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**Progress in Women’s Representation in Top Leadership**

**Weakens People’s Disturbance with Gender Inequality in Other Domains**

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**October 8th, 2018**

**Word Count: 13,136**

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Funding: This work was supported by the London Business School Leadership Institute [Grant number 3005]. The London Business School Leadership Institute was not involved in the conduct of the present research, or in the preparation of the present article.

Some of the data and ideas in this manuscript were presented at the Academy of Management 2016 Annual Meeting, at the 2017 Society for Personality and Social Psychology Convention, at the 2017 Transatlantic Doctoral Conference, and the London Business School Leadership Institute Conference 2016.

Conflicts of interests: None.

**Abstract**

Conventional wisdom suggests that progress for women in the domain of top leadership representation will naturally spread to other domains of gender inequality, whether in organizations or beyond. Extending social-cognitive theories of exemplar-based information processing to the study of social progress perceptions for stigmatized groups, we theorized that perceiving substantial female representation in top leadership may instead reduce people’s concern with ongoing gender inequality in other domains. Study 1 (*N*=331) finds that perceiving greater female representation in top corporate echelons decreases people’s disturbance with the gender pay gap, but not with wealth inequality generally. Study 2a (*N*=350) and its replication Study 2b (*N*=1,098) present correlational evidence of the proposed psychological mechanism: an overgeneralization of women’s access to equal opportunities. Study 3 (*N*=454) provides experimental evidence for this psychological process, tests attributions of the gender pay gap to women’s personal career choices as an alternative mechanism, and introduces a control condition to determine the directionality of the effect. Study 4 (*N*=326) replicates and extends the basic effect across various domains of gender inequality within and outside of the workplace. Taken together, these studies highlight the importance of acknowledging the fragmented nature of social progress across domains of inequality, and highlight the psychological underpinnings of a previously-overlooked potential barrier for progress toward gender equality.

Keywords: *gender diversity; gender inequality; perceptions; top leadership; overgeneralization*

**Word Count: 212**

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With 44% of board seats occupied by women, Iceland currently holds the world record for female representation in top leadership (World Economic Forum, 2016) – a key indicator of gender equality in the workplace (Equality and Human Rights Commission, 2016; McKinsey & Company, 2010; Singh & Vinnicombe, 2004). However, on October 24th 2016, women employees throughout Iceland left work at 2:38pm in protest against the enduring 14% wage gap they faced compared to their male peers (Women in the World Staff, 2016). The topic of this protest, the ongoing gender pay gap, gained all the more media coverage globally (England, 2016; Friedman, 2016; The Observers, 2016) as it strongly contrasted with Iceland’s otherwise positive reputation in terms of gender equality. The gender pay gap in Iceland indeed remained on par with that of most other Western countries (World Economic Forum, 2016).

The example of Iceland highlights the heterogeneous nature of progress toward gender equality. Advances in the domain of female representation in top leadership coexist with persisting gender inequalities, such as the gender pay gap, even in the most advanced economies (World Economic Forum, 2016). In this research, we build on this real-world paradox, and extend social-cognitive theories of exemplar-based information processing to investigate whether and how perceiving a high level of female representation in top leadership influences people’s concern with persisting gender inequality in other domains. We argue that this empirical question is an essential one, both practically, because the level of female representation in top leadership is a keenly observed indicator of gender equality in society – whose impact it is thus critical to understand – and theoretically, in order to understand the role that perceptions of social progress at top levels may play in shaping people’s broader social attitudes about gender inequality. Our approach draws on social-cognitive theories of exemplar-based information processing in person perception research to inform our understanding of this key question in the study of intergroup dynamics following substantive social progress. By bringing together these two areas of study, we suggest the present research has the potential to offer new insights for scholars across research traditions.

**Perceiving Social Progress**

How people perceive and react to social progress for members of underrepresented groups has been a longstanding interest of intergroup researchers. Much past research has investigated the relativity of people’s perceptionsof social progress (or inequality) depending on their group memberships and social attitudes (Bosson, Vandello, Michniewicz, & Lenes, 2012; Brodish, Brazy, & Devine, 2008; Eibach & Ehrlinger, 2006; Eibach & Ehrlinger, 2010; Eibach & Keegan, 2006; Kehn & Ruthig, 2013; Kteily, Sheehy-Skeffington, & Ho, 2016; Norton & Sommers, 2011). For example, White Americans typically perceive greater racial progress as having been achieved over previous decades in the U.S. compared to ethnic minorities, and men similarly perceive greater progress toward gender equality than women (Eibach & Ehrlinger, 2006, 2010). Social attitudes such as anti-egalitarianism predict the underestimation of inequality between social groups (Kteily, Sheehy-Skeffington, & Ho, 2016). Another tradition has examined people’s responsesto seeing social progress for racial minority groups, and in particular the sense of threat that Whites exhibit when exposed to evidence that minorities now have greater access to scarce resources, experience less bias over time, or represent a greater share of the population (Abascal, 2015; Butz & Yogeeswaran, 2011; Craig & Richeson, 2014a, 2016; Danbold & Huo, 2015; Lowery, Unzueta, Knowles, & Goff, 2006; Outten, Schmitt, Miller, & Garcia, 2012; Skinner & Cheadle, 2016; Wilkins, Hirsch, Kaiser, & Inkles, 2016; Wilkins & Kaiser, 2014; Willer, Feinberg, & Wetts, 2016).

These research traditions showcase the complex psychology at play behind perceptions of progress in society, and the ways in which these perceptions of progress shape intergroup dynamics. However, we suggest that these approaches overlook a key aspect of the nature of social progress. While past research conceptualizes social progress for a group either in general or within a single specific domain of inequality that the group faces, in reality, social progress for disadvantaged groups unfolds unevenly across the many domains of inequality that they experience, such that progress in one domain frequently coexists with ongoing inequality in others, as our opening example highlights. Without acknowledging the fragmented nature of social progress, the current literature cannot speak to the question of how people psychologically reconcile the existence of substantive progress with persisting inequality, and specifically, how perceptions of progress in one domain may influence people’s reactions to persisting inequality in another. Our research provides a direct investigation of this research question, and to the best of our knowledge is the first to distinguish between domains of inequality in investigating the psychological effects of perceiving social progress – thereby taking a step in addressing a conceptual limitation in the existing literature.

Given the emergence of substantive progress in the domain of female representation at the top of organizations over the past decades, we considered this domain to be an ideal context for the investigation of our research question in the context of gender.

**Progress for Women in the Domain of Top Leadership Representation**

Although many forms of gender inequality persist in the workplace (Stamarski & Son Hing, 2015), few are as visible as the underrepresentation of women in top corporate levels (e.g., corporate boards, top management teams), which remain overwhelmingly male-dominated even in organizations and industries where gender balance exists at the entry-level (World Economic Forum, 2016). In this context, a number of actors have advocated in favor of making the pursuit of gender balance at the top of organizations a priority goal (Credit Suisse Research Institute, 2012; McKinsey & Company, 2010), often based on predictions that it would “trickle down” and produce better outcomes for women across other domains of gender inequality in organizations (Larrieta-Rubín De Celis, Velasco-Balmaseda, Fernández De Bobadilla, Alonso-Almeida, & Intxaurburu-Clemente, 2015; Skaggs, Stainback, & Duncan, 2012; Staley, 2016; Terjesen & Singh, 2008; The Economist, 2018). Such assumptions are echoed in Sheryl Sandberg’s book *Lean In*, in which she states that “conditions for all women will improve when there are more women in leadership roles giving strong and powerful voice to their needs and concerns” (Sandberg, 2013). Similarly, international bodies such as UN Women have proposed that empowering “women to move up the occupational ladder” is one of the preliminary steps required to achieve substantive gender equality in the broader society (UN Women, 2016).

Female representation in top leadership has thus become a central indicator of gender equality in the workplace, as well as a key policy objective (Chanavat & Ramsden, 2014; Davidoff Solomon, 2012; McKinsey & Company, 2010; Singh & Vinnicombe, 2004). A number of countries have, for example, adopted a variety of initiatives to increase gender diversity on boards, ranging from official guidance on good practices (Equality and Human Rights Commission, 2016) to legally-binding quotas (Kogut, Colomer, & Belinky, 2014). Many organizations – especially those subject to high levels of public scrutiny (Chang, Milkman, Chugh, & Akinola, 2018) – have also taken voluntary steps to increase the number of women in their top leadership levels (30% Group, 2016), employing a variety of practices and policies to achieve this goal (e.g., networking and mentoring programs for women, diversity and implicit bias training, systems of managerial accountability for gender diversity; Kalev, Dobbin, & Kelly, 2006). Finally, activist groups are raising awareness about the need for greater gender diversity in top leadership by recording and publishing annual statistics about female representation on boards, sometimes going as far as calling out underachieving organizations (2020 Women on boards, 2017; Bennett, 2017; Catalyst, 2017).

Concomitantly, undeniable improvements have emerged in the level of female representation in top corporate leadership across Western countries. In the U.S. for instance, the gender composition of top echelons has shifted from no women CEOs and token women in Fortune 500 boardrooms in 1995, to 24 women CEOs and about one-fifth of board seats occupied by women in 2015 (Catalyst, 2015a). Similarly, female representation on European boards has doubled in less than a decade (from 11% on average in 2007 to 23% in 2016; European Institute for Gender Equality, 2016b), and five countries – Iceland, Norway, France, Latvia, and Finland – have now surpassed 30% women on boards (World Economic Forum, 2016). To be sure, equality has not yet been reached and, of course, serious issues of minority women’s representation persist (Catalyst, 2015b). However, these statistics highlight that substantive progress (i.e., representation beyond token exemplars) has occurred for women in the domain of top leadership representation. The novel approach of the present research is to investigate how people’s perceptions of this initial yet substantive progress might influence attitudes toward persisting gender inequality in other domains.

**Persisting Gender Inequality**

Alongside these encouraging trends in the domain of top leadership representation, however, inequalities persist between men and women, for instance in the domain of pay, where little has changed over the past 20 years (Boll, Leppin, Rossen, & Wolf, 2016; Proctor, Semega, & Kollar, 2016). In the U.S. in 2015 for instance, women earned 79.6 cents to every dollar a man earned, which corresponds to only a 0.4 cent annual average improvement from 1995 (Drago & Williams, 2010; Proctor et al., 2016). European countries presented a similar picture in 2010, with an average 10.9% unexplained gender wage gap after accounting for various factors such as educational attainment, occupational choice, and working hours (Boll et al., 2016). The persistence of gender-based wage inequality is problematic, as it has been shown to be detrimental to women’s individual economic outcomes (European Institute for Gender Equality, 2016a; UN Women, 2016), household finances (European Institute for Gender Equality, 2016a), organizational outcomes (Frost, Hazard, & Kimmins, 2016) as well as national economies’ growth (European Institute for Gender Equality, 2017; World Economic Forum, 2016).

To be sure, gender inequality in representation and gender inequality in pay may not be entirely independent, since *average* gender pay gaps reflect in part a concentration of women employees in the lower echelons of the organization, rather in top leadership levels where salaries are higher. Although the gender wage gap may in some cases reverses in the highest corporate echelons (Leslie, Manchester, & Dahm, 2017), statistics comparing the wages of men and women employees with the *same* level of seniority showcase gender-based wage inequality at most levels of the organizational hierarchy(Chartered Management Institute, 2017; Frost et al., 2016; Leslie, King, Bradley, & Hebl, 2008). Since women remain underpaid compared to their male counterparts in most seniority levels, the gender pay gap is unlikely to be fully resolved by simply having more women move up the corporate ladder. For this reason, we conceptualize pay and representation in top leadership as two distinct domains of gender inequality.

While conventional wisdom suggests that higher levels of female presence in corporate leadership will naturally engineer contexts conducive to the improvement of women’s outcomes in organizations (Sandberg, 2013; Staley, 2016), it is an empirical question whether achieved progress in terms of female representation at the top of organizations would strengthen collective will to address persisting gender inequalities in other domains. Since people’s disturbance with inequality predicts their willingness to correct it (Cundiff, Zawadzki, Danube, & Shields, 2014; Knowles, Lowery, Chow, & Unzueta, 2014), we focused on empirically investigating whether and how information reflecting improvements in women’s representation in top corporate echelons influences people’s disturbance about specific instances of ongoing gender inequality, such as the gender pay gap.

**Extending Exemplar-Based Models of Information Processing to Social Progress**

Though women are still underrepresented in corporate decision-making spheres, female representation in top leadership is on the rise and could approach critical mass within the next decade (Deloitte & The Alliance for Board Diversity, 2016). While this real-world change has traditionally been anticipated to affect women’s outcomes in positive ways (Larrieta-Rubín De Celis et al., 2015; Sandberg, 2013; Skaggs et al., 2012; Staley, 2016; Terjesen & Singh, 2008), research has not investigated how perceivingsubstantive progress in women’s representation (i.e., not yet equal representation but larger than token) in top leadership may influence people’s level of concern with persisting gender inequality in other domains.

We draw on social-cognitive research on the exemplar-based model of information processing (Kahneman & Miller, 1986; Medin, Altom, & Murphy, 1984; Smith, 1992; Smith & Zárate, 1992) to inform our hypotheses. This research in person perception has shown that people’s perceptions of a given individual can change their perceptions of the groups to which this individual belongs (Macrae & Bodenhausen, 2001; Macrae, Milne, & Bodenhausen, 1994). In particular, research has shown that when salient at the time of forming a judgment about a group, counter-stereotypical exemplars of success – i.e., successful individuals exhibiting characteristics that are inconsistent with the cognitive schemas that people have of these individuals’ social groups – can significantly influence people’s cognitive understandings of the groups to which they belong (Bodenhausen, Schwarz, Bless, & Wänke, 1995; Dasgupta & Greenwald, 2001; Gawronski & Bodenhausen, 2006; Herr, Sherman, & Fazio, 1983; Jhally & Lewis, 1992; Schwarz & Bless, 1991; Smith, 1992).

Specifically, the “enlightened racism” theoretical perspective (Jhally & Lewis, 1992) within the tradition of exemplar-based information processing proposes that exposure to a counter-stereotypical exemplar of success can lead people to take this exemplar of success as a comparison standard against which to evaluate the outcomes of other members of the exemplar’s social group (Herr et al., 1983; Schwarz & Bless, 1991). This comparison to an exceptionally-successful exemplar is necessarily negative for the rest of the group, but all the more so insofar as the exemplar is perceived as evidence that “anyone can make it” (Jhally & Lewis, 1992). As a result, people may come to dismiss the possibility that the negative outcomes of the exemplar’s overall social group may stem from racial discrimination, and may thus come to form negative attitudes and judgments toward said group (Jhally & Lewis, 1992; Lybarger & Monteith, 2011).

Research studying individual exemplars of success supports this model. Cross-sectional research conducted at the time of the election of the first racial minority President of the United States (a counter-stereotypical Black exemplar) suggests that after the election, Americans reported significantly lower perceptions of racial discrimination (Valentino and Brader, 2011), lower need for further racial progress (Kaiser, Drury, Spalding, Cheryan, & O’Brien, 2009), and greater racial resentment against African Americans relative to before the election (Valentino & Brader, 2011). People also were less likely to support policies designed to address racial inequality in general, and affirmative action in particular, after Obama’s election compared to before (Kaiser et al., 2009; Valentino & Brader, 2011). Experimental research conceptually replicated this pattern, providing evidence that making Barack Obama salient in people’s minds leads them to exhibit significantly greater symbolic racism (Lybarger & Monteith, 2011) and implicit racial bias (Skinner & Cheadle, 2016), and to deny significantly more often, and with more fervor, the validity of a test suggesting that they may be prone to subtle racial bias (Lybarger & Monteith, 2011). Critcher and Risen (2014) also found that exposure to individual Black exemplars succeeding in non-stereotypical fields leads people to generalize that structural, objective obstacles for African Americans no longer represent a barrier to African Americans’ advancement as a group in society (i.e., to exhibit greater modern racism; McConahay, 1986).

In the present research, we extend this model of person perception, which to date has exclusively focused on individual exemplars of success, to the study of social progress perceptions for disadvantaged groups. We propose that new information signaling the substantive representation of a stigmatized group (i.e., a mass of individuals beyond token representation) in a domain traditionally dominated by majority group members would come to be generalized to people’s understandings of the overall stigmatized group’s standing in society, and thus influence people’s judgments about the persisting inequality faced by this group in other domains. Specifically, in the context of the current research, we propose that exposure to information reflecting the relatively stronger presence of women at the top of organizations could, perhaps counter-intuitively, decrease people’s concern with the persisting gender inequality that women face in other domains (e.g., the gender pay gap). We theorize that this effect is driven by a change in people’s understandings of the standing of women in general in society, such that exposure to information reflecting the substantive representation of women at the top of organizations may spark a psychological process of overgeneralizing the extent to which women in general have access to equal opportunities as a group. Taken together, we thus hypothesize that people exposed to information reflecting the substantive representation of women at the top of organizations will infer that gender discrimination no longer constitutes an objective obstacle to women’s outcomes in general in society, which, in turn, will lead them to report lower disturbance with concrete evidence of persisting gender inequality in a different domain (e.g., the gender pay gap). Empirical evidence for this effect would represent a theoretical extension of social-cognitive models of person perception into the domain of intergroup dynamics, shifting the focus from individual exemplars of success to substantive social progress collectively experienced by traditionally-disadvantaged groups.

**Alternative Mechanisms**

It is important to note that an alternative account within the theoretical tradition of exemplar-based information processing, the “generalized appraisal” perspective (Bodenhausen et al., 1995; Dasgupta & Greenwald, 2001; Smith, 1992), would argue for the opposite, i.e., that perceiving greater female representation in top leadership would engender greater concern with ongoing inequality. Past research from this perspective has found that exposing people tosuccessfulBlack exemplars (e.g., Barack Obama, Oprah Winfrey) can decrease implicit anti-Black prejudice and implicit stereotyping (Bernstein, Young, & Claypool, 2010; Columb & Plant, 2011, 2016; Dasgupta & Greenwald, 2001; Plant et al., 2009), and increase awareness of racial discrimination in society (Bodenhausen et al., 1995). However, because generalized appraisal is an affect-based model of intergroup dynamics, whereby positive associations with a known and well-liked individual spread to the group (Gawronski & Bodenhausen, 2006), we see it as less relevant to the current investigation which focuses on women’s overall representation in top leadership without emphasizing well-liked individuals who would spark the relevant affective dynamics. Regardless, given the existence of a strong alternative hypothesis, we suggest it is even more important to empirically test whether and how exposure to information about women’s relatively strong representation in top leadership shapes people’s attitudes toward persisting inequality in organizations.

The question could also be asked whether information about substantive progress in the domain of top leadership representation could serve as a moral license for people to express less disturbance with persisting inequality in other domains (Effron, Cameron, & Monin, 2009; Kouchaki, 2011; Monin & Miller, 2001). This account would predict the same effect, but with a different psychological process as the explanation. Because no past research has identified a direct measure of moral licensing processes, this alternative can only be addressed at the theoretical level and indirectly through the data. Moral licensing occurs when people have a pre-existing attitude or belief that could be perceived as immoral, and which they only feel able to express after doing, or seeing others do, something moral – which functions as the license (Effron et al., 2009; Kouchaki, 2011; Miller & Effron, 2010). In the context of this paper, a moral licensing explanation would demand that (1) people (including women) *a priori* want to deny the existence of gender discrimination, and (2) that people believe their denial of gender discrimination could reduce their moral standing. Supporting condition (1), system justification theory posits that people in general, including disadvantaged group members, are motivated to justify the system in order to preserve a belief that the system is fair and legitimate (Jost, Banaji, & Nosek, 2004; Jost, Pelham, Sheldon, & Sullivan, 2003; Jost & Banaji, 1994) – thus suggesting that people may well be motivated to deny the existence of gender discrimination. Moreover, supporting condition (2), people could view their own denial of gender discrimination as potentially discrediting, because such belief could be seen as signaling prejudice against women rather than as simply reflecting inaccurate perceptions that gender discrimination no longer exists (Critcher & Risen, 2014; Tetlock, 1994). While a moral licensing account is thus possible, it would also make a prediction that diverges from what our theorizing predicts. Since moral licensing is a domain-general process (Miller & Effron, 2010), a moral licensing account would predict that perceiving gender progress in the domain of top leadership representation should license people to express more of any belief that might otherwise be considered discrediting. Given this, we empirically investigated the possibility of a moral licensing explanation in Study 1 by including a measure of disturbance with gender-unrelated inequality. Specifically, in the context of Study 1, a moral licensing account would predict that after seeing evidence of women’s progress in top leadership, people would exhibit lower disturbance with persisting inequality in any other domain, whether gender-related or not – in contrast to our hypothesis, which predicts lower disturbance with persisting gender-related inequality only.

Finally, we investigate one additional alternative account: people’s attributions for why gender-based wage inequality exists. In this account, perceiving substantive gender progress in the domain of top leadership representation may reduce disturbance with persisting gender inequality in the domain of pay through greater attributions of gender-based wage inequality to women’s personal career choices – such as their decisions about what career to pursue, or their chosen level of investment in family versus work. From this perspective, greater perceptions of female representation in top leadership may produce greater insensitivity to persisting gender inequality in the domain of pay by leading people to inflate women’s purported responsibility for said inequality rather than by leading them to downplay the existence of structural barriers facing women’s access to equal opportunity (i.e., the overgeneralization process that we hypothesized above). Theoretically, both accounts appear plausible, and Study 3 therefore investigates this potential alternative process.

**Current Research**

The current research investigates whether perceiving social progress in one domain of gender inequality – women’s representation in leadership – influences people’s disturbance with ongoing gender inequality in other domains. We hypothesize that when people see women’s representation in leadership as strong (i.e., denoting progress), they will overgeneralize to infer that gender inequality no longer represents a problem for women as a group and, as a result, will exhibit less disturbance with concrete evidence of ongoing gender inequality (e.g., the gender wage gap). We tested these hypotheses in 5 pre-registered studies[[1]](#footnote-1). Study 1 is an experiment in which we manipulate perceptions of female representation to investigate how these perceptions affect people’s concern with a concrete instance of persisting gender inequality (the gender pay gap), as opposed to gender-unrelated inequality (wealth inequality in the country). In addition to offering a direct test of the hypothesized effect, this first study tests our argument that the hypothesized effect arises due to group-specific information assimilation by testing whether the manipulation shapes responses to gender-unrelated inequality (and predicting no effect). Study 2a and its replication Study 2b take a correlational approach to initially testing the hypothesized psychological mechanism – the overgeneralization of women’s access to equal opportunities. Study 3 then provides an experimental test of the proposed mechanism, investigates attributions of the gender pay gap to women’s personal career choices as an alternative mechanism, and introduces a control condition to determine the directionality of the effect. Finally, Study 4 conceptually replicates Study 3 by measuring concern with ongoing gender inequality in both pay and other domains, to show that the outcome is not limited to the domain of pay only. These five studies received approval from our research ethics committee, and we report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the methods below or in the supplementary materials (Simmons, Nelson, & Simonsohn, 2012).

**Study 1**

To investigate whether perceiving substantive gender progress in one domain – top leadership representation – would affect participants’ disturbance with ongoing inequality in another – the domain of pay – we manipulated participants’ perceptions of female representation at the top of U.S. organizations and measured their disturbance with the gender pay gap. To ensure that any effects of our manipulation would be specific to gender inequality, and to investigate the moral licensing account, we also measured disturbance with a type of inequality not related to gender, namely wealth inequality. We predicted that participants in the high (versus low) female representation condition would report lower disturbance with the gender pay gap, but not with wealth inequality – contrary to a moral licensing account, which would predict lower disturbance with both.

**Methods**

**Participants.** Across all studies in this program of research, we set our sample size goal as 150 per cell. In order to account for potential attrition, we over-sampled. Sample size decisions were always made a priori and pre-registered. Data were collected in a single wave and analyzed only after each study was complete. In Study 1, we thus recruited 351 employed participants from Amazon’s Mechanical Turk, who were compensated $2 for their participation (in line with lab policy on approximating adjusted average living wages estimated for the study length). In line with Peer, Vosgerau, and Acquisti's (2014) recommendations for achieving data quality through MTurk, we recruited only participants with a high reputation (i.e., above 95% approval ratings). Twenty participants expressed suspicion about the manipulation, and were thus excluded from our analyses following the exclusion criteria defined in advance in our pre-registration form, leaving 331 participants (*MAge* = 35.25, *SDAge* = 10.73, 167 men, 163 women, 1 third gender, 251 Whites, 23 African Americans, 15 Latin Americans, 4 Native Americans, 5 East-Asian Americans, 4 South-East Asian Americans, 6 South-Asian Americans, 2 Middle-Eastern Americans, 3 identified as “Other”, 18 identified as Multiracial, 244 full-time workers, 87 part-time workers). We note that for Study 1 and all studies following, the results reported below and in the Supplementary Online Material do not substantially change when participants reporting suspicion (or providing too-slow responses; see Studies 3 and 4) are included in the analyses.

**Procedure.** Because we wanted to increase the likelihood that gender inequality in employment settings would be an immediately and personally relevant topic for our participants, we first asked participants to answer a qualification question regarding their current employment status. Those who listed themselves as unemployed, retired, or not currently working were pre-screened out of the survey, and only employed participants (full- or part-time) entered the survey. Participants then completed a consent form, were randomly assigned to one of the two experimental conditions, and completed the measures described below.

**Experimental manipulation.** The experiment had a two-cell between-subjects design, and manipulated perceptions of female representation in the top levels of U.S. organizations. Participants were randomly assigned to one of the two conditions, and given an article entitled “The three most notable business lessons from 2015”, which was crafted by the authors as the experimental manipulation (see SOM). The first two columns, which were exactly the same across conditions, offered content regarding brainstorming and corporate culture, and were included to maintain the cover story that participants were presented with a real business article. The third column concerned gender diversity in top management in the U.S., and contained the key manipulation. In order to expose participants to information reflecting substantive progress in women’s representation at the top levels of U.S. organizations, the *high female representation condition* said that women’s representation in top leadership was strong in 2015.

**Gender Diversity In Top Management: Strong**

Thinking about women business leaders, Sheryl Sandberg (COO of Facebook) might come to mind. It turns out that she is far from alone. The recently released numbers are clear: there is a strong representation of women among top directors and executive officers in the U.S. The senior researcher responsible for the report, Morgan Johnson, commented, “Objectively, the level of female representation in top management, such as corporate boards, c-suite, and partner-level positions, is quite strong in the U.S.”. This assessment holds when considering companies from the Fortune 500 (companies with the largest market value) and from the S&P 500 (companies that are industry leaders).

The comparison condition, by contrast, was intended to reflect the *low female representation condition*, and therefore indicated that women’s representation in top leadership in 2015 was low:

**Gender Diversity In Top Management: Low**

Thinking about women business leaders, Sheryl Sandberg (COO of Facebook) might come to mind. It turns out that she is far from the norm. The recently released numbers are clear: there is a low representation of women among top directors and executive officers in the U.S. The senior researcher responsible for the report, Morgan Johnson, commented, “Objectively, the level of female representation in top management, such as corporate boards, c-suite, and partner-level positions, is quite low in the U.S.”. This assessment holds when considering companies from the Fortune 500 (companies with the largest market value) and from the S&P 500 (companies that are industry leaders).

**Measures.** After reading their randomly-assigned article, participants completed the following measures.

***Manipulation check*.** After reading the article, participants were asked to indicate their perception of the level of female representation in top management positions in U.S. organizations, using a Likert scale ranging from 1 (“There is a low representation of women in top management”) to 6 (“There is a high representation of women in top management”).

***Disturbance with the gender pay gap*.** Participants were presented with six factual statistics describing a concrete form of ongoing gender inequality in the workplace: the gender pay gap. Sample items are: “Recent statistics confirm that across all jobs, women who work full-time earn 78 cents for every dollar a man earns for the same work” (DeNavas-Walt & Proctor, 2014), “Recent statistics show that the more education a woman has, the more underpaid she is relative to a man with the same education” (U.S. Bureau of Labor Statistics, 2010; α = 0.97). Participants indicated the extent to which they felt disturbed by each fact using a Likert scale ranging from 1 “Not at all disturbed” to 7 “Extremely disturbed” (see SOM for full measure).

***Disturbance with wealth inequality*.** In order to test the prediction that any effects of the manipulation should be specific to gender inequality, we also asked participants to indicate how disturbed they were by a type of inequality unrelated to gender: wealth inequality in the United States. Participants were thus presented with six factual statistics, adapted from Savani and Rattan (2012), which depicted discrepancies in the wealth distribution in the United States, but did not refer to gender. Sample items were: “Recent statistics show that the richest 1% of people in the U.S. own 45% of all wealth in the country”, “Recent statistics show that between 1990 and 2010, the average worker’s salary has risen by less than 5%, whereas the average CEO’s salary has risen by 500%” (α = 0.92). For each of these items, participants indicated the extent to which they felt disturbed by these facts using a Likert scale ranging from 1 “Not at all disturbed” to 7 “Extremely disturbed”.

Finally, participants completed demographic measures, including gender and a standard measure of political ideology: “How would you describe your political views?” (1 “Extremely liberal” to 7 “Extremely conservative”). Participants were also given an opportunity to report suspicion about the content of the article that contained the manipulation on a free response item (which was coded for suspicion by a coder, as noted above). Participants were then debriefed and paid.

**Results**

We first conducted a one-way ANOVA on the manipulation check item to ensure that the manipulation had been effective. Results showed that this was the case: Participants randomly assigned to the high female representation condition reported a significantly higher representation of women in top management than participants randomly assigned to the low female representation condition, *MHigh* = 3.64, *SD* = 1.39, *MLow* = 2.29, *SD* = 1.31, *F*(1, 329) = 82.17, *p*< 0.001, = 0.200, 90% CI [0.139; 0.261][[2]](#footnote-2).

We then conducted a 2 (Female representation condition: low vs. high) x 2 (Type of inequality: gender vs. wealth) ANOVA with repeated measures on the second factor. As expected, a significant interaction emerged between the female representation condition and the type of inequality, *F*(1, 329) = 7.60, *p*= 0.006, = 0.023, 90% CI [0.004; 0.056]. A Bonferroni-corrected simple effects analysis offered support for the hypothesis: participants in the high female representation condition reported being significantly less disturbed by statistics depicting gender inequality than their counterparts in the low female representation condition, *MHigh* = 4.88, *SD* = 1.80, *MLow* = 5.39, *SD* = 1.63, *F*(1, 329) = 7.14, *p*= 0.008, = 0.021, 90% CI [0.003; 0.054]. In contrast, there was no significant effect of female representation condition on reported disturbance with statistics depicting wealth inequality, *MHigh* = 5.57, *SD* = 1.46, *MLow* = 5.64, *SD* = 1.40, *F*(1, 329) = 0.19, *p*= 0.66, = 0.001, 90% CI [0.000; 0.012] (see Figure 1). Exposure to evidence of strong (versus low) female representation in top leadership thus triggered greater indifference to the gender pay gap, but not to wealth inequality, as hypothesized based on our proposed mechanism (and contrary to the alternative account from moral licensing).

n.s.

*p* = 0.008

*Figure 1*. Significant interaction of Female representation condition (high vs. low) and Type of inequality (gender pay gap vs. wealth inequality) on reported disturbance in Study 1. Error bars represent standard errors of the means.

**Exploratory moderation analyses.** It was also possible that participant gender would be a moderator, consistent with past work on threat perceptions in the context of racial progress (Abascal, 2015; Butz & Yogeeswaran, 2011; Craig & Richeson, 2014a, 2014b, 2016; Danbold & Huo, 2015; Norton & Sommers, 2011; Outten et al., 2012; Skinner & Cheadle, 2016; Wilkins et al., 2016; Wilkins & Kaiser, 2014; Willer et al., 2016). We explored this possibility in supplementary (non-preregistered) analyses that should thus be considered exploratory. However, participant gender did not moderate the relationship between condition and reported disturbance with either type of inequality.

For this study and the following ones, exploratory moderation analyses with (1) gender and (2) political ideology as moderators, are presented in full detail in the SOM. Neither gender nor political ideology consistently moderated the results across studies.

**Study 2a**

We turned to a correlational design to ensure that the psychological dynamics documented in Study 1 also occur naturalistically, and to explore the process by which this effect might emerge. We hypothesized that perceiving more women at the top of U.S. organizations would predict lower disturbance with the gender pay gap through an overgeneralization of the extent to which women have access to equal opportunities.

**Methods**

**Participants.** We recruited 350 Mturkers with at least 95% approval ratings, who were also employed full- or part-time to increase the likelihood that gender inequality in the workplace would be immediately and personally relevant (*MAge* = 35.93, *SDAge* = 10.66; 173 men, 175 women, 2 third gender; 254 Whites, 28 African Americans, 11 Latin Americans, 3 Native Americans, 19 East-Asian Americans, 7 South-East Asian Americans, 3 identified as “Other”, 25 identified as Multiracial; 271 full-time workers, 79 part-time workers). Participants were paid $2 for their participation.

**Procedure.** Participants were presented with a consent form and were given access to the survey only if they indicated that they worked full or part time on the pre-survey.

**Measures.**

***Perceptions of gender diversity in U.S. organizations in general*.** Participants estimated the percentage of women in the top levels of management of organizations in general in the U.S., by responding to the following item: “Think about the top levels of organizations in the U.S. in general - by this we mean the CEOs, the senior management (CFO, COO, Partners etc.), the Board of Directors and others at the top of the leadership hierarchy in the workplace. What, in your best estimation, is the percent of women in the top level of management?” Participants indicated their response on a slider scale ranging from 0% to 100% in increments of 1%.

***Overgeneralization of women’s access to opportunities*.** To capture the psychological process of overgeneralizing women’s equal access to opportunities, we drew on a well-established scale in the study of gendered social attitudes, the Modern Sexism Scale (Swim, Aikin, Hall, & Hunter, 1995). This standard, uni-dimensional scale (α = 0.92) captures people’s tendency to deny the existence of continuing discrimination against women (5 items; e.g., “Discrimination against women is no longer a problem in the United States”, reverse-scored), express antagonism to women's demands (2 items; e.g., “It is easy to understand the anger of women’s groups in America”), and express resentment about undeserved special favors toward women (1 item; “Over the past few years, the government and news media have been showing more concern about the treatment of women than is warranted by women’s actual experiences”, reverse-scored).

While there could be debate as to whether denying the existence of gender discrimination, the legitimacy of women’s protests, and the need for attention to gender discrimination accurately assesses sexism, or simply measures an inaccurate perception that sexism no longer exists (cf. Critcher & Risen, 2014; Tetlock, 1994), either way the Modern Sexism Scale serves an appropriate operationalization of our hypothesized mediator – the perception that women as a group possess equal access to opportunity. Participants indicated their responses on a Likert scale ranging from 1 (“Strongly agree”) to 5 (“Strongly disagree”).

***Disturbance with the gender pay gap*.** Participants rated their disturbance with the six factual statistics used in Study 1 to describe the gender pay gap (α = 0.97).

Finally, participants completed demographic measures, were thanked and paid.

**Results**

We regressed disturbance with the gender pay gap on perceptions of women’s representation (see Table 1 for means, standard deviations, and correlation table.[[3]](#footnote-3))

Table 1

*Correlations among, and descriptive statistics for key measures in Study 2a.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | *M* (*SD*) | 1 | 2 | 3 |
| 1. Perceptions of female representation in U.S. organizations | 23.99%  (15.15%) |  | 0.23  \*\*\* | -0.11  \* |
| 2. Overgeneralization of women’s access to equal opportunities | 2.42  (0.95) |  |  | -0.57  \*\*\* |
| 3. Disturbance with the gender pay gap | 5.09  (1.73) |  |  |  |

*Note. N* = 350.\*\*\* = *p* < 0.001, \*\* = *p* < 0.01, \* = *p* < 0.05, † = *p* < 0.10.

Consistent with Study 1 and supporting our hypothesis, perceptions of female representation significantly predicted disturbance with the gender pay gap, *b* = -0.01, *SE* = 0.01, *t*(348) = -2.01, *p* = 0.045, 95% CI [-0.024; -0.0003]. We note that perceptions of female representation were measured as a percentage reported on a 100-point scale, which must be noted in the interpretation of unstandardized betas for this study.

We then tested the hypothesized indirect effect using the Process macro (Preacher & Hayes, 2008), Model 4, 10,000 bootstrapped samples with perceptions of female representation as X, disturbance with the gender pay gap as Y, and overgeneralization of women’s access to equal opportunities as M (see Figure 2). The indirect effect of perceptions of female representation on disturbance with the gender pay gap through overgeneralization of women’s access to equal opportunities was supported, indirect effect = -0.015, *SE* = 0.003, 95% CI [-0.022; -0.010]. In sum, as hypothesized, perceptions of greater female representation significantly predicted an overgeneralization of women’s access to equal opportunities, which in turn was significantly related to lower disturbance with gender inequality in a different domain, the gender pay gap.

*a* = 0.015

*SE* = 0.003

[0.008; 0.021]

*p* < 0.001

Perceptions of female representation

(1-100%)

Overgeneralization

of women’s access

to equal opportunities

Disturbance with the gender pay gap

*b =* -1.047

*SE* = 0.082

[-1.209; -0.885]

*p* < 0.001

*c’ =* 0.003

*SE* = 0.005

[-0.007; 0.013]

*p* = 0.552

Indirect effect = -0.015, *SE* = 0.003, 95% CI [-0.023; -0.010]

*Figure 2*. Mediation analysis conducted in Study 2a with Overgeneralization of women’s access to equal opportunities as the mediator (M), perceptions of female representation as the independent variable (X), and disturbance with the gender pay gap as the dependent variable (Y) (corresponding to Model 4 in Preacher & Hayes (2008)). Note that perceptions of female representation were reported as a percentage (i.e., a 100-point scale) and betas must therefore be interpreted in the context of a single point shift on this 100-point scale.

Although we did not pre-register analyses with controls, it is important to consider the potentially confounding role of demographic characteristics in shaping the results of correlational studies (Angrist & Pischke, 2008; Reis & Gosling, 2010). To ensure that the correlational results reported above are not spurious, we re-ran the previous analyses controlling for demographic characteristics in exploratory analyses (see SOM for full details). After accounting for these, the effect of perceptions of female representation on disturbance with the gender pay gap became non-significant. This non-significant effect, however, does not preclude the existence of the predicted indirect effect of perceptions of female representation on disturbance with the gender pay gap through overgeneralization of women’s access to equal opportunities (e.g., because indirect effects necessitate less statistical power to be detected than their corresponding total effects, or because of suppression effects; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Rucker, Preacher, Tormala, & Petty, 2011; Shrout & Bolger, 2002; Zhao, Lynch, & Chen, 2010), for which we still found evidence. Thus, these exploratory analyses still offer support for the hypothesized effect and process.

Study 2a identifies the overgeneralization of women’s access to equal opportunities as a psychological process driving the relationship between greater perceptions of gender progress in the domain of top leadership representation and lower concern with persisting gender inequality in the domain of pay.

**Study 2b**

Participants in Study 2a were selected to be full- or part-time workers – those for whom gender inequality in the workplace may be most immediately and personally relevant. In Study 2b, we sought to replicate Study 2a in a large and approximately representative sample of the U.S. population in terms of gender and race. To do so, we re-analyzed a dataset collected for another publication (Georgeac, Rattan, & Effron, in press), to investigate the present research question. The data were collected to investigate the effects of the 2016 U.S. presidential election outcome on people’s social attitudes, and in order to avoid overlap with the analyses reported in this manuscript, we only used the data collected pre-election in the analyses below, which were pre-registered.

**Methods**

**Participants.** We hired Survey Sampling International to recruit an approximately representative sample of the U.S. population in terms of gender and ethnicity: equal numbers of men and women, and a representation of the ethnic groups in line with the U.S. Census Bureau's (2011) statistics (i.e., 63.7% of Non-Hispanic Whites, 12.2% of Non-Hispanic Blacks; 4.7% of Non-Hispanic Asians, 16.3% of Hispanics or Latinos, and 3.0% of Others). Some ethnicity quotas however had to be waived due to the time constraint of ending data collection early morning of Election Day. Only participants who declared being American and had a U.S. IP address were allowed to take the survey.

Our final sample consisted of 1,098 U.S. participants (*MAge* = 33.87, *SD* = 16.63; 531 men, 564 women, 3 other gender; 747 European Americans, 157 African Americans, 55 Asian Americans, 97 Hispanic or Latino Americans, 42 other race; 463 full-time workers, 133 part-time workers, 71 unemployed, 95 not currently working (e.g., stay at home parent, on leave, etc.), 336 retired; 622 Clinton supporters, 351 Trump supporters, 115 third-party or independent candidate supporters).

**Procedure.** Participants first provided demographic screening information, and were presented with an attention check question. Those who passed it went on to complete the measures described below, among which a second attention check was embedded. Prior to analysis, we excluded participants who failed to complete either attention check (pre-registered), did not complete the survey or completed the survey in less than one-third of the median completion time (lab-standard practice).

**Measures.**

***Perceptions of gender diversity in U.S. organizations in general.*** Participants estimated the percentage of women in the top levels of management of organizations in general in the U.S., by responding to one-item measure used in Study 2a.

***Overgeneralization of women’s access to opportunities.*** Participants completed the Modern Sexism Scale (α = 0.87) (see Study 2a Methods for a detailed description of the measure).

***Disturbance with the gender pay gap.*** Participants were presented with the six factual statistics used in Study 1 to describe the gender pay gap (α = 0.97).

Finally, participants provided standard demographic information, and indicated if they had already voted (in early voting), or intended to vote in the 2016 U.S. presidential election, and for whom (if applicable).

**Results**

We again conducted a series of regression analyses to investigate whether the overgeneralization of women’s access to opportunities mediated the predicted relationship between perceptions of female representation at the top of U.S. organizations and disturbance with the gender pay gap (see Table 2 for means, standard deviations, and correlation table).

Table 2

*Correlations among, and descriptive statistics for key measures in Study 2b.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variables | *M* (*SD*) | 1 | | 2 | 3 |
| 1. Perceptions of female representation in U.S. organizations | 30.36%  (19.89%) | |  | 0.33  \*\*\* | -0.08  \* |
| 2. Overgeneralization of women’s access to equal opportunities | 2.50  (0.83) |  | |  | -0.60  \*\*\* |
| 3. Disturbance with the gender pay gap | 5.34  (1.57) |  | |  |  |

*Note. N* = 1,098.\*\*\* = *p* < 0.001, \*\* = *p* < 0.01, \* = *p* < 0.05, † = *p* < 0.10.

First, we regressed disturbance with the gender pay gap on perceptions of women’s representation. Consistent with Studies 1 and 2a, perceptions of female representation significantly predicted disturbance with the gender pay gap, *b* = -0.01, *SE* = 0.002, *t*(1,096) = -2.49, *p* = 0.013, 95% CI [-0.011; -0.001] (in this study again, perceptions of female representation were measured as a percentage reported on a 100-point scale, which is important for the interpretation of betas).

Moreover, regressing overgeneralization of women’s access to equal opportunities on perceptions of female representation revealed that perceptions of female representation was a significant predictor, *b* = 0.01, *SE* = 0.001, *t*(1,096) = 11.51, *p* < 0.001, 95% CI [0.011; 0.016].

Next, we tested the hypothesized process using the Process macro (Preacher & Hayes, 2008), Model 4, 10,000 bootstrapped samples with perceptions of female representation as X, disturbance with the gender pay gap as Y, and overgeneralization of women’s access to equal opportunities as M (see Figure 3). The indirect effect of perceptions of female representation on disturbance with the gender pay gap through overgeneralization of women’s access to equal opportunities was supported, indirect effect = -0.017, *SE* = 0.002, 95% CI [-0.020; -0.014]. In sum, as hypothesized, perceptions of greater female representation significantly predicted greater overgeneralization of women’s access to equal opportunities, which in turn was significantly related to lower disturbance with gender inequality in a different domain, the gender pay gap.

*a* = 0.014

*SE* = 0.001

[0.011; 0.016]

*p* < 0.001

Perceptions of female representation

(1-100%)

Overgeneralization

of women’s access

to equal opportunities

Disturbance with the gender pay gap

*b =* -1.211

*SE* = 0.048

[-1.304; -1.117]

*p* < 0.001

*c’ =* 0.011

*SE* = 0.002

[0.007; 0.015]

*p* < 0.001

Indirect effect = -0.017, *SE* = 0.002, 95% CI [-0.020; -0.014]

*Figure 3*. Mediation analysis conducted in Study 2b with Overgeneralization of women’s access to equal opportunities as the mediator (M), perceptions of female representation as the independent variable (X), and disturbance with the gender pay gap as the dependent variable (Y) (corresponding to Model 4 in Preacher & Hayes (2008)). Note that perceptions of female representation were reported as a percentage (i.e., a 100-point scale) and betas must therefore be interpreted in the context of a single point shift on this 100-point scale.

Consistent with our analytical approach in Study 2a, we also conducted non-preregistered, exploratory regression analyses with controls, to account for their potential confounding role in shaping the findings reported above (see SOM for full details). After accounting for control variables, the effect of perceptions of female representation and disturbance with the gender pay gap became non-significant, but as before the indirect effect of perceptions of female representation on disturbance with the gender pay gap through overgeneralization of women’s access to equal opportunities remained significant above and beyond control variables.

In sum, Study 2b replicates Study 2a in an approximately representative national sample, bolstering external validity for the finding that perceptions of female representation in top corporate levels in the U.S. are significantly related to lower disturbance with the gender pay gap through an overgeneralization of women’s access to equal opportunities.

**Study 3**

Study 3 was conducted to experimentally test the process observed in the correlational Studies 2a and 2b in order to be able to draw causal conclusions. We also tested an alternative mechanism: attributions about women’s personal career choices. This alternative account would suggest that perceiving progress in the domain of women’s top leadership representation may generate greater insensitivity to persisting gender inequality in the domain of pay by leading people to play up women’s purported responsibility for said inequality. Study 3 thus aimed to address this potential alternative process to provide a more fine-grained understanding of the mechanism driving the effect of perceived gender progress on disturbance with persisting gender inequality. Finally, Study 3 introduces a neutral control condition (in addition to the low and high female representation conditions used in Study 1) in order to investigate the directionality of the effect. We hypothesized that participants randomly assigned to the high female representation condition would report lower disturbance with the gender pay gap and greater overgeneralization of women’s access to equal opportunities compared to participants in the control and low female representation conditions. In addition, we predicted that the potential alternative mechanism, attributions of the gender pay gap to women's personal career choices, would be greater in the high versus low female representation condition. Because this measure was new, we had no a priori prediction about where the control condition would fall.

**Methods**

**Participants.** We recruited 595 Mturkers with at least 95% approval ratings, who declared being either full-time or part-time workers, and were paid $1.75. In line with pre-registered exclusion criteria, we excluded one hundred and forty-one participants who expressed suspicion regarding the article containing the manipulation, failed an attention check, or took more than one-third of the average time to respond to each of six questions about the gender pay gap (indicating a potential lack of attention, or an attempt to search for information on the Internet). This resulted in a sample of 454 participants (*MAge* = 34.17, *SDAge* = 9.90, 185 men, 263 women, 6 third gender, 323 Whites, 44 African Americans, 21 Latin Americans, 1 Native American, 28 East-Asian Americans, 9 South-East Asian Americans, 3 South-Asian Americans, 2 Middle Eastern Americans, 23 identified as Multiracial, 333 full-time workers, 121 part-time workers). We note that all significant results reported below or in the SOM remained significant when including the excluded participants.

**Procedure.** Onlyparticipants who reported working full- or part-time were allowed to access the survey. Participants filled in a consent form, and were then randomly assigned to see an article that described the level of female representation at the top of U.S. organizations as low (low female representation condition), strong (high female representation condition), or as yet unknown (control condition). Participants then responded to a manipulation check and filler questions about the article, before answering an attention check and the measures described below.

**Experimental manipulation.** Participants were randomly assigned to one of three conditions: the *low female representation* *condition*, the *high female representation* *condition*, or the *control* *condition*. Participants assigned to the low or high female representation conditions read the same articles as those used in Study 1 (see SOM for full articles). In order to expose participants to information relevant to women’s representation at the top levels of U.S. organizations without indicating whether there had been substantive progress or not in this domain, the *control condition* described women’s representation in top leadership in 2017 as yet unknown:

**Gender Diversity In Top Management: People Want To Know**

Thinking about women business leaders, Sheryl Sandberg (COO of Facebook) might come to mind. Is she the norm, or alone? The recently collected numbers are not out yet, but many people want to know whether there is a low or strong representation of women among top directors and executive officers in the U.S. The senior researcher responsible for the upcoming report, Morgan Johnson, commented, “Objectively, there is a lot to learn about the level of female representation in top management, such as corporate boards, c-suite, and partner-level positions in the U.S.”. When released, the assessment will hold when considering companies from the Fortune 500 (companies with the largest market value) and from the S&P 500 (companies that are industry leaders).

**Measures.**

***Overgeneralization of women’s access to opportunities.*** Participants completed the Modern Sexism Scale (α = 0.89) (see Study 2a Methods for a detailed description of the measure).

***Attributions of the gender pay gap to women’s personal career choices.*** Participants indicated their agreement with four statements attributing the gender pay gap to men’s and women’s different career choices. Samples items are: “In your opinion, how much do differences in men's and women's career choices explain differences in men's and women's career outcomes (such as the pay they receive)?”, “In your opinion, how much does ongoing gender inequality in pay come from differences in men's and women's levels of investment in career versus family?” (α = 0.90). Participants responded using a Likert scale ranging from 1 “Not at all” to 5 “Extremely”.

***Disturbance with the gender pay gap.*** Participants indicated the extent to which they felt disturbed by each of the six factual statistics used in Study 1 to describe the gender pay gap (α = 0.96).

**Results**

A one-way ANOVA on the manipulation check indicated that the manipulation was effective, *F*(2, 451) = 60.07, *p*< 0.001, = 0.210, 90% CI [0.156; 0.261]. Bonferroni-corrected post hoc tests showed that participants randomly assigned to the high female representation condition reported a significantly higher level of female representation at the top of U.S. organizations relative to participants in the control condition, *MHigh* = 3.89, *SD* = 1.39, *MControl* = 2.82, *SD* = 1.34, *p* < 0.001, 95% CI [0.691; 1.449], and in the low female representation condition, *MLow* = 2.15, *SD* = 1.33, *p* < 0.001, 95% CI [1.358; 2.124]. Participants in the control condition also reported significantly higher female representation compared to participants in the low female representation condition, *p* < 0.001, 95% CI [0.308; 1.034].

We then conducted a one-way ANOVA of female representation on disturbance with the gender pay gap. There was no significant effect of condition, *MHigh* = 5.09, *SD* = 1.65, *MControl* = 5.46, *SD* = 1.57, *MLow* = 5.35, *SD* =1.65, *F*(2, 451) = 1.94, *p* = 0.15, = 0.009, 90% CI [0.000; 0.025].

In line with findings in Studies 2a-2b, a one-way ANOVA with female representation condition as the independent variable on the measure of overgeneralization of women’s access to equal opportunities found a significant effect of condition, *F*(2, 451) = 5.23, *p* = 0.006, = 0.023, 90% CI [0.004; 0.048]. As hypothesized, Bonferroni-corrected post hoc tests revealed that participants in the high female representation condition overgeneralized women’s access to equal opportunities significantly more compared to participants in the low female representation condition, *MHigh* = 2.54, *SD* = 0.84, *MLow* = 2.24, *SD* = 0.86, *p* = 0.009, 95% CI [0.060; 0.541], and compared to participants in the control condition, *MControl* = 2.28, *SD* = 0.85, *p* = 0.025, 95% CI [0.025; 0.501]. There was no significant difference in the extent to which participants in the low female representation and control conditions overgeneralized women’s access to equal opportunities, *p* = 1.0, 95% CI [-0.191; 0.265]. In sum, the effect of condition on overgeneralization of women’s access to equal opportunities is driven by perceptions of substantive gender progress rather than by a lack thereof.

We then conducted a one-way ANOVA of female representation on attributions of persisting gender-based wage inequality to women's personal career choices. We found no significant effect of condition on this measure, *MHigh* = 2.63, *SD* = 1.02, *MControl* = 2.52, *SD* = 1.13, *MLow* = 2.54, *SD* =1.01, *F*(2, 451) = 0.46, *p* = 0.63, = 0.002, 90% CI [0.000; 0.011].

Because meaningful indirect effects can emerge in the absence of a significant total effect (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Rucker, Preacher, Tormala, & Petty, 2011; Shrout & Bolger, 2002; Zhao, Lynch, & Chen, 2010), we next investigated the hypothesized indirect effects of the female representation condition on disturbance with the gender pay gap, through overgeneralization of women’s access to equal opportunities and attributions of persisting gender-based wage inequality to women's personal career choices[[4]](#footnote-4). We used the Process macro (Preacher & Hayes, 2008), Model 4, 10,000 bootstrapped samples with female representation condition as X, disturbance with the gender pay gap as Y, overgeneralization of women’s access to equal opportunities as M1 and attributions of persisting gender-based wage inequality to women's personal career choices as M2 (Figure 4). As predicted, the indirect effect of female representation condition on disturbance with the gender pay gap, through overgeneralization of women’s access to equal opportunities was significant, indirect effect = -0.149, *SE* = 0.052, 95% CI [-0.253; -0.049]. That is, the high female representation condition led to greater overgeneralization of women’s access to equal opportunities, which in turn predicted lower disturbance with the gender pay gap. In contrast, the indirect effect of female representation condition on disturbance with the gender pay gap, through attributions of persisting gender-based wage inequality to women’s personal career choices was not supported, indirect effect = -0.015, *SE* = 0.021, 95% CI [-0.062; 0.023]. These results indicate that the alternative potential mechanism investigated is not supported.

*a2* = 0.044

*SE* = 0.062

[-0.078; 0.166]

*p* = 0.480

*a1* = 0.147

*SE* = 0.050

[0.048; 0.245]

*p* = 0.004

X

Female representation condition

M1

Overgeneralization

of women’s access

to equal opportunities

Y

Disturbance with the gender pay gap

*b1 =* -1.018

*SE* = 0.076

[-1.167; -0.869]

*p* < 0.001

*c’ =* 0.042

*SE* = 0.072

[-0.100; 0.185]

*p* = 0.558

Indirect effect1 = -0.149, *SE* = 0.052, 95% CI [-0.253; -0.049]

Indirect effect2 = -0.015, *SE* = 0.021, 95% CI [-0.062; 0.023]

M2

Attributions of persisting

gender-based wage inequality

to women’s personal

career choices

*b2 =* -0.340

*SE* = 0.061

[-0.460; -0.220]

*p* < 0.001

*Figure 4*. Mediation analysis conducted in Study 3 with Overgeneralization of women’s access to equal opportunities as the proposed mediator (M1), Attributions of persisting gender-based wage inequality to women’s personal career choices as the alternative mediator (M2), female representation condition as the independent variable (X), and disturbance with inequality across various domains of gender inequality as the dependent variable (Y) (corresponding to Model 4 in Preacher & Hayes (2008)).

Although there was no direct effect of condition on attributions to women's personal career choices, we considered the possibility that condition could shape this outcome through overgeneralization. That is, downplaying structural barriers to equal opportunity may precede a tendency to play up women’s purported responsibility in the persistence of gender inequality – for instance, by attributing the gender pay gap to women’s personal career choices. Through this process, such attributions could then predict lower disturbance with persisting gender inequality in the domain of pay. Given this possibility, in an exploratory analysis, we tested the Process macro (Preacher & Hayes, 2008), Model 6, 10,000 bootstrapped samples with female representation condition as X, overgeneralization of women’s access to equal opportunities as M1, attributions of persisting gender-based wage inequality to women's personal career choices as M2, and disturbance with the gender pay gap as Y(Figure 5). We found that the indirect effect of female representation condition on disturbance with the gender pay gap, through overgeneralization of women’s access to equal opportunities and attributions of persisting gender-based wage inequality to women’s personal career choices, was significant, indirect effect = -0.028, *SE* = 0.012, 95% CI [-0.058; -0.010]. That is, perceptions of greater female representation predicted greater overgeneralization of women’s access to equal opportunities, which itself was positively related to attributions of the gender pay gap to women’s personal career choices. In turn, such attributions predicted lower disturbance with the gender pay gap.

*d* = 0.567

*SE* = 0.052

[0.465; 0.670]

*p* < 0.001

*a1* = 0.147

*SE* = 0.050

[0.048; 0.245]

*p* = 0.004

X

Female representation condition

M1

Overgeneralization

of women’s access

to equal opportunities

Y

Disturbance with the gender pay gap

*b2 =* -0.340

*SE* = 0.061

[-0.460; -0.220]

*p* < 0.001

*c’ =* 0.042

*SE* = 0.072

[-0.100; 0.185]

*p* = 0.558

Indirect effect = -0.028, *SE* = 0.012, 95% CI [-0.058; -0.010]

M2

Attributions of persisting

gender-based wage inequality

to women’s personal career choices

*a2* = -0.039

*SE* = 0.056

[-0.149; 0.071]

*p* = 0.48

*b1 =* -1.018

*SE* = 0.076

[-1.167; -0.869]

*p* < 0.001

*Figure 5*. Serial mediation analysis conducted in Study 3 with Overgeneralization of women’s access to equal opportunities as the primary mediator (M1), Attributions of persisting gender-based wage inequality to women’s personal career choices as the secondary mediator (M2), female representation condition as the independent variable (X), and disturbance with inequality across various domains of gender inequality as the dependent variable (Y) (corresponding to Model 6 in Preacher & Hayes (2008)).

Consistent with the correlational findings in Studies 2a-2b, and in line with our pre-registered hypotheses, Study 3 provides experimental evidence that perceiving substantive progress for women in the domain of top leadership representation triggers greater overgeneralization of women’s access to equal opportunities, which in turn predicts lower sensitivity to persisting gender inequality in the domain of pay. Moreover, comparisons between the control condition and the low and high female representation conditions suggest that the effect of condition on overgeneralization of women’s access to equal opportunities is driven by perceptions of substantive gender progress rather than by a lack thereof.

Attributions of the gender pay gap to women’s personal career choices did not drive the effect of perceptions of gender progress in top leadership representation on disturbance with persisting gender inequality in pay. Yet, exploratory analyses suggest that these attributions can be shaped by the mechanism we identify: representation condition predicted overgeneralization, which in turn predicts greater attributions of the gender pay gap to women’s personal career choices, which negatively relate to disturbance with gender-based pay inequality. Taken together, these findings highlight the key role of the overgeneralization process in shifting people’s attributions for the root causes of the gender pay gap, and in predicting insensitivity to persisting gender inequality in the domain of pay.

**Study 4**

Because the studies thus far only used facts about the gender pay gap as the outcome variable, it is possible that the previous effects may be specific to this particular gender inequality. Of course, gender inequality persists across a variety of domains beyond pay for salaried work in an organization. For instance, women working full-time are at a disadvantage compared to full-time employed men in the domain of household chores distribution (U.S. Bureau of Labor Statistics, 2014). The consumer goods industry overcharges women consumers compared to men customers for the same products, which has been termed “gender pricing” (Speier, 1995). The entertainment industry depicts women in ways that often perpetuate harmful stereotypes (Hickey, 2015), and the sports industry regularly remunerates women’s sports teams considerably less than men’s, despite their sometime superior performance (White, 2016). Finally, there is an imbalance in the distribution of venture capital investment money across women and men entrepreneurs (Credit Suisse Research Institute, 2016; Meisler, Rojanasakul, & Diamond, 2016). Thus, the goal of Study 4 was to address this possible limitation of the previous studies by testing whether perceiving a strong representation of women in top leadership shapes concern with ongoing inequality in both pay and these other domains. We hypothesized that being exposed to the idea that women’s representation at the top of U.S. organizations is strong (versus low) would elicit less disturbance with ongoing inequality across the various domains of gender inequality measured, through a greater tendency to overgeneralize the extent to which women have access to equal opportunities.

**Methods**

**Participants.** We recruited 352 Mturkers with at least 95% approval ratings, who declared being either full-time or part-time workers, and were paid $1.75. Twenty-six participants expressed suspicion regarding the article containing the manipulation, and were thus excluded from analyses following pre-registered exclusion criteria, leaving 326 participants (*MAge* = 36.37, *SDAge* = 11.07, 150 men, 174 women, 2 third gender, 242 Whites, 27 African Americans, 5 Latin Americans, 3 Native Americans, 19 East-Asian Americans, 4 South-East Asian Americans, 5 South-Asian Americans, 2 Middle Eastern Americans, 2 identified as “Other”, 17 identified as Multiracial, 260 full-time workers, 66 part-time workers). We note that all significant results reported below or in the SOM remained significant when including those participants who reported suspicion.

**Procedure.** Participants were presented with a consent form and were given access to the survey only if they indicated that they worked full or part time on the pre-survey. Participants were then, as in Study 1, randomly assigned to read an article that described the level of female representation at the top echelons of U.S. organizations as either low (low female representation condition) or strong (high female representation condition). After completing a manipulation check and filler questions about the article’s quality, participants completed the following measures.

**Measures.**

***Overgeneralization of women’s access to opportunities.*** Participants completed the Modern Sexism Scale (α = 0.91) (see Study 2a Methods for a detailed description of the measure).

***Disturbance across various domains of gender inequality.*** Participants were presented with six factual statistics, each of which described a concrete form of ongoing inequality in a domain of gender inequality other than representation, and cited an official source to maximize credibility. The following domains were included: entrepreneurship (“Statistics from Bloomberg show that although women entrepreneurs run 30% of all small businesses and generate $1.4 trillion in sales, they receive just 7% of venture capital investment money”), purchasing power (“Statistics from the California State Assembly Committee on Consumer Protection show that, on average, gendered pricing sums to women spending $1,351 per year more than men for comparable (and in some cases, the same) products (e.g., razors, shampoos, face wash) and services (e.g., dry cleaning)”), housework (“Statistics from the U.S. Bureau of Labor Statistics show that in families where both parents work full-time, women spend three times more hours than men doing housework (e.g., cleaning, doing the laundry)”), entertainment (“Statistics from the OpusData movie database shows that, although women make up a third of doctors and lawyers in the U.S., on TV and movies, only 10% of doctors and lawyers are women.”), sports (“Statistics from the U.S. Soccer Federation show that, despite winning the World Cup 3 times and generating $20 million more in revenue, the U.S. women's soccer team is paid 4 times less than the U.S. men's soccer team, which has never won the World Cup.”), and pay (“Statistics from the U.S. Census Bureau show that the gender pay gap (women make 80 cents for every dollar men earn) has been essentially unchanged for the past 10 years.”) (α = 0.91). Participants indicated the extent to which they felt disturbed by each fact using a Likert scale ranging from 1 “Not at all disturbed” to 7 “Extremely disturbed”.

Finally, participants completed demographic measures, were thanked and paid.

**Results**

A one-way ANOVA on the manipulation check showed that this was the manipulation was effective. Participants randomly assigned to the high female representation condition reported a significantly higher representation of women in top management than participants randomly assigned to the low female representation condition, *MHigh* = 3.64, *SD* = 1.41, *MLow* = 2.22, *SD* = 1.43, *F*(1, 324) = 80.56, *p*< 0.001, = 0.199, 90% CI [0.138; 0.260].

We then conducted a one-way ANOVA of female representation condition on disturbance with the various domains of gender inequality. This analysis showed that there was a marginal non-significant effect of condition, such that participants in the high female representation condition reported marginally lower disturbance with inequality across various domains of gender inequality than counterparts in the low female representation condition, *MHigh* = 4.11, *SD* = 1.66, *MLow* = 4.43, *SD* = 1.64, *F*(1, 324) = 2.94, *p*= 0.087, = 0.009, 90% CI [0.000; 0.034]. Given that this test was pre-registered and directional, a one-tailed statistic could be considered appropriate, in which case *p* = 0.04.

A one-way ANOVA on our measure of overgeneralization of women’s access to equal opportunities with female representation condition as the independent variable showed that participants in the high female representation condition overgeneralized women’s access to equal opportunities significantly more than their counterparts in the low female representation condition, *MHigh* = 2.64, *SD* = 0.98, *MLow* = 2.35, *SD* = 0.94, *F*(1, 324) = 7.36, *p*= 0.007, = 0.022, 90% CI [0.003; 0.055].

We then used the Process macro (Preacher & Hayes, 2008), Model 4, 10,000 bootstrapped samples with female representation condition as X, disturbance with gender inequality across various domains as Y, overgeneralization of women’s access to equal opportunities as M (Figure 6). The indirect effect of female representation condition on disturbance with gender inequality across various domains, through overgeneralization of women’s access to equal opportunities was supported, indirect effect = -0.262, *SE* = 0.101, 95% CI [-0.476; -0.076]. That is, perceptions of greater female representation predicted greater overgeneralization of women’s access to equal opportunities, which in turn was related to lower disturbance with inequality across various domains of gender inequality.

*a* = 0.289

*SE* = 0.106

[0.079; 0.498]

*p* = 0.007

X

Female representation condition

M

Overgeneralization

of women’s access

to equal opportunities

Y

Disturbance with gender inequality across several domains

*b =* -0.908

*SE* = 0.081

[-1.068; -0.748]

*p* < 0.001

*c’ =* -0.052

*SE* = 0.158

[-0.362; 0.258]

*p* = 0.741

Indirect effect = -0.262, *SE* = 0.101, 95% CI [-0.476; -0.076]

*Figure 6*. Mediation analysis conducted in Study 4 with Overgeneralization of women’s access to equal opportunities as the mediator (M), female representation condition as the independent variable (X), and disturbance with inequality across various domains of gender inequality as the dependent variable (Y) (corresponding to Model 4 in Preacher & Hayes (2008)).

Study 4 thus offers further support our hypotheses, offering evidence that perceiving substantive progress for women in one domain engenders greater insensitivity to gender inequality across a variety of other domains, through a greater overgeneralization of women’s access to equal opportunities at work and beyond.

**Mini Meta-Analysis**

The main hypothesis for the experimental studies was that exposure to evidence of substantive gender progress in the domain of top leadership representation would reduce people’s disturbance with persisting gender inequality in other domains. Mini meta-analyses have emerged in social psychology as a method for estimating the reliability and average effect size for a direct effect (Goh, Hall, & Rosenthal, 2016; no established process yet exists for indirect effects). As such, we conducted a mini meta-analysis to test the causal effect of condition on the core outcome of interest for the three experiments, the different measures of disturbance with ongoing gender inequality in other domains. The analysis used fixed effects in which the mean effect size was weighted by sample size. Overall, the effect was significant, *Mean* *d* = 0.22, *Z* = 3.30, 95% CI [0.09; 0.34], *p* < 0.001, two-tailed, such that participants exposed to evidence of substantive gender progress in the domain of top leadership representation reported lower sensitivity to persisting gender inequality in other domains, both at work and beyond.

**General Discussion**

Women’s representation in top leadership is a keenly observed marker of gender equality in organizations, and one into which countries, organizations and activists alike have invested much effort, often under the assumption that progress for women in the domain of top leadership representation would naturally spread to other domains of gender inequality. Yet, little is known about whether and how achieving substantial female representation in top leadership levels may influence people’s concern with persisting gender inequality in other domains, such as the gender pay gap. The present research is a direct investigation of this question, and to the best of our knowledge, the first to acknowledge the fragmented nature of social progress across domains of inequality. Extending social-cognitive theories of exemplar-based information processing in person perception research to the study of social progress perceptions for disadvantaged groups, we predicted that perceiving progress for women in the domain of representation may reduce concern with persisting gender inequality in other domains, through a tendency to overgeneralize the extent to which women have access to equal opportunities. We tested these predictions in 5 studies. Study 1 provided causal evidence that perceiving strong (versus low) female representation in top corporate leadership leads people to become less disturbed with the gender pay gap, but not wealth inequality generally. Study 2a and its replication Study 2b took a correlational approach to investigating the psychological process underpinning this relationship, consistently finding that perceiving more women in top leadership predicted a greater tendency to overgeneralize women’s access to equal opportunities, which in turn predicted lower concern with persisting inequality in the form of the gender pay gap. Study 3 provided experimental evidence that overgeneralization of women’s access to equal opportunities (but not attributions of the gender pay gap to women’s personal career choices) drives the relationship between greater perceptions of female representation in top leadership and lower disturbance with the gender pay gap. In addition, it provided evidence that the effect of female representation perceptions on overgeneralization of women’s access to equal opportunity is driven by perceptions of substantive progress and not by a lack thereof. Finally, Study 4 conceptually replicated Study 3, showing that the overgeneralization of women’s access to equal opportunities drives the relationship between greater perceptions of female representation in top leadership and lower disturbance with various instances of ongoing gender inequality in organizations and beyond. Taken together, these findings extend social-cognitive theories of person perception to the domain of intergroup dynamics, and suggest that perceptions of substantive social progress for traditionally-disadvantaged groups – beyond perceptions of specific individual exemplars of success – may represent a previously-overlooked barrier for continued social progress in organizations and beyond.

**Implications and Future Directions**

Of course, progress in gender diversity should be celebrated as women’s representation moves beyond token levels to approach a more critical mass in top leadership. Abundant work has indeed shown the detrimental psychological effects of underrepresentation and, conversely, the benefits of positive in-group role-models for stigmatized group members’ sense of belonging, self-efficacy, and performance in domains where they are negatively-stereotyped (Dasgupta, 2011; Ely, 1995; Lockwood, 2006; Marx, Ko, & Friedman, 2009; Marx & Roman, 2002; Stephens, Hamedani, & Destin, 2014). Our findings, however, caution that celebrating women’s social advancement in the domain of top leadership representation can have pros and cons, raising the question of how best to publicize women’s advances in one domain without jeopardizing progress in other different domains of gender inequality. Future research should investigate whether specific ways of framing improvements in the domain of female representation in top leadership (e.g., as evidence of commitment to, rather than achievement of, equality; Eibach & Purdie-Vaughns, 2011) may counteract people’s tendency to overgeneralize women’s access to equal opportunity upon exposure to initial evidence of progress for women, and thereby to sustain support for gender equality in organizations and beyond. These implications highlight the role that gender diversity in top leadership may play in shaping people’s broader outlook on gender equality.

We documented evidence that the process accounting for people’s lower concern with persisting instances of gender inequality after reading that women’s representation in top leadership is strong (versus low) has to do with the overgeneralization of women’s access to equal opportunity. As described earlier, an alternative hypothesis, however, could be a moral licensing mechanism (Effron et al., 2009; Kouchaki, 2011; Miller & Effron, 2010). We documented two findings that indirectly suggest a moral licensing explanation is not supported. First, because moral licenses are domain-general (Miller & Effron, 2010), this account would predict that following exposure to information about women’s strong representation at top levels in Study 1, participants would report lower disturbance with persisting inequality in other domains, whether gender-related (the gender pay gap) or not (general wealth inequality). However, the pattern of results contradicts this prediction. Post-hoc, we can also consider the results of Study 3 as similarly violating a moral licensing account. A moral licensing account would suggest that comparable effects should emerge consistently across the overgeneralization and attributions measures, because downplaying the structural barriers facing women’s access to equal opportunities (overgeneralization) and playing up women’s purported responsibility in the gender pay gap (attributions) are two attitudes that may equally be seen as reflecting prejudice against women, and thus would both require a license to be expressed. Instead, we found that after reading about substantive progress for women in the domain of top leadership representation (the moral license), participants overgeneralized women’s access to equal opportunities, but did not make greater attributions to women’s personal career decisions. Together, these findings suggest a lack of evidence for the moral licensing explanation for the effects observed in the present research.

Previous research in the relational demography tradition has found that *actual* greater female presence at the top of organizations predicts an improvement of women’s outcomes in organizations, for instance in the form of greater likelihood for a woman to be appointed to an executive or management position (Gould, Kulik, & Sardeshmukh, 2013; Skaggs et al., 2012; Terjesen & Singh, 2008), lower gender-based wage disparities (Terjesen & Singh, 2008), greater supervisory support for women (Ryan et al., 2012), greater access to mentoring programs (Burgess & Tharenou, 2002; Catalyst, 1995), and greater responsiveness overall to women’s specific needs (Ingram & Simons, 1995). Our findings seemingly contrast with these past works, as they suggest that *perceived* greater female presence in top leadership lowers people’s concern with ongoing gender inequality in other domains. To the extent that lower levels of concern with inequality predict lower collective will to address it (Cundiff et al., 2014; Knowles et al., 2014), future research should investigate the alternative processes through which greater female representation in top leadership may help create more gender-equal workplaces. It may be that in these contexts the burden falls to the women who have made it to the top, and that they find less will for support among those lower in the hierarchy.

**Limitations and Future Directions**

Although the size of the effects reported in this research may be considered small by traditional standards (Richard, Bond, & Stokes-Zoota, 2003), we suggest that they are meaningful (Prentice & Miller, 1992). Indeed, given that intergroup attitudes are notoriously difficult to change (Devine, 1989; Nosek et al., 2007; Wegener, Clark, & Petty, 2006), it is noteworthy that exposure to an article conveying (among other topics) the existence of gender progress (versus lack thereof) in the domain of top leadership representation produced reliable differences in people’s understandings of women’s standing in society, and in turn in their disturbance with a concrete, ongoing instance of gender inequality.

While gender diversity in top leadership levels is a highly visible marker of gender equality for organizations, governmental bodies, advocacy groups, and the media alike (Catalyst, 2013; Davidoff Solomon, 2012; Singh & Vinnicombe, 2004; World Economic Forum, 2016), future research should try to investigate whether different domains of gender progress may similarly lead people to become de-sensitized to ongoing gender inequality in other domains. Social-cognitive theories of exemplar-based information processing indeed state that exemplars of success must be *salient* in people’s minds to influence their judgments about social groups. Therefore, the extent to which a domain is a keenly observed indicator of gender progress may moderate the effect documented in this paper. For instance, perceived advances on less keenly observed indicators of gender progress (e.g., differences between the types of occupations that male and female actors role-play on TV and in movies; Hickey, 2015) may be less likely to decrease concern about persisting gender equality in other domains. Future research should also test whether the amount of media attention that a domain of persisting gender inequality receives moderates the extent to which people *maintain* their disturbance with said inequality in the face of information reflecting progress in women’s top leadership representation.

It should also be noted that, by evoking women’s advancement in the highest levels of U.S. organizations – spaces where minority women are underrepresented – our research likely activated a White female prototype (Catalyst, 2015b; Rosette, Leonardelli, & Phillips, 2008). This raises the question of how perceiving progress in one domain for individuals at the intersection of several stigmatized groups (e.g., racial minority women) shapes people’s sensitivity to ongoing gender and racial inequality in other domains (Purdie-Vaughns & Eibach, 2008; Reid & Comas-Diaz, 1990; Sesko & Biernat, 2010; Shields, 2008). Equally important is the question of how perceiving progress for women overall in one domain affects people’s concern with persisting inequalities between minority and majority women in other domains. To investigate this question, we suggest that future research could, for instance, manipulate messages of gender progress, but measure disturbance with gaps between racial minority and majority women’s pay. More generally, it will be important for future work to assess whether the results reported in this paper generalize to other stigmatized identities. For instance, would progress in the representation of Latinx/Hispanics in leadership decrease disturbance with race-based pay inequality? Or would progress in reducing the White-Black gap in incarceration rates reduce concern with persisting racial inequality in health outcomes?

Finally, a fruitful future direction would be to investigate whether the effect documented in this work is specific to social progress for stigmatized groups, or generalizes to typically *non-stigmatized* identities. For instance, would progress in the representation of men in traditionally-feminine professions (e.g., nursing) decrease concern with boys’ lagging performance compared to girls’ in early school achievement (Pomerantz, Altermatt, & Saxon, 2002)? In this way, future research could investigate boundary conditions for, and generalizability of, the results reported in this paper both across domains that receive media attention versus not, and across social groups that are stigmatized versus not.

**Conclusion**

Though conventional wisdom has traditionally proposed that greater gender diversity in top corporate leadership will foster more gender-equal outcomes for women in organizations, we find that perceiving a substantive level of female representation at the top of organizations may ironically decrease people’s concern with gender inequality in other domains, through an overgeneralization of the extent to which women have access to equal opportunities. These findings document a previously-overlooked barrier for continued progress in organizations and beyond, and thereby provide novel insight into an obstacle that may emerge as societies continue to advance toward greater equality between social groups.

**Context paragraph**

Oriane Georgeac is a PhD candidate who studies the way people reason about diversity. The present research represents her first major program of research as a PhD candidate and thus is central to her identity as a scholar. Dr. Aneeta Rattan is Ms. Georgeac’s advisor and is an expert in the study of lay beliefs in the context of diversity. The idea represents the authors’ first collaboration and sits at the intersection of Ms. Georgeac’s desire to study current, pressing issues in the context of diversity in the workplace and Dr. Rattan’s focus on studying intergroup beliefs and perceptions. The project began with an observation: In considering the way countries, organizations, and activists talk about increases in women’s representation in leadership, the authors noticed a widespread assumption that progress in the domain of women’s representation would naturally spread to other domains of gender inequality. That an assumption should be so widespread but lack any data piqued the authors’ interest, and led them to investigate this possibility empirically. This research thus opens a new area of study for both authors, investigating how substantive social progress in one domain affects reactions to persisting inequality in other domains for the same group.

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1. Our internal pre-registration documents (adapted from Ledgerwood, 2015), data and syntax files, as well as verbatim survey materials can be viewed on the Open Science Framework. URL to pre-registration: https://osf.io/2546s/?view\_only=7f63a610334c429cb30694f499a4c887 [↑](#footnote-ref-1)
2. 90% CIs have been shown to be more appropriate than 95% CIs for eta-squared statistics, in part due to the fact that these statistics cannot be negative (Steiger, 2004; Wuensch, 2009). [↑](#footnote-ref-2)
3. We note that prior research confirms (through confirmatory factor analysis, CFA) that this measure of overgeneralization of women’s access to equal opportunities represents a distinct construct from perceptions of women’s representation at the top of U.S. organizations and disturbance with the gender pay gap (Georgeac, Rattan, & Effron, in press). [↑](#footnote-ref-3)
4. A confirmatory factor analysis (see SOM) showed that attributions of the gender pay gap to women’s personal career choices represent a distinct construct from overgeneralization of women’s access to equal opportunities and disturbance with the gender pay gap. [↑](#footnote-ref-4)