

A Company I Can Trust? Organizational Lay Theories Moderate Stereotype Threat for Women

Personality and Social Psychology Bulletin
2015, Vol. 41(2) 295–307
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DOI: 10.1177/0146167214564969
pspb.sagepub.com



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Abstract

Women remain under-represented in the leadership of corporate America. According to stereotype threat theory, this under-representation may persist because women are concerned about being stereotyped in business settings. Three studies investigated whether an entity (fixed), compared with an incremental (malleable), organizational lay theory is threatening for women evaluating a consulting company. Men and women viewed a company mission statement or website containing an entity or incremental theory. Results revealed that women—more so than men—trusted the entity company less than the incremental company. Furthermore, only women's mistrust of the entity company was driven by their expectations about being stereotyped by its management. Notably, when combined with high or low representations of female employees, *only* organizational lay theories predicted trust. Finally, people's—particularly women's—mistrust of the entity company led them to disengage more before interacting with a representative. Implications for women's experiences and outcomes in workplace settings are discussed.

Keywords

organizational lay theories of intelligence, stereotype threat theory, organizational trust, disengagement, gender stereotypes

Received July 18, 2014; revision accepted November 22, 2014

Women are still significantly under-represented among the leadership of corporate America. Although they make up 47% of the American labor force, women account for approximately one quarter of executive and general managers (U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey, 2013). In the most successful companies, women leaders are even harder to find: only 16.6% of board members and 14.3% of executive officers in the Fortune 500 are female (Catalyst, 2012). Yet, including women is not only a social justice or equity issue—it is good for companies. In a survey of corporate boards, 80% of members believed that gender diversity in the boardroom leads to increased value for shareholders (Spencer Stuart, 2012). So why do representation disparities persist?

One theory that addresses representation gaps is stereotype threat theory. According to this theory, concerns about being negatively stereotyped depress the performance, motivation, interest, and ambition of stigmatized individuals (Davies, Spencer, & Steele, 2005; Schmader, Johns, & Forbes, 2008; Steele, 1997; Steele, Spencer, & Aronson, 2002). Research has revealed that women are widely stereotyped as less competent than men—particularly in the domain of business (Eagly & Mladinic, 1994; Fiske, Cuddy, Glick, & Xu, 2002). Moreover, stereotypes about women

(e.g., communal) are incongruent with leadership stereotypes (e.g., aggressive; Brenner, Tomkiewicz, & Schein, 1989; Eagly & Karau, 2002; Eagly, Wood, & Diekmann, 2000). Thus, women may be particularly susceptible to experiencing stereotype threats in business settings (for similar arguments, see Bergeron, Block, & Echtenkamp, 2006; Roberson & Kulik, 2007).

Yet, not all corporate workplaces are equally threatening. Situational cues can shape stigmatized groups' experiences of stereotype threat in these settings. Specifically, when cues in the environment suggest that people may be negatively stereotyped, stereotype threat is activated; conversely, when cues signal that group membership will not impede peoples' performance or mobility, stereotype threat is tempered (Cohen & Garcia, 2008; Murphy, Steele, & Gross, 2007).

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Situational cues that signal identity threat can come in many forms. However, because explicit gender stereotypes and discrimination are legally prohibited and normatively eschewed in American workplaces (Dovidio & Gaertner, 2004; Equal Employment Opportunity Commission, 2013; Pettigrew & Meertens, 1995), it is unlikely that blatantly biased cues are prevalent enough to account for widespread gender representation disparities. Instead, company settings may contain powerful cues that do not explicitly reference gender stereotypes and differences but nonetheless communicate messages about the value of groups, thereby creating different psychological experiences for stigmatized and non-stigmatized groups (for a review, see Emerson & Murphy, 2014). In the current research, we examine whether a novel situational cue—an organization's beliefs about intelligence and ability—might lead to differences in stereotype threat for women as they evaluate business settings.

Organizational Lay Theories of Intelligence as a Cue to Stereotype Threat

Organizational lay theories of intelligence refer to beliefs held by members of an organization—such as a company or workgroup—about the nature of intelligence and ability (Murphy & Dweck, 2010). This research extends previous research on peoples' personal beliefs about intelligence, often studied as an individual difference (for a review, see Dweck, 1999), to a cultural, group-level variable that reflects norms found in organizational policies and practices (Murphy & Dweck, in press). According to this research, organizations can espouse either an *entity theory*, in which a group perceives people's intelligence and abilities as fixed and unchangeable, or an *incremental theory*, in which these qualities are perceived as malleable and expandable by effort (Murphy & Dweck, 2010, in press).

Organizational lay theories have been observed in real-world corporate settings. For example, Enron, a quintessentially entity organization, routinely used practices and policies that revealed its fixed view of intelligence. For example, the company recruited employees exclusively from elite universities and described its hiring and promotion as an exercise in “sorting out intellectual stars from the merely super-bright” (McLean & Elkind, 2003, p. 32). This suggests Enron believed intelligence and ability were fixed characteristics exhibited by a select few who the company could identify and choose. By contrast, the Xerox Corporation demonstrated their malleable beliefs about intelligence by explicitly focusing on investing in the growth and development of a larger portion of talent rather than proving how much smarter a person or division might be relative to others (George & McLean, 2005).

What meaning do people draw from organizational lay theories? Entity organizations believe that intelligence and

ability are limited, fixed traits that only some people possess—that is, some people are simply smarter and more naturally gifted than others (Murphy & Dweck, 2010). Individuals who personally espouse an entity theory adopt performance goals that focus primarily on looking smart to others (Dweck & Leggett, 1988; Elliott & Dweck, 1988); likewise, an entity environment prizes only the topmost performers who consistently demonstrate the smarts or abilities thought to be necessary for success. People feel good about themselves in an entity environment when they are performing well because they are meeting the organization's goals of being “talented.” However, this satisfaction is precarious; one mistake in an entity context can be taken as a sign that one does not have what it takes. Just as this constant expectation to perform can lead entity theorists to experience heightened anxiety and a fragile sense of self-worth (see, for example, Burhans & Dweck, 1995; Henderson & Dweck, 1990), everyone is likely to feel somewhat uncomfortable in entity environments.

In contrast, all people may feel more comfortable in incremental contexts that believe intelligence and ability can be developed through persistence and self-improvement (Murphy & Dweck, 2010). Whereas being judged positively by others motivates entity theorists, incremental theorists gauge progress by focusing on self-improvement with an emphasis on mastery and personal development (Dweck & Leggett, 1988; Elliott & Dweck, 1988). Similarly, an incremental environment values people who put forth effort, persist through challenges, and continuously grow and improve. This emphasis on learning from challenges and mistakes—rather than appearing flawless—is likely to lead everyone to feel more secure in incremental, compared with entity, environments. Previous organizational lay theories research supports this contention. In several studies that examined how entity and incremental environments are perceived, Murphy and Dweck (2010) found that participants generally liked and preferred incremental contexts to entity ones.

Beyond this general preference for incremental environments, there may be important differences in how men and women experience entity and incremental organizations that specialize in domains, such as business, where gender stereotypes impugn women's intelligence and abilities. Although both men and women may be put off by the performance expectations of an entity context, the exclusive messages that comprise an inherently fixed view of intelligence (“some have it, some do not”) may engender stereotype threat among women in stereotype-relevant domains. When a company endorses the belief that only *some* people possess the intelligence and ability necessary to be successful, women may be concerned that they will be seen as lacking because, in American business settings, intelligence and ability are more often associated with men than with women (Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968; Williams & Best, 1982). Thus, entity organizations may activate the additional psychological burden of stereotype threat for women in sex-typed domains such as business because their

intelligence and abilities are impugned by negative group stereotypes in these contexts.

Conversely, women may feel more identity safe in business contexts that endorse incremental beliefs. Incremental environments value effort, persistence, and personal growth. Because women are not negatively stereotyped in business contexts on the dimensions associated with success in incremental environments, they may experience less stereotype threat in incremental, relative to entity, companies. This lay theories and stereotype threat hypothesis is supported by previous research that taught middle school girls and African American college students to personally adopt an incremental mindset. Results revealed that the incremental mindset intervention reduced stereotype threat underperformance. That is, girls and African American students who adopted an incremental mindset performed similarly to boys and White students (Aronson, Fried, & Good, 2002; Good, Aronson, & Inzlicht, 2003). Extending these findings, women might experience less stereotype threat (i.e., expect to be negatively stereotyped less) when considering a company that focuses on developing abilities compared with a company that espouses fixed ability beliefs.

Such findings would be particularly compelling because, unlike most antecedents of stereotype threat (for a review, see Nguyen & Ryan, 2008), organizational lay theories do not explicitly reference gender stereotypes or expected gender differences. Instead, these theories merely signal that an organization values certain attributes (that happen to be associated with one gender and not another). By exploring whether entity business contexts engender stereotype threat, the current research moves theory forward by identifying a new contextual antecedent to threat that highlights the subtle form that identity-threatening cues may take.

Stereotype Threat, Organizational Trust, and Defensive Disengagement

In addition to investigating the relationship between organizational lay theories and stereotype threat for women as they evaluate companies, we examined how expecting to be negatively stereotyped may reduce organizational trust and increase defensive responding. Organizational trust is crucial to organizational success—boosting profits and reducing absenteeism (see, for example, Costigan, Ilter, & Berman, 1998; Dirks & Ferrin, 2002). Yet, much research has found that individuals report high levels of mistrust in domains in which their group has been historically stereotyped or underrepresented (Cohen, Steele, & Ross, 1999; Crocker, Voelkl, Testa, & Major, 1991). Importantly, stigmatized groups do not always mistrust stereotype-relevant contexts; studies demonstrate that trust may be moderated by the situational cues in the local context. For example, African American participants who were exposed to identity-threatening situational cues in a company brochure (i.e., low numerical representation and a colorblind diversity philosophy) reported low

levels of trust when appraising that company and its management (Purdie-Vaughns, Steele, Davies, Diltmann, & Crosby, 2008); in contrast, those exposed to identity-safe situational cues (i.e., high numerical representation or a value-diversity philosophy) reported high levels of organizational trust. Extending this work, we predicted that organizational lay theories would serve as a moderator of women's organizational trust when assessing organizations in stereotype-relevant domains such as business. Although the performance focus of an entity context may cause both men and women to anticipate trusting an entity company less than an incremental company, this context effect should be particularly large for women to the extent that they expect to be stereotyped by an entity company.

Finally, we examined whether organizational mistrust would lead to defensive responding, particularly among women evaluating an entity company. Previous research has found that entity (vs. incremental) theorists exhibit defensive behavior following negative feedback, such as avoiding or devaluing tasks and making downward social comparisons (Blackwell, Trzesniewski, & Dweck, 2007; Hong, Chiu, Dweck, Lin, & Wan, 1999; Nussbaum & Dweck, 2008). For example, when asked to imagine failing a class, Blackwell and colleagues (2007) found that students who endorsed an entity theory were more likely to report wanting to spend less time on the subject or avoid taking the class again compared to incremental theorists. Disengaging is a defensive strategy that allows entity theorists to protect their self-esteem. Claiming to place little value on a difficult task—and subsequently avoiding it—allows entity theorists to evade failure, an act that would confirm their inability and further compromise their self-image (Nussbaum & Dweck, 2008). Similarly, we might expect that if people receive negative performance feedback in an entity environment, they may seek to avoid confirming that they lack the ability prized by the organization. Thus, people may respond to negative feedback from an entity organization by exhibiting defensive behavior, such as disengaging from the difficult task.

Members of stigmatized groups may be particularly likely to exhibit defensive behavior when expecting to be evaluated by entity organizations that operate in stereotyped domains. In academic domains, stereotype threat has consistently been found to lead stigmatized people to disengage from the domain or task at hand (Davies, Spencer, Quinn, & Gerhardstein, 2002; Osborne, 1995; Steele et al., 2002). Thus, if business settings that endorse fixed ability beliefs engender stereotype threat among women, and, if stigmatized individuals use defensive responding as a protective strategy in stereotype threat contexts, then women may be particularly likely to exhibit defensive responding when receiving negative feedback from entity organizations. Because women are negatively stereotyped and underrepresented in the business domain, women may disengage as a means to protect their personal standing *and* avoid confirming group stereotypes. Consequently, consistent with a stereotype threat hypothesis,

we predicted that entity companies would engender more mistrust among women than men, and this mistrust, in turn, would predict women's defensive responding.

The Interaction of Situational Cues

Nearly all studies of stereotype threat antecedents investigate the role of a single cue in generating threat (see, for example, Bergeron et al., 2006; Inzlicht & Ben-Zeev, 2000). In Study 1, we do the same by examining the effect of organizational lay theories on stereotype threat. Yet, in real-world settings, people often encounter multiple cues simultaneously. Only one study has tested the extent to which two cues, when presented concurrently, generate stereotype threat. In this study, Purdie-Vaughns and colleagues (2008) examined how diversity philosophies and numerical representations of people of color depicted in a company brochure interacted to predict organizational trust. Results revealed that when an organization asserted a value-diversity philosophy, African Americans reported high levels of trust regardless of the number of racial/ethnic minorities in the brochure. However, when the organization asserted a colorblind philosophy, African Americans trusted the organization only when the brochure featured high, compared with low, numbers of minorities (Purdie-Vaughns et al., 2008).

Study 2 of the present research explores the relative power of organizational lay theories by exploring whether this cue interacts with numerical representation to predict women's threat experiences. We selected numerical representation because it is a particularly well-documented antecedent of stereotype threat (Inzlicht & Ben-Zeev, 2000; Sekaquaptewa & Thompson, 2002). Thus, we investigate the comparative strength of a new cue (organizational lay theory of intelligence) compared with that of an existing, powerful cue (numerical representation) as an antecedent of stereotype threat.

Moreover, Study 2 compares the effects of organizational lay theories and numerical representation because they represent *different types* of situational cues. Numerical representation cues describe the stigmatized group directly by providing explicit information about the organization's gender diversity. In contrast, organizational lay theories do not explicitly address gender and equity; instead, they provide insight into the group's value of attributes that are (or are not) stereotypically associated with men more than women in the organization's domain. Thus, Study 2 extends the situational cues literature by examining whether more explicit or subtler cues would play a larger role in moderating stereotype threat for women considering business contexts.

When presented simultaneously, it is possible that the effects of one cue will overwhelm the effects of the other in predicting people's experiences. However, because previous research has found that numerical representation interacts with other cues (i.e., diversity messages) in predicting organizational trust (Purdie-Vaughns et al., 2008), it is also possible that numerical representation and organizational lay theory might interact to affect trust. In Study 2, we directly tested whether, when pre-

sented simultaneously, these two cues independently or interactively predict women's trust in the company.

The Present Work

Three studies examined whether organizational lay theories create a context for stereotype threat among women evaluating business settings. In particular, this research investigates the impact of a company's entity or incremental lay theory on people's experiences of stereotype threat, organizational trust, and defensive responding. Study 1 explores whether a consulting company's lay theory hampers women's—more so than men's—organizational trust. Study 2 directly tests whether women's mistrust of the entity company is due to stereotype threat. That is, do women trust an entity company less because they expect to be negatively stereotyped by it? Moreover, Study 2 tests the relative power of this cue by examining whether organizational theories and gender representation—cues that independently moderate stereotype threat—interact to predict organizational trust. And finally, Study 3 extends the previous studies by exploring a downstream behavioral effect of organizational lay theories and organizational trust. That is, we investigate whether women are particularly likely to disengage following negative feedback from an entity company, as well as whether this defensive responding is driven by their mistrust of the organization.

Study 1

Study 1 explores whether an organization's lay theory of intelligence affects people's organizational trust. Entity organizations espouse the belief that intellectual abilities are inherent, fixed qualities possessed by some and not others, whereas incremental organizations believe that intelligence can be developed over time with effort and persistence. An entity environment's expectation of consistent, effortless, high performance may cause both men and women to feel somewhat uncomfortable relative to an incremental environment's focus on development and growth. However, because gender stereotypes impugn women's competence and abilities in business settings (Fiske et al., 2002), we predicted that business settings that endorse an entity theory would be particularly threatening to women. In contrast, because the development and improvement prized by an incremental setting are not associated with group membership, we predicted that business settings that endorse an incremental theory would be identity safe to women. Thus, we predicted that whereas both men and women would trust the incremental (vs. entity) company more, this context effect would be much larger for women than men.

Method

Participants and procedure. One hundred and forty-four undergraduates (78 female) participated for partial course credit.¹ We determined a desired sample size from the results

of a meta-analysis of the stereotype threat literature (Nguyen & Ryan, 2008) and past research on organizational lay theories of intelligence (Murphy & Dweck, 2010). Participants were invited to the lab for a study examining people's impressions of companies. They read a company mission statement, imagined being an employee of the company, and responded to a measure of organizational trust.

Materials

Mission statements. Participants were randomly assigned to read an entity or incremental mission statement of an ostensible consulting company.² The entity mission statement described the "performance-oriented" company's mission to recruit talented employees with "the best" instincts and ideas. By "encouraging, recognizing, and rewarding, intelligence," the entity company's aim was to help current employees be "the geniuses that they are." Conversely, the incremental mission statement described the "growth-oriented" company's mission to recruit motivated, hard-working employees with "a love for learning, passion, creativity, and resourcefulness." By "encouraging, recognizing, and rewarding development," the incremental company's aim was to help current employees "improve and push through limits."

Measures. As a manipulation check, participants rated two items adapted from Dweck's (1999) Personal Theories of Intelligence scale on a 0 to 7 scale (*strongly agree to strongly disagree*), including *The company seemed to believe that people have a certain amount of intelligence, and they can't really do much to change it*. Items were reverse-coded so that higher (vs. lower) scores indicated participants' perceptions that the company endorsed more entity (vs. incremental) beliefs ($\alpha = .94$).

Organizational trust was measured by 11 items from Purdie-Vaughns and colleagues' (2008) Trust and Comfort in a Company Setting scale, such as *I think I would trust the management to treat me fairly*. Ratings were made on a 0 to 7 scale (*strongly disagree to strongly agree*); higher scores indicate greater organizational trust ($\alpha = .94$).

Results and Discussion

Manipulation check. An ANOVA confirmed the success of the organizational lay theory manipulation. Those who read the entity mission statement reported that the company endorsed a more fixed view of intelligence ($M = 2.94$, $SD = 2.03$; 95% CI [2.50, 3.38]) than those who read the incremental mission statement ($M = 1.87$, $SD = 1.87$; 95% CI [1.38, 2.36]), $F(1, 137) = 10.24$, $p = .002$, $\eta_p^2 = .07$.^{3,4}

Organizational trust. A 2 (organizational lay theory) \times 2 (participant gender) ANOVA revealed a main effect of organizational lay theory. As expected, participants reported trusting the incremental company ($M = 5.05$, $SD = 1.22$; 95% CI

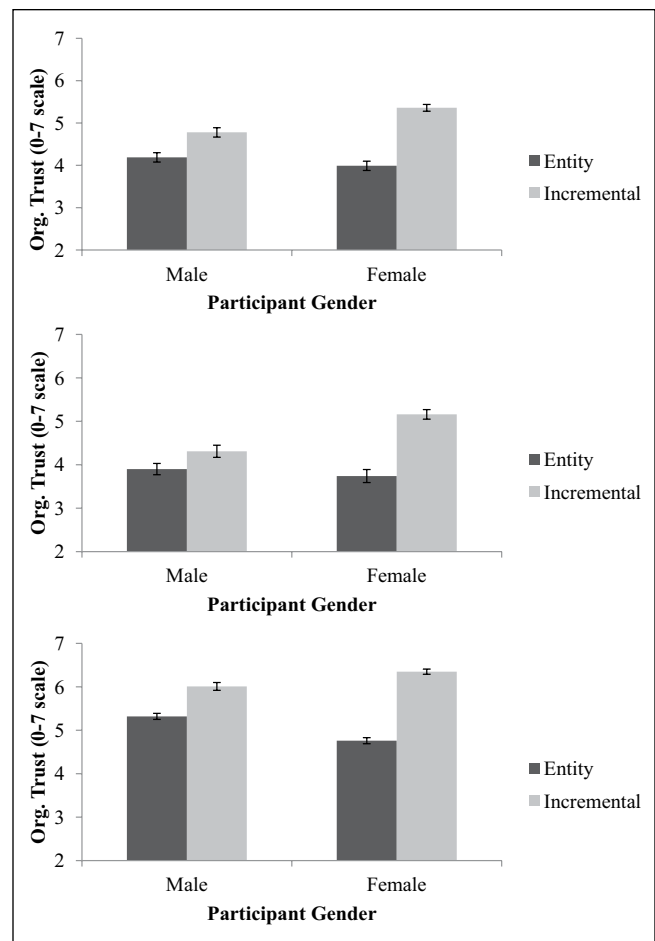


Figure 1. Organizational trust as a function of organizational lay theory and participant gender for Study 1 (Top Panel), Study 2 (Middle Panel), and Study 3 (Bottom Panel).

Note. Error bars represent standard errors.

[4.76, 5.38]) more than the entity company ($M = 4.07$, $SD = 1.31$; 95% CI [3.80, 4.38]), $F(1, 140) = 21.00$, $p < .001$, $\eta_p^2 = .13$. This main η_p^2 effect was qualified by a marginally significant interaction, $F(1, 140) = 3.34$, $p = .07$, $\eta_p^2 = .02$ (see Figure 1, Top Panel). Follow-up tests of our a priori gender hypothesis revealed that, as predicted, women trusted the incremental company ($M = 5.36$, $SD = 1.01$, 95% CI [4.91, 5.82]) significantly more than the entity company ($M = 3.99$, $SD = 1.37$, 95% CI [3.63, 4.35]), $F(1, 140) = 21.00$, $p < .001$. Men marginally trusted the incremental company ($M = 4.78$, $SD = 1.33$, 95% CI [4.36, 5.20]) more than the entity company ($M = 4.19$, $SD = 1.22$, 95% CI [3.74, 4.64]), $F(1, 140) = 3.44$, $p = .07$. Importantly, this context effect was approximately 2.5 times larger for women than men ($d = 1.14$ vs. 0.46). Thus, although the omnibus test fell short of significance, initial support was found for our prediction: In the stereotyped domain of business, women were particularly sensitive to the cue of organizational lay theory, trusting the identity-safe incremental company substantially more than the identity-threatening entity company.

Study 2

Study 2 extended Study 1 in three ways. First, we directly tested the stereotype threat hypothesis. In particular, we hypothesized that women would expect to be stereotyped as less competent by members of an entity (vs. incremental) company and that those stereotype expectations would mediate women's (but not men's) organizational trust.

Second, the manipulation of organizational lay theories occurred as part of a company website that simultaneously depicted a balanced (1:1) or unbalanced (3:1) ratio of male and female employees. The 3:1 ratio was chosen because it reflects the average gender ratio in the leadership (i.e., general managers or executives) of American corporations (U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey, 2013). By adding this cue—a robust antecedent of threat in previous stereotype threat studies—Study 2 examined the relative power of organizational lay theories and numerical representation to generate stereotype threat. Moreover, we explored whether women's experience of stereotype threat might be influenced more strongly by an explicit (i.e., numerical representation) versus subtler (i.e., organizational lay theories) situational cue. These cues could influence trust in one of three ways. It is possible that only organizational lay theory or only numerical representation might predict trust. If this were the case, we would observe only a significant main effect for one of the cues. However, given the interactive relationship between numerical representation and other organizational beliefs (e.g., diversity messages; Purdie-Vaughns et al., 2008), it is also possible that the cues may interact to predict women's organizational trust.

Finally, results of the manipulation check in Study 1 indicated that although the entity mission statement was rated as endorsing entity beliefs more than the incremental mission statement, the means of both conditions fell below the scale midpoint. This incremental bias in rating may have been due to the brief nature of the manipulation—each mission statement consisted of only three sentences. Thus, Study 2 included a more expansive description of each organization's lay theories to strengthen the power of our manipulation.

Method

Participants and procedure. One hundred and forty-four undergraduates (73 female) participated in a study of people's impressions of companies for partial course credit. The desired sample size for Study 2 was grounded in past research examining the effects of multiple cues on stereotype threat and trust (Purdie-Vaughns et al., 2008). Participants were randomly assigned to view the website of a global management consulting firm that advises on business strategy. The website contained simultaneous manipulation of the organization's lay theory and numerical representation of male and female employees via the text and photos displayed on the

website, respectively. After viewing the website, the Internet browser was closed and participants provided their impressions of the organization, including their expectations about being stereotyped by the company's management and their organizational trust.

Materials

Company website. A company website contained the manipulations. Organizational lay theory was manipulated via the website's text. Using similar language as in Study 1 and Murphy and Dweck (2010), the company's fixed or malleable beliefs about intelligence were presented in brief descriptions of the company and in a quote from the Managing Director. For example, the entity company believed that their "clients' financial results can be measured in terms of our consultants' talents and success"; thus, they sought to help their clients "outperform the market" by identifying and hiring employees "who have the intelligence and abilities that we are looking for." Conversely, the incremental company indicated that their clients' success would result from their consultants' "motivation and hard work." To help their clients "continually advance in the market," they sought to "motivate employees to find environments and working strategies that will help them learn, discover, and grow."

Numerical representation was manipulated via the website's photographs. Specifically, eight photographs depicted employees engaged in various tasks throughout a workplace. The people depicted in these eight photographs reflected either a balanced (1:1) or an unbalanced (3:1) male-to-female employee ratio. Participants were thus exposed to the organizational lay theory and numerical representation manipulations simultaneously.

Manipulation checks. Participants' perceptions of the company's lay theory were assessed via four (instead of two) items from Dweck (1999). Again, higher composites reflected a perceived entity company theory; lower composites reflected a perceived incremental theory ($\alpha = .91$). Memory for the gender representation cue was assessed with a question asking participants to identify the percentage of female employees featured on the company's website. Participants responded using a 5-point scale labeled 0%, 25%, 50%, 75%, 100%, and coded 1 to 5.

Stereotype expectations. Five items assessed participants' expectations about being perceived as competent (Fiske, 1998; Fiske et al., 2002; Vorauer, Main, & O'Connell, 1998; Wout, Murphy, & Steele, 2010). Specifically, participants rated how likely they thought it was that the company's management would view them as *smart, qualified, intelligent, assertive, and well-spoken*, among filler items. Ratings were made on a 1 to 7 scale (*very unlikely to very likely*); higher composites indicated greater expectations about being perceived as competent by the company's management ($\alpha = .77$).

Organizational trust. Participants indicated their trust in the company using the scale from Study 1 ($\alpha = .93$).

Results

Manipulation checks. One-way ANOVAs bolstered our confidence in the manipulations. Participants who viewed the entity company website were more likely to report that the company held an entity theory ($M = 4.50$, $SD = 1.79$; 95% CI [4.12, 4.88]) than did participants who viewed the incremental website ($M = 1.30$, $SD = 1.43$; 95% CI [0.92, 1.68]), $F(1, 142) = 139.46$, $p < .001$, $\eta_p^2 = .50$. Also, those that viewed the balanced gender ratio reported a higher percentage of women on the website ($M = 2.88$, $SD = 0.65$; 95% CI [1.94, 2.22]) than did those in the unbalanced condition ($M = 2.08$, $SD = 0.55$; 95% CI [2.74, 3.02]), $F(1, 142) = 62.36$, $p < .001$, $\eta_p^2 = .31$.

Stereotype expectations. The three-way ANOVA revealed main effects of participant gender and organizational lay theory. Consistent with societal stereotypes about women in business, women ($M = 5.15$, $SD = 1.01$; 95% CI [4.97, 5.38]) expected to be perceived as less competent than did men overall ($M = 5.51$, $SD = 0.81$; 95% CI [5.30, 5.71]), $F(1, 136) = 5.21$, $p = .024$, $\eta_p^2 = .04$. In addition, all participants expected to be perceived as more competent by the incremental company ($M = 5.61$, $SD = 0.84$; 95% CI [5.41, 5.82]) than by the entity company ($M = 5.05$, $SD = 0.94$; 95% CI [4.87, 5.27]), $F(1, 136) = 14.02$, $p < .001$, $\eta_p^2 = .09$.

These main effects were qualified by an Organizational theory \times Participant gender interaction, $F(1, 136) = 6.34$, $p = .01$, $\eta_p^2 = .05$. Consistent with a stereotype threat hypothesis, women expected to be perceived as less competent by the entity company ($M = 4.72$, $SD = 0.96$; 95% CI [4.44, 4.99]) than by the incremental company ($M = 5.63$, $SD = 0.85$; 95% CI [5.34, 5.92]), $F(1, 136) = 21.17$, $p < .001$; conversely, men expected to be perceived as similarly competent by the entity company ($M = 5.42$, $SD = 0.77$; 95% CI [5.13, 5.71]) and the incremental company ($M = 5.59$, $SD = 0.84$; 95% CI [5.32, 5.87]), $F(1, 136) = 0.88$, $p = .35$. (All other effects: $F_s < 1$.) Taken together, the results suggest that when participants were presented with the two cues simultaneously, organizational lay theories—and not numerical representation—predicted women's stereotype expectations. In particular, women expected to be perceived in line with gender stereotypes by the entity company more than by the incremental company.

Organizational trust. A three-way ANOVA on organizational trust replicated Study 1's main effect of organizational lay theory. Overall, participants trusted the incremental company ($M = 4.72$, $SD = 1.62$; 95% CI [4.36, 5.12]) more than the entity company ($M = 3.81$, $SD = 1.63$; 95% CI [3.44, 4.20]), $F(1, 136) = 11.54$, $p = .001$, $\eta_p^2 = .08$. This main effect was qualified by a marginal Theory \times Gender interaction, $F(1, 136) = 3.53$, $p = .06$, $\eta_p^2 = .03$ (see Figure 1, Middle

Panel). As in Study 1, women trusted the entity company ($M = 3.74$, $SD = 1.65$; 95% CI [3.22, 4.25]) significantly less than the incremental company ($M = 5.16$, $SD = 1.30$; 95% CI [4.62, 5.69]), $F(1, 136) = 14.06$, $p < .001$. In contrast, men did not differentially trust the entity ($M = 3.90$, $SD = 1.61$; 95% CI [3.36, 4.44]) and the incremental ($M = 4.31$, $SD = 1.79$; 95% CI [3.79, 4.83]) companies, $F(1, 136) = 1.10$, $p = .30$. (All other effects: $F_s < 1$.) Thus, when paired with organizational lay theories, numerical representation did not moderate women's organizational trust. Instead, replicating Study 1, women trusted the entity company significantly less than the incremental company.

Moderated mediation analysis. If concerns about being negatively stereotyped are indicative of stereotype threat (Steele & Aronson, 1995), and stereotype threat contributes to women's (but not men's) organizational mistrust, then women's mistrust of the entity company should be mediated by their expectations about being stereotyped by it. Following the recommendation of Hayes (2013), we examined the conditional indirect effects of organizational lay theory on organizational trust by using the SPSS process macro (PROCESS; Model 7) to probe the significance of conditional indirect effects at both values of the dichotomous moderator variable. The analysis used organizational lay theory as the independent variable (coded 0 for entity, 1 for incremental), participant gender as the moderator (0 for men, 1 for women), and organizational trust as the dependent variable. The mediator was participants' stereotype expectations (i.e., their expectations about being perceived as competent). This mediation analysis used 10,000 bootstrap resamples; a bias-corrected 95% confidence interval at both levels of the moderator is reported.

As reported above, the Organizational theory \times Participant gender interaction significantly influenced stereotype expectations. Also, stereotype expectations significantly impacted trust (see Figure 2, Top Panel). As predicted, the mediation model was significant for women (effect = 0.57, 95% CI [0.25, 1.01]) but not men (effect = 0.11, 95% CI [-0.11, 0.40]). In other words, women's—but not men's—mistrust of the entity company was driven by their expectations about being negatively stereotyped as less competent by its management.

Discussion

In sex-typed domains, organizational lay theories of intelligence are a cue to stereotype threat and they moderate people's organizational trust. Consistent with the stereotype threat hypothesis, moderated mediation showed that women's stereotype expectations explained why they trusted the entity company less than the incremental company.

It is interesting that even though participants accurately perceived the gender representation featured on the company websites, this cue did not play a causal role in participants'

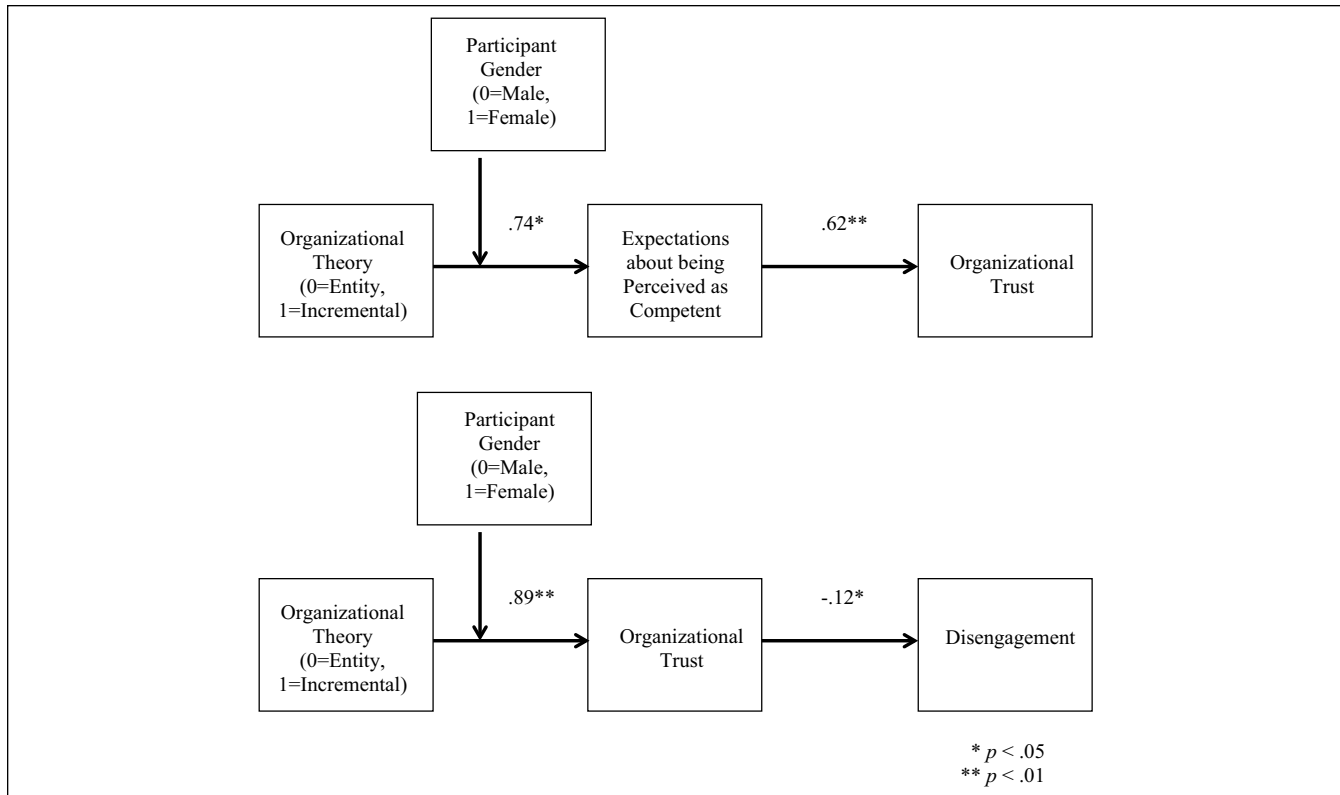


Figure 2. Top panel: Moderated mediation of the conditional indirect effect of organizational theory on organizational trust through expectations about being perceived as competent, moderated by participant gender (Study 2). Bottom panel: Moderated mediation of the conditional indirect effect of organizational theory on disengagement through organizational trust, moderated by participant gender (Study 3).

stereotype expectations or trust when paired with the organization's lay theory. To verify that this null effect was not due to a problem with the photographs used to manipulate representation, an independent sample of 113 women viewed the photographs without the organizational lay theory cue. Consistent with previous stereotype threat research, participants trusted the company more when it featured balanced gender representation ($M = 5.11$, $SD = 1.66$) than unbalanced representation ($M = 4.49$, $SD = 1.65$), $t(111) = -2.01$, $p = .05$. In other words, when the numerical representation cue was viewed in isolation, it moderated the extent to which women trusted the company. Thus, the meaning drawn from organizational theories may have overwhelmed the effect of numerical representation in this study. These results underscore the theoretical and practical importance of investigating multiple situational cues in the same research design.

Study 3

Study 3 explored another downstream outcome of organizational lay theories. As in Studies 1 and 2, participants read about an entity or incremental company. New to Study 3, participants anticipated meeting with a representative from the company to practice their interview skills. After learning

about the company, all participants were asked to imagine that the meeting with the representative had already occurred and that they had performed poorly during the interview. They were then asked to provide some reasons for why that could happen. People who endorse entity theories have been found to disengage when asked to imagine negative feedback because of the self-threat that negative performance implies (Blackwell et al., 2007). Mirroring this past work, we expected that when evaluating entity environments, participants would disengage more relative to those in incremental environments. However, the previous experiments demonstrated that entity organizational lay theories are an antecedent of stereotype threat for women in business settings. Because past research has linked stereotype threat to increased disengagement, we also hypothesized that women's—more so than men's—disengagement behavior would be mediated by their mistrust of the company.

Method

Participants and procedure. Two hundred and seventy-two undergraduates (139 female) participated in a study of people's impressions of companies for partial course credit. As in Study 1, the desired sample size for Study 3 was derived from past

work on stereotype threat and organizational lay theories (Murphy & Dweck, 2010; Nguyen & Ryan, 2008). Participants were randomly assigned to view a computer slideshow featuring information about an ostensible consulting company (the same company from Studies 1 and 2) that included our manipulation. Before viewing the slideshow, all participants were informed that they might be asked to meet briefly with a representative of the company at the end of the study to practice their interviewing skills. Participants then reported their organizational trust. Immediately before the ostensible meeting with the company representative, participants were asked to imagine that they performed poorly during the meeting. They then were asked to complete a measure that assessed the extent to which they would respond defensively by disengaging following the negative feedback (see Blackwell et al., 2007 for a similar procedure). Finally, participants were informed that, due to time constraints, they would not be meeting with the representative. They were debriefed and assigned credit.

Materials

Company slideshow. The organizational theory manipulation was presented in five slides that participants advanced at their own pace. The slides contained the text used in the website from Study 2.

Measures. The same items used in Study 2 assessed participants' perceptions of the company's theory ($\alpha = .96$); however, these items were rated on a 1 to 6 (*strongly agree* to *strongly disagree*) scale. Anticipated trust in the company ($\alpha = .95$) was measured the same way as in Studies 1 and 2. In addition, participants completed items meant to assess the extent to which they responded defensively to potential poor performance with the company representative. Four items (e.g., *didn't feel a need to impress the representative*, *didn't care about the meeting*), presented among filler items, were rated on a 1 to 5 scale (*not at all likely* to *extremely likely*) and averaged to create a disengagement composite ($\alpha = .89$). Higher composites indicated greater disengagement with the representative and meeting.

Results

Manipulation check. Participants who learned about the entity company were more likely to perceive that it espoused an entity theory of intelligence ($M = 4.30$, $SD = 1.03$; 95% CI [4.14, 4.45]) compared with participants who learned about the incremental company ($M = 1.77$, $SD = 0.76$; 95% CI [1.62, 1.92]), $F(1, 268) = 526.63$, $p < .001$, $\eta_p^2 = .66$.

Organizational trust. A Theory \times Gender ANOVA revealed a main effect of organizational lay theory. Overall, participants trusted the incremental company ($M = 6.19$, $SD = 1.09$; 95% CI [5.97, 6.39]) more than the entity company ($M = 5.04$, $SD = 1.40$; 95% CI [4.83, 5.25]), $F(1, 268) = 57.75$, $p < .001$, $\eta_p^2 =$

.18. However, this main effect was qualified by the predicted interaction, $F(1, 268) = 8.89$, $p = .003$, $\eta_p^2 = .03$ (see Figure 1, Bottom Panel). Replicating Studies 1 and 2, women trusted the entity company ($M = 4.76$, $SD = 1.51$; 95% CI [4.46, 5.06]) less than the incremental company ($M = 6.35$, $SD = 0.98$; 95% CI [6.06, 6.63]), $F(1, 268) = 56.96$, $p < .001$. New to this study, but consistent with predictions, men also trusted the entity company ($M = 5.32$, $SD = 1.23$; 95% CI [5.02, 5.61]) less than the incremental company ($M = 6.01$, $SD = 1.18$; 95% CI [5.71, 6.31]), $F(1, 268) = 10.37$, $p = .001$. However, mirroring Study 1, this effect was more than twice as large for women than men (Cohen's $d = 1.25$ vs. 0.57).

Disengagement. An ANOVA revealed only the predicted Theory \times Gender interaction, $F(1, 268) = 4.79$, $p = .03$, $\eta_p^2 = .02$. Men report similar levels of engagement when they imagined negative interactions with the entity ($M = 2.33$, $SD = 0.96$; 95% CI [2.06, 2.59]) and incremental company representative ($M = 2.45$, $SD = 1.13$; 95% CI [2.18, 2.72]), $F(1, 268) = 0.43$, $p = .51$. However, women reported significantly more disengagement after imagining a negative interaction with the entity ($M = 2.71$, $SD = 1.25$; 95% CI [2.44, 2.97]) compared with the incremental ($M = 2.24$, $SD = 1.05$; 95% CI [1.99, 2.50]) company representative, $F(1, 268) = 6.04$, $p = .02$. In other words, women—but not men—were more likely to disengage following hypothetical negative feedback from an entity company than an incremental company.

Moderated mediation. Although the performance focus of an entity company is somewhat undesirable to both men and women, the setting's fixed ability beliefs—and stereotyped domain—engender stereotype threat for women. As predicted, the effect of organizational lay theory on trust was much larger for women than for men. However, the primary hypothesis for Study 3 was a moderated mediation hypothesis. We predicted that because women experience stereotype threat concerns in entity business contexts that reduces their organizational trust (Study 2), mistrust should have a greater impact on women's defensive responding (i.e., task disengagement) than it does for men. Again using Hayes's (2013) process macro, organizational lay theory was entered as the independent variable, disengagement as the dependent variable, organizational trust as the mediator, and participant gender as the moderator.

The Theory \times Gender interaction on trust and the effect of trust on disengagement were significant, indicating mediation (see Figure 2, Bottom Panel). An analysis at both levels of the moderator (i.e., gender) showed that the mediation model was reliable for both female participants (effect = -0.20 , CI [-0.40 , -0.03]) and male participants (effect = -0.09 , CI [-0.21 , -0.01]); however, the process effect was almost 30% larger for women than men. In other words, both men's and women's mistrust of the entity context drove their disengagement from the task at hand as a self-protective strategy. However, consistent with a stereotype threat

hypothesis, the strength of the process model through organizational trust was much greater among women than men.

Discussion

As predicted, in Study 3, men and women both trusted the performance-focused entity company less than the development-focused incremental company. Because entity organizations require people to consistently demonstrate high levels of competence, tolerate few mistakes and consider even a single low performance as evidence that one is not smart (Murphy & Dweck, in press), both men and women felt uncomfortable when considering the entity organization. This finding also is congruent with previous organizational theories research that showed that people, on average, preferred an incremental company to an entity one (Murphy & Dweck, 2010). However, in the domain of business, women also face the burden of stereotype threat. Consistent with Studies 1 and 2, the effect of organizational lay theories on women's trust was more than twice as large as it was for men. This, paired with the fact that organizational mistrust was a stronger predictor of women's (vs. men's) disengagement, provides evidence that organizational lay theories play an important role in women's trust and engagement when evaluating business contexts.

General Discussion

The current studies suggest that, in stereotyped domains, an organization's lay theory of intelligence may be a particularly important structural feature because it moderates women's experiences of stereotype threat. According to an entity organization, some people are thought to possess more natural intelligence and ability than others. Conversely, an incremental organization believes that everyone can expand their intelligence and ability through effort. Supporting the idea that organizational lay theories can be an antecedent to stereotype threat, this research found that organizational lay theories shaped organizational trust, especially for women. In all three experiments, women trusted a consulting company espousing a fixed theory of intelligence less than one espousing a malleable theory. In fact, when combined with another situational factor commonly shown to affect organizational trust—numerical representation—*only* organizational theories predicted trust.

Consistent with a stereotype threat account, Study 2 showed that women's mistrust stemmed from their expectations of being negatively stereotyped by the entity (relative to the incremental) company. Because their group is not similarly targeted by negative competence stereotypes in the business domain, men expected to be perceived similarly by the entity and incremental companies, and these expectations did not influence their organizational trust.

Finally, Study 3 illuminated disengagement as an important downstream consequence of organizational lay theories

and stereotype threat. People's—particularly women's—mistrust led them to report less interest in and engagement with the company in the face of possible poor performance. Although defensively disengaging may protect against threats to the self in the short term, it ultimately deters people from pursuing difficult or stereotype-relevant domains (Blackwell et al., 2007; Davies et al., 2002; Steele et al., 2002). Future research could explore whether the negative outcomes associated with disengagement are especially likely among current employees in entity businesses.

These studies move research forward by introducing organizational lay theories to the stereotype threat literature. In particular, this work demonstrated the consistent role that organizational lay theories can play in people's experiences of stereotype threat when they are considering domains in which their group is stereotyped or under-represented. In addition, this research identifies one of very few threat antecedents that do not specifically reference group stereotypes or differences explicitly. Thus far, most stereotype threat research has focused on cues that trigger stereotype threat by overtly mentioning women's under-representation or under-performance in male-dominated fields. Here, the effects of our organizational lay theory cue reveal how subtle, yet detrimental, situational antecedents to threat can be.

Given the volume of research demonstrating that numerical representation is a powerful predictor of stereotype threat experiences (Inzlicht & Ben-Zeev, 2000; Murphy et al., 2007; Sekaquaptewa & Thompson, 2002), it is perhaps surprising that only organizational lay theory—and not gender representation—predicted women's stereotype expectations and trust. After all, participants were able to accurately recall the number of men and women depicted on the company websites; moreover, when presented alone, the cue significantly depressed women's organizational trust. Although it is difficult to explain the absence of an effect, one possibility is that our unbalanced gender representation manipulation was not sufficiently extreme to induce stereotype threat. For example, representation might play a larger role if women were excluded from an organization's website altogether. The 3:1 gender ratio used in Study 2 was chosen because it reflects women's experiences in the typical American workplace, preserving external validity. Future work might examine boundary conditions—such as more extreme numerical under-representation—by which these two contextual cues may influence women's experiences of stereotype threat when evaluating business settings.

One potential limitation of the current study is our reliance on undergraduate samples, primarily because of their limited work experience in corporate settings. Yet, because many of them will enter the workforce in the near future, college students can serve as an ideal sample when exploring people's initial impressions of organizations. The current work suggests that organizational lay theories affect people's trust when being recruited by organizations in sex-typed domains. However, future research should examine whether

these theories also play a role in the retention, performance, and advancement of women currently employed in corporate workplaces. For example, experiencing stereotype threat has been robustly linked to underperformance (Nguyen & Ryan, 2008); thus, we might expect women to perform worse in entity businesses. Moreover, it will also be important to investigate whether organizational lay theories similarly predict the experiences of other negatively stereotyped groups, such as racial and ethnic minorities. Because these groups are impugned by similar competence stereotypes, congruent stereotype threat effects may be observed.

Study 2 examined the impact of organizational lay theories on women's expectations about being perceived in line with gender-based stereotypes. However, this construction of stereotype threat is just one of several types of stereotype threats (Shapiro & Neuberg, 2007). In the current work, women were concerned about being viewed through the lens of negative group stereotypes in entity business contexts (i.e., own-reputation threat). However, future research should examine whether organizational lay theories influence women's experiences of other types of stereotype threats, such as their concerns about the implications of their behavior for other ingroup members (i.e., group-reputation threat) or for their own self-image (i.e., self-concept threat).

Similarly, unlike other measures of stereotype threat (e.g., threat-based concerns), the measure of stereotype threat included in Study 2—participants' expectations about being perceived as competent—does not explicitly refer to participants' gender group membership. Importantly, the use of a more indirect measure is consistent with past theory and research. Steele and colleagues have warned that explicitly measuring stereotype threat can cause reactance from stigmatized groups (Steele & Aronson, 1995, Study 3; Steele et al., 2002); therefore, we opted to use a more indirect measure that does not explicitly address participants' gender to avoid such reactance. Furthermore, the lack of gender-based language in our measure allowed for it to precede the dependent variable (i.e., trust) without activating stereotype threat in participants from stigmatized groups, thus preserving the appropriate variable sequence for mediation analysis. In sum, though the current work demonstrates that women experience stereotype threat when considering entity business contexts, future research should seek to establish the generalizability of these findings to other measures or indices of stereotype threat.

Practically, this work may guide organizations seeking to improve the psychological experiences of their employees. This research demonstrates that the lay theories businesses endorse convey different meanings for men and women and disparately influence their outcomes. Thus, organizations aiming to recruit people from traditionally stigmatized and under-represented groups might consider explicitly endorsing an incremental theory in their company materials that underscore the value of employees' growth, development, and learning. These incremental beliefs might be reflected in

companies' recruiting materials, their promotion, and retention policies, as well as in evaluations that document how far employees have grown and developed. In addition, research and theory (Dickson, Smith, Grojean, & Ehrhart, 2001; Rynes & Rosen, 1995) suggest that implementation of an incremental theory might be particularly successful if leaders show support for it. Therefore, organizational leaders—like CEOs and managers—likely play an important role in the extent to which incremental lay theories actually become a part of an organization's culture.

Conclusion

People are vigilant to situational cues in business contexts and these cues can suggest different meanings to them depending on the societal stereotypes tied to their social identities. This research demonstrates that companies that endorse an entity theory of intelligence signal identity threat to women, increasing their stereotype expectations and decreasing their organizational trust. Moreover, women considering these entity environments are more likely to disengage when faced with negative feedback rather than accepting and learning from it. If companies wish to attract and retain a broader labor force, it is important that we understand how organizations can convey an incremental theory of intelligence so that all groups may thrive.

Acknowledgment

The authors would like to thank James Larson and Linda Skitka for their insightful feedback throughout the course of this research project.

Authors' Note

Portions of this research were presented at the 2010 and 2012 Society for the Psychological Study of Social Issues, 2011 Midwestern Psychological Association, 2011 and 2014 Society of Personality and Social Psychology, and 2012 Association for Psychological Sciences Conferences.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. We initially collected 33 men and 73 women in Study 1. However, on the helpful suggestion of reviewers to even out the gender composition of the sample, we collected additional data from both men and women, oversampling for men, in a subsequent semester.
2. All manipulations and measures from the three studies are provided in the stimuli file accompanying the article.

3. Degrees of freedom vary for this analysis due to missing data from four participants.
4. An alternate hypothesis is that incremental companies may actually be threatening to women because they value effort and development, which may include stereotypically masculine attributes such as competition and agency. To ensure the manipulations were not perceived to differ on attributes other than lay theory beliefs, an independent sample of 52 participants made ratings of the two companies. Results revealed that the companies were rated as similar in perceived cooperativeness, competitiveness, agency, communion, warmth, and coldness (all p s > .177), suggesting that the incremental company was not perceived as valuing competitiveness and agency more than the entity company.

Supplemental Material

The online supplemental material is available at <http://pspb.sagepub.com/supplemental>.

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