way to eliminate masculine defaults and their impact may not be to train the women in majority-male fields and occupations to behave in a more masculine manner.

Part 6: Challenges to Addressing Masculine Defaults

Below we discuss five possible challenges and sources of resistance to addressing masculine defaults: whether removing masculine defaults compromises organizational performance, the extent to which masculine defaults attend to intersectionality with other identities, whether cultural changes will be resisted, whether cultural balancing will deter men, and whether cutural changes will end up maintaining the status quo.

Will Removing Masculine Defaults Compromise Organizational Performance?

A potential source of resistance to addressing masculine defaults is a belief that addressing them will compromise performance or otherwise lead to worse employee outcomes (e.g., Damore, 2017). This article calls for research that investigates what happens when masculine defaults are removed or balanced with characteristics and behaviors that are more commonly associated with the female gender role. In the meantime, we review indirect evidence that suggests that less masculine cultures do not hinder organizational performance or otherwise cause negative outcomes compared with more masculine cultures.

Masculinity at the country level is unrelated to national wealth (Hofstede, 1998), suggesting that masculine cultures are not any more financially successful than feminine cultures. Indeed, valuing masculine characteristics and behaviors can detract from identifying who is truly competent and getting all ideas on the table. For example, favoring displays of confidence, more typical of men than women on stereotypically masculine tasks (Bench, Lench, Liew, Miner, & Flores, 2015; Cooper et al., 2018; Hügelschäfer & Achtziger, 2014), prevents work teams from identifying the most competent team members (C. Anderson et al., 2012) and best leaders (Chamorro-Premuzic, 2016). Confidence may also lead to other negative consequences, such as a rigid adherence to an inaccurate hypothesis. In the Gates Foundation study mentioned earlier in which reviewers were more likely to fund proposals with broad language and thus disadvantaged women, researchers found that the use of broad language did not predict greater scientific output. In fact, funded women had more subsequent scientific output than funded men (Kolev et al., 2019). In philosophy, the commonly employed adversarial style to evaluate arguments, in which scholars subject arguments to the "strongest or most extreme opposition," has been criticized as not only disadvantaging many women but also results in missing good arguments and accepting bad ones (Moulton, 1983, p. 153; see also Haslanger, 2008). In another example, standard firefighting practice in several countries, such as Sweden and Britain, includes the use of three-dimensional (3D) fog cooling technology, in which short bursts of tiny droplets are sprayed to cool down the gases generated by fires (Liu, Kashef, Lougheed, & Benichou, 2002). This technology is more effective than standard straight stream techniques in controlling steadily growing fires (Liu et al., 2002). However, 3D fire protection is not standard in the U.S. in part because this more "delicate" approach is at odds with the American image of firefighting in which firefighters "unspool massive hoses, kick down doors, and spray the hell out of anything that looks like a flame" (J. Davis, 2005). The existence of masculine defaults may prevent organizations from performing to their full potential.

Characteristics associated with the female gender role, such as relational skills, have become increasingly important in majority-male fields. Demand for occupations requiring relational skills—defined as adjusting to others, bringing people together, being

persuasive, and being sensitive to others' reactions— has increased (Deming, 2017; G. M. Cortes, Jaimovich, & Siu, 2018). Demand for occupations requiring high quantitative but low social skills has decreased in recent decades (Deming, 2017).

There are several examples of feminine defaults improving organizational performance. Collective intelligence, the ability of a team to perform a variety of tasks (e.g., brainstorming, estimation), is a feminine default because it is correlated with social sensitivity, conversational turntaking, and having women on a team (Woolley et al., 2010; Y. J. Kim et al., 2017). A team's collective intelligence is a stronger predictor of team performance than team members' average or maximum intelligence scores (Woolley, Chabris, Pentland, Hashmi, & Malone, 2010). Shifting to a warm and validating style, more common among women than men, helps to bring out women's expertise in group discussions on politics (Karpowitz & Mendelberg, 2014). In medicine, hospitals that intentionally transformed their cultures by creating more positive learning environments, improving psychological safety (perceiving that one can act without fear of punishment), and increasing support from leaders saw drops in mortality among patients who had heart attacks (Curry et al., 2018). Organizations with masculine defaults may be missing out on opportunities to improve their performance by promoting feminine defaults.

Even though good leadership is commonly stereotyped as requiring masculine characteristics (Belmi & Laurin, 2016; Chou, 2018; Koenig, Eagly, Mitchell, & Ristikari, 2011), leadership styles that are more common among women than men predict greater leadership effectiveness, while leadership styles that are more common among men than women have no relationship or a negative relationship with leadership effectiveness (Eagly, Johannesen-Schmidt, & Van Engen, 2003). A meta-analysis revealed that women are more likely than men to exhibit qualities that motivate respect and pride, demonstrate optimism about goals, examine new perspectives, focus on individual needs and development of followers, and provide rewards for good performance—all behaviors that generally predict leadership effectiveness (Eagly et al., 2003). Men are more likely than women to wait until problems become severe, attend to mistakes and failures, and exhibit frequent absence and lack of involvement— behaviors that are not generally associated with leadership effectiveness (Eagly et al., 2003). Feminine defaults in leadership may lead to better team outcomes.

What should we do if research reveals that cultural balancing results in less successful organizations? Though we believe that cultural balancing will help (and not hinder) performance, there is not yet sufficient empirical evidence to draw this conclusion. Organizations are not required to change their cultures to be more welcoming to women. But people should then not be surprised when women make the logical choice to opt into other organizations with lower actual and perceived barriers to their entry and success. Organizations could individually or collectively consider whether efforts to diversify might be worth sacrifices to their bottom lines.

Masculine defaults may also be bad for society in other ways besides performance. At the country level, wealthy countries that score higher on masculinity (e.g., the U.S.) have greater national depression levels (Arrindell, Steptoe, & Wardle, 2003) and higher self-assessed fears (Arrindell et al., 2004) than wealthy countries that score higher on femininity (e.g., Nordic countries). Working long hours in competitive and inflexible environments interferes with the well-being and job engagement of employees (Glick et al., 2018; Grzywacz, Carlson, & Shulkin, 2008; Kelly, Moen, & Tranby, 2011; O'Connor & Cech, 2018; but see Matos, O'Neill, & Lei, 2018). Employees who prioritize family equally to or over work exhibit better mental health, job satisfaction, and satisfaction with their lives than employees who prioritize work over family (Bond & Galinsky, 2009). Counteracting masculine defaults may have many benefits for society.

Returning to our earlier analogy on accessibility, private organizations are not required by law to make their facilities accessible to people with disabilities (ADA, 1990). However, not creating accessible environments because it is too expensive, difficult, or time-consuming creates both a physical and symbolic obstacle for people with disabilities. Not addressing masculine defaults creates similar obstacles for many women. If individual organizations are unable or unwilling to address masculine defaults, another option is using legislation or otherwise incentivizing organizations to create inclusive cultures.

Do Masculine Defaults Adequately Attend to Intersectionality?

Our concept of masculine defaults is adaptable across cultures, identities, and time periods as long as gender role content for a given population is known. For example, in cultural contexts in which the male gender role prescribes being communal to a greater extent than the female gender role (Cuddy et al., 2015), valuing communal characteristics and behaviors constitutes a masculine default. By defining masculine defaults as aspects of the culture that are associated with the male gender role, we can account for the intersection of gender with multiple identities to the extent that the specific content of gender roles is known.

At the same time, applicability of the masculine defaults construct is limited by the research that exists on gender role content across different identities and cultures. Most of the published research to date on gender roles has been conducted on majority White American heterosexual samples and has not taken into account experiences of other groups and intersectional power dynamics (Crenshaw, 1991; McCormick-Huhn, Warner, Settles, & Shields, 2019; Sidanius, Hudson, Davis, & Bergh, 2018). More work is needed to understand how masculine defaults may be experienced and negotiated differently by women of color, women of different social classes, and LGBT individuals (and their intersections) compared with straight White women from higher socioeconomic backgrounds.

Within women of color, different groups are stereotyped differently and have different experiences (Zou & Cheryan, 2017). For instance, studies using predominantly White participants have found Black women to be perceived as more masculine than Asian American women (E. V. Hall, Galinsky, & Phillips, 2015; Galinsky, Hall, & Cuddy, 2013; K. L. Johnson, Freeman, & Pauker, 2012). Masculine defaults may be less challenging for Black women because those in power grant them greater leeway to enact masculine behaviors (e.g., behaving in a dominant manner; E. V. Hall et al., 2015; Livingston et al., 2012). Research on Asian American women is mixed. Asian American women report greater pressure to behave consistently with feminine prescriptions than Latinas, Black women, and White women (J. Williams et al.,

2016). Yet Asian American women also rate themselves as more assertive and negotiate for higher salaries than White women (Toosi et al., 2019). More work is needed on how masculine defaults differ for women with different racial identities.

Race may also shape how men interact with masculine defaults (but see Rudman & Mescher, 2013, for an example of no interaction with race). Black men may be more constrained than White men by masculine defaults because their masculine characteristics may be perceived by Whites as threatening (Hester & Gray, 2018; Kahn, Goff, & Glaser, 2016). Asian American men may be more concerned than White men about encountering backlash for engaging in masculine behaviors (Toosi et al., 2019) because they are perceived as more feminine (E. V. Hall et al., 2015; Galinsky et al., 2013; K. L. Johnson et al., 2012). Understanding and remedying masculine defaults will also require more research on groups that have been largely overlooked in work to date on gender, including groups based on ethnicity, socioeconomic status, and LGBTQ identities.

Will Cultural Changes Be Resisted?

Culture change is notoriously difficult and can be threatening to those in power or those who have benefited from the status quo. The status quo can also be defended and justified by those who are disadvantaged by it (Jost, Banaji, & Nosek, 2004). Increasing women's representation can be resisted for multiple reasons, including beliefs that gains for women come at a cost to men (Wilkins, Wellman, Babbitt, Toosi, & Schad, 2015), concerns by men that they would no longer be considered the prototypical gender in an organization (Danbold & Huo, 2017), and beliefs that prodiversity initiatives are unfair to White men (Dover, Major, & Kaiser, 2015; Plaut, Garnett, Buffardi, & Sanchez-Burks, 2011). Affirming values that are important to them (Wilkins & Kaiser, 2014), introducing cultural changes as short-term experiments (Ely & Meyerson, 2000), and framing the problem of gender gaps in a less threatening manner (Lowery & Wout, 2010) may help to reduce resistance.

Organizational members may also resist changing their own practices. Managers in the U.S. who believe their autonomy is being restricted are more resistant to making changes than those who believe they are voluntarily engaging in change efforts (Dobbin & Kalev, 2018). Not forcing employees to make changes is more effective in increasing the share of women in an organization than usurping their choice (Dobbin & Kalev, 2016).

Prominent American ideologies, such as individualism, may make it difficult to acknowledge that change should be made to broader cultures instead of primarily empowering women (J. Y. Kim, Fitzsimons, & Kay, 2018). Current beliefs that women do not face as much bias as they used to (Bosson, Vandello, Michniewicz, & Lenes, 2012) and people's desires to be gender blind, often thought to be a progressive policy that promotes equality (A. E. Martin & Phillips, 2017; Koenig & Richeson, 2010), may also make masculine defaults difficult to see.

One possible benefit that changing masculine defaults has over other diversity efforts (e.g., diversity training) is that some masculine defaults can be identified and changed without making the goal of diversifying explicit to audiences that may be resistant. When Harvey Mudd changed their introductory course curriculum or when Zymergen replaced whiteboard interviews, they could pitch these changes as broadly beneficial to the organization. A broader framing may decrease men's feelings of threat and also encourage their engagement with these efforts. Using race as an example, framing multiculturalism as including Whites increases their support for multicultural initiatives compared with framing multiculturalism as narrower and exclusive of Whites (Stevens, Plaut, & Sanchez-Burks, 2008). Having managers voluntarily participate in programs to recruit a broader sample encourages engagement instead of backlash (Dobbin & Kalev, 2016). Because masculine defaults are often seen as unrelated to gender, addressing them without making explicit the ultimate goal of diversifying might be a possible path to minimizing resistance.

Will Making Cultures Less Masculine Deter Men?

One concern is that balancing current masculine cultures may deter men. However, masculine defaults may also prevent many men from being drawn into majority-male fields and occupa- tions (e.g., Cheryan et al., 2009). Masculine defaults restrict the types of people who enter organizations and can be successful (Gaucher et al., 2011). Balancing the culture so that people do not feel they have to conform to masculine defaults may help to attract men who currently feel that they do not fit into these cultures.

Organizations with less masculine policies and environments are perceived as better by many men. Perceiving that one's organization is engaging in policies and practices to increase diversity and equity is related to job satisfaction and organizational commitment for both women and men (Hicks-Clarke & Iles, 2000). Organizations with more generous family friendly policies (e.g., parental leave) have more committed employees with lower turnover intentions and better reported work–family fit than those who work for organizations with less family friendly policies (S. L. Grover & Crooker, 1995), even if there is no personal benefit from the programs (Kelly et al., 2011). An organization-supported flexible work schedule is associated with lower employee stress and burnout for both women and men (Grzywacz et al., 2008; see also Porter & Perlow, 2009). Perceiving that one's organization allows employees to have flexible hours without compromising their future success predicts greater job satisfaction and lower turnover intentions, even among men with no caregiving responsibilities (O'Connor & Cech, 2018). Among private sector bank employees, having little work–life balance predicts greater burnout at work (Devi & Nagini, 2014). More generally, highly masculine work environments (e.g., hypercompetitive workplaces) result in lower organizational dedication and greater burnout for men as well as women (Berdahl, Cooper, Glick, Livingston, & Williams, 2018). Many men may benefit from efforts to make majority-male organizations less stereotypically masculine.

Some masculine behaviors may compromise men's effectiveness and social standing. Men who behave in a dominant manner garner less social approval than men who behave in a warm and altruistic manner (Abele & Brack, 2013; Hardy & Van Vugt, 2006). In politics, uncivil statements made by male politicians can incur considerable costs to that politician's approval ratings (Frimer & Skitka, 2018). Some masculine defaults may encourage men to engage in behaviors that have personal costs.

Will Cultural Changes End Up Maintaining the Status Quo?

Despite the best of intentions, cultural changes can be coopted and transformed to reinforce the status quo. The shift in the original disparate impact principle from Civil Rights Law over time to one that is "more individualistic, more formal, and less concerned with history and social structure" (Primus, 2003, p. 498) demonstrates how cultural changes can be reinterpreted and shifted to make change difficult. Below we discuss three concerns that may stand in the way of changing masculine defaults and how to address these concerns.

Masculine defaults will not be identified. Identification of masculine defaults is a crucial first step to addressing them. However, masculine defaults are vulnerable to being overlooked and ignored for three reasons. First, people whose values and ways of being match with the broader culture often do not notice that cultural defaults advantage them and disadvantage others (Oyserman, 2017). Second, seeing masculine defaults requires recognizing that women and men are dissimilar in their socialization and the treatment they face for appearing masculine. This recognition of gender differences may be difficult for many, particularly those who are concerned that drawing attention to difference will result in people believing that women are inherently unsuited for majority-male fields (A. E. Martin & Phillips, 2019). Third, a prominent American belief is that "inequality is primarily the product of present bad actors rather than a matter of historically embedded hierarchies" (Primus, 2003, p. 499). To see the impact of masculine defaults, one must recognize that bias can exist in cultures and not just in people's heads.

Different strategies can be employed to make the recognition and identification of masculine defaults more likely to occur. Efforts to assess cultures should be systematized as much as possible through the use of regular employee surveys and other tools, such as those discussed above, to measure masculine defaults. Making the assessment of masculine defaults part of someone's job may also help to make identification of masculine defaults more likely. Developing additional tools to identify masculine defaults is one way to get people to more easily see this form of bias and its impact.

Solutions will reinforce gender hierarchy. There are three primary ways that acknowledging and trying to remedy masculine defaults could reinforce women's disadvantage in majority-male workplaces and departments.

First, masculine defaults have the potential to be discussed in a way that exacerbates rather than counteracts gender stereotypes of women (Adams & Markus, 2004; A. E. Martin & Phillips, 2019). For example, statements such as "We should consider changing our cutthroat culture because women are less cutthroat than men" may create and perpetuate stereotypes that women do not fit into some majority-male environments. To avoid reinforcing gender stereotypes, discussions of masculine defaults should avoid homogenizing and essentializing gender. Variability within genders should be prominently acknowledged (Hanel et al., 2019). Differences between women and men on stereotypically masculine characteristics and behaviors should not be discussed in a fixed or inherent manner (e.g., Dar-Nimrod & Heine, 2006, 2011). With the above example, it may be more productive to say, "We should consider changing our cutthroat culture. Many women may find these cultures difficult because they are on average socialized to be less cutthroat than men." Finally, it may be useful to question whether these masculine characteristics and behaviors that women are seen as not having are actually objectively beneficial for one's organization (e.g., "We should consider changing our cutthroat culture because it may be hindering our ability to be the best organization we can be"). When discussing masculine defaults, care must be taken not to frame them in a way that further disadvantages women.

Second, one set of solutions that may reinforce masculine defaults is trying to change women to fit into masculine cultures. Women changing themselves to fit into majority-male organizations can be useful for women in the short-term (but see M. J. Williams & Tiedens, 2016; Rudman & Fairchild, 2004, for evidence that explicitly dominant behaviors elicit backlash against women). These strategies may allow individual women to gain power and subsequently change the system for other women. However, doing so may reinforce the current gender hierarchy in which masculine defaults are considered normative and good while reinforcing feminine characteristics and behaviors as deviant and bad (Miner et al., 2018; Valian, 2014; see also J. Y. Kim et al., 2018). For example, Google executives noticed that women were being promoted at a lower rate than men, even when they had similar qualifications (Kang, 2014). They discovered that men at Google were more likely to nominate themselves for promotions than women. Their promotions policy contained a masculine default because promotions depended on a stereotypically masculine behavior (i.e., nominating oneself for advancement). Google addressed this problem with an individual-level intervention by e-mailing women at Google and reminding them to self-promote. Though this was an effective fix because more women subsequently nominated themselves for promotions, this intervention was a missed opportunity to reflect on where self-promotion is common or valued on various levels of their culture (e.g., during recruiting, in meeting dynamics). Their e-mail intervention also strengthened a masculine default rather than counteracted it. Though having women adapt themselves to masculine defaults can be useful at times, care must be taken not to perpetuate cultures that ultimately disadvantage women.

Third, policies and practices to balance cultures may be transformed or implemented in such a way to benefit those in power and reinforce the very hierarchies that they were designed to address. For example, the implementation of family friendly policies may help get women in the door, but these policies may also prevent them from advancing at the same rate as men because the organization continues to value and reward people who put in more hours (Antecol et al., 2016; Blau & Kahn, 2013). In another example, the Japanese volunteer firefighting organizations that added feminine defaults (discussed earlier) segregate women and men firefighters into different types of firefighting jobs, with the men putting out the fires and the women focusing more on fire prevention and community outreach (Haddad, 2010). Adding feminine defaults but then segregating women to those parts of the organization will not achieve equality if the men's jobs have higher status and higher pay. Addressing masculine defaults must be done in a manner that reduces disparities rather than reinforces them.

Culture change is too difficult. An additional concern is that cultural change will be difficult to implement, especially in large

organizations. Making changes to multiple levels of culture may seem overwhelming, especially if one does not have the power to shape all levels of the organization. Moreover, organizations consist of different units with different cultures, functions, and goals (J. Martin, 2002; Nishii, 2013). Addressing masculine defaults in our local environments can be an effective way to draw more women into majority-male fields and occupations (e.g., Alvarado et al., 2012). Microcultures such as labs influence the interest and motivation of their members to continue in science (Thoman, Muragishi, & Smith, 2017).

Cultural changes may be difficult to maintain without structural changes and constant vigilance. In medicine, the surgical safety checklist (Gawande, 2010) has now been adopted by the majority of surgical providers around the world ("WHO Surgical Safety Checklist," 2009). These checklists helped to reduce stereotypically masculine practices such as surgical confidence (e.g., by requiring everyone to double check patients' names and procedures; Gawande, 2010). The introduction of checklists improves perceptions of respect and communication among surgical teams (Molina et al., 2016), and when implemented well, improves patient outcomes (e.g., Haugen et al., 2019). Other efforts to systemize cultural change could include regular measurement of masculine defaults and accountability mechanisms for keeping balanced cultures in place. Culture change may be difficult to maintain without constant attention. In the words of Angela Davis, "You have to act as if it were possible to radically transform the world. And you have to do it all the time" (A. Davis, 2014).

Conclusion

We bring together feminist theories with empirical work in psychology to define and describe a foundational form of gender bias that precludes the full participation and success of women in majority-male fields and occupations. Masculine defaults exist when characteristics and behaviors associated with the male gender role are valued, rewarded, or regarded as standard, normal, neutral, or necessary aspects of a given culture. Masculine defaults disadvantage more women than men, even as many of them seem objectively gender neutral. Increasing the participation of women requires a recognition of the ways in which masculine defaults presently operate and sustained efforts to counteract these masculine defaults on multiple levels of organizational culture.

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