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The Confidence Gap

Evidence shows that women are less self-assured than men—and that to succeed, confidence matters as much as competence. Here's why, and what to do about it.

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FOR YEARS, we women have kept our heads down and played by the rules. We've been certain that with enough hard work, our natural talents would be recognized and rewarded.

We've made undeniable progress. In the United States, women now earn more college and graduate degrees than men do. We make up half the workforce, and we are closing the gap in middle management. Half a dozen global studies, conducted by the likes of Goldman Sachs and Columbia University, have found that companies employing women in large numbers outperform their competitors on every measure of profitability. Our competence has never been more obvious. Those who closely follow society's shifting values see the world moving in a female direction.

The authors, Claire Shipman (left), a reporter for ABC News, and Katty Kay (right), the anchor of BBC World News America. In two decades of covering American politics, they have interviewed some of the most influential women in the nation. They were surprised to discover the extent to which these women suffered from self-doubt. (Henry Leutwyler)

And yet, as we've worked, ever diligent, the men around us have continued to get promoted faster and be paid more. The statistics are well known: at the top, especially, women are nearly absent, and our numbers are barely increasing. Half a century since women first forced open the boardroom doors, our career trajectories still look very different from men's.

rosters, but all the way down to the last player on the bench, who doesn't get to play a single minute, I feel like his confidence is just as big as the superstar of the team." She smiled and shook her head. "For women, it's not like that."

The tech entrepreneur Clara Shih, who founded the successful social-media company Hearsay Social in 2010 and joined the board of Starbucks at the tender age of 29, is one of the few female CEOs in the still-macho world of Silicon Valley. But as an undergrad at Stanford, she told us, she was convinced that courses she found difficult were easy for others. Although Shih would go on to graduate with the highest GPA of any computer-science major in her class, she told us that at times she "felt like an imposter." As it happens, this is essentially what Facebook COO Sheryl Sandberg told us a year before her book, *Lean In*, was published: "There are still days I wake up feeling like a fraud, not sure I should be where I am."

We were inspired by these conversations, and many more, to write a book on the subject, with a particular eye to whether a lack of confidence might be holding women back. We ended up covering much more territory than we'd originally anticipated, ranging from the trait's genetic components to how it manifests itself in animals to what coaches and psychologists have learned about cultivating it. Much of what we discovered turns out to be relevant to both women and men.

Even as our understanding of confidence expanded, however, we found that our original suspicion was dead-on: there *is* a particular crisis for women—a vast confidence gap that separates the sexes. Compared with men, women don't consider themselves as ready for promotions, they predict they'll do worse on tests, and they generally underestimate their abilities. This disparity stems from factors ranging from upbringing to biology.

A growing body of evidence shows just how devastating this lack of confidence can be. Success, it turns out, correlates just as closely with confidence as it does with competence. No wonder that women, despite all our progress, are still woefully underrepresented at the highest levels. All of that is the bad news. The good news is that with work, confidence can be acquired. Which means that the confidence gap, in turn, can be closed.

THE SHORTAGE OF female confidence is increasingly well quantified and well documented. In 2011, the Institute of Leadership and Management, in the United Kingdom, surveyed British managers about how confident they feel in their professions. Half the female respondents reported self-doubt about their job performance and careers, compared with fewer than a third of male respondents.

Linda Babcock, a professor of economics at Carnegie Mellon University and the author of *Women Don't Ask*, has found, in studies of business-school students, that men initiate salary negotiations four times as often as women do, and that when women do negotiate, they ask for 30 percent less money than men do. At Manchester Business School, in England, professor Marilyn Davidson has seen the same phenomenon, and

Talking with Ehrlinger, we were reminded of something Hewlett-Packard discovered several years ago, when it was trying to figure out how to get more women into top management positions. A review of personnel records found that women working at HP applied for a promotion only when they believed they met 100 percent of the qualifications listed for the job. Men were happy to apply when they thought they could meet 60 percent of the job requirements. At HP, and in study after study, the data confirm what we instinctively know. Underqualified and underprepared men don't think twice about leaning in. Overqualified and overprepared, too many women still hold back. Women feel confident only when they are perfect. Or practically perfect.

Brenda Major, a social psychologist at the University of California at Santa Barbara, started studying the problem of self-perception decades ago. "As a young professor," she told us, "I would set up a test where I'd ask men and women how they thought they were going to do on a variety of tasks." She found that the men consistently overestimated their abilities and subsequent performance, and that the women routinely underestimated both. The actual performances did not differ in quality. "It is one of the most consistent findings you can have," Major says of the experiment. Today, when she wants to give her students an example of a study whose results are utterly predictable, she points to this one.

On the other side of the country, the same thing plays out every day in Victoria Brescoll's lecture hall at Yale's School of Management. M.B.A. students are nurtured specifically to project confidence in the fashion demanded by today's business world. But although all of her students are top-of-the-chart smart, she's been startled to uncover her female students' lack of belief in themselves.

"There's just a natural sort of feeling among the women that they will not get a prestigious job, so why bother trying," she explained. "Or they think that they are not totally competent in the area, so they're not going to go for it." As a result, female students tend to opt out. "They end up going into less competitive fields, like human resources or marketing," she said. "They don't go for finance, investment banks, or senior-track faculty positions."

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And the men?

"I think that's really interesting," Brescoll said with a laugh, "because the men go into everything just assuming that they're awesome and thinking, *Who wouldn't want me?*"

Do men doubt themselves sometimes? Of course. But not with such exacting and repetitive zeal, and they don't let their doubts stop them as often as women do. If anything, men tilt toward overconfidence—and we were surprised to learn that they come by that state quite naturally. They aren't *consciously trying* to fool anyone. Ernesto Reuben, a professor at Columbia Business School, has come up with a term for this

students, those who displayed more confidence than competence were admired by the rest of the group and awarded a high social status. "The most confident people were just considered the most beloved in the group," he said. "Their overconfidence did not come across as narcissistic."

That is a crucial point. True overconfidence is not mere bluster. Anderson thinks the reason extremely confident people don't alienate others is that they *aren't faking it.* They genuinely believe they are good, and that self-belief is what comes across. Fake confidence, he told us, just doesn't work in the same way. Studies Anderson is now conducting suggest that others can see the "tells." No matter how much bravado someone musters, when he doesn't genuinely believe he is good, others pick up on his shifting eyes and rising voice and other giveaways. Most people can spot fake confidence from a mile away.

Women applied for a promotion only when they met 100 percent of the qualifications. Men applied when they met 50 percent.

Once we got over our feeling that Anderson's work suggests a world that is deeply unfair, we could see a useful lesson: For decades, women have misunderstood an important law of the professional jungle. It's not enough to keep one's head down and plug away, checking items off a list. Having talent isn't merely about being competent; confidence is a part of that talent. You have to have it to excel.

We also began to see that a lack of confidence informs a number of familiar female habits. Take the penchant many women have for assuming the blame when things go wrong, while crediting circumstance—or other people—for their successes. (Men seem to do the opposite.) David Dunning, the Cornell psychologist, offered the following case in point: In Cornell's math Ph.D. program, he's observed, there's a particular course during which the going inevitably gets tough. Dunning has noticed that male students typically recognize the hurdle for what it is, and respond to their lower grades by saying, "Wow, this is a tough class." That's what's known as external attribution, and in a situation like this, it's usually a healthy sign of resilience. Women tend to respond differently. When the course gets hard, Dunning told us, their reaction is more likely to be "You see, I knew I wasn't good enough." That's internal attribution, and it can be debilitating.

Perfectionism is another confidence killer. Study after study confirms that it is largely a female issue, one that extends through women's entire lives. We don't answer questions until we are totally sure of the answer, we don't submit a report until we've

ruminate over what's gone wrong in the past. Or consider the anterior cingulate cortex. This little part of the brain helps us recognize errors and weigh options; some people call it the worrywart center. And, yes, it's larger in women. In evolutionary terms, there are undoubtedly benefits to differences like these: women seem to be superbly equipped to scan the horizon for threats. Yet such qualities are a mixed blessing today.

You could say the same about hormonal influences on cognition and behavior. We all know testosterone and estrogen as the forces behind many of the basic, overt differences between men and women. It turns out they are involved in subtler personality dynamics as well. The main hormonal driver for women is, of course, estrogen. By supporting the part of the brain involved in social skills and observations, estrogen seems to encourage bonding and connection, while discouraging conflict and risk taking—tendencies that might well hinder confidence in some contexts.

Testosterone, on the other hand, helps to fuel what often looks like classic male confidence. Men have about 10 times more testosterone pumping through their system than women do, and it affects everything from speed to strength to muscle size to competitive instinct. It is thought of as the hormone that encourages a focus on winning and demonstrating power, and for good reason. Recent research has tied high testosterone levels to an appetite for risk taking. In a series of studies, scientists from Cambridge University followed male traders at a London hedge fund, all high rollers (with annual bonuses greater than $5 million). Using saliva samples, the researchers measured the men's testosterone levels at the start and end of each day. On days when traders began with higher levels of testosterone, they made riskier trades. When those trades paid off, their testosterone levels surged further. One trader saw his testosterone level rise 74 percent over a six-day winning streak.

"If life were one long grade school, women would be the undisputed rulers of the world."

There's a downside to testosterone, to be sure. As we've just seen, higher levels of the hormone fuel risk taking, and winning yields still more testosterone. This dynamic, sometimes known as the "winner effect," can be dangerous: animals can become so aggressive and overconfident after winning fights that they take fatal risks. Moreover, a testosterone-laced decision isn't always a better one. In research conducted at University College London, women who were given testosterone were less able to collaborate, and wrong more often. And several studies of female hedge-fund managers show that taking the longer view and trading less can pay off: investments run by female hedge-fund managers outperform those run by male managers.

So what are the implications of all this? The essential chicken-and-egg question still to be answered is to what extent these differences between men and women are inherent, and to what extent they are a result of life experiences. The answer is far from clear-cut, but new work on brain plasticity is generating growing evidence that our brains do change in response to our environment. Even hormone levels may be less preordained than one might suppose: researchers have found that testosterone levels in men decline when they spend more time with their children.

power." Boys thus make one another more resilient. Other psychologists we spoke with believe that this playground mentality encourages them later, as men, to let other people's tough remarks slide off their backs. Similarly, on the sports field, they learn not only to relish wins but also to flick off losses.

Too many girls, by contrast, miss out on really valuable lessons outside of school. We all know that playing sports is good for kids, but we were surprised to learn just how extensive the benefits are, and how relevant to confidence. Studies evaluating the impact of the 1972 Title IX legislation, which made it illegal for public schools to spend more on boys' athletics than on girls', have found that girls who play team sports are more likely to graduate from college, find a job, and be employed in male-dominated industries. There's even a direct link between playing sports in high school and earning a bigger salary as an adult. Learning to own victory and survive defeat in sports is apparently good training for owning triumphs and surviving setbacks at work. And yet, despite Title IX, fewer girls than boys participate in athletics, and many who do quit early. According to the Centers for Disease Control and Prevention, girls are still six times as likely as boys to drop off sports teams, with the steepest decline in participation coming during adolescence. This is probably because girls suffer a larger decrease in self-esteem during that time than do boys.

What a vicious circle: girls lose confidence, so they quit competing, thereby depriving themselves of one of the best ways to regain it. They leave school crammed full of interesting historical facts and elegant Spanish subjunctives, proud of their ability to study hard and get the best grades, and determined to please. But somewhere between the classroom and the cubicle, the rules change, and they don't realize it. They slam into a work world that doesn't reward them for perfect spelling and exquisite manners. The requirements for adult success are different, and their confidence takes a beating.

CONSIDER THE FOLLOWING TALE of two employees. A female friend of ours in New York was supervising two 20-something junior staffers, one female (whom we will call Rebecca) and one male (whom we will call Robert). Even though Robert had been on the job for only a few months, he was already stopping by our friend's office to make off-the-cuff pitches for new ad campaigns, to comment on business strategy, and to share unsolicited opinions about magazine articles he'd recently read. Our friend often found herself shooting down his ideas, correcting his misperceptions, and sending him off for further research. "No problem" seemed to be his attitude. Sometimes he'd respond with a counterargument; other times, he'd grin and shrug his shoulders as he headed back to his desk. A few days later, he'd be back in to pitch more ideas and to update her on what he was doing, even if all he had to say was "I'm still working on this."

Our friend was struck by how easily Robert engaged her, and how markedly different his behavior was from that of Rebecca, with whom she'd worked for several years. Rebecca still made appointments to speak with her and always prepared a list of issues for their discussions. She was mostly quiet in meetings with clients, focused as she was on taking careful notes. She never blurted out her ideas; she wrote them up with comprehensive analyses of pros and cons. Rebecca was prepared and hardworking,

So confident women can find themselves in a catch-22. For now, though, for Rebecca and for most women, coming across as too confident is not the problem.

WHEN WE EMBARKED on this quest two years ago, we had a slight conflict of interest. As journalists, we were exhilarated by the puzzle of why high-achieving women were so lacking in confidence, but as women, we grew gloomy. Delving into research and interviews, we more than once found ourselves wondering whether the entire female sex was doomed to feel less than self-assured. Biology, upbringing, society: all seemed to be conspiring against women's confidence.

But as our understanding of this elusive quality shifted, we began to see the outlines of a remedy. Confidence is not, as we once believed, just feeling good about yourself. If women simply needed a few words of reassurance, they'd have commandeered the corner office long ago. Perhaps the clearest, and most useful, definition of confidence we came across was the one supplied by Richard Petty, a psychology professor at Ohio State University, who has spent decades focused on the subject. "Confidence," he told us, "is the stuff that turns thoughts into action." Of course, other factors also contribute to action. "If the action involves something scary, then what we call courage might also be needed," Petty explained. "Or if it's difficult, a strong will to persist might also be needed. Anger, intelligence, creativity can play a role." But confidence, he told us, is essential, because it applies in more situations than these other traits do. It is the factor that turns thoughts into judgments about what we are capable of, and that then transforms those judgments into action.

The simplicity is compelling, and the notion that confidence and action are interrelated suggests a virtuous circle. Confidence is a belief in one's ability to succeed, a belief that stimulates action. In turn, taking action bolsters one's belief in one's ability to succeed. So confidence accumulates—through hard work, through success, and even through failure.

The natural result of low confidence is inaction. When women hesitate because we aren't sure, we hold ourselves back.

We found perhaps the most striking illustration of how the connection between action and confidence might play out to women's benefit in Milan. There we tracked down Zachary Estes, a research psychologist who's long been curious about the confidence disparity between men and women. A few years ago, he gave 500 students a series of tests that involved reorganizing 3-D images on a computer screen. He was testing a couple of things—the idea that confidence can be manipulated and the idea that, in some areas, women have less of it than men.

When Estes had the students solve a series of these spatial puzzles, the women scored measurably worse than the men did. But when he looked at the results more closely, he found that the women had done poorly because they hadn't even attempted to answer a lot of the questions. So he repeated the experiment, this time telling the students they