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Be More: Buffering Against Gender Stereotypes by Building Self-Efficacy Beliefs

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Keywords
self-efficacy, career self-efficacy, women, leadership, stereotypes

Disciplines
Business Administration, Management, and Operations | Industrial and Organizational Psychology | Organizational Behavior and Theory | Social Psychology | Social Work | Training and Development | Women's Studies

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Be More: Buffering Against Gender Stereotypes by Building Self-Efficacy Beliefs

Erica Mohr

University of Pennsylvania

A Capstone Project Submitted

In Partial Fulfillment of the Requirements for the Degree of

Master of Applied Positive Psychology

Advisor: Daniel Lerner

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Abstract

Research shows that organizations perform better when women are represented on senior leadership teams. Yet women are not rising to the highest ranks of leadership at equivalent rates as men. Gender stereotypes negatively influence women’s self-efficacy, the internal beliefs of what they are capable of. Women hold themselves back when they respond to these low self-efficacy beliefs, by not aspiring, not applying, not asking, and not acting. This paper explores current leadership gap data and the consequences of the disparity between men and women in leadership roles. Next, the paper describes how stereotypes can create the underlying problem: limiting internal beliefs. This paper proposes an evidence-based solution drawn from the field of positive psychology. A review of decades of research suggests that with increased career self-efficacy, women will be more likely to reach for, persist in, and succeed in senior leadership positions. The paper’s appendices describe four practical interventions that can be implemented by women and organizations designed to raise women’s career self-efficacy.

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upon high standards and your multiple revisions and thoughtful comments. You reminded me of 
the joy, pride, and learning that comes from a well-earned achievement!

Note to the Reader

Although this paper is about how gender stereotypes negatively affect women in the 
workplace, I believe gender stereotypes limit all of our choices for what is possible in our lives. 
A capstone could just as well be written about how masculine stereotypes harm and limit men. 
One of the most compelling qualitative evidence I’ve read describing the negative impacts of 
gender stereotypes is a recent *Washington Post* article capturing the experiences of five 
transgender men. As they transition from one gender to another, the men experience, and are 
sometimes surprised by, the ways in which the world treats them differently—the same person, 
with the same objective skills, hopes, fears, and values. As the world begins to treat them 
differently in their new gender, the complex dance begins as their own internal beliefs change in 
reaction to those external cues.
Introduction

What if our beliefs about our own capabilities better predict our success than our raw talents and potential? And what if these beliefs are molded by societal expectations? It turns out both are true (Bandura, 1997; Vedantam, 2010). From day one, our gender triggers a cascade of expectations. From the moment the first pink dress or blue overalls are gently and innocently placed upon our vulnerable infant frame, the world reacts to our gender, bombarding us with messages. These cultural messages teach us how we are expected to behave, which personal characteristics will be rewarded or punished, and which careers and roles in society we should aspire to. At times these messages are blatant and obvious and at times more diabolically subtle (see figure 1). These external messages program a complex algorithm in our brain which generates our thoughts, feelings, and actions. Like the operating system in a computer—these instructions are called internal beliefs. Internal beliefs dictate how we react to challenges, what we believe we are capable of, and who we aspire to become (Beck, 1979; Clifton et al., 2017; Mohr, 2014; Nillson, 2014).

Figure 1. Example of societal messages regarding gender roles. This picture was taken of the Sept 2016 Boys Life and Girls Life magazine covers.
What if who we become is a product of what the world expects of us? And what if there were a way to rewrite this destiny? Turns out there is. Self-efficacy is the word psychologists use to describe our internal beliefs of our own capabilities (Bandura, 1997). As this paper will explain, decades of research on how self-efficacy can best be cultivated offers a great deal of hope for re-writing a limiting algorithm based upon gender stereotypes.

This paper begins with a description of the problem—the gap between men and women in senior leadership positions—and why it is in everyone’s best interest to work toward a solution. This paper traces the origins of core beliefs to the presence of cultural gender role stereotypes. Next, a review of the field of positive psychology frames the solution set. This paper explores the psychological construct of self-efficacy in-depth. At its core, self-efficacy is the compilation of core internal beliefs. Using this framework, this paper will describe a phenomenon: 1) how gender stereotypes lead to low self-efficacy beliefs for women, especially in the context of traditionally masculine careers, like senior leadership, and 2) how these low self-efficacy beliefs lead to women not striving for or achieving success in the workplace at equivalent rates as men. Finally, this paper proposes interventions supported by positive psychology research, to counteract these low-self efficacy beliefs resulting from cultural messages.

I write this paper from the perspective of a woman, a member of the Coast Guard, and an international non-profit executive. Before attending the University of Pennsylvania, I retired from the United States Coast Guard, after 20 years of service. In 2012, I co-founded a nonprofit centered on increasing women’s success and retention in the Coast Guard. For my last four years in the service, a team of amazing and dedicated women and men built the Coast Guard Women’s
Leadership Initiative (WLI) into an organization with nationwide impact, thousands of supporters, and an endowment of over five hundred thousand dollars. What might surprise you, however, is my initial hesitation with the initiative. Upon reflection, I can objectively say that the organization is needed in the world and I was needed in it - and yet when asked by my mentor, Admiral Melissa Bert, to take on the leadership role - I hesitated.

The question is, why? Why the hesitation to support other women in leadership? Why the personal self-doubt? It was true female Admirals and Captains were small in number, but from my perspective, this seemed like a personal choice, not a systemic problem. I didn’t feel discriminated against in the Coast Guard. On the contrary, I felt I had been afforded as many opportunities as the men I worked with - and that I’d earned the respect of men and women alike. I trusted Admiral Bert’s judgment, however, so I agreed to the role and set out to research and understand the problem. I began to notice the omnipresence and persistence of gender bias, especially unconscious bias, and my perspective started to shift.

Addressing bias is challenging because much of workplace discrimination is unconscious. Bias is often subtle and hard to spot in others, and even more difficult to understand and conquer in ourselves. Unless we take time to learn and recognize it, the gender-stereotype algorithm plays out without our even realizing it. The programming of internal beliefs by external messages also means that women can be sexist too. Women can just as easily punish one another when they act out of alignment with traditional gender roles and characteristics. As my awareness of the issues expanded, I also began to notice all of the ways women’s lack of belief in themselves caused them to be less, not more.

I am now a passionate champion for addressing the challenges of overt and unconscious bias in the workplace. Immediately upon retirement, I took on the challenging task of addressing
gender bias in the highly patriarchal cultures of East Africa. In a collaboration with the University of Dar es Salaam, we designed and implemented a Women Leading Change (WLC) curriculum for 31 women from four countries. Watching these extraordinary women believe more of themselves and witnessing the powerful results of that transformation (new businesses, promotions, leadership breakthroughs, and better relationships, to name a few) has inspired my life-long commitment to the task of building women’s beliefs in their own capacities. This paper is dedicated to Neema, Thea, Gladness, and the entire WLC cohort of women and the women of the Coast Guard who inspire me daily with their bravery, commitment, and tenacity to be more.

The Problem: The Leadership Gap

Men hold far more senior leadership roles than women, despite the cited benefits of a balance in gender at the top of an organization. When women are more equally represented in senior leadership positions, organizations flourish. Organizations with “strong female leadership” (Lee, Marshall, Rallis, & Moscardi, 2015, p. 4) have a 36.4 percent higher return on investment when compared to organizations with low or no representation of women (Lee, Marshall, Rallis, & Moscardi, 2015; SPDR, 2018). Meta-analyses summarizing over 200 studies conclude that organizations have better financial performance when women serve on their boards and are CEOs (Post & Byron, 2015; Hoobler, Masterson, Nkomo, & Michel, 2018; Lückerathrovers, 2013), especially in countries with high societal gender parity like the United States (Post & Byron, 2015). Additional research indicates the higher performance of women on boards may be due to women’s leadership styles positively affecting resolution of conflict, an emphasis

1 For the purposes of the study, a company is considered to have “strong female leadership” if “the company’s board has three or more women or if its percentage of women on the board is above its country average. A company is also considered to have ‘strong female leadership’ if it has a female CEO and at least one woman on the board.” (Lee, Marshall, Rallis, & Moscardi, 2015, p. 4).

2 To rate a country’s gender parity, the researchers utilized the World Economic Forum’s Global Gender Gap score. This is based upon each country’s “economic participation, educational attainment, health and survival, and political empowerment” of women (Post & Byron, 2015, p. 1546).
on board development (Nielsen & Huse, 2010), and better and more frequent stakeholder communications (Fernandez-Feijoo, Romero, & Ruiz-Blanco, 2014). Given this compelling data, most business leaders recognize gender equality as a strategic priority. In fact, more than 80 percent of CEOs and human resource leaders espouse it as one of their top priorities and view it as a business imperative (Barsh & Yee, 2012).

Despite the recognition that including women at the top of an organization contributes to the financial bottom line, organizations struggle to shift the current statistics. A comprehensive study of 222 U.S. companies employing more than 12 million people revealed only 22 percent of senior vice presidents were women (Devillard, Hunt, & Yee, 2018). And the percentages shrink as seniority increases. Fortune 500 executive committee seats are filled by 14 percent women (Barsh & Yee, 2012); 12 percent of the top 50 companies within the G-20 are led by women (Devillard et al., 2018); and only 5.2 percent of Standard and Poors 500 companies have women in their Chief Executive Officer roles (SPDR, 2018). Although there are signs of progress, it is slow and not always in a favorable direction. Over the last 20 years, the number of female CEOs of Fortune 500 companies has improved from one female CEO in the year 1998, to a peak of 32 female CEOs in 2017 (Miller, 2018). The number of women in CEO seats dropped in 2008, 2011, 2016, and from 32 (6.4 percent) in 2017 back to 24 (4.8 percent) in 2018 (Miller, 2018). While two steps forward and one step backward may represent net progress, the 2018 trend and slow advancement is troubling and reflects the plethora of barriers that hold women back.

**A Root Cause: Gender Stereotypes**

One of the root causes of the disparity between women and men in senior positions can be traced back to gender stereotypes. *Gender stereotypes* are one-sided and exaggerated images and messages of men and women. Gender stereotypes of traditional women’s roles (i.e.
homemaker, mother, and caretaker) and characteristics (i.e. kind, empathetic, collaborative, risk
averse) arguably stemming from women’s capacity to give birth, can lead to blatant sex
discrimination in the workplace by both men and women alike who buy into these proscriptions
(Hackett & Betz, 1981). Gender stereotypes are also unconsciously solidified through a whole
host of cultural communication devices such as marketing campaigns, children’s toys, and
portrayals in the media (Vedantam, 2010). These overt and unconscious beliefs influence
decisions in the workplace, such as who is promoted, who is given additional responsibility, and
even who is listened to and respected (Hackett & Betz, 1981; Vedantam, 2010; Zeldin & Pajares,
2000).

Of course, there are biological differences between men and women. However, some
researchers speculate that the biological differences in brain activity are an evolutionary
byproduct of historical cultural gender roles (Amen, 2013; Hsu et al., 2008). For example,
studies have shown that women’s brains seem to be wired more for connection rather than
achievement (Amen, 2013; Hsu et al., 2008). Some make the case that women’s brains evolved
to fit their role in society, as their power and survival depended not upon physical strength, but
their capacity to maintain relationships with those who provided food and safety.

Seligman (1998) also acknowledges the likelihood that women experience more learned
helplessness due to societal inequities. Learned helplessness is the reaction to environments
which teach us that our actions don’t matter. Even when a work environment is cleared of all
overt discriminatory behaviors, unconscious bias can lead to women being evaluated less
favorably as leaders, when behaviors are incongruent with female stereotypes (Eagly & Karau,
2002; Vedantam, 2010). This inequality establishes a feeling of helplessness. Women rightfully
conclude that even when they perform well, they won’t achieve the outcomes they have earned.
These external inequities induce learned helplessness and, thus, women’s willingness to take action.

In addition to biological differences and an unsupportive external environment, gender stereotypes affect women’s internal beliefs about themselves. Women internalize gender stereotypes which convey specific ideas about their roles and capacities (Vedantam, 2010). This can play out in a variety of ways (Nillson, 2014). For example, one possible expression of these internalized limits is lowered ambition. McKinsey & Company, surveyed four thousand men and women from 14 Fortune 500 and similar companies and found 18 percent of women aspired to reach the C-suite as compared to 36 percent of male respondents. (Barsh & Yee, 2012). When women do succeed, they often feel like imposters (Clance & Imes, 1978). This phenomenon is especially intense among high achieving women and attributed to societal stereotypes about sex-roles (Clance & Imes, 1978). When women receive negative feedback, their self-esteem and self-confidence drop further than for men (Roberts & Nolen-Hoeksema, 1989). This drop in self-confidence and esteem may be because when women fail, they are more likely to attribute failure to lack of inherent ability rather than study habits or intrinsic motives (Beyer, 1998). Finally, self-esteem (Kling, Hyde, Showers, & Buswell, 1999) and self-compassion (Yarnell et al., 2015) are found to be consistently lower in women than in men. Rosenberg (1965) defined and measured self-esteem as a person’s basic self-worth: the extent to which one has a favorable attitude toward themselves. Self-compassion is kindness and understanding toward one’s self, especially during times of pain and failure (Neff, Kirkpatrick, & Rude, 2007). Each example above: lower ambition, feeling like an imposter, attributing failure to lack of ability, learned helplessness, lower self-esteem, and lower self-compassion, all offer evidence of possible unfavorable outcomes resulting from gender stereotypes.
**Gender Stereotypes and Self-Efficacy**

The evidence that gender stereotypes affect self-efficacy, our internal beliefs of our own capabilities, is robust. Men feel more capable in occupations that are traditionally male, and women feel more capable in occupations that are traditionally female. In a meta-analysis of 247 studies (N = 68,429), women reported higher language arts self-efficacy and men reported higher math, computer, and science self-efficacy (Huang, 2013). In a random sample of 1,187 managers from 74 countries, women demonstrated stronger self-efficacy for intercultural empathy and diplomacy, while men demonstrated higher self-efficacy for business savvy (Javidan, Bullough, & Dibble, 2016). The trend is clear: women seem to experience high self-efficacy for traditional female skills and low self-efficacy for traditional male skills.

There is evidence that low self-efficacy beliefs can lead to negative impacts in women’s choice, confidence, performance, and persistence within careers, especially careers in traditionally masculine fields. In an analysis of 298 algebra students, for the subset of the brightest students, girls scored higher than boys, and yet girl’s confidence in their capabilities underestimated their capacity, while boys overestimated their capabilities (Pajares, 1996). In a meta-analysis (N = 10,888) investigating negotiation outcomes, women achieved lower economic outcomes than men on average, but these results were reversed or negated when the woman acted in alignment with stereotyped gender roles (Mazei et al., 2015). In their initial study testing the relevance of self-efficacy theory in women’s careers, Betz and Hackett (1981) studied 235 college students who rated their beliefs in their capacity to complete job duties and educational requirements of 20 occupations (10 traditionally male and 10 traditionally female).
Although there were no differences between men and women in real ability (as measured by the American College Test Math and English scores), significant sex differences in self-efficacy were discovered. Women experienced higher self-efficacy regarding traditionally female occupations (e.g. dental hygienist, secretary, social worker) and lower self-efficacy regarding traditionally male occupations (e.g. accountant, engineer, highway patrol officer). The authors concluded that undergraduate student beliefs concerning their capacity to be successful at various occupations were in alignment with societal sex typing of occupations. The collective evidence suggests that low career self-efficacy beliefs are a measurable psychological barrier to women’s performance, choice, and persistence in their careers (Betz & Hackett, 1981; Sullivan & Mahalik, 2000).

The well-researched concept of how external stereotypes negatively impact performance is called stereotype threat (Spencer, Logel, & Davies, 2016). Stereotype threat occurs by depleting working memory, by shifting conscious attention to processes which are more effective when automated, and as people respond to a lack of belonging with self-defeating actions (Spencer et al., 2016). When subjects are primed with negative stereotypes about women, it affects women’s performance in math (Spencer et al., 2016), financial decision making (Carr & Steele, 2010), and negotiations (Kray, Galinsky, & Thompson, 2002). There is strong evidence to suggest stereotypes are a huge hindrance to women succeeding in roles that are traditionally masculine, however, self-efficacy may play an important role.

Some evidence offers hope that high-self efficacy beliefs may buffer against stereotype threats on performance (Chung, Ehrhart, Ehrhart, Hattrup, & Solamon, 2010; Hoyt & Blascovich, 2010). In one laboratory study, half of the 91 female subjects were primed with negative gender stereotypes (media images of male leaders, data on gender leadership gaps and
men’s more natural leadership qualities), before being asked to lead a simulated meeting (Hoyt & Blascovich, 2010). The women with high leadership self-efficacy exhibited a physiological threat response (measured by electrocardiographic and impedance cardiographic recordings), but their performance was unaffected. For women with low leadership self-efficacy, on the other hand, the stereotype priming resulted in lower objective performance and lower self-report of performance (Hoyt & Blascovich, 2010). This study exemplifies the intent and thesis of this capstone. If organizations can implement interventions designed to increase women’s career self-efficacy, they can buffer against both the obvious and subtle gender stereotype messages in the external environment, and support women to aspire and succeed in leadership positions.

**Women Can Be More: Building Self-Efficacy**

The next section of this paper describes how self-efficacy is uniquely suited to address the challenge of closing the gender gap in career achievement (Hackett & Betz, 1981). So far, this paper has described how stereotypes can create the underlying problem: limiting internal beliefs. The second half of this paper proposes an evidence-based solution drawn from the field of positive psychology. A review of decades of research suggests that with increased career self-efficacy, women will be more likely to reach for, persist in, and succeed in senior leadership positions.

When studying the dearth of women in senior leadership positions, one may conclude that the best approach is to attack the root cause by removing gender stereotypes from the world. No doubt, this is certainly a worthy pursuit, however, this paper proposes another approach. To help women be more present in leadership roles, this paper advocates for women to grow supportive internal beliefs in the face of gender stereotype obstacles. Building on the field of positive psychology (see Appendix A for an overview of the history and discipline of positive
psychology), this paper recommends cultivating female thriving through a strength based perspective. Just as positive psychology studies human potential, this paper looks to apply the scientific research on self-efficacy to the betterment of women in the workplace. This approach is echoed by Maddux (2009) who explains, “self-efficacy is concerned with human potential and possibilities, not limitations, thus making it a truly ‘positive’ psychology” (p. 13).

Self-efficacy is uniquely suited to address the challenge of closing the gender gap in career achievement (Hackett & Betz, 1981), as it offers insights in how one can override harmful environmental influences, such as gender stereotypes, through the exercise of human agency (Bandura, 2006; Bandura, 2008). Hackett and Betz (1981) similarly acknowledge that applying self-efficacy theory to the study of women’s careers offers key insights into how best to shift women’s internal beliefs around what they are capable of, and thus, expanding the options they select (choosing male dominated careers), increasing the goals they pursue (e.g. aspiring to CEO), and increasing their persistence in the face of setbacks. Self-efficacy is at the root of key beliefs in oneself, a driver of career accomplishment. When one believes in their own capabilities to cultivate the life they can envision, they are significantly more likely to achieve it.

**What is Self-Efficacy?**

Albert Bandura (1977) defined perceived self-efficacy as the cognitive appraisal of capability. Self-efficacy is what one believes one can accomplish with their given skills under a variety of circumstances (Bandura, 1997). Self-efficacy beliefs come from interacting with the world and gathering data on one’s own capacities (Maddux, 2009). According to Maddux (2009), who summarized three decades of research on the topic, self-efficacy is not about what I intend or predict I will do, it is about what I think I can do. For example, “I can become the CEO.” Self-efficacy is also not self-esteem, which is how I feel about my capabilities. For self-
efficacy to impact self-esteem one has to care about the activity in question. For example, “I want to be CEO, but I don’t believe I have the capability, therefore this lowers my self-esteem.” Self-efficacy is not a stable trait concept and, therefore, it is most relevant when described or measured within a specific context and against specific behaviors (Bandura, 1986b; Betz & Hackett, 2006). For example, “I have high team-building self-efficacy, but low negotiation self-efficacy.” In summary, self-efficacy beliefs are our internal determination (cognitive appraisal) of our knowledge, skills, and strategies in a particular context.

**What is Career Self-Efficacy?**

One area of self-efficacy research building on Bandura’s work is career self-efficacy—the study of how self-efficacy in career-related behaviors affect one’s selection and persistence within specific career paths (Hackett & Betz, 1981). The term is simply an umbrella for self-efficacy beliefs within career-related domains, and the results are consistent with Bandura's theories on self-efficacy (Bandura, 1997; Betz & Hackett, 2006). In a meta-analysis of 114 studies (N = 21,616) self-efficacy beliefs were found to be correlated to work-related performance (Stajkovic & Luthans, 1998).

One well studied subset of career self-efficacy is career decision making (Betz, Klein, & Taylor, 1996). Consistent with self-efficacy theory, the greater the efficacy beliefs in one’s capacity to fulfill education requirements and job functions, the more likely one is to consider a breadth of career choices and be persistent in their career search (Betz & Hackett, 1981; Betz et al., 1996; Lent, Larkin, & Brown, 1989; Lent et al., 2008; Matsui, Ikeda, & Ohnishi, 1989). It seems increased self-efficacy beliefs around career decisions can expand options and effort.
What is Leadership Self-Efficacy?

Within the field of career self-efficacy is the more thinly studied domain of leadership self-efficacy (Hannah, Avolio, Luthans, & Harms, 2008). This subset attempts to study beliefs in one’s capacity to lead and inspire teams toward successful accomplishment (Paglis, 2010; Seibert, Sargent, Kraimer, & Kiazad, 2017). Experimental studies of leadership self-efficacy lead to similar conclusions of self-efficacy’s predictive power of accomplishment. In a study of 235 retail managers, those with high leadership self-efficacy were found to have the highest leadership effectiveness ratings and promotability ratings (Seibert et al., 2017). In addition to individual performance, high leadership self-efficacy has also been shown to predict one’s ability to inspire a team to collectively achieve performance goals (Paglis, 2010). The picture grows clearer: beliefs in one’s capacity to lead result in better performance and promotions.

What are the Benefits of High Self-Efficacy?

Those with high self-efficacy view difficult tasks as opportunities to master rather than threats to avoid. This leads to a whole host of more productive thoughts, feelings, motivations, and behaviors (Bandura, 1997). In laboratory settings, controlled field studies, and naturally occurring situations in a wide variety of contexts, self-efficacy beliefs have been found to consistently affect the intention and difficulty of goals set, the amount of effort expended toward goals, and the capacity to recover from setbacks (Bandura, 1997; Bandura, 1986b). Self-efficacy has been shown to predict self-regulation, individual motivation, achievement, and life decisions (Huang, 2016; Klassen & Usher, 2010; Multon, Brown, & Lent, 1991; Pajares, 1997; Stajkovic & Luthans, 1998). High self-efficacy is linked to prosocial behaviors, higher academic achievement and aspirations, lower depression and anxiety (Reivich, 2010). Increases in self-efficacy are shown to increase one’s sense of agency and reduce avoidance behaviors (Bandura,
1997), suggesting that self-efficacy interventions may counteract learned helplessness in women. Self-efficacy beliefs are strongly linked to health behavior choices (Maddux, 2009) and they impact physical health by reducing stress and depression, and improving the expectations of future events (Bandura, 1997). Those with low self-efficacy beliefs give up quickly and avoid challenge. This leads to long term helplessness and a self-fulfilling prophecy of failure, ultimately impacting wellbeing (Margolis & McCabe, 2006). As it relates to women in senior leadership, those who judge themselves as less capable are prone to stagnation and inaction – not asking for the raise or promotion, not opening the business, not speaking up in a meeting, and not offering a contrary viewpoint.

**The Four Sources of Information for Self-Efficacy Beliefs**

The following section will describe the ways in which self-efficacy beliefs are formed and cultivated. Self-efficacy can be cultivated via four specific sources of information, each affecting the interpretation and calculus of one’s capabilities. Self-efficacy beliefs are developed through our interpretation of four pathways of information: 1) performance accomplishments, 2) vicarious learning, 3) verbal persuasion, and 3) physiological states (Bandura, 1997).

**Performance accomplishments.** The most reliable source of self-efficacy beliefs is performance accomplishment, when one works toward mastery by successfully accomplishing tasks with increasing challenge (Byars-Winston et al., 2017; Bandura, 1977; Huang, 2016; Usher & Pajares, 2006). Strong evidence of performing well in the past on a similar challenge builds self-efficacy where early failure erodes it (Bandura, 1994). Mastery experiences and self-efficacy beliefs reinforce one another. In a study of 179 smokers, increases in mastery experiences (not smoking for a whole day) predicted increases in self-efficacy, which, in turn, predicted future
mastery experiences (Warner et al., 2018). Objective performance (e.g. high sales numbers) does not necessarily predict self-efficacy beliefs because self-efficacy beliefs are formed based upon the cognitive appraisal of performance accomplishments (e.g. what one tells herself about her high sales numbers) (Bandura, 1997). It is the interpretation of external events against our expectations (e.g. were the high sales numbers expected or a surprise?), judgment of how hard we’ve worked (did the high sales numbers come easily?), and our internal comparisons to others (how do my sales numbers compare to Sally’s sales numbers?) that determines our personal self-efficacy (Bandura, 1997). The tendency to attribute success to one’s own efforts rather than external factors such as luck, will also influence our cognitive appraisal of our performance accomplishments, and thus, the degree to which our self-efficacy increases or decreases given mastery or failure (Bandura, 1997; Maddux, 2009). The more evidence we gather that we are capable of achieving mastery, the higher our self-efficacy beliefs.

**Vicarious learning.** Vicarious experiences are also an effective pathway to increase self-efficacy beliefs. Observing colleagues succeeding at particular tasks can increase self-efficacy to the extent the observer views themselves as similar to the role model (Bandura, 1997; Schunk, 1987). Testimonials from weight loss and smoking cessation successes have been shown to increase others’ self-efficacy (Maddux, 2009). Support groups where participants share personal experiences in overcoming challenges and setbacks also enhance participant self-efficacy (Maddux, 2009). The impact of vicarious learning on self-efficacy differs based upon gender and race (Byars-Winston et al., 2017). As with each pathway, vicarious learning increases self-efficacy only when one *interprets* what they just observed (someone else performing well) as relevant to their capabilities. For self-efficacy to increase, they must conclude: “If she can do it, so can I!”
**Verbal persuasion.** Another pathway to self-efficacy is through encouraging words from others and feedback on performance, called verbal persuasion (Bandura, 1997). Verbal persuasion is only effective when encouragement and feedback are from trusted sources judged as credible (Bandura, 1997). Verbal persuasion can be especially effective when those being encouraged are new to the task, but verbal persuasions are limited in creating prolonged increases in self-efficacy (Bandura, 1986a). In various contexts, verbal persuasion interventions have been found to increase self-efficacy in the form of feedback, affirmative evaluations, and incentives (Anderson & Betz, 2001). As the tagline of the movie *Goodwill Hunting* reminds us: “Some people can’t believe in themselves, until someone believes in them first.”

**Physiological states.** Our physical and emotional states (anxiety, arousal, stress, and fatigue) are another source of data we call upon to determine beliefs about our capabilities (Bandura, 1997). Self-efficacy is usually accompanied by calm rather than distressed feelings (Maddux, 2009), and learning to control adverse physiological reactions can increase self-efficacy (Bandura, 1977). As with other pathways, it is one’s cognitive appraisal of their physical and emotional state and their interpretation of what that means for their personal competence that dictates impacts to self-efficacy (Bandura, 1986a). For example, a heightened anxious state – palms sweating, heart pounding, read face – when public speaking, may lower one’s public speaking self-efficacy, but this anxious state may have no effect on self-efficacy if one has normalized this feeling and cognitively appraises these nerves as a natural part of the experience of public speaking. Our interpretation of what our physiological states tell us about our capabilities offers a pathway to cultivating or destroying self-efficacy beliefs.
Self-Efficacy Interventions

The following section reviews the literature on all the many ways self-efficacy interventions can be designed to maximize self-efficacy increases.

The four pathways. The four pathways described above (performance accomplishments, vicarious learning, verbal persuasions, and physiological states) can be used as the basis for designing interventions intended to increase self-efficacy. Performance accomplishments are often the most dominant pathway to self-efficacy beliefs (Byars-Winston, Diestelmann, Savoy, & Hoyt, 2017), and the relative influence of each pathway can differ depending upon domain, values, gender, culture, ability, and ethnicity (Schunk & Usher, 2012; Usher & Pajares, 2008). Following the advice of Betz (1992) to create an intervention set aimed at the four pathways, Sullivan & Mahalik (2000) designed and implemented a six-week program with 30 women. As compared to a control group, the women who were exposed to self-efficacy interventions aimed at each pathway expanded the career choices they considered and their commitment to pursue their career of choice. At their core, each of the examples of self-efficacy interventions below call upon one or more of the four pathways described above to cultivate self-efficacy.

Goal setting. When designing interventions around the performance accomplishment pathway, goal setting theory proves useful. High-challenge, specific goals with clear feedback along the way offer stronger evidence of achievement, and are therefore better at increasing self-efficacy than vague, long-term goals (Locke, 1996). Setting goals that are too out of reach, and therefore unattainable, can lower self-efficacy beliefs (Margolis & McCabe, 2006). Setting short term intermediate goals rather than a single long-term goal enhances self-efficacy and capability because intermediate goals offer evidence of growing skill (Bandura & Schunk, 1981; Zimmerman, 2000). When applying goal setting theory to a task, one is more likely to achieve a
goal, and therefore, more likely to receive the self-efficacy boosts that come through the pathway of performance accomplishment.

**Notice, analyze, celebrate success.** Since cognitive appraisal is a key element of performance accomplishment (what does this success say about your capabilities?), efforts to absorb and acknowledge successes leads to self-efficacy boosts. Those low in self-efficacy often underestimate their contribution to their accomplishments (Bandura, 1997). Creating an intentional process to help notice, analyze, attribute, and celebrate success is likely to increase self-efficacy (Reivich, 2010). Researchers report that intentional effort reflecting on a recent performance increases self-efficacy (DiStefano, Pisano, Gino, & Staats, 2014). Schunk (1987) found teaching students to notice and attribute their effort resulted in greater perceived progress, higher motivation, and higher self-efficacy for continued learning. Encouraging others to put attention toward recognizing success when it happens helps them cognitively appraise these moments as important evidence of their capabilities—the root of self-efficacy beliefs.

**Use peer role models.** Interventions accessing the pathway of vicarious experience typically rely upon models of performance. As Margolis and McCabe (2006) recommend, when using peer role models as a means to increase self-efficacy, the models should explain their process and thinking as they model the behavior. This specific guidance helps those who are struggling. Selecting role models similar to those you are attempting to influence will increase the effects (Schunk, 2003). As the next section of this paper explains more in depth, these vicarious experiences can be especially salient drivers of women’s self-efficacy.

**Connect with choice and interests.** Anyone who has raised a child or led a team can attest, one is much more likely to follow through and succeed at a performance when it is her choice to do so, and when the task is in alignment with her talents and passions. Choice and
intrinsic interest leads to high levels of engagement (Linnebrink & Pintrich, 2003; Margolis & McCabe, 2006) as does encouraging subjects to set their own goals (Schunk, 1985). Many tools from the field of positive psychology help one connect to her choice and interests. Identifying one’s values (Kinis & Sim, 2016), identifying one’s strengths (Niemiec, 2018), and job crafting (Wrzesniewski & Dutton, 2001) can all be used to connect participants to their personal best. Personal preference and interest is shown to increase self-efficacy, persistence, and accomplishment (Linnebrink & Pintrich, 2003; Margolis & McCabe, 2006; Schunk, 1985). With high levels of engagement and autonomy, one is more likely to stick to goals, achieve mastery, and thus, grow self-efficacy.

**Growth mindset.** Growth mindset is the belief that one’s capabilities are not fixed based upon innate talents, but rather improved with concerted effort (Dweck, 2006). In a clever experiment, Wood and Bandura (1989) induced two beliefs among their 24 subjects by inserting different language into task instructions—one group was fed the belief that management skill is a stable ability (fixed mindset) and the other group was fed the belief that management skills are an acquirable skill (growth mindset). Subjects who performed the simulated management task under the fixed mindset condition had lower self-efficacy, and thus had lower goals for themselves and were not as efficient in their analytic strategies. Subjects in the growth mindset condition sustained their self-efficacy, were effective analysts, and set challenging goals. The terms growth and fixed mindsets were not used by Wood and Bandura, but were later coined and studied extensively by Carol Dweck (2006). Growth mindsets can be induced through very simple means of reading about how intellect is malleable (Schroder, Moran, Donnellan, & Moser, 2014). Interventions are most effective when they include “active participation” (e.g. participants are asked to repeat the growth mindset beliefs in their own words) and “timing” (e.g.
at the start of a difficult challenge) (Bostwick & Becker-Blease, 2018). Increased growth mindset increases one’s persistence and effort toward performance accomplishments, and this mastery ultimately increases self-efficacy.

**Feedback.** Verbal persuasions sometimes come in the form of accurate and timely feedback and support. Praising effort and strategies is an effective way to induce a growth mindset (Dweck, 2006). As discussed earlier, women tend to have lower self-efficacy beliefs than men who have the same objective capacity (Pajares, 1996), but when women receive accurate and timely feedback on performance, their self-efficacy beliefs are raised to the same level as men (Pajares, 2002). When one is given clear information on their performance, this supports the cognitive appraisal of their capabilities, and thus increases self-efficacy.

**Arousal state awareness and control.** Many tools offer ways to improve our reactions to physiological and emotional states, thus increasing self-efficacy. There is research that meditation can favorably impact self-efficacy (Goldstein, Nidich, Goodman, & Goodman, 2018). Through a meditation practice, one gains self-awareness of emotional states and better control of arousal states (Goldstein et al., 2018). Articulating feelings out loud can also increase arousal state self-awareness (Goldstein et al., 2018). Finally, reappraising nerves into excitement shifts arousal attribution (e.g. This elevated heart rate before my interview means I’m excited, not nervous. Excitement means I am good at interviews.) shown to increase self-efficacy (Jamieson, Nock, & Mendes, 2012; Jamieson, Mendes, Blackstock, & Schmader, 2010). As one is more capable of noticing and expressing their physiological states, they are also more likely to better control those states, leading to more affirming cognitive appraisals and higher self-efficacy.

**Mentorship.** One common intervention based upon the verbal persuasion pathway is mentorship. Mentors can raise self-efficacy of their protégés, but only when the quality of the
interactions are high. In a study of 260 graduate students, mentor relationships were found to increase leadership self-efficacy only if the relationship between the mentor and protégé was reported to be of high quality by the protégé (Chopin, Danish, Seers, & Hook, 2012). Mentorship can be an effective tool for increasing self-efficacy, but a mentor program must be implemented with care.

**Intervention Strategies Unique to Women**

Self-efficacy seems to be cultivated differently in women than in men. The following section reviews the ways in which the cultivation of self-efficacy beliefs differs in women.

**Social persuasion and vicarious experience.** Interventions relying on the pathways of social persuasion and vicarious experience seem to be more effective for women (Anderson & Betz, 2001; Lent, Lopez, Brown, & Gore, 1996; Zeldin, Britner, & Pajares, 2008). In high school and college students, women are more influenced by social persuasions and vicarious experiences than men (Anderson & Betz, 2001). Personal narratives written by 10 men (Zeldin et al., 2008) and 15 women (Zeldin & Pajares, 2000) were analyzed to extract how self-efficacy beliefs in their chosen science, technology, engineering, and math fields were created and how they influenced career decisions. Conclusions from the combined studies revealed a pattern that women’s self-efficacy beliefs were most strongly influenced by social persuasions and vicarious experiences, while men’s self-efficacy beliefs were influenced by mastery experiences (Zeldin et al., 2008). These findings are consistent with previous studies concluding the same pattern (Anderson & Betz, 2001; Lent, Lopez, Brown, & Gore, 1996). Zeldin and Pajares (2000) propose that the opinions of key figures (mentors, colleagues, and friends who women hold in high regard) contribute in an important way to their personal efficacy beliefs. These findings, especially robust for women in male-dominated fields, suggest that the data from external
sources (role models and mentors) are an important means to counter societal stereotypes (Zeldin & Pajares, 2000). The evidence suggest two elements are key to women’s self-efficacy: 1) watching similar women succeed and 2) having others in their life offer verbal support and belief in their capabilities.

**Social support.** Supportive climates may also play a role in increasing women’s self-efficacy. A comprehensive study including self-report surveys and detailed interviews of 157 high school orchestral musicians, illustrates this pattern (Hendricks, 2014). Interviews and surveys detailing the student’s emotional and cognitive experience reveal that women placed in the higher orchestra had lower self-efficacy than men until the culture of the group shifted to a more socially supportive environment (Hendricks, 2014). In a study of 365 vocational students and graduates, those who reported high bonding with their demographic group (e.g. gender or race) were buffered from low self-esteem (Bakouri & Staerkle, 2015). When the subjects reported greater perceived barriers (e.g. sexism or racism) these social bonds buffered them from drops in their coping self-efficacy (Bakouri & Staerkle, 2015). This evidence suggests that if women leaders bond with other women to build socially supportive climates, this will improve their career self-efficacy and their ability to cope with perceived discrimination.

**Proposed Career Self-Efficacy Interventions for Women**

As the numerous examples above illustrate, self-efficacy interventions have been successfully applied to the task of helping populations become more engaged, committed, and persistent at achieving their goals—to help them flourish (Maddox, 2009). With new beliefs around their career capabilities, women are likely to seek a broader range of career options (Betz et al., 1996; Lent et al., 1989; Lent et al., 2008; Matsui, Ikeda, & Ohnishi, 1989), seek higher
goals (Bandura, 1984a; Bandura, 1997), and persist in the face of setbacks (Reivich, 2010), an important step in closing the gender leadership gap (Hackett & Betz, 1981).

The appendices that follow describe actionable steps women and organizations can take to increase women’s self-efficacy beliefs. Each appendix describes a single intervention; however, each intervention combines multiple aspects of the four pathways of increasing self-efficacy and the strategies specific to women described above. The theoretical and empirical frameworks described in this paper informed each intervention.

These interventions described in appendix B through E are a compilation of the best ideas extracted from two design thinking exercises. Design thinking is a process of solving problems that begins with understanding the end user. The next four steps in design thinking are: defining the problem, brainstorming solutions (also called ideation), prototyping solutions, and testing (Brown, 2018). Psychologists have found success using the design thinking process to improve mindset interventions (Yeager et al., 2016).

For this capstone, volunteers were provided a draft literature review in advance as a simulation of the first two design thinking steps—empathize and define. The volunteers were lead through the design thinking ideate phase to brainstorm ideas for how to apply the literature on self-efficacy to the real-world task of increasing women’s career self-efficacy. The results from the design thinking ideation exercise were combined and curated into the following recommendations: self-efficacy challenge course (describes in detail in Appendix B), board of champions (Appendix C), vicarious experience through panel discussions (Appendix D), and verbal persuasion through social media (Appendix E).

Organizations who choose to implement these interventions should following the final two design thinking steps: prototype and test, implementing these interventions on a small scale,
measuring their effectiveness, and improving upon the ideas based upon what was learned from implementing on a small scale.

**Conclusion**

In this paper, I have made the case that organizations would benefit from more women at the top. I describe one possible root cause of the leadership gap: gender stereotypes leading to lowered career self-efficacy beliefs in women. Finally, I propose a solution drawn from the tenants of positive psychology: interventions to cultivate empowering self-efficacy beliefs. Without Admiral Bert’s verbal persuasion and belief in me, I would never have dreamed of building and running a national nonprofit, ultimately leading me on a path to this capstone. If Admiral Bert can improve my career trajectory with a short conversation and an affirming word, just imagine the possibilities if organizations implement science-backed interventions specifically designed to raise women’s self-efficacy beliefs. Gender stereotypes inside and outside of organizations influence the internal beliefs of the women who might be more present in senior leadership roles. Organizations can support women to be more than society has programmed them to believe they can be. The science of self-efficacy and the orientation of positive psychology offer organizations a meaningful path forward as they empower women to aspire more, to achieve more, and to be more.
The Field of Study: Positive Psychology

Positive psychology is the science of wellbeing. Considered the father of positive psychology, Martin Seligman (2011) was elected President of the American Psychological Association in 1998. At the time, the majority of research in psychology focused on pathologies - things like anxiety, depression and mental illness. Noticing the imbalanced focus on the negative, Seligman decided to run on a platform to balance research efforts within the field to include the scientific investigation of human flourishing and the elements that make life worth living. Seligman and his colleague Csikszentmihalyi (2000) first categorized positive psychology’s three main areas of focus as “the science of positive subjective experience, positive individual traits, and positive institutions.” (p. 5).

While Martin Seligman is considered the father of positive psychology, the field has been developing for centuries. The curiosity of exploring what makes life worth living can be traced to ancient philosophers (Melchert, 2002). For an early example, Aristotle (1934) defines the *good life* as intentionally working toward excellence in all of our innately human capabilities. He concludes that cultivating excellence leads to a full flourishing life, not merely happy feelings. More recent philosophers and psychologists, such as William James (1902/1985), Abraham Maslow (1954), Chris Peterson (2016) and James Pawelski (2016) build on Aristotle’s early writings. Each submit that one can best achieve excellence and wellbeing by not only addressing deficiencies, but also cultivating natural strengths and passions.

In the 20 years since positive psychology’s inception, the initial focal areas identified by Seligman and Csikszentmihalyi (2000) have been further studied and clarified. What follows is a description of the three early focal points of the field.
Positive Subjective Experience

Positive subjective experience is a term used to describe “a person’s cognitive and affective evaluation of his or her life” (Diener, Oishi, & Lucas, 2002, p. 63). Said differently, it is an individual's opinion of his/her own well-being. In an effort to measure positive subjective experience, Ed Deiner and colleagues set about designing and testing a subjective wellbeing scale (Diener, Pressman, Hunter, & Delgadillo-Chase, 2017). During the same time frame, Seligman (2011) defined the elements of wellbeing that humans pursue for their own sake. This list has evolved over the years, and the most current version, referred to by the acronym PERMA, includes positive emotions, engagement, relationships, meaning, and accomplishment.

Positive emotions are the subjective feelings of joy, gratitude, serenity, interest, hope, pride, amusement, inspiration, awe, love, altruism, satisfaction, and relief (Fredrickson, 2009; Seligman, 2011). Engagement is the subjective state of enraptured focus, interest and absorption, when time itself seems to stop, also called the state of flow (Csikszentmihalyi, 1990).

Relationships are about the quality of authentic connection with others—friends, family, coworkers, (Taylor, 2011), even relative strangers (the barista, bus driver, and cashier) (Fredrickson, 2014). Meaning captures a sense of belonging to and serving something larger than one’s self (Martela & Steger, 2016; Seligman, 2011; Smith, 2017), and the ability to make sense of life’s challenges (Frankl, 1963). Accomplishment speaks to the pursuit of achievement for its own sake (Seligman, 2011) and includes goal setting (Locke, 1996), perseverance (Duckworth, 2016), and mastery (Deci & Ryan, 2000). While the elements of wellbeing may be linked at times (a quality relationship may increase meaning and positive emotion, for example), the elements are each defined and measured independently (Seligman, 2011). The balance and emphasis of PERMA elements varies by person depending on their priorities, personality, and
values. As the phrase positive subjective experience implies, flourishing is ultimately defined by the unique ways in which an individual subjectively experiences it.

**Positive Individual Traits**

The study of individual traits is focused on researching and fostering positive human traits, a benefit being that they buffer against mental illness (Seligman & Csikszentmihalyi, 2000). One of the first large-scale initiatives undertaken in the name of positive psychology was the classification of human strengths (Peterson & Seligman, 2004). Peterson and Seligman (2004) collected data from around the world to uncover a list of character strengths that were valued in their own right, did not diminish others, and were intrinsically fulfilling. Their list includes 24 strengths categorized by the values of wisdom, courage, humanity, justice, temperance, and transcendence. True to their initial hypothesis about the value of studying human strengths, identifying and cultivating strengths and applying strengths to new challenges is linked to increased wellbeing (Neimic, 2018; Seligman, Steen, & Peterson, 2005).

**Positive Institutions**

The study of positive institutions is about uncovering the ways in which institutions (e.g. families, communities, governments, schools, workplaces) can draw out the best in others (Seligman & Csikszentmihalyi, 2000). Subsequent research includes two large branches - positive organizational scholarship and positive education. Positive organizational scholarship studies and applies positive psychology in the professional domain (Cameron, Dutton, & Quinn, 2005). Positive Education applies positive psychology in the K-12 domain, and includes academic, character and wellbeing as measures for success (Kern, Waters, Adler, & White, 2015; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). Mirroring the initial goal of the field, the
study of positive institutions differs from the typical deficit model of studying and improving weaknesses within institutions (Caza & Caza, 2008).
Appendix B

Self-Efficacy Challenge Course

The *Self-Efficacy Challenge Course* is an intervention designed to build mastery and positive internal beliefs in a group of women. The goal of the self-efficacy challenge course is to provide a high level of authenticity in a simulation where women can practice, receive feedback, build mastery, and celebrate accomplishment of key skills necessary for promotion. A self-efficacy challenge course can be implemented in any number of contexts (such as formal training, a conference exercise, or a stand-alone event). The challenge course is modeled after the concept of an obstacle course, with specific work-related tasks rather than physical hurdles. Organizers should pick three to five key tasks (e.g. elevator speech, negotiations, financial management, performance discussion) and build a challenge course where participants must run through a series of stations successfully performing each of these challenges. The steps below offer organizations guidance on how to design and implement a successful challenge course.

Research supports the value of implementing a self-efficacy challenge course. This intervention is designed with a focus on the pathway of performance accomplishments. For a review of the academic literature connected to this intervention, please see sections above entitled:

- Goal setting
- Notice, analyze, celebrate success
- Growth mindset
- Feedback
Step 1: Identify the target audience and venue. The following questions may be answered via surveys, interviews, or human resources data. Is there a group of women in your organization who are not being promoted at the same rate as men? Is there a pre-existing high potential group earmarked for positions of increasing responsibility? Is there an ongoing or future plan to conduct women’s leadership conferences or other programming where women naturally gather to gain career insights?

Step 2: Identify the skill gaps. What are the key skill gaps within the target audience necessary to advance in their careers? Answering this question requires a two-step process. Step one: identify the key skills at the next highest position. Step two: identify which of these skills are most lacking in the target audience. Possible sources of data to capture the most salient skill gaps are: mining performance review skill descriptions for the next highest job, mining performance reviews of the target audience, interviewing or surveying leaders in the organization, and interviewing or surveying the target audience. If there are resources, a full analysis of all three types of data would yield the fullest picture of particular gaps in skill sets.

Step 3: Identify the path to mastery. For each skill identified in step two, define a specific context which is most realistic and define what level of skill is required. Build highly interactive exercises to practice the skill in question. For example, if the skill selected is negotiations, design three role play scenarios where participants are required to actively negotiate, each with increasing complexity.

Step 4: Identify and close gaps in current knowledge. Assess the current skill level of the target audience. In order to successfully perform in the self-efficacy challenge course, is there any new information, best practices, or feedback participants need in order to be successful? Plan
a pre-challenge classroom on online lesson or offer read aheads to participants, if necessary, to ensure they are prepared to succeed at each challenge.

**Step 5: Enlist volunteers.** In order to reach the most realistic simulation possible, volunteers from within or external to the organization are needed to serve as role play participants. Provide volunteers with background information on self-efficacy theory and data on why these specific skills were selected. Volunteers should be prepared to provide realistic feedback to help guide and improve performance, and to help participants own their successes. To support development of a growth mindset, volunteers should also be instructed to praise effort and strategies rather than accomplishment.

**Step 6: Create materials.** With the goal of high realism, it is necessary to create clear instructions to both the participants and volunteers for each role play or case study. To help participants connect their effort to their mastery experience and celebrate their progress, provide a means to visually mark successful accomplishments (such as a sheet that can be stamped or an electronic success board) when each sub-challenge is completed.

**Step 7: Execute.** Run participants through the self-efficacy challenge! In order to create a path to mastery, it is advisable to host three challenges for each task. If three overall tasks are selected (negotiations, extemporaneous speech, and difficult performance conversation, for example), participants will conduct the first task (negotiations) three times, with each simulation increasing in difficulty. The entire challenge course will consist of nine hurdles, three for each task.

**Step 8: Debrief.** Facilitate a *pair-and-share* where each participant finds a buddy to debrief the following questions. This follow up will capitalize on participants ability to reflect upon and celebrate their success driving increases in their self-efficacy. What did you learn today
about how you build new skills? What did you learn today about your strengths? What did you learn today about the areas you still need to improve? What’s your plan to keep working on those areas? What’s one new thing you feel more prepared to follow up on at work tomorrow?
Appendix C

Board of Champions

A Board of Champions is a group of women organized to support and champion one another to build skills and aim higher with career goals. Organizations can formally organize small teams of women into boards of champions or women can self-organize informally. The term champion is used intentionally to indicate the key purpose of these groups. The ideal number of participants per group is five (Margolis, 2014). This appendix offers recommendations for specific board of champion meeting activities.

Research supports the value of creating boards of champions. This intervention is designed to utilize all four pathways to self-efficacy (performance accomplishment, vicarious learning, verbal persuasion, and physiological states). For a review of the academic literature connected to this intervention, please see sections above entitled:

- Goal setting
- Notice, analyze, celebrate success
- Use peer role models
- Connect with choice and interests
- Growth mindset
- Arousal state awareness and control
- Social support

The ideas below are offered as suggestions only. The collective development and agreement of the group’s agendas will result in an even higher sense of agency and ownership in the process and in one’s career.
At the start of each meeting. In order to build self-awareness around physiological and mental states, a skill supportive of increased self-efficacy, each meeting should begin with a short meditation and a check in, where each participant answers the question: How are you feeling? And what might get in your way of being fully present?

At the end of each meeting. As a means of increasing awareness of successes, strengths, and ultimately mastery, each meeting should close with a strength-spotting circle. Each member of the board will randomly draw the name of another board member. Going around in a circle, each member identifies at least one positive attribute or thing she appreciates about the woman listed on her drawn paper.

Ongoing. These tasks can be completed in any number of creative ways—maintained online, as a wall of stickie notes drafted prior to or at the end of each meeting, or in a shared journal. As a means to help women recognize, celebrate, and own their successes, the group can maintain a collective Did It list. Instead of a To Do list, this list captures all of the successfully completed items women in the group achieved between meetings. Additionally, in order to increase mastery persistence, the group can also maintain a Fail Fast list, as well. This list will capture and celebrate anyone who failed at something during the period between meetings. Each member will report out what the failure was and what they learned from it. This will normalize failure as part of the natural process of achieving mastery, and it will help perpetuate the idea of persisting through failure to achieve ultimate success.

First Meeting Introductions. Take time to get to know one another. One fun way to do this is to pair off and respond to a series of questions. After each question, switch pairs until the entire group has had the opportunity to interact with one another one on one. Some example questions are: What’s the best piece of advice you’ve ever received? What’s one thing you are
most proud of? If you had no fear, what would you accomplish? What’s the most interesting thing about you that’s not on a resume? What’s your intention for joining this group?

**First Meeting Group Norms.** After introductions, take time to discuss as a group what your expectations for the group are, what the group norms should be, and how you will internally organize and hold one another accountable. Agree upon key high-level agenda items for subsequent meetings. Groups should determine the best meeting schedule depending on their work demands and professional goals for the group. It may be helpful to rotate the facilitation and detailed agenda crafting roles for each meeting.

**Cultivating Choice and Interest.** There are numerous activities that can increase self-awareness around natural passions and talents. When used as part of a larger agenda to draw out an individual’s best self at work and cultivate mastery experiences, the following exercises are likely to increase self-efficacy of group members. The order below is recommended as each activity builds upon the previous ones.

**Values exercise.** Participants identify their top five values and score the importance of each value on a one to ten scale. For each top value, participants also identify a score reflecting the extent to which they are living each value (walking the talk) in their lives. Next, participants reflect upon why each value is most important to them, how they have displayed these values at work, and finally they brainstorm ideas for how they might live these values at work more intentionally.

**VIA Strengths.** The VIA (Values in Action) Strengths Survey is free and online (http://www.viacharacter.org). Taking the VIA survey results in a list of one’s top five strengths. Extensive research suggests applying strengths more intentionally throughout the day and using
strengths to overcome challenges leads to increased wellbeing. Group members should take the survey and reflect on how they can better apply strengths at work, and to current challenges.

*Best self-exercise.* Women personally select their most memorable moments when they were at their best and reflect on why those particular moments were important. Women also gain insights regarding their strengths based upon the perception of others by calling three friends or family and asking: What is my best quality or skill? With this collective increased awareness around one’s personal understanding of their unique gifts and others’ perceptions of them, group members can start to identify how they may better apply these skills and qualities in their career. Finally, women can reflect on how they have specifically grown and cultivated these skills and qualities in their lives, driving home the idea that persistence and effort increases our capabilities.

*Job crafting.* Job crafting is an intentional process of reflecting on how one might reshape their job description to better use their best talents and passions. Participants can choose to purchase an easy to use workbook here: https://jobcrafting.com. Once each group member completes the job crafting booklet, participants should discuss the best strategies for approaching their bosses to shift job responsibilities to maximize their fulfilment and achievement.

*Setting Goals.* With increased self-awareness gained from the exercises described above, group members are ready to identify a one- to five-year stretch career goal, along with interim short-term steps to achieve it. Once this mastery plan is identified, women will share their goals with the full group. Members will offer feedback and verbal encouragement to ensure each goal will truly stretch the individual, but is not entirely out of reach. Group members will also provide feedback and brainstorm which new skills are necessary for the participant to succeed in the new role they have identified as a goal. With the list of necessary skills, each participant will create a
plan for how to gain more experience leading to mastery of each new skill. This plan may include requests for support from other board members to include accountability support and opportunities to practice the skill and gain feedback.

**Enacting Mastery.** One important role of these meetings is to provide a supportive space for women to practice, take risks, and receive feedback on the skills from their mastery plan (see above). For example, if a member recognizes she needs to improve her public speaking capacity, the group would coordinate an opportunity for her to practice an upcoming speech and receive task-specific feedback. This process should also be used to normalize stress and discomfort with new skills and reframe nerves as excitement. This will support more empowering cognitive appraisals of arousal to increase rather than decrease self-efficacy.
Appendix D

**Panel Discussion Guide**

A *Panel Discussion Guide* is a guide for organizations to strategically increase career self-efficacy and buffer against gender stereotypes. One mechanism often used to inspire and empower women are panel discussions with experts and leaders. With some specific instructions for panel moderators, one can easily shift a low impact panel into an intentional intervention to increase career self-efficacy through vicarious experiences.

Research supports the value of increasing self-efficacy beliefs via well-executed panel discussion. This intervention is primarily designed to utilize all the pathways of vicarious learning and verbal persuasion. For a review of the academic literature connected to this intervention, please see sections above entitled:

- Use peer role models
- Growth mindset
- Social support

**Panel Set Up**

**Relatability.** Select panelists who have achieved success within the specific organization’s work context. Ensure panelists are relatable to the audience. Self-efficacy beliefs are more likely to increase if audience members see themselves in the stories the panelists share. If the connection to the audience is not obvious, moderators may choose to ask panelists to share parts of their biography that specifically relate to the audience.

**Audience self-selection.** Another method to maximize the relevance between the panelist’s experience and the audience’s is to shift to small group discussions with each panelist.
Audience members can self-select into small discussion groups by choosing the panelist whose career and experiences best match her own.

**Panel Questions**

**Overcoming failure.** It’s important for audience members to see how panelist’s successes required effort. By eliciting stories from panelists of what their setbacks were and how they worked to overcome those barriers, audience members will be inspired to persist longer in their own challenges, as well. The overwhelming message should be: mastery does not happen overnight, but through hard work and concerted effort. Everyone in the audience should feel that, with the same diligence, they can achieve similar results.

**Hard work.** Everyone loves to watch the Olympics to witness athletes at their best, but media outlets don’t broadcast the relentless four am practices seven days per week, so too often we come away believing Olympians were simply born into greatness rather than appreciating the full extent of their efforts. In order to increase self-efficacy, it is important to share with the audience all of the details of the hard work. If a panelist has recently finished writing a book, for example, ask her to describe what her writing process is like and how she deliberately improves as a writer. Draw out the effort and details to encourage audience members to equally persist and work hard.

**General guidance.** Adam Grant offers helpful general suggestions for panel moderators: https://www.linkedin.com/pulse/how-run-conference-panel-isnt-horrible-adam-grant/
Appendix E

**Social Media Shout Outs**

Social media shout outs are a social media campaign which encourages women to support and congratulate one another’s successes and best qualities. As described in the literature review above, verbal persuasion (encouragement from others) and social support are effective ways to increase self-efficacy. One tool available to publicly encourage and support others in today’s digital age is social media. Based on Caroline Adams-Miller’s (2018) #share222 campaign: “sharing two other women’s successes to two social media channels every week,” (p.1) organizations can adopt a similar formal social media campaign, or women can self-organize informally. Organizations may choose to create their own hashtags and repost supportive posts from personal pages to their organization’s page. The goal is to create a cultural norm of women offering public support to one another and helping to share in one another’s triumphs and successes. The images below offer examples of verbal persuasion social media posts.
One of my bucket list items is to go to Kirpalu. I'm sorry I'll miss this event, since it is being taught by the very woman, Caroline Adams Miller, who introduced me to the positive psychology grad program I'm just finishing. If you have the time and inclination I can guarantee it will be fabulous!

Develop a Game Plan for Life The Gritty Woman Way
Discover what it means to be a gritty woman and create a life playbook to help you set, pursue, and achieve your goals.

KRIPALU.ORG
So proud of my friend and colleague Gladness Norah Kulola for all she has accomplished and inspired by how she brings her whole heart to her work with students.
Coast Guard Gratitude Day 76: I am grateful for the incredibly talented LT Stephanie Young, my stylist and publicist for the last 7 years. Although I am 11 years her senior, it seems that it's always Stephanie who mentors me. She edits my writing. She outfits me on special occasions. She prepares me for interviews. And she is an unwavering support network and cheerleader who can always be counted on. So grateful our CG paths crossed!
Coast Guard Gratitude Day 32: I am grateful for Andrea Marcille for relentlessly believing in my potential. From writing me up for an Alumni Achievement Award to asking me to serve as the interim OCS School Chief, Andrea always makes me feel valued and competent, and I have no doubt my performance improved under her self-fulfilling prophesy.
So inspired by my extraordinary friend, Christine Poland! This journalist got it right! "Supple and strong, this reticent young woman contains the quiet grace of a lynx, both in her movements and in her demeanor. There is no air of braggadocio, in spite of multiple accomplishments - too lengthy to mention here - and the silent fire that sparked within her as a child did not fade in the years that followed."

Bending to the lure of dance

By Nicholas Cheever
Special to The Times

"I spent long days and nights in the studio, seeking that one dance which might be the divine expression of the human spirit through the medium of the body's movement." These are the words of Isadora Duncan, recognized by many as a blessed mother of modern dance — one of our earliest forms of communication whose origins can be traced back to 8,000-year-old paintings found in the Rock Shelters in India, and in the tombs of Ancient Egypt.

Dance's influence has been recorded in Greek history, in etchings on Chinese pottery, and in the Bible as well...not forgetting ancient cave walls.

It continues today. Dance, theater and studios have all sustained the rhythmic mystique of expressive body movement...one of few areas where our species can fairly take its place among the more graceful and elegant creatures of the land, sea and air. And those committed to it have invested themselves in this passion as a lifetime endeavor.

One such individual is Christine Poland of North Stonington whose company, Mystic Moves Dance Theatre, operates out of her studio in Mystic. Poland first felt the lure of the dance at the age of 12, when she would retreat to the refuge of either her bedroom or the more spacious family basement that allowed both the solitude and the area to explore the magical world of movement. "Dance is really who I am," Poland explained in an interview at Groton Starbucks. "The family room in our basement gave me the solitude and the release where I could experiment all I wanted with so many different forms of movement."

In years to come those early days of freely testing out a variety of expressionistic forms would lead Poland on a lifelong journey. Continuing to..."
Coast Guard Gratitude Day 35: I am grateful for Admiral Melissa Bert for pushing me beyond my comfort zone. In 2008 she recommended I conduct the Evergreen outbrief for our group--an event that, I'm convinced, changed the trajectory of my career. She also asked me to lead the Women's Leadership Initiative. Implementing her brilliant vision of a national network dedicated to improving retention and success of women in the Coast Guard is one of my most challenging and fulfilling leadership experiences. And, I suspect, my WLI work will greatly influence my choice for my next career, as well. Admiral Bert is a fiercely competent woman and visionary leader who is deeply committed to developing and mentoring the next generation. And we are better for it!
References


https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Organization/Our%20Insights/Unlocking%20the%20full%20potential%20of%20women%20at%20work/Unlocking%20the%20full%20potential%20of%20women%20at%20work.ashx


https://doi.org/10.1016/j.jesp.2009.08.015


https://www.msci.com/documents/10199/04b6f646-d638-4878-9c61-4eb91748a82b


analysis on gender differences in negotiation outcomes and their moderators. 

*Psychological Bulletin, 141*(1), 85–104.


chief-executives-is-falling.html


Gotham.


psychological functioning. *Journal of Research in Personality, (41)*1, 139-154. 

https://doi.org/10.1016/j.jrp.2006.03.004.

beyond the surface. *Corporate Governance, 18*(2), 136–148. doi:10.1111/j.1467-
8683.2010.00784.x

Niemiec, R. M. (2018) *Character strength interventions: A field guide for practitioners.* Boston, 

MA: Hogrefe Publishing.


https://doi.org/10.1006/ceps.1996.0025.


