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Why does workplace gender diversity matter?

Justice, organizational benefits, and policy

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Abstract

Why does workplace gender diversity matter? Here, we provide a review of the literature on both justice-based and organizational benefits of workplace gender diversity that, importantly, is informed by evidence regarding sex differences and their relationship with vocational behaviour and outcomes. This review indicates that the sexes are neither distinctly different, nor so similar as to be fungible. Justice-based gains of workplace gender diversity include that it may cause less sex discrimination, and may combat androcentrism in products and services. We then consider potential instrumental benefits of workplace gender diversity to organizations, including for team and firm performance, innovation, occupational well-being, and corporate governance. The evidence of positive association is currently strongest for occupational well-being and governance. We recommend that policy makers ground gender diversity initiatives in this comprehensive and evidence-based understanding of the benefits of workplace gender diversity.

Why does workplace gender diversity matter?

Justice, organizational benefits, and policy

Why does workplace gender diversity matter? This may seem like an obsolete question, given the ubiquity of platitudes regarding the importance of 'diversity and inclusion.' But in fact, workplace gender diversity (WGD) is a complicated and contested topic. Misunderstandings and disagreements regarding the nature of sex differences and their relevance in the workplace, neglect of the full breadth of reasons for striving to achieve greater WGD, and simplistic expectations of likely organizational benefits are commonplace.

Even though, globally, there continue to be substantially unequal gender ratios in workplaces, both horizontally (i.e., across industries and sectors) and vertically (i.e., in leadership positions) (OECD, 2017; Sojo, Wood, Wood, & Wheeler, 2016), gender diversity initiatives are often controversial, giving rise to concerns that they undermine merit, and lead to members of dominant groups being treated unfairly (see Dover, Kaiser, & Major, *this issue*). Moreover, it is sometimes claimed that there are natural limits to WGD, given purported inherent average differences in the kinds of occupations or roles to which women and men are drawn or suited (e.g., Baron-Cohen, 2003; Hoffman & Yoeli, 2013).

There are also concerns about how the case for WGD is made. This is sometimes founded on an inaccurate view of women as fundamentally different to men in how they think, feel, and behave (e.g., Annis & Nesbitt, 2017). Moreover, there is growing concern that a focus on instrumental 'business case' arguments makes WGD contingent on business benefits from women's inclusion that are not always realistic or empirically supported, and that such arguments may be less effective in promoting change than is sometimes assumed (e.g., Dover et al., *this issue*; Eagly, 2016; Fine & Sojo, 2019; Sinclair, 2006).

Successful navigation of these complications requires familiarity with the nature of sex differences and their relationship (if any) with vocational behavior and outcomes, and a

broad, evidence-based understanding of both the reasons to make efforts to achieve greater WGD and the likely benefits should those efforts be successful. As such, our review is presented in four sections. We begin with an overview of sex differences and similarities, and their relation to vocational behavior and outcomes. In the second section, we discuss the potential justice-based gains of WGD: that it does not simply reflect reduced sex discrimination, but may cause less such discrimination, and may combat androcentrism in products and services. In the third section, we consider potential instrumental benefits to organizations of WGD: in particular, for team and firm performance, innovation, occupational well-being, and corporate governance. This review points to stronger evidence for benefits in the latter two categories. In the final section, we explore the implications for policy, and for gender diversity management strategies, in greater depth.

Sex differences and similarities

In this contribution, we focus specifically on gender diversity in relation to sex categories (male or female). These categories can also intersect with a transgender identity (which in some jurisdictions is an additional protected attribute within discrimination law). However, the "unique challenges and barriers" faced by transgender employees mean that "diversity management frameworks need to integrate gender identity diversity as a core dimension" (Ozturk & Tatli, 2016, p. 784) rather than fitting it into pre-existing ones; an important task that is beyond the scope of this contribution.

To make sense of differences and similarities between the sexes, it is useful to attend to questions of size, gender ratios at the 'right hand tails' of distributions (that is, at the highest level of expression of a trait), and patterns among multiple attributes (for a comprehensive summary of approaches to quantifying sex differences, see Del Giudice, 2019). It is also important to note that gendered behavior is often not fixed, but varies across context.

One common way to quantify size is the degree of overlap between male and female distributions. We start with *physical* attributes. The most fundamental physical difference between the sexes is that only females can become pregnant, which continues to have significant employment repercussions for them. For example, a national review by the Australian Human Rights Commission (2014) found that half of mothers surveyed reported discrimination during their pregnancy, parental leave or return to work. Of these women, nearly a third resigned or looked for a job elsewhere, and 18 per cent lost their jobs. Employers may also be reluctant to hire women of childbearing age. For example, a UK survey of about five hundred managers of small and medium-sized businesses found that nearly a third did, or had, avoided hiring a woman 'at risk' of starting a family (McCoogan, 2018). To the extent that fathers continue to take a more active caring role, including the use of parental leave and part-time work, we might expect these differential sex-based outcomes to reduce over time.

Women and men also diverge with respect to the development of secondary sexual characteristics. Although these physical differences are less distinctive than the primary reproductive characteristics, they are still large in size. Importantly, these physical differences tend to 'go together'. For example, knowing an individual has a 'masculine' score on an attribute such as height, shoulder breadth, and waist-to-hip ratio, or jumping and throwing ability, is a reliable sign that they will be masculine on the other attributes, and that they are male (Carothers & Reis, 2012). These physical differences have implications for work that involves high levels of upper body strength (Eagly & Wood, 1999). However, in some cases, these implications may be due to equipment (e.g., bags of concrete) being designed for the typical male body rather than female ones (Criado-Perez, 2019). It should also be noted that caring work—typically done by women—can require considerable physical strength. Moreover, occupational health and safety recommendations seek to reduce reliance

on physical strength as a health promotion and injury prevention measure (WorkSafe Victoria, 2018). As such, these physical sex differences may be of diminishing relevance in modern, industrialized workplaces.

Turning now to sex differences in *psychological* attributes, these often show a different pattern and shape to physical differences. First, particularly when it comes to work-relevant attributes, they are often quite modest in size. For example, in her synthesis of meta-analyses of sex differences in cognition, communication, social and personality traits, and psychological well-being, Hyde (2005) found that more than three quarters of the sex differences were so small that, if you chose a woman and man at random, the woman's score would be more 'masculine' than the man's (or *vice versa*) at least 40 per cent of the time. Meta-analyses find similarly small sex differences in: leadership style (Eagly & Johannesen-Schmidt, 2001); favoring ethical business practices (Franke, Crown, & Spake, 1997; Kish-Gephart, Harrison, & Treviño, 2010); and in both 'masculine' values (such as interest in social status, prestige, control and dominance, and personal success); and in 'feminine' caring values (Schwartz & Rubel, 2005). Less often discussed are sex differences in workplace perceptions that may be more substantial. For example, a Chief Executive Women survey of more than 800 members of the Australian business community found that 87% of women but only 69% of men thought that achieving gender parity was a critical strategic business imperative for their firm, and only 15% of women – compared to 53% of men – thought that qualified men and women had equal promotion opportunities to senior management and executive levels (Sanders et al., 2011).

Some work-related attitudes show more substantial differences. Often raised as an explanation of *lack* of WGD in certain sectors (e.g., technology and engineering versus nursing and social work), is the large sex difference in interest in 'people' versus 'things', based on a prominent model of vocational interests (Holland, 1997); more than 80 per cent of

men report greater interest in ‘things’ than the average woman, who is much more interested in ‘people’-related activities than the average man (Su, Rounds & Armstrong, 2009). However, it is unclear to what extent the labels ‘thing’ and ‘people’ reflect common understanding of their meaning. For example, as Valian (2014) points out, the three subscales that make up the ‘thing’ dimension require such a capacious interpretation of ‘thing’ – one that includes the global economy alongside tennis – that the term becomes meaningless. Valian (2014) further suggests that gender schemas have influenced the construction of items. For example, items of the ‘realistic’ subscale (that contributes the largest sex difference to the ‘thing’ dimension) have no obvious internal conceptual coherence even though the items cluster together. Valian (2014, p. 226) points out that “the most likely reason [for this] is that there is an underlying concept that indirectly ties those items together. … In this case, the underlying theme is ‘activities that men have tended to spend more time at than women have.’” Valian (2014) also points out that interest categories are not bipolar, with about 55 per cent of people expressing interest in both ‘people’ and ‘things’.

Similarly, a well-known self-report measure of interest and skill in ‘empathizing’ (i.e., understanding the thoughts and feelings of others) and ‘systemizing’ (i.e., understanding the input-function-output relations of any kind of system) found very weak correlations between scores on the two scales (Greenberg, Warrier, Allison, & Baron-Cohen, 2018). That is, a high systemizing score does not imply a low empathizing score, and vice versa. Crucially, sex differences on both measures are modest; for instance, a man chosen at random would score higher on empathizing than a randomly chosen woman about four times out of ten.

Sex differences have also sometimes been reported in the ‘tails’ of distributions, with respect to the ratio of males to females at the top percentiles of expression or ability (sometimes referred to as ‘greater male variance’). This difference has been studied most extensively in relation to ability in mathematics and science, and has sometimes been called

on to explain greater male representation in STEM (i.e., science, technology, engineering and mathematics) occupations (e.g., Strumia, in press). A recent meta-analysis of the educational scores of more than 1.6 million students identified a wider spread from the mean (variance) in males, with more males than females being among both the very lowest and very highest scorers (O'Dea et al., 2018). However, other research has found that such sex differences vary by ethnicity. Thus, among white North American eleventh graders, slightly more boys than girls scored at the ninety-ninth percentile of mathematical ability, but among Asian American/Pacific Islander eleventh graders, slightly more girls than boys scored at that level (Hyde et al., 2008).

While research has traditionally focused on quantifying sex differences in single attributes, interest has recently turned to the insights gained when multiple variables are considered simultaneously (del Giudice, 2019; Joel et al., 2015). For example, a statistical technique that combines multiple personality variables gives rise to much lower estimates of overlap between the sexes, as well as greatly improved ability to predict whether someone is male or female on the basis of their combined scores (see del Giudice, 2019). The appropriateness of this multivariate measurement of difference, as well as its conceptual meaning, remains a matter of debate (e.g., del Giudice, 2019; Hyde, 2014; Stewart-Williams & Thomas, 2013; see also contradictory findings by Carothers & Reis, 2012). Importantly, the predictive accuracy of multivariate measures does not apply in reverse: that is, knowing whether someone is male or female does not enable you to predict what combination of attributes he or she has (Joel et al., 2015). Yet, it is this combination that indicates what someone 'is like', as well as their similarity or difference to others (see discussion of this point in relation to sex differences in the brain in Joel, Garcia-Falgueras & Swaab, 2019).

Another important feature of sex differences in behavior is that they are not necessarily fixed, but can be responsive to situation and context. This is key, since

organizational culture, including formal and informal norms and incentives, clearly influences behavior. For example, Kennedy, Kray and Ku (2017) found that, on average, women are less willing to behave unethically in negotiations. However, the introduction of strong financial incentives diminished this difference. In addition, the gender ratio of a group is a contextual factor that has been found to influence behavior (Farh et al., 2019). For example, a richly detailed analysis of these contextual effects was provided by a series of studies of the impact of the gender ratio of political decision-making groups, as well as the decision rule used (consensus *versus* majority rules; Karpowitz & Mendelberg, 2014). Differences between women and men in political views are generally small, with women in the United States being, on average, more supportive of assisting vulnerable groups (Eagly, 2013). However, as women became more powerful within a decision-making group (both in terms of representation and decision rule), the content and character of *men's* contributions changed in a more 'feminine' direction, ultimately leading to decisions that showed more generosity to those who are badly off (Karpowitz & Mendelberg, 2014).

Sex Differences and Similarities: Implications. While there are average sex differences in behavioral attributes, the evidence cautions against making generalizations on the basis of sex: about what an individual is like because they are male or female; about 'what males are like', or 'what females are like'; and about how purported sex differences relate to suitability for different kinds of work. This is important for policy makers to bear in mind when confronted with arguments that some occupational inequalities are ultimately intractable because they reflect the expression of women's and men's alleged inherently different preferences or abilities (see table 1).

It is certainly possible that average sex differences, whatever their origins and degree of malleability, may contribute to sex-linked disparities in occupational outcomes. Occupations requiring significant upper body strength are the most obvious example,

although even statistically small differences may be important, or accumulate in effect over time (del Giudice, 2019). However, claims of this kind require great caution. For most occupations, a variety of combinations of attributes allow for success in the role: while some of those attributes may be more common in men, a similar number may be more common in women (see, for example, discussion of sex differences in personality traits relevant to leadership emergence and effectiveness, in Eagly & Carli, 2007). Not only do we rarely, if ever, know what the possible genuinely merit-worthy combinations of attributes are, we also have a tendency to assume that attributes we perceive in men are what are necessary for success in a male-typical role, and vice versa for a female-typical role (Uhlmann & Cohen, 2005). Thus, any claim that men (or women) are more likely to be suited to a particular role requires detailed examination (and defending) on a case-by-case basis. For example, O'Dea et al. (2018) found that the sex difference in variance was actually *greater* in non-STEM subjects than in STEM scores, contrary to assumptions that it is greater male variance that explains the gender gap in STEM occupations.

Nor is existing sex-segregation of occupations, which can be greater in rich, industrialized nations that also score higher on gender equality indices (Charles, 2011; Stoet & Geary, 2018), strongly indicative that efforts to desegregate are pointless. This is because the gender-typing of occupations may have greater influence on career decision-making in 'post-materialist' countries, in which occupational choices are a form of "identity construction" and "self-affirmation" (Cech, 2013; Charles, 2011, p. 365). Notably, gender gaps in science interest and self-efficacy are also greater in countries scoring higher on gender equality indices (Stoet & Geary, 2018).

These subtleties and complexities of sex differences do not mean, however, that gender ratios are irrelevant to organizational functioning. Potentially, gender ratios within a large enough group could make a difference to the average expression of gendered attributes.

Moreover, a shift toward more gender balance may impact people's workplace behavior in general, via changed group dynamics and norms, or expanded priorities and agendas (we explore the evidence for, and implications of, this further below). With these conclusions in mind, we turn to our discussion of justice-related arguments for WGD.

Justice and Workplace Gender Diversity

The wrongfulness of sex discrimination in the workplace

Our review of the association between WGD and justice begins with an account of why employment sex discrimination is wrong – a surprisingly complex question (see Lippert-Rasmussen, 2017). The vast majority of UN Member States have enacted sex discrimination legislation relating to employment (Jain, Sloane, Horwitz, Taggar, & Weiner, 2003; WORLD Policy Analysis Center, 2017) and embrace gender equality as a Sustainable Development Goal (United Nations, 2015), reflecting the widely shared status of sex as one of several protected characteristics (others include race and sexual orientation) that have in common historic, and continuing, political, sociocultural and/or material disadvantage (Khaitan, 2015; OECD, 2019). While the underlying purpose of discrimination law is not entirely settled among scholars, one persuasive position is that, in the case of sex, it is to reduce (and ultimately eliminate) female political, social, and material disadvantages (Khaitan, 2015).

While discrimination law covers many domains of life (e.g., the provision of state and commercial goods and services), our focus here is on employment, a source of many valuable goods. Most obviously, it is the means of making a livelihood. Yet it is not only a means to that end. Gheaus and Herzog (2016) argue that there are four main ways in which work is valuable. First, work allows people to attain excellence, by developing their skills, and through accomplishments including knowledge, technical achievements, and beauty. Second, work allows people to make a social contribution, and through that contribution to find both meaning and significance. Third, work allows people to experience community. Work is

something people do together, it is cooperative and sociable, and a source of significant interpersonal relationships. These dimensions of value accord well with findings in support of self-determination theory; people flourish to the extent that they fulfill inherent needs for competence, autonomy, and relatedness (Ryan & Deci, 2000). Fourth, work allows people to gain social recognition, either directly or through their achievements, social contributions, or reputation of their workplace or industry, in addition to financial rewards such as salary.

Meaningful work is not restricted to the formal labor market; nor does paid employment guarantee that work will be meaningful. However, in contemporary Western societies, important expertise development and social contribution typically require participation in the paid labor market. In her seminal book, *The Feminine Mystique*, Betty Friedan argued that women must obtain paid work outside the home in order to ease their discontent: "a job that she can take seriously as part of a life plan, work in which she can grow as part of society" (Friedan, 1963/2013, p. 345). Given the way society is currently organized, with most of these goods being realized inside paid work rather than outside of it, "justice in the labour market requires a fair distribution of people to realize [these goods] *within their paid work*" (Gheaus & Herzog, 2016, p. 80).

Employment is also a particularly important site of focus because this is the venue for most public positions of power. Thus, accounts of why discrimination is unethical sometimes point to how it historically "concentrated privilege and the public power … in the hands of a few" and as such led to "distortion of the institutions necessary to sustain a legitimate, well-functioning democracy … [these include] the governance of organs of the state, but also include schools, and universities, and the economic institutions that exert enough power to govern, in effect, social life and human civilization" (Suk, 2017, p. 401). That is, a second important reason that non-discrimination in employment matters is because it is the route by

which previously excluded groups can contribute to the shaping and leading of socially important institutions.

Finally, striving toward equal employment opportunity can also contribute to the reduction of systemic disadvantages among other (or intersecting) protected groups (e.g., ethnic minorities, older workers).

The wrongfulness of sex discrimination in the workplace: Implications. Ensuring equal access to the labor market and leadership positions is important for two main reasons. It reduces barriers to women accessing the many goods of paid work. (For the inverse argument, that men should have equal access to the goods of unpaid communal work and activities, see Meeussen et al., *this issue*). In addition, it makes an important contribution to reducing the broader political, socio-cultural and material disadvantages women face, in part by giving women greater influence in high-level decision-making. Workplaces cannot, on their own, solve complex, multi-caused social problems of inequality. However, the existence of discrimination law reflects a societal expectation that organizations play their part, along with other institutions, in contributing to this goal. Workplace sex discrimination is wrong because it undermines this goal.

For policy makers, these points offer important perspectives on two common tendencies in diversity discussions. The first is a tendency for organizations to endorse broader definitions of diversity beyond legally protected attributes (Edelman, Fuller & Mara-Drita, 2000; see discussion in Dover et al., *this issue*). For example, a recent diversity report by a major international consultancy firm included *prior experience, education /training / qualifications, thinking style* and *personality* among its dimensions of diversity (Mercer, 2019). While there may be some advantages to this broader framing of diversity, there are also reasons to be concerned that it has a detrimental impact on attention to legally protected attributes (e.g., Dover et al., *this issue;* Edelman et al., 2000; Trawalter, Driskell & Davidson,

2016). It's therefore important that the ethical foundation of sex discrimination law remains visible and acknowledged in related policies and communications.

Second, the foregoing discussion of why sex discrimination is unethical brings greater clarity to concerns about so-called 'reverse discrimination', a term which can misleadingly imply equivalent moral wrongness to paradigmatic forms of discrimination (e.g., Khaitan, 2015; Suk, 2017). This overlooks that the moral wrongness of discrimination based on a protected personal characteristic such as sex (or race) lies not just in the harm to a particular individual, but also in its contribution to the systemic disadvantage of a protected group.

From a justice-based perspective, then, the goal for policy makers is to reduce workplace sex discrimination, and (in part thereby) reduce female political, socio-cultural and /or material disadvantage. Below, we present evidence and arguments that WGD is important for achieving both of these goals. First, we draw on accounts of why sex discrimination occurs to explore the idea that WGD is not just an *effect* of reduced sex discrimination but may also be a *cause* of it. We then consider the idea that greater gender balance in leadership helps reduce female disadvantage due to androcentrism in products and services.

WGD and Sex Discrimination

Legal systems in liberal democratic jurisdictions typically recognize three forms of sex discrimination (Khaitan, 2015): direct discrimination, indirect discrimination, and sex-based harassment. Importantly, in its legal understanding, the term 'discrimination' does not assume intention. *Direct discrimination* refers to unfavorable, or less favorable, treatment due to being a member of the protected group (e.g., reluctance to employ mothers or women of childbearing age are forms of direct discrimination). *Indirect discrimination* refers to a test, policy or practice that has a disproportionate or unjustifiable impact on a protected group. For example, any employment, promotion or training opportunity that requires uninterrupted service or full-time employment will systematically disadvantage females, who are the ones

who physically give birth and are more likely to take (or be entitled to) parental leave. *Sex-based harassment* refers to abusive behaviors that relate to a person's sex. This includes behaviors that express hostile or derogatory attitudes towards women, as well as unwanted sexual attention and sexual coercion (Fitzgerald, Swan & Magley, 1997).

Why do these three forms of sex discrimination occur? Social identity theory (Tajfel & Turner, 1986), the 'lack of fit' model (Heilman, 2012), role incongruity theory (Eagly & Karu, 2002), and the status incongruity hypothesis (Rudman, Moss-Racusin, Phelan, & Nauts, 2012) all provide useful frameworks for understanding why and when sex discrimination occurs. According to social identity theory (Tajfel & Turner, 1986), we use salient or observable characteristics to categorize others, and sex is a readily observable characteristic that automatically triggers such categorization processes (Kulik & Bainbridge, 2006), activating gender stereotypes (Heilman, 2012). These gender stereotypes associate 'communality' (attributes of being other-regarding, relational, submissive and emotionally sensitive) with femaleness and 'agency' (attributes of achievement-focus, leadership, autonomy and rationality) with males. The 'lack of fit' model and role incongruity theory both argue that women's stereotypical qualities are regarded as incongruous with the agentic attributes assumed to be required for success in traditionally masculine roles. Thus, under certain conditions – particularly when information is ambiguous (Koch, D'Mello, & Sackett, 2015) – stereotype activation can negatively bias perceptions of women's fit with traditionally masculine roles (for review, see Heilman, 2012). Motherhood status exacerbates gender bias, with working mothers seen as less committed and competent, compared to their male counterparts (Correll, Benard, & Paik, 2007). The communal female gender stereotype also seems to contribute to a preference for women (and minority) leaders in crisis situations, with stereotypically feminine qualities assumed to be particularly well-suited to such

situations (Kulich, Ryan & Haslam, 2014; Ryan, Haslam, Hersby & Bongiorno, 2011), while white men are preferred as leaders when all is well.

The aforementioned findings point to the importance of the intersection of race in considering the effects of gender stereotypes. Although research has traditionally considered gender and racial stereotypes separately, intersectional approaches suggest that gender stereotype content varies by racial identity, and that in Western societies generic stereotypes of 'women' and 'men' most closely match those of white women and men (Ghavami & Peplau, 2012). Hall, Hall, Galinsky, and Phillips (2019) have recently proposed MOSAIC (Model Of Stereotyping Through Associated and Intersectional Categories) that hypothesizes that in Western countries the intersection of gender and race identities can lead to either an amplification (e.g., Asian women and Black men) or dilution (e.g., Asian men and Black women) of the effects of 'generic' gender stereotypes.

Gender stereotypes are not only *descriptive*, but also sometimes *prescriptive*, as traits of communality, on the one hand, and agency, on the other, are compatible with subordinate and dominant status, respectively. The status incongruity hypothesis thus proposes that gender non-conformity, by either women or men, may lead to penalties and sanctions (Rudman et al., 2012). In line with this, women are held to higher standards of communality than men in the workplace (e.g., altruistic behavior), and are perceived more negatively when they engage in agentic behavior at work (see Heilman, 2012). Indeed, women are disliked and perceived negatively merely for succeeding in traditionally masculine domains (Rudman et al., 2012). Conversely, men are judged negatively for behaving in 'communal' ways (see Meeussen et al., *this issue*), including female-typical career choices (Heilman & Wallen, 2010), communal behavior (Moss-Racusin, Phelan, & Rudman, 2010) and requesting flexible work (Rudman & Mescher, 2013).

A key interpretation of sex-based harassment is that it represents a form of social status protection that occurs in the context of a gender hierarchy that assigns higher status to males than to females (e.g., Maass, Cadinu, Guarnieri & Grasseli, 2003). Thus, people are motivated to "defend their status based on sex by derogating others' status based on sex" (Berdahl, 2007, p. 644). Drawing on a typology of social identity threats developed by Branscombe, Ellemers, Spears and Doosje (1999), Berdahl (2007) argues that one important threat to sex-based status is the blurring of sex distinctions. In line with this, both women and men who challenge sex distinctions through gender non-conformity are at especially high risk of backlash (Meeussen et al., *this issue*) that can manifest in the form of workplace sex-based harassment (Konik & Cortina, 2008) and incivility (Zurbrügg & Miner, 2016). Both low frequency but higher intensity forms of sexual harassment (such as sexual coercion) and more common but less intense forms (e.g., sexist comments) have negative effects on women's personal and occupational well-being (O'Neil, Sojo, Fileborn, Scovelle, & Milner, 2018; Sojo, Wood & Genat, 2016), as well as job and work withdrawal (Willness, Steel & Lee, 2007).

Given the hypothesized role of gender stereotypes and hierarchy in all three forms of sex discrimination, does increasing WGD – by attenuating both – help to mitigate sex discrimination? Turning first to direct discrimination, as Heilman and Caleo (2018) note, one intervention that can be expected to attenuate gender stereotypes, and the mismatch between feminine stereotypes and traditionally masculine roles, is having greater numbers of women in those roles. Similarly, role congruity theory suggests that, as women become better represented in masculine occupational roles, stereotyping of women as communal will decrease (Koenig & Eagly, 2014). Although direct evidence of mechanisms is not generally available (see discussion in Kulik & Metz, 2017), a handful of different kinds of studies support an association between greater female representation and more positive perception of

female employees. For example, women are particularly negatively perceived when they have only minimal representation, as opposed to having achieved a 'critical mass' (Heilman & Blader, 2001; Sackett, Dubois & Noe, 1991), and minimally represented women are more likely to report that their organizations are inequitable for women (King, Hebl, George & Matusik, 2010). In a large-scale study of professionals, having a female manager and a higher proportion of women in management were both related to lower overall preference for male managers, and a more androgynous stereotype of the ideal leader. Conversely, men in organizational contexts in which female managers were rare were particularly negative about female managers and feminine traits (Stoker, van der Velde & Lammers, 2012).

Firm-level studies also point to positive associations between female representation and better outcomes for women, though mediating mechanisms are unclear. For example, a meta-analysis of sex differences in job evaluations and rewards (e.g., salary, bonuses) found that sex differences in rewards were fourteen times larger than sex differences in performance. Importantly, both gaps were larger in more male-dominated occupations, and in jobs with higher complexity, and thus with greater ambiguity over performance (Joshi, Son & Roh, 2015). The only setting in which women received higher performance ratings and rewards than men were those with a high proportion of female executives. Studies also find evidence suggestive of 'trickle-down' effects from female representation at higher levels (e.g., boards) to lower levels (Matsa & Miller, 2011; Kurtulus & Tomaskovic-Devey, 2012).

Turning now to indirect discrimination, are there potential links with female representation? As some legal scholars have noted, the indirect discrimination concept "permits an interrogation of our practices, conventions and rules to see whether they meet high standards of fairness in the distribution of opportunities and benefits between various groups" (Collins & Khaitan, 2018, p. 30). A 'blindspot' here for organizations is androcentric bias, whereby (white) males are taken as the norm, and male experiences and

(stereotypically) masculine attributes are taken as more valuable and important. For example, the normative male career path – continuous, full-time work – is the gold standard against which other trajectories are judged (Moen & Roehling, 2004). Thus, an obvious respect in which the presence of women might be expected to make a difference here is in the provision of family-friendly work practices. Associations between family-friendly work and female representation have been found, but only with female managers, not female workers more generally (Bloom, Kretschmer, & Van Reenen, 2011; Ingram & Simons, 1995). These correlational data do not allow claims about causality, but one possibility is that stronger female representation in senior ranks may be necessary to push through such initiatives (Kulik & Metz, 2017). With time, the effect may be increased normalizing of the idea that family responsibilities are part of the human condition that workplaces need to accommodate.

A perhaps less obvious link between female representation and indirect discrimination concerns pay. In keeping with a gender hierarchy that imbues males and masculinity with higher status than females and femininity, analyses have shown that pay and prestige decrease as women become more numerous in a profession (Levanon, England & Allison, 2009). One way of interpreting such data is that male-dominated occupations tend to be overvalued, and/or female-dominated ones under-valued. Thus greater gender balance in those roles could correct for this indirect form of discrimination, whereby low pay disproportionately affects females.

We turn now to the third form of sex discrimination, namely, sex-based harassment. In keeping with the prediction that threats to gender distinctions will trigger sex-based harassment (Berdahl, 2007), there are links with WGD. Meta-analyses (albeit with small effect sizes) and systematic reviews indicate that sexual harassment is more prevalent in male-dominated work environments and sectors than in more gender-diverse workplaces (Ilies, Hauserman, Schwochau, & Stibal, 2003; Roberts, Sojo & Grant, 2019; Sojo et al.,

2016; Willness et al., 2007), although in population-based studies in Australia, industry gender segregation appeared to be unrelated to the prevalence of sexual harassment (Australian Human Rights Commission, 2008; 2018). Women working in traditionally masculine roles and industries are especially likely to be targets of sexist abuse (Sojo et al., 2016), and men in traditionally female occupations (e.g., nursing) suffer relatively high rates of bullying (Erikson & Einarsen, 2004). However, being part of a female-dominated work environment does not increase men's risk of being targets of harassment, and may even reduce it (Kabat-Farr & Cortina, 2014).

WGD and Sex Discrimination: Implications. The literature reviewed above points to the role of the organizational gender status quo in all forms of sex discrimination; that is, strongly sex-segregated work environments are not conducive to non-discrimination. As such, reducing horizontal and/or vertical sex-segregation may make an important contribution to ensuring equal treatment (see table 1). Sex-based targeted recruitment, preferential selection and quotas can operate as temporary circuit-breakers in these efforts (Koenig & Eagly, 2014; Pande & Topalova, 2013).

Female Leadership and Products and Services

As noted earlier, an important reason the workplace is a particularly important site of intervention for discrimination law is that it is the main venue for positions of power and influence for most industries and sectors. Since the first-wave feminist movement, scholars and activists have drawn attention to androcentric bias across a number of domains, including medicine, science and technology, economics, and media (e.g., Criado-Perez, 2019; Fine, 2018; Waring, 1990; Women's Media Center, 2019). The information processing perspective on diversity offers a helpful framework for understanding how and why gender ratios in leadership might matter in this regard. The information processing perspective is rooted in the notion that demographic and functional diversity is correlated with experiences,

opportunities, and access to information that can lead to the development of differing values, knowledge, and skills (van Knippenberg & Schippers, 2007). Importantly, these ideas should not be understood as an essentialist view of the sexes that assumes that women and men have 'naturally' different values, skills or 'ways of knowing'. Rather, these attributes are influenced by a person's experiences and social identities or roles, which are systematically influenced by sex (see also Grasswick, 2018).

Studies of science and medicine offer perhaps the best characterized examples of the potential impact of female representation. Gender diversity may impact scientific research and innovation in two important ways, beyond possible benefits to performance and innovation (Nielsen, Bloch & Schiebinger, 2018). First, it may lead to greater diversity in research methods, in particular, the inclusion of 'sex and gender analysis' – that is, a lens that explicitly takes sex and gender into account – that can give rise to new insights, increased validity or precision, and better servicing of females' needs (Schiebinger, 2008). Examples include better recognition and treatment of coronary heart disease in women (Maas & Appelman, 2010), the introduction of female and pregnant crash test dummies in safety testing, the development and promotion of menstrual cups, alleviation of gender bias in machine learning, and inclusion of women's expertise in developing countries' water infrastructure projects (for details on these case studies and several more in the domains of science, health and medicine, engineering, and environment, see www.genderedinnovations.stanford.edu).

The second proposed impact of gender diversity is on "research priorities and agendas" (Nielsen et al., 2018, p. 728). In academic research, values shape the research programs considered worthy of resources and investigation. While no doubt many factors play a role in overall patterns, it has been observed that the influx of women into previously male-dominated domains such as academic medicine coincided with increased attention to

previously neglected issues concerning women's health (Rosser, 2002; Schiebinger, 1991). Recent large-scale analyses confirm that the sex of the researcher impacts research outcomes. For example, relative to their male counterparts, lead and senior female medical researchers are more likely to include sex/gender analysis in their research (Nielsen, Anderson & Schiebinger, 2017), female management scientists are more likely to attend to social and interpersonal aspects of management (Nielsen & Börjeson, 2019), and female economists to health, education, welfare, labor and demographics (Dolado, Felgueroso & Alumunia, 2012). Nielsen and Börjeson (2019, p. 1617) suggest that the "broadened repertoire of perspectives, values and questions" may serve to make research outcomes "more responsive to the full gamut of societal needs and expectations".

Female Leadership and Products and Services: Implications: To our knowledge, there have been few systematic attempts to explore how WGD might impact priorities, agendas and outcomes outside of a research context. Nor is this possibility often discussed in relation to the question of why WGD matters. However, it seems plausible that WGD will impact which groups most benefit from or are negatively affected by the products and services (and the externalities) that companies create: from financial products that assume continuous paid work, to sexually objectifying advertising. This is an important consideration for organizations, particularly in areas where products and services may have differential impact on, or value for, females. It is also an important direction for future academic research. In short, an often overlooked justice gain of WGD may be a reduction in androcentrism in products and services that tend to neglect women's interests, concerns, and perspectives (see table 1).

Organizational Benefits of Workplace Gender Diversity

As noted earlier, contemporary arguments for workplace gender diversity do not just focus on justice gains for individuals and groups. We now turn to arguments about why WGD matters that focus on benefits to organizational functioning and efficiency.

In the previous section, we drew on social identity theory and the information processing perspective on diversity to provide a framework for understanding justice-related reasons for WGD. These frameworks have often also been drawn on to develop hypotheses regarding how and why WGD might affect organisational outcomes.

To recap and expand, categorization on the basis of sex (self and others) is ubiquitous, and can lead to the activation and application of gender stereotypes. Since individuals are motivated to maintain a positive self-identity, this can give rise to in-group favoritism and bias against out-groups (Hersby, Jetten, Ryan, & Schmitt, 2011; Schmitt, Ellemers, & Branscombe, 2003; Tajfel & Turner, 1986) which, in turn, may create tensions within gender-diverse teams. From this perspective, particularly when gender is a salient basis for social categorization, WGD could potentially lead to a range of *negative* organizational outcomes, via a loss of trust or cooperation, for example.

However, a more optimistic outlook is provided by the information processing perspective, which focuses on how demographic or functional diversity can increase the pool of experiences, knowledge, values, and skills within an organization or team (van Knippenberg & Schippers, 2007). The existence of sex differences in work-relevant attributes, such as work-related values and leadership styles, has led some authors to posit that gender diversity will be related to team performance (Myaskovski, Unikel, & Dew, 2005; Pearsall, Ellis, & Evans, 2008) via positive effects of heterogeneity on team knowledge, or via an impact on the interpersonal processes within teams (Kearney, Gebert, & Voelpel, 2009; Wood, 1987). Similar arguments sometimes underlie studies of associations between gender diversity in leadership and social responsibility and governance outcomes.

Such expectations should be contrasted with the evidence outlined in the first section of this contribution. For many work-related attributes, the evidence does not support expectations of strong, or even moderate, correlations with an individual employee's sex. However, as Ellemers, Rink, Derks, and Ryan (2012) point out, simply the *expectation* that women bring a different approach or skills may improve decision-making. As indicated above, WGD might make a difference at the group level, in terms of the average expression of an attribute within a group, or via the effect of gender ratios on group norms and dynamics. Lastly, Kulik and Metz (2017) have suggested that the appointment or presence of women in leadership may serve a signaling function to internal and external stakeholders.

The effects of WGD on performance are typically studied in terms of the association between the distribution of men and women in regular work teams (in laboratories or actual organizations) or in leadership roles, and particular company outcomes. In these studies, leadership is operationalized in different ways, alternatively focusing on CEOs, boards of directors, top management team, and team managers (Kulik & Metz, 2017). The outcomes in question can be organized as internal or external, and focused on structural or more social aspects of organizational functioning. Below, we present only outcomes from the most widely studied areas, namely team-level and firm-level financial performance, innovation, corporate governance, occupational well-being, and corporate social responsibility.

Interpreting these data can be difficult for a number of reasons. First, a wide range of both WGD and outcome measures have been studied; predictions and mediating mechanisms might be expected to be quite different depending on which are chosen, and there is a risk of 'cherry picking' in analyses of large datasets (Kulik & Metz, 2017). Second, in most cases, non-experimental studies are cross-sectional, severely limiting the capacity to draw causal inferences about direct effects of female representation on organizational outcomes. In particular, plausible alternative explanations of positive findings include that well-run

companies tend to both advance women and be successful (or well-governed or socially responsible), or that more profitable companies are better positioned to focus on issues of diversity. Third, female representation may also be confounded with other factors related to financial indicators, such as industry or size (Adams & Ferreira, 2009). Fourth, and relatedly, research in this area tends to take a 'black-box' approach (Hoobler et al., 2018; Kulik & Metz, 2017), leaving unexplored the mediating mechanisms by which WGD has any effects on outcomes. This is exacerbated by the 'distance' between managerial behavior and commonly used outcome measures such as financial performance (Kulik & Metz, 2017).

Finally, since female-dominated organizations and industries are scarce, and female-dominated leadership non-existent, it is obviously not possible to know how organizations would perform in such contexts. Nor, indeed, is it very plausible to extrapolate from findings based on existing organizations, to a hypothetical gender-balanced situation. As Marçal (2015, p.3) observed of speculations about how the financial crisis would have played out if Lehman Brothers had been 'Lehman Sisters':

> A world where women dominated Wall Street would have had to be so completely different from the actual world that to describe it wouldn't tell us anything about the actual world. Thousands of years of history would need to be rewritten in order to lead up to the hypothetical moment that an investment bank named Lehman Sisters could handle its over-exposure to an overheated American housing market.

These many caveats may be surprising to those familiar with confident claims about the evidence of the business case for gender diversity. They are important because they bring into question whether such confidence is warranted. With all of them in mind, we discuss the evidence in each domain of interest.

Team performance

Team performance is one of the most widely studied outcomes of WGD, with studies using both subjective (e.g., observers' or group members' rating of team performance) and objective measures of team performance (e.g., financial performance or correct answers). The current meta-analytical evidence points towards an overall small and non-significant association between gender diversity and team performance, but with large variance likely attributable in part to the kind of outcome measures used. There is a very small, negative and significant association between gender diversity and team performance as assessed using subjective measures, but none with objective performance (van Dijk, van Engen, & van Knippenberg, 2012). With regards to the impact of male versus female leaders on team performance, Paustian-Underdahl, Walker and Woehr (2014) found in their meta-analysis that men rated themselves as significantly more effective as team leaders than women rated themselves, but this pattern was reversed with other-ratings. Third parties were more likely to rate women as more effective team leaders than males in studies conducted within organizations, but no difference was observed in other-ratings in laboratory studies.

Firm performance

As noted earlier, studies of associations between WGD and firm performance have used a number of different indicators of WGD, including both horizontal and vertical, and of firm-level performance (e.g., market share, revenue, productivity, and relative profits). Given both the large number of possible combinations of variables studied, and the many intra- and extra-organizational factors influencing firm financial performance, it is perhaps not very surprising that findings are generally inconsistent.

Turning first to the few studies examining horizontal WGD within the workforce and outcome variables, in a US representative sample of for-profit organizations, Herring (2009) found that greater horizontal WGD (that is, closer to gender balance) was linearly related to more customers, higher sales revenue, and greater relative profits. In contrast, Ali, Kulik and

Metz (2009) found an inverted U-shape relationship between horizontal WGD and firm level productivity in a sample of 174 publicly listed Australian Firms. Low to moderate levels of firm-level gender diversity were positively related to productivity, but moderate to high diversity had a weak negative relationship. The relationship was also moderated by industry, such that the positive effect was present in the service industry but not in manufacturing.

Turning to vertical WGD, the findings arising out of a large literature are no less complex. In Post and Byron's (2015) meta-analysis, female board representation was related to accounting returns, but not market performance. Importantly, in countries where there were stronger shareholder protections, in terms of transparency of related-party transactions, directors being held liable for self-dealing, and ease in shareholders' capacity to sue for director misconduct (Djankov, La Porta, Lopez-de-Silanes, & Shleifer, 2008), the relation between women on boards and accounting returns was more positive. Furthermore, the relation between female board representation and market performance was positive in countries with greater gender equality, but negative in more gender unequal countries. Post and Byron (2015) argue their finding can be in part explained by how investors perceive the value, or lack thereof, of women on boards. Importantly, these effects were not moderated by the research design of the original study (i.e., cross-sectional versus lagged performance) supporting the robustness of their findings. Finally, Hoobler et al.'s (2018) meta-analysis found that having more women in leadership was weakly but positively related to firm accounting performance, firm market, and organizational financial performance.

Firm Innovation

There is evidence to suggest that WGD in leadership is associated, albeit indirectly, with firm-level innovation. In a cross-sectional study of Spanish small- and medium-sized enterprises, gender diversity in top management teams positively moderated the relationship between knowledge combination capability and innovation performance. More specifically,

when gender diversity was low, employees' capacity to absorb and combine information and transfer knowledge was not related to firm innovation (e.g., newness in products and services, use of latest technology, speed of development of new products/services, number of new products/services relative to main competitors). However, when top management teams were more gender-diverse, knowledge combination capability was positively related to higher innovation (Ruiz-Jiménez, Fuentes-Fuentes, & Ruiz-Arroyo, 2016).

In another cross-sectional study of Norwegian firms with board sizes from 6 to 12 members, CEO's perceptions of firm innovation (e.g., being the first to introduce business concepts and practices, changing structures to facilitate innovation, developing personnel innovation capabilities) was compared across firms with a critical mass of women on boards of directors (i.e., at least three women) versus firms with one or two women on boards. A critical mass of women on boards was related to more firm innovation. The relationship was mediated by how much board members reported being involved in the firms' mission development, strategy formulation and implementation (Torchia, Calabró, & Huse, 2011). This points to an association between a critical mass of women on boards and firm innovation, although causal factors and mechanisms remain unknown.

Occupational well-being

Occupational well-being is one of the most critical aspects of employees' lives. At work, well-being has been defined in terms of employees feeling they are: free from harmful experiences at work; a good fit for the job and the organization; and physically, mentally and financially well (Bailey, Dollard, McLinton, & Richards, 2015; Dollard, & Bakker, 2010; Gardiner, & Tiggemann, 1999; Roberts et al., 2019; Sojo et al., 2016; Stergiou-Kita, Mansfield, Colantonio, Moody, & Mantis, 2016).

Earlier, we reviewed data regarding WGD and incidence of sexual harassment, discrimination, and wages. Here, we extend this to discuss the associations between WGD

and two other important occupational well-being outcomes: mental and physical health, and turnover. Research has shown that, all else being equal, managers in male-dominated industries have poorer mental-health compared to managers in female-dominated industries (Gardiner & Tiggemann, 1999). Overall, women in male-dominated industries report the highest stress level compared to women in female-dominated industries and men in either industry. Similarly, in male-dominated work environments, men return to work sooner after work-related injuries, in part due to strong identification with worker roles/masculine norms of being "tough", an organizational health and safety risk (Stergiou-Kita et al., 2016). In contrast, after controlling for psychosocial, ergonomic and organizational exposures, hospital jobs that were more female-dominated had lower risk of physical injury at work (d'Errico et al., 2007). Moreover, male-dominated organizations characterised by hyper-masculinity, hyper-competition and bravado are related to both mental and physical health risks for all employees (Berdahl, Glick, & Cooper, 2018), but in particular for women and members of minority groups such as the LGBTIQ+ community (Roberts et al., 2019).

Turning now to relations between horizontal WGD and turnover, a large longitudinal study found no significant direct impact on overall workplace turnover (Leonard & Levine, 2006). However, when the authors considered men's and women's turnover separately, they found that female turnover decreased in work environments that were numerically dominated by men, perhaps due to the financial rewards of such roles (see discussion in Kulik, Metz & Gould, 2016) while male turnover rates increased when women were in the majority (Leonard & Levine, 2006). Similarly, in a meta-analysis, Mor Barak et al. (2016) found that being a man in a female-dominated industry had a negative, small association with job satisfaction, organizational commitment, and intention to stay. In both studies, men were more likely to leave female-dominated workplaces. Potentially, this might be related to the gender policing and stigma men face for behaving counter-stereotypically (Moss-Racusin et

al., 2010; Rudman & Mescher, 2013) and/or to the lower salaries observed in female-dominated sectors.

In summary, women experience a more socially welcoming climate in female-dominated work environments, but this comes at a cost in terms of wages and precarious work conditions. Men are more likely to leave female-dominated work environments perhaps because of sexist stigma or lower wages. Finally, both men and women are negatively impacted by the toxic masculinity of male-dominated workplaces (Berdahl et al., 2018) but they seem to reap the financial benefits of working in such sectors (Workplace Gender Equality Agency, 2019).

Governance and ethical decision-making

Organizational control, accountability systems, risk management, compliance and ethical business practices are all crucial aspects of organizational life. Considering modest average sex differences in preferences for ethical behavior, reviewed earlier, it is not surprising that there has been interest in whether vertical WGD is associated with improved governance or greater social responsibility. In their analysis of Standard & Poor's 500 firms, Adams and Ferreira (2009) found that female directors had better attendance records at board meetings than their male counterparts. However, in line with the idea discussed earlier that increased female representation can influence *men's* behavior, male directors had fewer problems with attendance when they were part of more gender-diverse boards. Adam and Ferreira (2009) also found that CEO turnover had a stronger relation with stock performance in firms with more gender-diverse boards, and that board members were more likely to have equity-based compensations when they were more gender-diverse. These results suggest that rewards and retention are more likely to be performance-based on gender-diverse boards.

With regards to social responsibility and business ethical practices, Boulouta's (2012) analysis of social corporate responsibility in 126 S&P500 firms showed that organizations

with more gender diverse boards were less likely to engage in practices that would harm the environment, community, and customers. Byron and Post's (2016) meta-analysis also found that female board representation was positively related to corporate social responsibility and businesses' social reputation. Interestingly, gender-diverse boards are more likely to provide LGBT-friendly policies (Cook & Glass, 2016).

Such correlational studies of course also lend themselves to the interpretation that more ethical organizations are also more likely to care about WGD. Interestingly, however, an interview study of (female) directors, CEOs and (mostly female) corporate secretaries for Fortune 100 companies found that their interviewees perceived that female directors are more likely to ask questions during discussions, broaden the discussion to include a wider set of stakeholders, and change the decision-making dynamic in a more collaborative direction, but only when there was a 'critical mass' (Konrad & Kramer, 2006).

Organizational benefits: Implications

The expectation that simply adding women's complementary skills, experiences, and perspectives to work teams and leadership will have clear positive effects on organizational functioning may be appealing, but it ignores the subtlety of current sex differences in work-related attributes, the complexity of group dynamics, and the multifactorial impacts on a firm's financial performance and outcomes. It is also impossible to disentangle causality with a 'black box' approach to research (Hoobler et al., 2018; Kulik & Metz, 2017). Nonetheless, a few cautious conclusions can be advanced. First, there is little evidence of *negative* effects. As Kulik and Metz (2017, p. 265) point out with regards to women in leadership positions, this "is neither a trivial nor a flippant conclusion" given, first, worries that WGD in leadership compromises merit, and second, that women are often disadvantaged in terms of the positions and roles they tend to be given. The same can be said with respect to team performance, and innovation. In addition, although causality and mediating mechanisms are

unclear, there appear to be reasonably consistent positive associations between vertical WGD and governance and social responsibility, and between horizontal WGD and metrics of occupational well-being, for men as well as women. Importantly, workers' gender-role attitudes was a key mechanism linking WGD to occupational well-being.

Perhaps surprisingly, the domains of organizational functioning that offer the strongest evidence for positive associations with WGD – occupational well-being and governance/ethical decision-making – are arguably the ones that receive the *least* attention in diversity discussions (see table 1). This seems like a missed opportunity for policy makers: all employees have an interest in occupational well-being, and everyone, both inside and outside the organization, has a stake in organizations being well-governed. Conversely, there are clear risks for advocacy for WGD being founded on shaky empirical foundations (Eagly, 2016; see also discussion in Dover et al., *this issue*). Such arguments seem particularly unlikely to persuade those inclined to be skeptical as to the benefits of hiring more women – notably, only 55% of Australian business men surveyed by Sanders et al. (2011) thought that achieving gender parity would bring financial benefits for their firm, compared with 76% of women. Reliance on such arguments may also lead to jettisoning of gender diversity initiatives when expected performance benefits do not arise. This is also a reason to keep justice arguments for WGD in sight (see table 1).

Policy Implications

At the opening of this contribution we posed the question: Why does workplace gender diversity matter? We have shown that common responses – that every individual deserves an equal chance regardless of sex, that WGD makes firms more profitable, that women bring distinctive feminine skills that complement those of men or, conversely, that inherent sex differences mean we have reached the natural limits of WGD, and concerns of undermining merit or reverse discrimination – are problematic and incomplete. What does

this mean for policy makers? Based on our review, we make four recommendations (see table 1).

Consider why WGD matters for your own organization

Answering this question for a specific organization requires thinking about its purpose, and its existing gender ratios (both horizontal and vertical). For male-dominated organizations, justice-based benefits of greater WGD are most likely to include a reduction in all forms of sex discrimination, while organizational benefits may include enhanced occupational well-being more generally. For organizations with male-dominated leadership, justice-based benefits of increased female leadership may include a greater consideration of female interests, concerns and perspectives in products or services, and the implementation of more family-friendly workplace policies; organizational benefits may include improved governance mediated via changed group dynamics. In contrast, greater WGD in female-dominated occupations may lead to higher remuneration and reduced male turnover. In all cases, increasing WGD is likely to contribute to a reduction in female political, socio-cultural and/or political disadvantage. While companies pursuing profit alone may not be moved by this, policy makers should be, and while it is not part of government's mandate to tell companies how to make greater profit or become more innovative, it *is* within their purview to promote a more just society.

While acknowledging that this remains an active area of scientific debate, we recommend skepticism regarding claims that existing levels of horizontal and vertical sex-segregation reflect fixed, average sex differences in interests, values, or skills.

Consider affirmative action measures

As detailed earlier, low female representation may exacerbate all forms of discrimination, suggesting that affirmative action to achieve greater WGD may be critical in helping organizations actually achieve a discrimination-free environment. Affirmative action

may also be necessary to compensate for small, compounding, historical biases that reduce females' competitiveness. For example, within academia, gender bias has been documented in student evaluation ratings (Fan et al., 2019), citation rates (Dion, Sumner, & Mitchell, 2018), labor in conducting scientific experiments (Macaluso, Larivière, Sugimoto, & Sugimoto, 2016), judgments of contributions to publications (Knobloch-Westerwick, Glynn, & Huge, 2013), invitations to publish in prestigious journals (Conley & Stadmark 2012), access to mentors (Milkman, Akinola, & Chugh, 2015), and allocation of non-career-enhancing service work (Guarino & Borden, 2017). Simply ensuring a lack of discrimination in comparing candidates or applicants based on these relevant metrics will not fully eliminate female disadvantage.

There is therefore empirical support for Khaitan's (2015, p. 246) claim that "the antidiscrimination duty, on its own, cannot close the advantage gap between groups." At this point, it is worth revisiting concerns that strategies like affirmative action are unethical, constituting a form of 'reverse discrimination'. The idea is that in giving priority to women, men who might otherwise have been considered for a position will be de-prioritized. Undoubtedly, the costs to men must be considered and weighed into policy-makers' decisions. However, it should not be falsely assumed that affirmative action measures compromise merit. Affirmative action measures may actually help to ensure more meritorious decision-making (Crosby, Iyer, Clayton & Downing, 2003). Furthermore, "[m]erit is not simply a matter of how talented an individual is in the abstract, but rather, is a measure of the contribution they can make to an institution" (Khaitan, 2015, p. 227). This point brings us back to consideration of the likely justice-based and organizational benefits of increased WGD, and thus the importance of considering the merit of an employee in the context of an existing work-team or organization.

Finally, as previously noted, terms such as ‘reverse discrimination’ have been argued to be misleading, as they falsely imply equivalent moral wrongness to paradigmatic forms of discrimination (e.g., Khaitan, 2015; Suk, 2017). However, so-called ‘collateral discrimination’ against dominant groups, in the service of affirmative action measures clearly should not be taken lightly. It is for this reason that it is important that such measures are transparent, well-designed, based on evidence (where possible), and carefully monitored and reviewed (Khaitan, 2015), a point to which we now turn.

Consider design and monitoring

Appropriate affirmative action measures should be specific to the organizational context and goals. It is helpful for policy makers to be aware of the (overlapping) dimensions on which affirmative action can differ (we draw on a selection of key principles from Khaitan’s [2015] detailed discussion). First, they can either seek to *facilitate* access to goods (e.g., transparency measures or targeted advertising of positions) or *distribute* those goods directly to members of the intended beneficiary group (e.g., quotas). Second, the benefits and costs can be *tangible* (e.g., a position) and/or *expressive* (e.g., recognition of past discrimination or a perception of tokenism). Third, measures can be *directly* targeted to the protected group (e.g., a networking event for women), or *indirectly*, by targeting based on a relevant disadvantage that correlates with membership of the protected group (e.g., a re-skilling program for employees returning from work after extended parental leave). Finally, measures may sometimes seek to prioritize more disadvantaged members of the protected group (e.g., those who have further intersecting protected group characteristics), which is desirable, although not always possible. Policy makers should be particularly alert to bias and discrimination manifesting along multiple axes of bias for women of color (Crenshaw, 1989): disaggregation of data by both sex and race simultaneously is strongly recommended, as it may reveal important patterns. For example, an analysis of career progression in Silicon

Valley technology companies (Gee & Peck, 2018) found that both white women and men are over-represented (albeit the latter far more so) at executive levels compared with their numbers in the entry-level professional workforce, while all minority men and women are under-represented (the latter most severely).

In selection of measures, it is essential that there are benefits to the intended targets, and that these outweigh any costs. This might seem like an obvious point, but programs such as women's leadership training are rarely evaluated for effectiveness (Bohnet, 2016), yet have clear costs to women in terms of time taken to participate, an expressive cost in the form of the implication that women need special assistance, and potentially also a cost in terms of resentment from male employees who are not able to participate in the program. The same point can be made about implicit bias training, which is of uncertain effectiveness and may lead to counterproductive attitudes among participants (see Dover et al., *this issue*). There are also, of course, costs to the organization. Stigmatization of affirmative action beneficiaries is another potential cost that should be considered, monitored and minimized (for a discussion of the unintended consequences of diversity initiatives, see Dover et al., *this issue*). Negative perceptions of the competence of women selected under affirmative action measures is a genuine concern, with studies showing both onlookers (Heilman, Block, & Lucas, 1992) and recipients themselves (Heilman & Alcott, 2001) being susceptible to those perceptions. In general, distributive affirmative action measures are perceived more negatively than facilitative ones (Harrison, Kravitz, Mayer, Leslie, & Lev-Arey, 2006), and it seems likely that indirect tools would likely be regarded more positively than direct ones.

However, it is also important to note that, potentially, negative perceptions may be relatively short-lived. As Beaman, Chattopadhyay, Duflo, Pande, and Topalova, (2009, p. 1534) put it, following documentation of the positive effects, with time, of India's political gender quotas: "Although the first generation of women leaders may encounter significant

prejudice, their experience can pave the way for others to go further". Furthermore, interviews with directors from countries both with and without gender quotas for boards indicates that directors (both male and female) from countries *with* quotas are more positive toward them than are directors those from countries without quotas (Wiersema & Mors, 2016). For instance, the directors argued that the introduction of quotas led to more professional processes for board recruitment, which were less reliant on social networks. While only suggestive, this study underlines the importance of considering and measuring a broad range of benefits of affirmative action measures like quotas, beyond financial benefits.

Consider framing

Also likely to impact costs to beneficiaries is the way that affirmative action measures are framed. Harrison et al.'s (2006) meta-analysis of attitudes towards affirmative action programs found that justifications in terms of remedying past discrimination or increasing diversity was correlated with more positive attitudes, but the reverse was the case for justifications on the grounds of numerical underrepresentation of the target group. Interestingly, a study comparing the effects of justice-based versus business case framings of the benefits of demographic diversity found that the latter was associated with greater deprioritizing of a qualified minority candidate (Trawalter, Driskell & Davidson, 2016).

Distributive affirmative action measures might also be usefully framed in terms of representation and legitimacy, given that "the democratic legitimacy of public institutions is … seriously compromised if certain groups are systematically excluded" (Khaitan, 2015). Given the power, influence, and impact on people's lives enjoyed by corporations, similar arguments could be made there too (e.g., Arnold & Loughlin, 2019).

Also worthy of investigation is Khaitan's (2015, p. 247) suggestion that objections to affirmative action measures may be reduced if people are reminded that discrimination law is "prioritarian rather than partisan" and that, although our legal membership of one or other sex

category is typically permanent, we are all vulnerable to old age and disability. As such, regardless of our sex, over the course of our lives, "[w]e are all actual or potential beneficiaries."

Finally, a growing body of data suggests that framing affirmative action measures in terms of leveraging women's uniquely feminine skills and perspectives will be counterproductive (Fine & Haslam, 2018; Skewes, Fine & Haslam, 2018). The belief that psychological differences between women and men are categorical, fixed, and deeply biologically grounded ('gender essentialism') is not only inaccurate; it is also associated with attitudes and preferences supportive of the gender status quo (e.g., Coleman & Hong, 2008; Kray, Howland, Russell, & Jackman, 2017; Tinsley, Howell, & Amanatullah, 2015). A recent study of large nationally representative samples from Australia and Denmark found that, in both countries, gender essentialists were less in favor of egalitarian roles in relationships, parenting, work and education. They were also more supportive of discriminatory workplace practices, while also being more likely to perceive contemporary workplaces as non-discriminatory. Importantly, in both countries these relationships were independent of political orientation and general acceptance of social hierarchy (Skewes, et al., 2018). Gender essentialists were also more likely to show backlash against gender non-conformity.

Conclusion

WGD is a contested and sometimes clouded topic, with misunderstandings and disagreements regarding the nature of sex differences and their relevance in the workplace, neglect of the full breadth of justice-based reasons for WGD, and sometimes simplistic expectations of likely organizational benefits. Good policy-making requires attention to all the reasons that WGD matters.

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