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# Gender Inclusion and Fit in STEM

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## Abstract

Despite progress made toward increasing women's interest and involvement in science, technology, engineering, and math (STEM), women continue to be underrepresented and experience less equity and inclusion in some STEM fields. In this article, I review the psychological literature relevant to understanding and mitigating women's lower fit and inclusion in STEM. Person-level explanations concerning women's abilities, interests, and self-efficacy are insufficient for explaining these persistent gaps. Rather, women's relatively lower interest in male-dominated STEM careers such as computer science and engineering is likely to be constrained by gender stereotypes. These gender stereotypes erode women's ability to experience self-concept fit, goal fit, and/or social fit. Such effects occur independently of intentional interpersonal biases and discrimination, and yet they create systemic barriers to women's attraction to, integration in, and advancement in STEM. Dismantling these systemic barriers requires a multifaceted approach to changing organizational and educational cultures at the institutional, interpersonal, and individual level.

## Contents





# INTRODUCTION

Picture a scientist. If you immediately conjured an image of someone such as Albert Einstein, Stephen Hawking, or Louis Pasteur, you wouldn't be alone. But does the ease with which we associate the word "scientist" predominantly with men signal something about the subtle constraints to women's entry and success in these fields? For example, everyone who received an mRNA COVID-19 vaccine in 2021 is the beneficiary of work by scientist Katalin Karikó (Garde & Saltzman 2020). However, she faced years of rejections from funders, colleagues, and journals who did not share her vision that mRNA could be used to fight disease. Karikó's story highlights one woman's success in science, but it is also easy to imagine that had she grown discouraged by the roadblocks in her way, the course of the COVID-19 pandemic might have been irrevocably changed. After all, despite the strides that women have made in entering and excelling in science, technology, engineering, and math (STEM), disparities in gender diversity, equity, and inclusion still persist (Corbett & Hill 2015, Gruber et al. 2021, Hill et al. 2010).

Over the past 15 years, psychologists have sought to identify the person and situational factors that best account for these disparities. In this article, I synthesize this literature and interpret how these findings can be applied to foster greater inclusion for women in STEM. Importantly, women's underrepresentation in these fields need not always be the direct result of biased perceptions or discriminatory decision making on the part of gatekeepers or evaluators (Ceci et al. 2014). Yet, as I will review, the persistence of gender stereotypes in the broader culture can constitute a form of systemic bias that is often unacknowledged, especially by those in positions of power or advantage. These cultural stereotypes subtly and perniciously shape women's ability to feel a sense of fit and belonging in STEM by influencing people's perceptions (of self and other), preferences (for activities and values), and pursuits (of different careers). As a result, it can seem that many gender disparities in STEM result from women's own choices, without the recognition that those choices can be constrained by systemic biases and gender stereotypes.

The primary focus of this review is on women's underrepresentation in STEM fields, and thus my use of the term "gender" primarily centers on women's experiences as compared to men's, given that most of the existing research speaks to this binary classification of gender. That said, people with other gender-diverse identities as well as women with intersectional and marginalized identities with race, sexual orientation, age, social class, and disability status face barriers that are in some ways similar to, but also distinct from, those encompassed in this review. When possible, I draw attention to research speaking to these important extensions of this work.

## Why Focus on STEM?

As mentioned above, STEM comprises fields of study and professions related to science, technology, engineering, and math. Notably, these are not the only professions where women are underrepresented. In the academy, women are also remarkably absent from faculty rosters in fields like philosophy, history, and music despite a common association of women with the humanities and arts (Leslie et al. 2015). Gender segregation is pervasive among working class jobs as well, where men are underrepresented in occupations related to care service, retail, and domestic work, and women are underrepresented in construction and other trades (Evans 2021, Levanon & Grusky 2016). Importantly, and as I discuss more below, in many life science STEM professions, women have achieved parity (Eagly 2021).

Given that a lack of gender balance is not unique to STEM, why focus on this particular cluster of careers? Of course, any effort toward gender equality is motivated first and foremost by the desire to create a more fair and just society where people have equal opportunities regardless of their identities; but there are a few reasons to focus specifically on STEM careers. First, because STEM fields are so closely connected to our understanding of the natural world and our construction of the physical one, a lack of diverse perspectives carries heavy costs. We see this in many examples, from the racial biases built into facial recognition software used to identify perpetrators of crime to the lack of female and child-sized crash-test dummies that for decades led to an excess loss of life in car crashes for women and children (Criado Perez 2019, Schiebinger 2021).

An additional motivation for focusing on STEM careers is that jobs related to engineering and technology have the highest earning potential of any job category (Smith 2021). The dearth of women in these occupations explains a substantial portion of the gender wage gap (Blau & Kahn 2017). In fact, although the gender wage gap has been narrowing considerably over the past two decades in the United States, Blau & Kahn (2017) note that the gender gap has been closing more slowly among higher wage-earners, many of whom work in STEM.

Finally, STEM careers are often the backbone of a country's economy, given the role of science in shaping innovation and of engineering in building infrastructure. Attracting more women and underrepresented minorities to these fields can help meet labor shortages in some STEM industries (Levanon et al. 2014) as well as fuel greater innovation and ensure that we have a more comprehensive knowledge base (Fehr 2011). In fact, the acronym STEM was originally proposed by the National Science Foundation (NSF) in the United States as a way to foster greater funding and education to spark innovation in these fields (Dugger 2010).

Thus, although many of the processes discussed in this article also apply to other group disparities and gender gaps, including the underrepresentation of men in HEED (health care, early education, and domestic roles; Croft et al. 2015), the focus on gender disparities in STEM has both historical and practical relevance.

## Diversity, Inclusion, and Equity in STEM

In reviewing disparities in STEM, it is important to recognize the distinctions between diversity (e.g., are women underrepresented?), inclusion (e.g., do women feel a sense of fit and belonging?), and equity (e.g., are women fairly rewarded for their contributions?). Research points to persistent gender gaps in all three categories, though certainly there can be variation across time, place, and institution. With respect to gender diversity, the most recent report from the NSF (Hamrick 2021) documents an increasing share of STEM degrees awarded to women over the past two decades; however, as of 2018, women still made up less than a fourth of new bachelor's degrees awarded in physics (21%), engineering (22%), and computer science (20%). In contrast, in the life and social sciences, new bachelor's degrees were awarded proportionally to women (50–55%). Mirroring these patterns in higher education, women are similarly if not more underrepresented as academic scientists (Bello & Galindo-Rueda 2020). Consequently, some scholars have used pSTEM (McPherson & Park 2021) to refer to the more specific cluster of physical (as opposed to life or social science) STEM careers where women are most underrepresented.

With respect to inclusion, women often report facing a chilly climate in STEM careers such as engineering (Fouad et al. 2011). Meta-analyses of full-time employees more generally reveal that women, as compared with men, report greater experiences of incivility (Yao et al. 2022) and harassment (McCord et al. 2018) as well as a sexist organizational climate (Sojo et al. 2016). Interestingly, meta-analyses also suggest that the harm associated with less intense but more frequent experiences of exclusion (i.e., a sexist culture) is similar to and at times stronger than the harm caused by more intense and targeted sexism (Sojo et al. 2016). However, because these studies have not examined moderation by field or occupation, it remains unclear if these challenges are unique to or elevated in male-dominated STEM fields. Broad studies or meta-analyses of gender inclusion in STEM are still needed, but they are hampered by poor-quality measures of inclusion (Rezai et al. 2020).

Finally, many women in STEM report inequities in their career outcomes. For example, in a 2020 OECD survey of academic scientists (Bello & Galindo-Rueda 2020), even though there were no differences in the quality of work published by male and female authors based on citation rates or journal prestige, women earned 5–6% less than their male peers, controlling for both individual and job characteristics. This pay gap was particularly wide in more lucrative careers in engineering, computer science, and senior management. Thus, although progress toward gender equality has been made in the life and social sciences, the physical sciences continue to be marked by persistent gender disparities in representation, feelings of inclusion, and pay equity. Furthermore, even if women and men produce scholarship of similar quality, the greater quantity of publications from men in STEM likely fuels other disparities in awards, some types of grants, and salary (Aguinis et al. 2018, Gruber et al. 2021).

Notably, the disparities outlined above are overall averages, but there is important variability across time, countries, and specific organizations. For example, the ADVANCE program at NSF has spent $15–20 million each year since 2002 to help transform institutional policies to foster greater gender diversity in STEM (DeAro 2016). Evaluations of different programs point to the efficacy of these interventions in increasing gender diversity among faculty, improving gender climate, and instituting policies to mitigate work-life conflict; however, the lack of clear comparison groups leaves some ambiguity in causal interpretation. Drawing on recent conceptual work, I suggest that girls' and women's interest and advancement in STEM are often a function of their ability to feel a sense of fit in STEM environments. I will next outline this framework and use it as an organizing structure to review what is known about personal and situational factors contributing to women's interest and experience in STEM. At the end of the review, I will consider various evidence-based strategies to foster greater diversity, inclusion, and equity in STEM by increasing women's fit in these fields.

# THE CENTRAL ROLE OF PERSON-ENVIRONMENT FIT

## The SAFE Model as a Framework for Understanding Gender Gaps in STEM

When given a choice, people often prioritize selecting an occupation that is a good fit (Rounds & Su 2014). The concept of fit can be parsed as the complex integration of characteristics of the person (their abilities, interests, goals, and values) and of the situation (what the career is, where it is done, how work is structured, and who tends to do the work). Recently, I (along with Constantine Sedikides) outlined a model detailing the way that people self-select into situations as a function of three distinct types of fit that allow one to feel authentic in that setting (Schmader & Sedikides 2018). The SAFE model proposes that state authenticity is a signal of one's fit to the environment. Applied to gender gaps in STEM, the SAFE model assumes that state authenticity (i.e., being able to express one's true self) is a key motivator of one's attraction to, engagement with, and retention in a field (see **Figure 1**). We all thrive in those places where we feel three kinds of fit: We want to work in a field or workplace that fits how we see ourselves (self-concept fit), that affords our goals and values (goal fit), and where our colleagues accept and respect us (social fit). We might be attracted to a career for one of these types of fit (e.g., choosing engineering to fit one's self-concept as a tinkerer), only to be turned off later by the lack of another (e.g., the way work is structured or a lack of respect from one's colleagues).

The SAFE model can explain many of the choices we make, big and small, to enter some contexts and leave others. The novelty of the model lies in its ability to explain people's choices to opt out of culturally valued settings to self-segregate into others, even in the absence of clear bias or discrimination. Understood through the lens of prevailing power structures and their justifying cultural stereotypes (Jost & Kay 2005), even when opportunities are made freely available to all people, environments that are constructed and defined by one (often homogeneous) high-status group of people can signal a lack of self-concept, goal, and social fit to those from more marginalized backgrounds. This lack of fit creates an experienced sense of disfluency that characterizes an

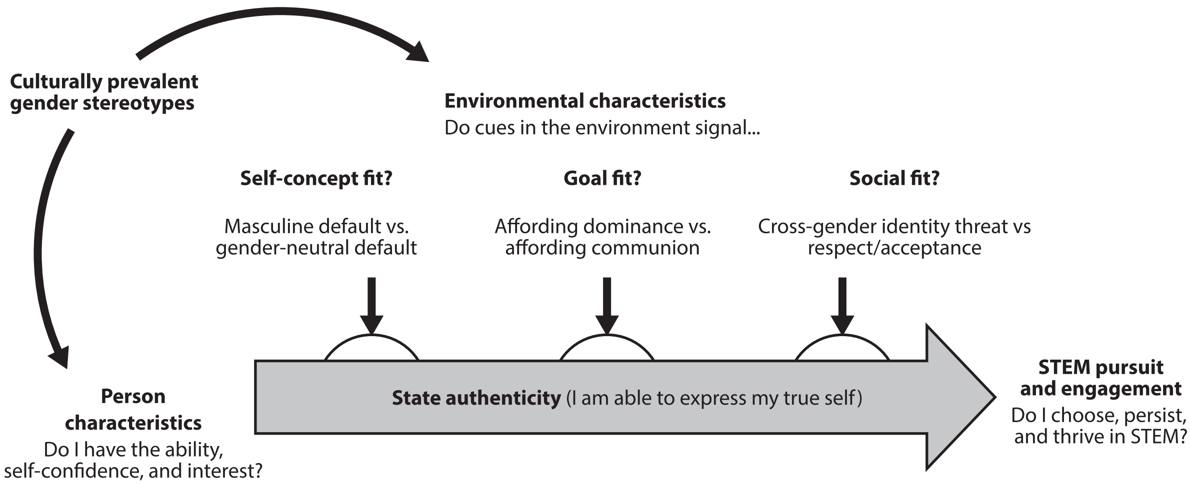


**Figure 1**

State authenticity as fit to environment: applications to gender inclusion in STEM.

inability to feel authentic in that context. As a result, those who feel marginalized might reasonably avoid or leave such careers due to a lack of fit; their decision then seems like one that is freely chosen, rather than constrained by the structure of those situations. For others, prevalent cultural stereotypes might have shaped their abilities, self-confidence, or interest in stereotype-relevant domains early on. Whether stereotypes affect aspects of the person or the environment, these hidden constraints to the choices people feel they have are one core component of systemic biases.

Using this model as a framework, the review that follows synthesizes past research findings related to gender disparities in STEM. The synthesis is guided by a central question: To what degree are gender disparities in STEM due to women's personal characteristics and abilities or rather to environmental constraints that reduce the likelihood of feeling each of these types of fit in STEM? Notably, these two sources of variance are not mutually exclusive, that is, environmental factors serve to shape personal characteristics and vice versa, and the two can also interact in complex ways. I summarize these sources of variance as distinct factors first and consider some of these complexities later.



## The Role of Cultural Stereotypes

Stereotypes are the cognitive representations that summarize the traits, abilities, attributes, and preferences that are perceived to be associated with one group more than with another (Ellemers 2018). When explicitly reported, stereotypes represent a person's consciously held beliefs about a group. Distinct from these explicit beliefs are implicit stereotypes, measured as the concepts that are automatically activated when a group category is brought to mind because of strong cognitive associations in a person's semantic network. Although such stereotypes exist in the minds of individuals, they are also products of the surrounding culture and context (Diekman & Schmader 2021, Payne et al. 2017). For example, countries that exhibit a stronger STEM = male implicit association also tend to have fewer women majoring in STEM fields (Breda et al. 2020, Miller et al. 2015). Thus, our prevalent tendency to "think STEM, think male" is partly learned from the systematic underrepresentation of certain groups in certain roles (Eagly 1987, Koenig & Eagly 2014) and is shared as cultural knowledge (Devine 1989). As such, I consider stereotypes primarily as an environmental or cultural factor that has the potential to be internalized, thus shaping women's and men's own self-concepts and personal preferences (Markus & Kitayama 2010). In this way, stereotypes not only are descriptive of the status quo but also become prescriptive, creating social friction when one steps outside of stereotype-congruent roles and enhanced feelings of fit when one stays within those constraints (Eagly & Karau 2002).

There are several gender stereotypes that are relevant to women's experiences in STEM. Some of these are documented using explicit measures and others using more implicit techniques. For example, in US public opinion polls over the last seven decades, women are explicitly stereotyped to be more communal (e.g., caring, compassionate) than are men—a stereotype that has only grown stronger in the United States since the 1940s. In contrast, men are stereotyped to be more agentic (e.g., ambitious, aggressive) than women (Eagly et al. 2020). These communal and agentic stereotypes set the stage for greater role congruity for women in care-oriented careers and for men in positions of power and leadership (Brescoll 2016, Croft et al. 2015, Eagly & Carli 2007).

More relevant to the current review, there is also research documenting more specific stereotypes about women's relatively lower ability or affinity for math or science. For example, when children are asked to draw a scientist, they are more likely to draw a picture of a man than of a woman (Miller et al. 2018). Although this stereotypic representation of science as male has been waning over time, it still exists—especially among boys—and also tends to be stronger in older than in younger children. That said, among young children, a strong ingroup bias often means that preschool-aged children explicitly believe that their gender is better at all things (Shutts 2015);

for male-dominated domains and skills, girls unlearn this ingroup bias as they internalize gender stereotypes.

The implicit tendency to think STEM, think male has been directly measured with a gender-based implicit association test, a reaction time measure that assesses the speed with which one can quickly and accurately categorize science- or math-related words alongside either male- or female-typical names and/or pronouns (Nosek et al. 2002). Research documents that some children begin learning these gender stereotypes while still in preschool and those who do are more susceptible to exhibiting impairments when estimating quantities (Gonzalez et al. 2021).

Finally, implicit stereotypes of men's brilliance might be particularly relevant to gender disparities in academic STEM contexts that value intellectual problem solving and assume that only some people have the stable, raw intelligence to truly succeed (Leslie et al. 2015). Evidence of this stereotypic association is revealed in natural language processing of films, including those aimed at children (Gálvez et al. 2019). Indeed, both children and adults show evidence of this brilliance = men stereotype (Bian et al. 2017, Storage et al. 2020), choosing to nominate men over women, for example, for tasks that require especially high intelligence (Bian et al. 2018). Interestingly, these stereotypes of men's extreme intelligence coexist alongside a belief that, at average levels, women have equal intelligence (Eagly et al. 2020). Because innovative problem solving is the hallmark of STEM careers, the tendency to associate men (especially White men; Jaxon et al. 2019) more than women with extreme intelligence is likely linked to men's overrepresentation in fields (both within and outside of STEM) that assume brilliance is necessary for success (Leslie et al. 2015). Across academic disciplines, these stereotypes could benefit men's career advancement, for example, by fueling disparities in letters of recommendation, teaching evaluations, award selections, and evaluations of publications and grant proposals (Gruber et al. 2021, Schmader et al. 2007, Storage et al. 2016, Witteman et al. 2019).

In sum, stereotypes that associate men more than women with math and science, and women more than men with communion, reflect but also lay the groundwork to reinforce horizontal segregation, whereby men and women self-select into stereotype-congruent fields. Stereotypes that link men more than women with agency and brilliance lay the groundwork to both reflect and reinforce vertical segregation of men in higher-status leadership positions of whatever field they choose. Importantly, there is variation in gender stereotypes across both time and culture, revealing them to be historical constructs (Charlesworth & Banaji 2019, 2021). For example, data from a publicly accessible website with over 1.3 million respondents suggest that the implicit association of STEM with men (versus women) has decreased over time but is still prevalent today (Charlesworth & Banaji 2022). Although the strength of these stereotypes varies by participant gender and nationality, the pattern of changes in these stereotypes does not. Globally, gender-STEM stereotypes have been weakening, but still exist. Statistical models estimate that at the overall rate of decline observed between 2007 and 2018, it would take between 37 and 74 years to completely eradicate a science = male association (and eliminating an association of men with career and women with family would take twice as long).

## PERSON CHARACTERISTICS THAT ATTRACT INDIVIDUALS TO STEM

The prevalence of gender stereotypes discussed above raises the question of whether men and women have distinctly different interests or abilities that both reinforce cultural stereotypes and explain gender gaps in STEM. People are drawn to those careers that afford their interests, a tendency that is prevalent across cultures but is also more pronounced in individualist countries (Li et al. 2021). The fit between a person's interests and their chosen occupation is also predictive of their productivity (Nye et al. 2012, 2017). Are men's and women's interests and abilities inherently different, and to what degree are the differences that exist likely to be shaped by gender stereotypes?

## Interests, Ability, and Self-Confidence

Are men more interested in STEM careers? Chances are that everyone at some point in their life will complete a vocational interest survey that will give them feedback on careers that best match their interests. In 2009, Su et al. (2009) conducted a meta-analysis of common interest inventories, with a specific focus on those in which some attempt had been made to debias scales to minimize gender bias. This study yielded modest effect sizes revealing men's greater interest in science ($d = 0.36$) and math ($d = 0.34$) and a larger effect for men's interest in engineering ($d = 1.11$). These data point to persistent gender differences in career interest, but given evidence that some gaps are sensitive to biased item wording and are narrowing over time (Su et al. 2009), it remains possible that these differences are themselves shaped by sociocultural factors that can vary across time and place.

Do men have more inherent ability for STEM? The question about gender differences in STEM interests is related to the question of inherent differences in ability that could make men better able to excel in STEM pursuits. However, evidence does not suggest large differences in ability that would justify women's underrepresentation in STEM fields. One of the largest meta-analyses of gender differences in math performance examined cross-national data from nearly 500,000 14–16-year-old adolescents (Else-Quest et al. 2010). Differences in math test performance favoring boys were often negligible ($d = -0.01$ overall; $d = 0.07$ favoring boys for measurement, but $d = -0.11$ favoring girls for algebra). More dramatically, effect sizes varied considerably across cultures ($d = -0.42$ to 0.40), showing that gender gaps in math achievement were weaker or reversed in countries where girls have greater opportunities for educational attainment, research experience, and political power. This parallels the findings of another large meta-analysis of school grades that noted a small female advantage in math ($d = 0.07$) and science ($d = 0.15$), with effect sizes varying due to nationality and the gender composition of courses (Voyer & Voyer 2014).

These data suggest that the emphasis is better placed on explaining the variability in these gender gaps rather than on concluding that those gaps reflect biologically linked sex differences in inherent ability. To that end, research suggests that the gender gap in math performance is linked to cultural stereotypes. Girls' math performance is equivalent to boys' in countries where people (from completely distinct respondent samples) exhibit a weaker implicit association between the concept of science (versus liberal arts) and the concept of male (versus female) (Nosek et al. 2009).

Are men more confident in their STEM abilities? If boys are not inherently higher in math and science ability, what explains their stronger attraction to these careers in late adolescence or early adulthood? In contrast to the negligible gender gaps in math performance, Else-Quest et al. (2010) found small but significant gaps in math self-confidence in favor of boys ($d = 0.15$), which parallel findings from an earlier meta-analysis (Hyde et al. 1990). That earlier meta-analysis revealed that the gender gap in believing oneself to be good at math grows stronger across development and into adulthood. The researchers also noted an extremely large gender gap in the stereotypic beliefs: Boys believe that math is a male subject much more strongly than girls do ($d = -0.90$).

## How Do Gender Stereotypes Shape Person Factors?

Taken together, the studies above suggest that boys are more able to excel in math and science not necessarily due to greater raw talent, but rather because they have greater self-confidence in their abilities and also greater preferences for careers in STEM fields. These findings set the stage for hypothesizing three broad pathways whereby gender stereotypes come to shape girls' own subjective and/or implicit self-views about their ability and affinity for math and science. First, prevalent gender stereotypes when internalized by girls can directly undermine their own math self-concept or lead them to emphasize their complementary strengths in language arts or verbal skills, where the gender gaps in performance favor girls ($d = 0.37$; Voyer & Voyer 2014) (see also Marsh et al. 2021). Second, gender stereotypes likely shape the ways parents, teachers, and peers provide affordances that, when accumulated across perceivers and over time, shape girls' developing self-views (Madon et al. 2018). Third, awareness of gender stereotypes might lead some girls and women to experience stereotype threat, whereby they underperform on complex math assessments in situations that bring stereotypes to mind, limiting their access and interest in further STEM challenges (Spencer et al. 2016). I next address each of these pathways in more detail.

How do stereotypes directly shape one's self-concept? Stereotypes can be directly internalized to shape self-beliefs. This can happen at the level of implicit cognitions, concepts that are linked in one's semantic network such that bringing one to mind automatically activates another. According to balanced identity theory (Cvencek et al. 2021, Greenwald et al. 2002), the mind's core motivation for cognitive consistency leads to associations among semantically related or frequently coactivated concepts (e.g., of self, group, and domain) to form balanced triads. Thus, if one holds the stereotypic association of math $\neq$ female and the implicit self-association of self = female, then one will also tend to develop an implicit self-stereotypic association of self $\neq$ math (Nosek et al. 2002).

Research finds evidence of these balanced cognitions suggesting the internalization of implicit stereotypes among children in elementary school (Cvencek et al. 2011) and university STEM majors (Nosek et al. 2002). Furthermore, implicit stereotypes are weaker among women in STEM fields with stronger female representation, suggesting connections among stereotypes, self-concept, and STEM pursuit (Dunlap & Barth 2019). In some cases, measures of implicit gender stereotypes are more predictive of STEM interest than explicit stereotypes (Nosek & Smyth 2011). Although those women who have carved out a career in STEM often exhibit weaker implicit gender stereotypes, women engineers who do associate STEM more with men than with women report greater disengagement from their work (Block et al. 2018).

How do stereotypes indirectly shape the self-concept through differential socialization? Stereotypes in the broader culture can lead to differential treatment from parents and teachers that then shapes children's self-views of their ability and expectations for success (Eccles 1983, Gunderson et al. 2012, Master et al. 2021, Muenks et al. 2018). For example, parents' expectations about their child's math ability can be a better predictor of the child's math self-concept than the child's own past math performance (Parsons et al. 1982). More recent data show similar effects with respect to parents' stereotypes about their son's greater spatial abilities, which then predicted gender differences in encouraging their child to pursue a STEM career and their child's intention of doing so (Muenks et al. 2019). Thus, when teachers and parents have lower expectations for girls' math, spatial, and science ability, they are less likely to provide them with opportunities to hone these skills.

How do stereotypes indirectly shape the self-concept through stereotype threat? A third way that stereotypes can shape girls' and women's self-views is by creating experiences of stereotype threat. Stereotype threat can occur when aspects of the situation bring to mind a concern that one's behavior or performance will be evaluated through the lens of a negative stereotype (Steele & Aronson 1995). Stereotype threat offers an environmental explanation for women's observed underperformance on very difficult timed tests of advanced quantitative skills (Schmader et al. 2008, Spencer et al. 1999). Meta-analyses of the literature point to small but reliable deficits in women's math and spatial performance due to stereotype threat (Doyle & Voyer 2016), though there are valid concerns about publication bias (Flore & Wicherts 2015, Liu et al. 2021). Although stereotype threat is theorized to be an environmental influence, because women themselves might be unaware of these effects (Logel et al. 2009), experiences of stereotype threat can lead women to underestimate their true abilities. Thus, stereotype threat might be an indirect mechanism by which gender stereotypes shape women's lower self-concepts and interest in STEM, in ways that seem (to them and to others) justified by women's lower standardized test scores on college and graduate school entrance exams (Deemer et al. 2016, Woodcock et al. 2016).

## ASPECTS OF ENVIRONMENTS THAT CAN SIGNAL INCLUSION

Thus far, we have considered the person-level characteristics that might attract someone to a STEM career. We considered both the evidence that gender differences in these attractor variables exist and evidence for why and how those gaps might be shaped by gender stereotypes. Taken as a whole, such evidence can provide a sociocultural explanation for the fact that more men than women are attracted to and pursue careers in STEM. But in addition to understanding these differences in people, it is equally if not more important to understand sociocultural differences in the environments where people learn and work in science and engineering. Drawing from the SAFE model, STEM environments, especially those that are majority male, are more likely to include features and attributes that signal greater fit for men than for women.

### Cues to Self-Concept Fit

When people look to and learn about different careers, they both learn about the work that is done and form impressions about who does that work. A central question is, Am I the type of person who could do this work? Is that environment one that will be conducive to the way I see myself? Environments can signal self-concept fit by having observable cues that activate default ways of seeing oneself, allowing for a sense of authentic self-expression. STEM settings are likely to afford self-concept fit for anyone with proclivities toward an intellectually stimulating career focused on solving key problems using science and technology. However, many male-dominated professions, including those in STEM, often inadvertently advertise a "masculine default" (Cheryan & Markus 2020). In other words, the default or ideal participant is assumed to possess characteristics and preferences more typical of men than women, regardless of the relevance those characteristics actually have for success in that domain. Simply imagining oneself at a scientific conference that is majority male (versus gender balanced) leads women more than men to experience physiological threat (Murphy et al. 2007).

Masculine defaults can be communicated in a variety of ways. Cheryan & Markus (2020) describe how these can be integrated into and thus cued by the ideas, policies, interactions, and individual beliefs within an organization. For example, boys are more likely than girls to get prior coding or robotics experience before college, which can then lead to a biased belief that such experience is a prerequisite for success in computer science (Klawe 2017). When such beliefs shape policies, they become a form of institutionalized gender bias that will systematically exclude more women than men from those majors. However, even stereotypic beliefs about an occupation can be enough for women to conclude that a given field is not a good fit. For example, when women completed a career interest survey in a computer science classroom that had cues to a masculine (versus more neutral) default impression of the people working there (communicated by the poster on the wall and other objects in the room), women were less likely to express interest in computer science, whereas those cues had no effect on men's interests (Cheryan et al. 2009). Furthermore, the perceived discrepancy between one's self-concept and one's view of scientists predicts interest in STEM, but in many cases, and especially for women, these views of scientists are inaccurate in stereotypical ways (McPherson et al. 2018).

These environmental cues to what Cheryan and colleagues (2009) call "ambient belonging" can include other nonsocial cues to the cultural default. They can include job advertisements that tout the presence of foosball tables or golf outings, social activities that attract more men than women (Allen 2016). They can also include the lack of facilities, protective equipment, or safety gear specific to women (Judd 2020). Such disparities in needed infrastructure do not need to be intentional to be a salient cue about who is expected to work and excel in that context.

Another example of gendered cues to self-concept fit includes the belief, more prevalent in some fields than in others, that brilliance is necessary for success (Leslie et al. 2015). Leslie and colleagues (2015) discovered that those fields in which academics believe that brilliance is integral to success are the ones that show the greatest underrepresentation of women and racial minorities. This difference is largely orthogonal to a STEM versus arts and humanities distinction, and thus it seems to reflect the earlier-discussed bias toward seeing White men as being disproportionately represented at the extremely high end of intelligence (Bian et al. 2018). Women of color, in particular, are at risk of suffering from imposter syndrome in fields that value brilliance (Muradoglu et al. 2022). In addition, brilliance suggests a fixed and unchangeable view of intelligence that when communicated by instructors and/or perceived by students predicts poorer performance and persistence in general (LaCosse et al. 2021, Muenks et al. 2020).

## Cues to Goal Fit

Closely related to self-concept fit is the way in which environments signal a sense of goal fit—that is, the feeling that the institutional structures will afford one's pursuit of intrinsically valued goals. Regulatory fit theory, for example, maintains that people find value in pursuing activities in which the structure of the task is matched to one's own motivational style (Higgins 2000). Someone who is high in sensation seeking will feel more engaged in highly arousing, high-reward activities such as skydiving. Similarly, Diekman's work on goal congruity theory maintains that people are attracted to roles that are congruent with their goals and values (Diekman et al. 2017).

Although goal fit is something we all seek, when male-dominant environments are structured around masculine defaults, institutional policies and styles of interaction (i.e., the way work is structured and rewarded) might align more closely with men's than with women's preferences. In such cases, women, on average, can come to feel a lack of goal fit as they try to conform to the male default. Work environments in many STEM fields are structured to focus on things versus people, and this emphasis, more than a required ability for quantitative analysis, best explains gender differences in career interests (Su & Rounds 2015).

We see the gendered effects of goal fit manifesting in the patterns of STEM fields that men and women pursue. As mentioned earlier, women tend to be equally represented in many life, medical, and social sciences, fields in which the goal is often clearly in the service of helping others and thus easily seen as affording women's more strongly held communal goals and values (Croft et al. 2015, Falk & Hermle 2018). On the other hand, women are underrepresented in physics, computer science, and engineering, fields that in some ways focus more on the abstract understanding or designing of things, technologies, or structures. As such, people (and sometimes women in particular) are less likely to see these careers as affording communal values (Diekman et al. 2010, 2011; McPherson & Park 2021).

Values could be considered person variables that differentially attract more men than women to STEM pursuits. Gender differences in values are likely to be enhanced, if not created, through processes of gendered socialization. Men more than women are socialized to value dominance and competition, whereas women more than men are socialized to value care and communion (Croft et al. 2015). As such, men are more likely than women to value competition as a way to maximize performance and creative problem solving (Kesebir et al. 2019), and as a result, women are less attracted to jobs and tasks that are competitively structured (He et al. 2021, Flory et al. 2015). Although some scholars favor an evolutionary explanation of these differences (Iredale et al. 2008), other research suggests that gender differences in preferences for competition and prosociality are culturally variable, with larger gender gaps in economically developed nations (Falk & Hermle 2018, Gneezy et al. 2009).

There is no direct evidence that I could find that STEM careers are more likely than other careers to be competitively, rather than communally, structured. However, when any environment is designed primarily for and by men, the style and structure of work are more likely to conform to what is considered the male default in that culture. Even the science of science reveals evidence of these patterns. In recent years, methodological reforms have focused both on the replication and reproducibility of scientific findings and on fostering greater open science practices. A network analysis of the scientists spearheading these reforms reveals two distinct cultures of largely nonoverlapping players (Murphy et al. 2020). Compared to a winner-takes-all approach in the reproducibility movement, the open science movement is more collaborative and noncoincidentally includes more women in high-status author positions.

The strongest evidence that a lack of goal fit might repel many highly qualified women from STEM fields comes from a programmatic line of research by Diekman and colleagues (Diekman et al. 2010, 2011, 2017). Not only does this work show that gender differences in communion, rather than differences in agency, strongly predict gender gaps in STEM interest; importantly, this research also reveals that efforts to frame or highlight the more communal aspects of STEM fields experimentally increase both children's and adults' (and sometimes particularly girls' and women's) interest in STEM careers (Belanger et al. 2020, Clark et al. 2016). This can be done by emphasizing both the ends (is there a communal goal one works toward?) and the means (is the structure of work more collaborative?).

Unfortunately, because people working in STEM often feel the need to conform to a male default, they are less likely than those working in fields without a masculine default to portray themselves in communal ways (Fuesting & Diekman 2017). However, the introduction of community-based approaches, such as a service-learning project in an engineering curriculum, is an effective means to increase the perception that engineering, for example, could afford more communal goals (Belanger et al. 2017). It is also important to note that gender gaps in communal values are larger in individualistic cultures but weaker in collectivist societies (Block et al. 2022). This might be the reason that STEM contexts are perceived to be less communal in North America than in Asia, which then might help explain cultural differences that are sometimes found in STEM attraction (Brown et al. 2018).

## Cues to Social Fit

The SAFE model proposes that, in addition to seeking out environments that fit how we see ourselves (self-concept fit) and how we like to work (goal fit), we also seek out environments where the people accept and validate who we are (social fit). This attraction to situations that provide social fit reflects people's fundamental motives for social belonging (Baumeister & Leary 1995). In fact, even when we see ourselves negatively, we tend to place more trust in those who verify rather than deny our self-beliefs (Swann 1990).

As adults, our careers and workplaces are where we spend the majority of our waking time each week. The people in those spaces thus have a powerful role in shaping not only our well-being but also the meaning we find and the engagement we have in our work (Chiaburu & Harrison 2008). Unfortunately, there is also evidence that women in male-dominated STEM careers often experience systematically lower social fit than their male colleagues. For example, a study of over 3,700 women with engineering degrees found that 20% of them left engineering within 5 years of entering the profession. Of these, nearly a third cited organizational climate as a key factor in their decision (Fouad et al. 2011). In our own research with women and men working in male-dominated STEM fields, such as engineering, we consistently find that women are more likely than men to experience social identity threat, that is, to be aware of their gender at work and to have concerns about being judged through a gendered lens (Hall et al. 2018).

The lack of social fit that women experience in STEM can be of different types. In the more extreme and explicit cases, women (and often especially women of color) report more experiences of gender-based harassment or discrimination than men do (Berdahl & Moore 2006, McCord et al. 2018, Tenbrunsel et al. 2019). Even in the absence of hostile forms of sexism, women often experience subtle cues that can signal a lack of social fit (Hall et al. 2015, 2018). For example, in a 2-week daily diary study of STEM professionals, less than 3% of women's daily conversations with their male colleagues were rated as hostile or condescending. In contrast, these conversations varied a great deal in how much they signaled full acceptance and respect. When women's cross-gender conversations were less supportive, women reported greater daily experience of burnout, an effect that was mediated by higher social identity threat. Notably, these relationships among conversational support, social identity threat, and burnout only held for women as predicted by their work-related conversations with male (and not female) colleagues, and they were not explained by gender differences in stigma consciousness. Daily variability in conversational support (with either men or women) was unrelated to men's daily experiences of social identity threat and burnout.

What is happening in these daily interactions to signal a lack of social fit? One common occurrence is that men spend more time talking during group discussions and sometimes ignore or even appropriate women's contributions (Carter et al. 2018, Lewis et al. 2019). However, this pattern of men dominating discussion can be mitigated when men are exposed to an example of a group discussion that is more gender equitable (Lewis et al. 2019). Another possibility is that men might at times be acting in a more flirtatious manner in their interactions with women, an interaction style adopted more by men with implicit gender stereotypes (Logel et al. 2009). Although the university women in the interactions studied by Logel et al. (2009) sometimes reported enjoying these more flirtatious conversations with implicitly sexist men, they also performed more poorly afterward on an engineering task.

The positive frame on this research is that, in their role as gatekeepers of the culture, men in these fields often have a unique ability to signal inclusion to women and other underrepresented groups. Even subtle cues to social approval or positive feedback can have a larger benefit to women when coming from men (versus women) in positions of authority (Park et al. 2018). The threat to belonging that women often report experiencing in STEM contexts (Walton & Carr 2011) can be assuaged by positive acknowledgments of their contributions coming from male gatekeepers in these fields. In our research (Hall et al. 2018), on days when women reported feeling most accepted by their male colleagues, the gender gap in social identity threat and burnout was significantly reduced.

In addition to women's experience of social identity threat in their everyday interactions with male colleagues, women can also experience a lack of social fit by simply being ignored or left out of social interactions altogether. On the one hand, such social exclusion can be experienced by anyone in a numerical minority as a result of people's general tendencies to seek out similar others for friendship and comradery (McPherson et al. 2001). However, there is evidence that women's greater social exclusion in male-dominated STEM contexts reflects implicit gender bias. In a study of over 1,200 STEM professionals, Cyr et al. (2021) found that men with stronger STEM = male implicit associations reported being less likely to socialize with their female team members, a result that held after controlling for status differences between men and women. Moreover, women in this same study who had fewer social ties to their male team members reported experiencing lower workplace engagement and stronger intentions to leave their organization, effects that were mediated by experiencing lower levels of social fit. These findings complement other research suggesting that in more male-dominated work teams, women feel less social cohesion, which can undermine their performance and ability to apply their expertise (Grover et al. 2017).

### Summary

Evidence from a diverse array of research in organizational and educational contexts suggests that male-dominated STEM environments can often contain cues that signal a lack of self-concept fit, goal fit, and social fit to women. Research from both the lab and the field provides direct evidence that women in STEM are at times expected to conform to male default preferences and to adopt a competitive goal frame, while being ignored or passed over in male-dominated social networks. In the absence of overt discrimination or objective barriers to entry, and even after diversity initiatives have increased the percentage of women in the field, these hidden forces stemming from persistent gender stereotypes can undermine women's feelings of belonging and the ability to feel authentic at work. These experiences are often subtle enough to be undetectable as individual instances, yet they appear clearly gendered once aggregated across people. Although the actual prevalence rates of these experiences are difficult to quantify, they offer a reasonable explanation for girls' lower interest in and women's higher attrition rates from those STEM fields most dominated by men.

Importantly, because male-dominated STEM spaces are often made, managed, and maintained by men, these same environments are more likely to signal a sense of fit and afford a more authentic experience to men based on who they are, how they like to work, and how they are viewed by others. For these men, it can be difficult to comprehend how the same environments that afford them a degree of fit and fluency could be aversive to women. Therefore, when women leave at disproportionately high rates, it can appear that women are a bad fit to the environment, not that the environment might be a bad fit for women.

## FOSTERING FIT AND GENDER INCLUSION IN STEM

### Systemic Changes Call for Systematic Approaches

In this article, I have reviewed evidence on the person-relevant variables that could differentially attract women to STEM fields as well as the environmental constraints that could systematically repel them by inhibiting three types of fit. Although I have considered these forces separately, these personal and environmental influences are mutually constituted by and coexist within a broader cultural system (Markus & Kitayama 2010). This system manifests across different levels: The cultural level includes societal beliefs and ideologies; the institutional level includes policies and procedures; the interpersonal level includes norms of interaction; and the individual level includes attitudes, cognitions, and behavior. The prevalence of gender stereotypes at the broadest cultural level can infiltrate each level below in this system. Thus, efforts to combat these systemic barriers to women's interest and to foster greater fit in STEM can target changes at any or all of these levels. Indeed, addressing change at only one level is likely to be ineffective if changes do not also occur at other levels (Schmader et al. 2022). I next review the evidence that changes are possible at each of these levels.

## Institutional Change from the Top

Although not specific to women's experiences in STEM, research by sociologists Frank Dobbin and Alexandra Kalev has examined longitudinally the effectiveness of various workplace diversity policies in increasing gender and racial diversity in organizations (Dobbin & Kalev 2013, 2016). Their work points to the effectiveness of certain policies for increasing gender, racial, and intersectional representation. The most effective policies include establishing diversity officers or task forces to oversee policy changes as well as targeted recruitment efforts to increase gender or racial diversity (Dobbin & Kalev 2016). Family-friendly organizational policies can increase women's participation, but they might also promote women's segregation into certain job categories that offer greater flexibility (Dobbin & Kalev 2013).

There are also important interactions between institutional and individual-level changes. Most notably, policies are more likely to effectively change the culture of an organization if they are supported by employees (Hall et al. 2022), but some might resist such changes (Harrison et al. 2006). For example, men who believe that policies aimed at benefiting women have zero-sum implications for men's outcomes are more likely to react against gender equity and diversity initiatives (Kuchynka et al. 2018). These zero-sum concerns might be most relevant when it comes to hiring. Although some research suggests that women known to be hired through affirmative action policies might feel at risk of being evaluated more negatively by their (especially male) colleagues (Heilman et al. 1998), these penalties for preferential hiring programs are not always found in more recent studies carried out in a male-dominated academic context (Henningsen et al. 2021). In fact, some research points to a preference in several academic STEM fields for hiring women over men with equal and high qualifications, which suggest broad support in some organizations to increase the gender representation in STEM fields (Ceci & Williams 2015, Williams & Ceci 2015). Even if these proactive efforts to hire well-qualified women academics in STEM faculties exist, there is also some indication that at a younger stage, men might be seen as more hirable than women for early training opportunities in STEM laboratories (Moss-Racusin et al. 2012).

In addition to increasing the representation of women in STEM fields and hence benefiting diversity, such institutional changes might also broadly benefit women's feelings of fit and inclusion. On the one hand, a critical mass of women in an organization can reduce the perception of a male default culture, signaling greater self-concept fit. If the presence of more women also changes the structure of work to be more communal or collaborative, an increase in goal fit might be another benefit. Finally, the ability to connect and interact with other women might also foster greater social fit to the degree that one experiences greater support and acceptance among similar others. Future research is needed to identify how specific institutional policies effectively increase inclusion either directly or indirectly by increasing the representation of women in STEM.

## Inclusive Interpersonal Norms

Research on institutional policy changes tends to focus on their efficacy for increasing diversity of representation. The field lacks a more systematic examination of efforts to change cultures to foster greater inclusion. Here, I point to the importance of fostering more supportive social norms to signal a strong sense of social fit to women and other marginalized groups in STEM. There is some evidence, for example, of a link between working at an organization with more gender-inclusive policies in place and women's experience of greater support and lower social identity threat in their daily interactions with male colleagues (Hall et al. 2018). Although causality is unclear in such correlational field studies, lab research reveals that women (and men) expect there to be more supportive interpersonal gender norms in companies with more gender-inclusive policies in place (Hall et al. 2018). Perhaps these expectations lead to self-fulfilling prophecies.

However, the existence of diversity policies can also prevent people from acknowledging instances of bias when they do occur (Kaiser et al. 2013) and might not always be indicative of true equity or inclusion (Wilton et al. 2020).

Broader organizational research points to the efficacy of mentoring programs in increasing the retention of people from more marginalized groups (Dobbin & Kalev 2016). Such programs work best when assigning people to mentors, because otherwise women might continue to be excluded from male-dominated social networks (Cyr et al. 2021). Yet, a randomized control trial of a peer mentoring program among STEM undergraduates suggested that women benefited more from having female than male mentors, with boosts to belonging and efficacy extending for up to 2 years, reducing women's attrition from their major (Dennehy & Dasgupta 2017). Such research points to the benefits that affinity groups have for shoring up feelings of fit among those from marginalized groups. However, given other evidence that men's supportive actions can most strongly signal social fit and inclusion (Hall et al. 2018), the question remains of how best to motivate men to engage in supportive allyship actions, that is, behaviors that are truly effective in fostering fit and inclusion among women and other minorities (De Souza & Schmader 2022b).

One barrier to men's allyship action is pluralistic ignorance, an assumption that other male peers are less supportive of gender-inclusion initiatives than they themselves are (De Souza & Schmader 2022a). To the degree that men are sensitive to masculine gender norms, these misperceptions might inhibit men from supporting gender inclusion. Research suggests that targeted efforts to change these perceived norms—e.g., by communicating broad support among university students for diversity efforts—can be effective in reducing prejudice among the majority group and in boosting a sense of fit and belonging among those who are marginalized (Murrar et al. 2020). In our own research, changing men's gender-specific beliefs and attitudes seems to only boost men's motivation and intentions to engage in allyship actions, without necessarily promoting actual changes to their behavior (De Souza & Schmader 2022a). However, preliminary findings suggest that such interventions might be more effective among men who believe there is a strong male norm in their organization to support gender inclusion.

## Changing Individual Perceivers: Effective Inclusion Training

Gender-inclusive policies and social norms are important environmental cues to women's inclusion in STEM. However, putting such policies and norms in place requires the actions of individuals, especially those in positions of power. Diversity training is the most commonly used strategy to instill in individuals the values, beliefs, and attitudes to support such changes. However, research on the efficacy of diversity training has been quite mixed. On the one hand, antibias training seems to do little to increase gender diversity among managers, and it can even lead to backlash (especially against women of color) when such training is mandatory or even punitive (i.e., mandated in response to some event) (Devine & Ash 2022, Dobbin & Kalev 2016).

However, a meta-analysis of the finer-grained effects of diversity training in 260 samples reveals somewhat more promising results (Bezrukova et al. 2016). People generally report positive reactions to diversity training (Hedge's $g = 0.61$), which can show moderate efficacy in changing attitudes ($g = 0.30$), beliefs ($g = 0.57$), and behavioral intentions ($g = 0.48$). However, some of these effects weaken over time. Although people report having more negative reactions when diversity training is mandatory, mandatory training still seems to change people's behavioral intentions. That said, in what is perhaps the best-designed implicit bias training study, Chang et al. (2019) found that participation in online bias training was effective at changing people's gender-based attitudes, beliefs, and behavioral intentions, but it did not make employees any more likely to take action to promote or mentor women in their organization.

A common mistake in antibias training is to assume that simply making people aware of gender bias will itself reduce the expression of bias. The most effective training efforts do more than simply make people aware of their biases; they also teach them strategies for addressing them. Importantly, these strategies can include reactively minimizing bias in oneself or others as well as proactively looking for opportunities to foster inclusion (De Souza & Schmader 2022b). Traditionally, training has been focused on teaching people to avoid bias, emphasizing the legal liability to overt (e.g., sexual harassment) or subtle (e.g., implicit bias) forms of discrimination. In fact, if people are going to intervene to prevent their own or others' biases, several preconditions must be met (Schmader et al. 2022). They must be motivated to address bias in the moment, aware of the possibility that stereotypes or prejudice could cloud judgment, and able to effectively regulate their own or someone else's behavior.

Devine and colleagues have designed and tested an intervention that has shown some success in training STEM academics to recognize and control their own implicit stereotypes (see Devine & Ash 2022 for a review). In one study, STEM departments who received this training hired 18% more women in the following 2 years, a marginal but nontrivial result (Devine et al. 2017). These efforts to teach individuals how to react to and regulate bias when it happens should ideally be complemented by more proactive efforts to foster inclusion before any bias takes place. More recently, organizations have adopted allyship training, using a broader frame toward equipping people with concrete strategies for fostering fit among women who might be at risk of feeling marginalized. Men's allyship is integral to these efforts, given the important role they play as gatekeepers (Hall et al. 2018). It remains to be seen whether these more proactive training efforts are effective in ways that are distinct from those of antibias training.



## Changing Individual Targets: Early Education and Efficacy

This review has largely focused on how STEM = male stereotypes place subtle environmental constraints on women's ability to experience fit and inclusion in science and engineering fields. From this perspective, organizations can best foster gender inclusion by changing aspects of the culture (i.e., policies, norms, and perceptions) that signal these constraints. That is, organizations might seek to foster greater fit by making their environments more inclusive, not by making women conform to what might be an irrelevant masculine default (Cheryan & Markus 2020). After all, the evidence summarized above suggests that girls and women are no less able than men to do well in math and science. However, when focusing on the individual level, we might also note that girls and women do often express less confidence in their math and science abilities and (perhaps partly as a result) express less interest in STEM. Thus, efforts to close gender gaps in STEM can also focus attention at the individual level to boost the self-efficacy and interest of young girls.

Given that gender stereotypes have the potential to distort girls' perceptions of their math and science abilities and interests at a young age, interventions might also seek to address these effects. In fact, one reason to increase the representation of women in high-profile STEM positions is to provide positive role models that can weaken implicit gender stereotypes over time (Cvencek et al. 2020, Dasgupta & Asgari 2004, Lawner et al. 2019), with positive benefits for girls' and women's outcomes in STEM. For example, exposure to successful women in science boosts women's STEM self-efficacy, domain identification, and commitment to pursuing a STEM career (Stout et al. 2011). Although implicit stereotypes are generally resistant to experimental change, exposure to positive role models seems to have one of the strongest effects, which when aggregated across a culture might be driving the general trends toward weaker stereotypic associations over time.

## CONCLUSION

In sum, despite the progress made toward increasing women's interest and involvement in STEM, women continue to be underrepresented in some STEM fields, where they also experience lower levels of equity and inclusion. Are women simply uninterested in these fields? Person-level explanations concerning women's abilities, interests, and self-efficacy are insufficient for explaining these persistent gaps, both because these effects are small on average and because they vary considerably across time, field, and culture. Rather, women's relatively lower interest in male-dominated STEM careers such as computer science and engineering is likely to be constrained by cultural stereotypes. These gender stereotypes erode women's ability to feel a sense of self-concept, goal, and social fit. Such effects occur independently of intentional interpersonal biases and discrimination, and yet they create systemic barriers to women's attraction to, integration in, and advancement in STEM.

Dismantling these systemic barriers requires a multifaceted approach to changing organizational and educational cultures at the institutional, interpersonal, and individual level. Individual-oriented interventions aimed at shoring up young girls' STEM-based experience and self-efficacy might begin to close the gender gap in STEM interest. However, many girls and women will only experience fit if STEM environments are also systematically changed. Increasing gender diversity might be the most effective way to reduce the sense of a valued masculine default and foster greater self-concept fit. Institutional changes that structure the way work is done might be most effective at fostering greater goal fit. Interpersonal changes and efforts to enlist men's advocacy for gender inclusion are also promising ways to foster greater social fit.

Although research in recent years has shed light on the nature of the problem of women's underrepresentation in STEM, greater work is needed to test and evaluate the most effective solutions. Such research requires partnerships between social scientists and STEM organizations. In addition, research-based interventions should take an intersectional approach to ensure environmental changes do not only benefit women with already privileged identities. Finally, future research might also address not only women's underrepresentation in STEM careers, but also men's underrepresentation in the care economy. More broadly, our ability to apply psychological theories to both understand and narrow gender disparities will ultimately require a balanced examination of the ways in which stereotypes constrain both women and men.

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