The Effects of Women’s Empowerment Messages on Perceptions of Women’s Role in
Gender Inequality

by

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Dissertation submitted in partial fulfillment of
the requirements for the degree of Doctor
of Philosophy of Business Administration in the Graduate School
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2019
ABSTRACT

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Abstract

Although women’s underrepresentation in senior level positions in the workplace has multiple causes, women’s self-improvement or “empowerment” at work has recently attracted cultural attention as a solution. For example, the bestselling book “Lean In” states that women can tackle gender inequality themselves by overcoming the “internal barriers” (e.g., lack of confidence and ambition) that prevent success. I sought to explore the consequences of this type of women’s empowerment ideology. Study 1 found that perceptions of women’s ability to solve inequality were associated with attributions of women’s responsibility to do so. Studies 2, 3, and 5 experimentally manipulated exposure to women’s empowerment messages, finding that while such messages increase perceptions that women are empowered to solve workplace gender inequality, they also lead to attributions that women are more responsible both for creating and solving the problem. Study 4 found a similar pattern in the context of a specific workplace problem, and found that such messages also lead to a preference for interventions focused on changing women rather than changing the system. Study 5 documents the weakened effects of messages that explicitly explain that women’s “internal barriers” are the products of “external barriers” obstructing women’s progress. Study 6 found that women’s empowerment messages are not successful in helping women feel empowered, but rather make them feel more responsible for causing
workplace gender inequality. Studies 7a and 7b suggest that these negative consequences go beyond women’s empowerment and also apply to empowerment of African Americans in the context of racial inequality. In sum, these findings suggest that self-improvement messages intended to empower women to take charge of gender inequality may also yield potentially harmful societal beliefs, and that the processes demonstrated with women’s empowerment messages may apply to other disadvantaged groups like African Americans.
Dedication

This dissertation is dedicated to you.
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1. Introduction

Despite progress in recent decades, women continue to be underrepresented in senior-level positions in the workplace. Recent statistics indicate that women hold less than 5% of CEO positions and 19.9% of board seats at S&P 500 companies (Catalyst, 2015a, 2015b). The picture is similar in academia: Women occupy only about 25% of senior STEM (science, technology, engineering, mathematics) faculty positions in the United States (National Science Foundation, 2015). These estimates are striking because today women make up almost half of the United States labor force (Bureau of Labor Statistics, 2015), and are well represented (56 % of total undergraduate enrollment in 2014) at the undergraduate level in American universities (National Center for Education Statistics, 2015).

Women’s underrepresentation at the highest levels of the workforce is multiply determined (e.g., Gino, Wilmuth, & Brooks, 2015; Heilman & Eagly, 2008), but remedies hinging on women’s own self-improvement or “empowerment” (Fraser, 2013; Keller, 2011) have attracted substantial attention in popular culture, as reflected in numerous bestselling books, women’s magazines, and online media. These empowerment messages suggest that women can tackle gender inequality themselves by overcoming the “internal” barriers that prevent success—that is, variables internal to women that might hurt their advancement, such as their preferences and behaviors. For example, the bestselling 2013 book by Facebook executive Sheryl Sandberg, Lean In, aims to “change
the conversation from what women can’t do to what they can” (Sandberg, 2013),
advising that women take charge of their own careers by “sitting at the table,” taking
risks, being more confident, and pushing themselves harder to reach high-level
positions.

Although these cultural messages target individual women’s empowerment,
they also describe these strategies as a means to help all women. In Sandberg’s words,
“conditions for all women will improve when there are more women in leadership roles
giving strong and powerful voice to their needs and concerns” (Sandberg, 2013, p. 7).
Books and other media expressing this approach do not ignore external factors that may
create or sustain inequality, such as discrimination and structural obstacles against
women’s career advancement (Cheryan, Ziegler, Montoya, & Jiang, 2017; Rodino-
Colcino, 2018; Valian, 1998), which center on collective action to address structural
injustice (Ahmed, 2010; Eisenstein, 2009; Fraser, 2013). However, the empowerment or
self-improvement approach to gender inequality predominantly focuses on the
achievement of individuals rather than the group at large (McRobbie, 2009; Rosalind,
2007). Women’s empowerment messages are also positively and optimistically framed,
focusing on women’s future actions rather than on their past actions. Women’s
empowerment messages, like many other forms of self-help advice, imply criticism but
directly express only positively framed advice.
In this dissertation, I do not aim to dispute or support the efficacy of such messages or shed empirical light on their veracity (e.g., Bergsma, 2008; Rosen, 1987). Instead, I pursue a related but conceptually different question. The main goal of this dissertation is to examine how widespread exposure to a women’s empowerment approach to gender inequality, as conveyed in media and popular culture, may affect popular understanding of gender inequality.

**1.1 Causes of Gender Inequality in the Modern Workplace**

Gender inequalities have been attributed to numerous causes, which for the purposes of this dissertation, can be classified into two broad categories. The first category is what might be called external or structural factors. This category describes external barriers to women’s advancement in the workplace, a complex and interrelated set of mechanisms through which women are perceived and treated differently than men. For example, this category includes discrimination, unequal access to networks, and different childcare and family responsibilities.

The second category is what I will refer to as internal or psychological factors. This category describes women’s own preferences, expectations, and behaviors that interfere with women’s advancement. These barriers are “internal” to women, in that they are women’s own thoughts and actions; however, even such internal barriers are related to structural and social barriers in profound ways (Claro, Paunesku, & Dweck, 2016; Eagly, 1987). For instance, when describing gender differences in negotiation
styles, Bowles and colleagues (2007) note that such differences stem from how society rewards and reinforces different behaviors for women and men (Eagly, 1987). Gender differences in behaviors like risk-taking also vary as a function of exposure to gender stereotypes (Carr & Steele, 2010), again indicating the interrelation of internal and external barriers. However, I will artificially separate the two categories, to allow for an understanding of the effects of cultural messages that prioritize one over the other.

1.1.1 External Barriers to Women’s Advancement in the Workplace

Research in psychology and sociology has established the existence of a diverse and wide-ranging set of external barriers to women’s workplace advancement (Acker, 1990; Cejka & Eagly, 1999; Eagly & Karau, 2002; Glick, Wilk, & Perreault, 1995; Heilman, 2001; Heilman & Parks-Stamm, 2007; Reskin & Padavic, 1994; Ridgeway & Correll, 2004; Sutton et al., 2016). Prejudice and discrimination against women directly hinder women from attaining leadership positions, as in the “glass ceiling” effect (Morrison et al., 1992). Research has also shown that women, compared to men, are stereotyped as warm but not competent (Eagly & Mladinic, 1994; Fiske, Cuddy, Glick, & Xu, 2002) and communal but not agentic (Bakan, 1966; Eagly, 1987; Eagly & Steffen, 1984). Because high-status positions tend to be associated with stereotypically masculine traits (e.g., aggressive, competitive; Eagly & Carli, 2007; Glick et al., 1995), women are perceived to lack qualities necessary to be a successful leader (Eagly & Karau, 2002; Heilman, 2001; Heilman & Parks-Stamm, 2007), and they are discriminated against in hiring and
promotion (Cejka & Eagly, 1999; Glick et al., 1995). Compared to men, women are also more likely to have their performance and accomplishments devalued (Eagly, Makhijani, & Klonsky, 1992; Heilman, 1995; Swim, Borgida, Maruyama, & Myers, 1989) and face skepticism about their ideas and capabilities (Brooks, Huang, Kearney, & Murray, 2014; Butler & Geis, 1990). As a result of pervasive stereotypes against women, and a variety of other structural factors (see Ridgeway, 1997, for review), women in organizations tend to hold lower rank and less control over resources than men do, which reinforces the perception of men’s relative competence to women (Ridgeway, 1997; Ridgeway & Correll, 2004). Attempts by women to address inequality by displaying stereotypically masculine traits can backfire; women who behave in an agentic, assertive fashion are evaluated less favorably and receive less opportunity for career advancement (Lyness & Heilman, 2006; Rudman, 1998; Rudman & Phelan, 2008).

Traditional divisions of labor within the family (e.g., women as “homemakers”; Eagly, Wood, & Diekman, 2000) present an additional obstacle for the progress of women. The majority of domestic work is still expected to be performed by women (e.g., Bianchi, Robinson, & Milkie, 2006), making women more likely than men to make career sacrifices for their family, such as moving from full- to part-time jobs because of young children or elderly family members (Felmlee, 1984). Women with children, compared to men with children, advance more slowly in the workplace (Tharenou, Latimer, & Conroy, 1994) and are more likely to leave their jobs (Rosin & Korabik, 1990). Because
women tend to have (and are perceived to have) more responsibility outside of work, managers tend to see men, but not women, as the “ideal worker” (Williams, 2001; Williams, Muller, & Kilanski, 2012), which further contributes to female disadvantage (Ridgeway & Correll, 2004).

Gender inequality is also built into the structure of organizations (Acker, 1990). Studies have shown that managers prefer people who are like themselves (Elliot & Smith, 2004; Kanter, 1977). In male-dominated organizations, managers’ preference for similar others can thus result in hiring more men than women (Roos & Reskin, 1984; but see Petersen, Saporta, & Seidel, 2000, for contrary evidence). This skewed sex composition is also associated with women’s unequal access to male-dominated networks (Blair-Loy, 2001; Davies-Netzley, 1998), which can both channel men and women into different jobs (Reskin & Padavic, 1994) and limit women’s advancement to the highest levels in organizations. Even before women arrive at the workplace, social and structural factors affect their engagement in male-dominated careers like scientific and math-based fields (Riegle-Crumb, King, Grodsky, & Miller, 2012). For example, gendered high school curricula focused on providing resources for male-dominated work (e.g., offering more blue-collar courses and fewer college-preparatory courses) can limit the postsecondary and vocational options for women (Sutton et al., 2016). Thus, women’s equality in the workplace faces many external barriers, some interpersonal and others structural (Ragins & Sundstrom, 1989).
1.1.2 Internal Barriers to Women’s Advancement in the Workplace

In contrast to the external factors, which are part of the broader social environment, internal factors relate to intrapersonal differences in the preferences, expectations, and behaviors of women relative to men. For instance, studies have shown that women are less likely than men to take risks (Charness & Gneezy, 2012; Powell & Ansic, 1997; but see Byrnes, Miller, & Schafer, 1999, for a meta-analysis showing that gender differences vary by context). Compared to men, some evidence suggests that women have lower salary expectations (Stevens, Bavetta, & Gist, 1993), are less ambitious (Litzky & Greenhaus, 2007; McKinsey & Company, 2015), and view professional advancement as less desirable (Gino et al., 2015).

Research has also found evidence of gender differences in other work-related behaviors. Women, compared to men, have been found to be less likely to engage in dominant or aggressive behaviors (Bettencourt & Miller, 1996; Dovidio, Ellyson, Keating, Heltman, & Brown, 1988; Eagly & Steffen, 1986; Rutter & Hine, 2005) and participate in competitive environments (Buser, Niederle, Oosterbeek 2014; Niederle & Vesterlund, 2007). Men and women also have been described as taking different approaches to negotiation, a vehicle for career advancement. Evidence suggests that women are more anxious about negotiation (Babcock, Gelfand, Small, & Stayn, 2006) and less likely to initiate negotiations (Babcock et al., 2006; Bowles, Babcock, & Lai, 2007) and use them for upward influence (Lauterbach & Weiner, 1996).
Thus, research has explored both external (i.e., systemic, structural) and internal (i.e., individual, dispositional) factors that play a role in women’s under-representation at high levels in the workplace. In the current research, I do not seek to offer evidence that either or both factors matter, nor compare the relative importance of the two types of factors, but instead seek to explore the effects of societal messages that focus on internal over external contributors to gender inequality in the workplace.

1.1.3 A Women’s Empowerment Approach to Gender Inequality

Empowerment has been defined as the process of developing one’s full range of abilities and potential, thereby gaining more power to direct one’s own life course (Rappaport, 1984; Rowlands, 1997). When applied to women’s empowerment in the context of gender inequality, this approach – sometimes referred to as a “feminist empowerment” model or “individualized feminism”¹ (Keller, 2011) – is reflected by popular books like “Women Who Work” by Ivanka Trump, “The Confidence Code,” “Nice Girls Don’t Get the Corner Office,” “Play Like a Man, Win Like a Woman,” as well as numerous popular blogs, mainstream women’s magazines, and other forms of social media.

The women’s self-improvement or empowerment approach is perhaps best exemplified by the bestselling 2013 book by Facebook executive Sheryl Sandberg, “Lean

¹ For similar concepts, refer to Rottenberg’s (2014) “neoliberal feminism” and Fraser’s “meritocratic corporate feminism” (Brenner & Fraser, 2017).
In,” which – as stated on the official Lean In website – aims to “encourag(e) women to pursue their ambitions, and chang(e) the conversation from what we [women] can’t do to what we can do.” According to this approach, women can tackle gender inequality themselves by overcoming the “internal” (psychological) barriers (e.g., lack of confidence and ambition) that hold them back from “leaning in” to their professional careers. For example, Sandberg advises that women empower themselves to take charge of their own careers, by “sitting at the table,” taking risks, not allowing family goals to dictate career goals, and pushing themselves harder to reach high-level positions.

Similarly, Evans (2000) suggests that a major factor in gender inequality is that “women were never taught to play the game of business” and Kay and Shipman (2014) note that “a key reason” for gender inequality is women’s lack of confidence.

Although these cultural messages are targeted at individual women’s self-improvement, they are also described as a means to improve gender equality. Just like Sandberg’s Lean In, which is positioned as a feminist manifesto, most women’s empowerment messages connect themselves to feminism, a movement that seeks to address gender inequality (Simonds, 1962). Advice stemming from this approach not only offers the promise of power to individual women, but also suggests that if individual women overcome their psychological barriers, there will be greater opportunity for all.
1.2 Exploring the Effects of the Women’s Empowerment Approach

In this dissertation, I focus on women’s empowerment messages. Before I move into predictions, I first explain why I believe these messages have the potential to play a powerful role in our culture. I suspect that the widespread popularity of these messages in media and popular culture is due to their possession of several psychologically appealing qualities. First, these messages affirm the power of the individual, putting individual agency at the center of a social problem, which aligns well with our culture’s affinity for individual over collective agency (Alicke, 2000; Menon, Morris, Chiu, & Hong, 1999) and its tendency to prefer individual explanations for social problems (Feagin, 1975; Kluegel & Smith, 1986). Indeed, in contrast to most historical women’s movements, which have centered on collective action to address systemic injustice (Ahmed, 2010; Eisenstein, 2009; Fraser, 2013), this empowerment approach to gender inequality focuses on the achievement of individuals rather than the group at large (McRobbie, 2009; Rosalind, 2007). Such individualized feminism, Keller (2011) writes, “…privileges individual action and the individual’s ability to change their own situation, rather than collective movement or change.” As explained by Deborah Siegel in her 2007 book Sisterhood, Interrupted (Siegel, 2007): “Feminism should no longer be about communal solutions to communal problems, but individual solutions to individual problems.” Of course, millions of women’s individual achievements may indeed lead to social transformation. However, by encouraging women to move up the
professional ladder one woman at a time (Rottenberg, 2014), this solution puts a strong emphasis on the role of individual women to fix gender inequality. Feminism, defined as “a movement to end sexism, sexist exploitation, and oppression” (hooks, 2000) is recast in personal, individualized achievements. This highly individualized version of feminism may be more appealing in cultures, like those of many Western nations, which have a dominant emphasis on the individual.

Women’s empowerment messages are also positively framed, focusing on what women can do going forward. Based on research showing that minority group stereotypes are more palatable when framed in positive terms, I suspect that more negative messages explicitly criticizing women’s past actions as the cause of inequality would be less popular and persuasive (Czopp, Kay, & Cheryan, 2015; Eagly & Mladinic, 1989; Glick & Fiske, 1996). “Women can improve themselves and change the world for the better” is a more positive message than “Women are to blame for their own sorry situation.” By prioritizing individual agency and by framing the messages as advice for the future, rather than criticism for the past, we suspect that women’s empowerment messages may have the potential to shape the understanding of gender inequality and the search for solutions.

I base the specific predictions on pioneering theoretical work in attributions (Brickman et al., 1982). This work theorized that attributions for responsibility for social or personal problems take two forms: (1) responsibility for the problem, and (2)
responsibility for the solution. Responsibility for the problem, in this model, describes responsibility for the origin of the problem, or causal responsibility. Responsibility for the solution, in contrast, describes responsibility for finding a solution, or control over outcomes. Brickman et al. (1982) theorize that the two forms of responsibility are conceptually distinct, but will often be correlated. We predict that as a result of an increase in perceptions of women’s ability to address workplace inequality, empowerment messages will affect both types of responsibility, as explained below.

1.2.1 Women’s Power to Address Gender Inequality in the Workplace

First, I predict that these messages will increase perceptions of women’s ability to improve gender equality in the workplace. Women’s empowerment messages directly state that women can solve the problem by overcoming their internal barriers. Thus, these messages should (if effective) lead to perceptions that women have more power and self-efficacy (Bandura, 1977, 1982) to tackle the problem. Although the efficacy of some of these strategies is not certain (e.g., Rudman, 1998), I expect that exposure to these ideas will nonetheless be persuasive for the reasons stated above, and thus, lead observers to perceive women as more capable of handling the problem. In the present studies, I measure perceptions of empowerment following the manipulations, to ensure that these messages are indeed successfully conveying that women have the power to solve the problem.
1.2.2 Women’s Responsibility for the Solution

Next, I suggest that by focusing on how women can improve the situation through changing themselves, these messages will also increase beliefs that women should play a larger role in addressing gender inequality (Baker, 2008)—that is, attributions of women’s responsibility for doing so. Although these messages do not explicitly indicate that women are responsible for addressing the problem, I suspect that they imply women’s responsibility by primarily focusing on what women can do. That is, I predict that when people read that “women can solve the problem by leaning in,” they will be likely to perceive that “women should solve the problem by leaning in.”

The tendency to move from perceptions of empowerment to responsibility for addressing the problem is logical: If women have the power to make a change, there is more reason to assign responsibility to them to make that change. If the messages communicated that women were unable to change the situation, presumably observers would find women less responsible for doing so (e.g., Crandall et al., 2001). That being said, this tendency may also depend on broader cultural forces, such as the emphasis on individual agency. It is common for members of Western cultures to overestimate the importance of individual factors in driving social outcomes (Gilbert & Malone, 1995; Morris & Peng, 1994; Ross, 1977). People in Western cultures tend to note and attend to the actor’s role in altering her environment rather than the environment’s role in affecting the actor (Jones, 1979; Menon, Morris, Chiu, & Hong, 1999). The strength of
individualism within Western cultures means that if Person X is suffering from a certain problem, and has the potential to fix it, the default assumption is that Person X should put in the effort to end his/her suffering, even if Person Y is the one who caused the problem. Thus, when people consider who should be responsible for solving a particular problem, it seems likely that perceivers in Western cultures would gravitate towards preferring attributions of responsibility that put the onus on individuals changing their own circumstances.

Such a tendency would also be consistent with other ideological and motivated beliefs. For example, dominant Western ideologies emphasize the value of individuals bringing about their success through their own hard work rather than relying on others to make it happen for them (Katz & Hass, 1988). Similarly, the motivation to see gender inequality as fair (Callan & Ellard, 2010; Hafer & Bègue, 2005; Lerner, 1980), the desire to maintain the status quo (Jost & Banaji, 1994), and the motivation to preserve women’s lower status in the social hierarchy (Pratto, Sidanius, & Levin, 2006) may all promote this tendency to infer responsibility from empowerment in this context. For example, justice motivations may encourage observers to embrace the idea that women are responsible for their own situation, as that idea allows for observers to see the world as fair (Lerner, 1980). Finally, this tendency may also emerge from a perception that women’s empowerment, an increase in agentic potential, reduces women’s vulnerability to harm from others (Gray & Wegner, 2009). Thus, once exposed to arguments
suggesting that individual women can solve gender inequality via their own actions – an argument that is consistent with default ideological schemas and social motivations in Western societies – people may more readily conclude women should be the ones to do it.2

1.2.3 Women’s Responsibility for the Problem

I suggest that women’s empowerment messages will lead to the perception that women have contributed to the problem’s existence or continuation. Women’s empowerment messages do not state that women created workplace gender inequality. Instead, they suggest that women can solve inequality through self-improvement (e.g., “Far from blaming the victim, I believe that female leaders are key to the solution”; Sandberg, 2013, p. 11). The central message is that women have the ability to do something about a problem that already exists, not that women have done something in the past to cause it.

This future focus differentiates these messages from those that more explicitly state an actor’s causal connection to the outcome, such as those blaming cancer patients for smoking or eating poorly (e.g., Lerner, 1980). Nonetheless, despite the lack of explicit connection, I suggest that people impute that knowledge from advice about how women should change their behavior going forward (also see Brickman et al., 1982). Because

2 This logic inverts the philosophical principle claiming that the concept of “ought” necessarily implies the concept of “can” (e.g., Kant, 1787/1988). According to Žižek (1999), by focusing on what one can do, self-improvement messages and the like can appeal to the increased emphasis on managing people through the notions of choice and freedom.
people are motivated to see others as getting what they deserve, they tend to rationalize instances of inequality as being caused by victims of said inequality (Lerner, 1980).

Although women’s empowerment is focused on potential future solutions rather than past actions, given people’s tendency to look for victim-blaming explanations for unfairness (Callan & Ellard, 2010; Jost & Kay, 2010; Lerner, 1980), I suspect that these messages may lead people to infer women’s causal role in creating ongoing gender inequality. Just as people can conclude that “if avoiding cigarettes may prevent cancer, then cancer victims have caused their own disease,” here they can conclude that “if women can get ahead by being more assertive, then they’re causing inequality by not doing so.” (Of course, unlike with cigarette smoking and rates of lung cancer, there is no existing evidence that “leaning in” can actually produce the desired change). Thus, in essence, I hypothesize that perceivers confuse attributions of controllability of downstream consequences (women can help solve the problem) with attributions of controllability of the initial cause (women caused or contributed to the problem).

1.2.3 Consequences for Solutions to Gender Inequality

Women’s empowerment messages also have the potential to affect people’s support for different types of interventions to address gender inequality in the workplace. I predict that these messages will lead people to prefer solutions that rely on women changing themselves to those that require broader systemic change. As people seek to understand workplace problems, they may be guided by the sense that women
should be doing more to solve these issues themselves, rather than asking companies to change their structures or processes, or pushing for broader social change.
2. Empirical Studies

I tested the main hypotheses in six studies. Study 1 examined the association of (a) beliefs in women’s power to address the problem of workplace gender inequality, (b) women’s responsibility for solving the problem, and (c) women’s responsibility for creating the problem. Using confirmatory factor analysis, Study 1 also tested whether these three variables are distinguishable constructs. Studies 2, 3, 4, 5, and 6 examined the causal influence of exposure to women’s empowerment messages on perceptions of women’s responsibility for creating and addressing workplace gender inequality (Studies 2, 3, 4, and 5) and women’s understanding of their own responsibility for the problem (Study 6). Experimental manipulations were texts taken directly from the bestselling book Lean In (Studies 2, 4, and 6) and audio clips of Sheryl Sandberg’s two TED talks on gender inequality (Study 3). Study 4 tested these same hypotheses in the context of female engineers in Information Technology, and also examined whether the messages shaped preferences for interventions for a specific workplace problem. That is, the study tested the hypothesis that exposure to women’s empowerment messages would lead participants to prefer interventions focused on changing the female employees themselves rather than changing more systemic or structural factors, such as upper management or organizational procedures.

Study 5 tested whether a specific reframing of the Lean In message would minimize the effects. In particular, this study tested whether messages that directly tie
women’s internal barriers (e.g., lack of confidence) to external barriers (e.g.,
discrimination) will weaken the tendency to see women as responsible for gender
inequality in the workplace. This study explores whether there is a way to frame these
messages that effectively manipulates empowerment without also manipulating
responsibility. If not, these findings would further the notion that there is tension
inherent to attempts to empower disadvantaged groups.

Finally, Studies 7a and 7b examined whether empowerment messages would
lead to similar or different consequences when applied to a social issue other than
gender inequality. Specifically, these studies tested for the causal influence of exposure
to empowerment messages for African Americans on perceptions of African American’s
responsibility for creating and addressing racial inequality.

The present studies make two key contributions to the literature. First, they
demonstrate the attribution mechanisms and effects of women’s empowerment ideology
on the popular understanding of gender inequality. This work also begins exploring the
effects of empowerment ideology in relation to racial inequality. Second, past
attributions work has largely focused on how an actor’s causal connection to an outcome
leads to responsibility attributions and blame (e.g., Alicke, 2000; Crandall, 1994; Lerner,
1980; Schlenker et al., 1994; Shaver, 1985; Shultz, Schleifer, & Altman, 1981; Stephens &
Levine, 2011; Weiner, 1995; Woolfolk, Doris, & Darley, 2006). By exploring the role of
perceived empowerment as an antecedent to attributions of responsibility, the studies also contribute to basic attribution research.

In all studies, I did not recruit additional participants once we finished data collection. I report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in every study.

2.1 Study 1: Perceptions of Empowerment and Responsibilities

Study 1 explores correlations among the variables of interest: Perceived empowerment of women to tackle gender inequality, and perceived responsibility of women for causing and for solving workplace inequality. I predicted that perceptions of women’s empowerment would be positively correlated with perceptions of women’s responsibility both for causing and solving inequality. I expected that these relationships would hold even after controlling for demographic and personality variables that seemed likely to relate to attributions of women’s responsibility—namely, political orientation, participant gender, and social desirability.

In addition, because this study introduces a new scale, which will be the basis of all future studies, we also sought some psychometric information to support our interpretation. In particular, Study 1 uses confirmatory factor analysis to test whether these variables are statistically distinguishable constructs.
2.1.1 Method

2.1.1.1 Participants

Because there was no strong precedents for estimates of effect size, I followed the guidelines by Schönbrodt and Perugini (2013) and planned to recruit at least 250 participants for this correlational study. This sample size is recommended to achieve stable estimates for correlations (Schönbrodt & Perugini, 2013). Data collection was stopped on the day that the minimum sample was obtained. Two hundred and ninety-eight U.S. residents were recruited through Prolific Academic, an online survey platform with demographically diverse participants (see Peer, Brandimarte, Samat, & Acquisti, 2017, for details on analyses confirming the platform’s quality). Because political orientation has been found to be related to the tendency to blame victims for inequality (e.g., Jost, Glaser, Kruglanski, & Sulloway, 2003), I sought sufficient representation of both conservatives and liberals, and measured political orientation (see procedure section). Fourteen participants who failed an attention check (a reading comprehension task; Downs, Holbrooks, Sheng, & Cranor, 2010) were excluded from the data analysis, leaving a total of 284 participants ($M_{age} = 33.82, SD = 12.05; 45.4\%$ female; $49.6\%$ republicans, $50.4\%$ democrats). The attention check was adapted from Hemingway’s (1987) short story “Hills Like White Elephants” (because of the copyright issue, the attention check is not included in this paper; please contact the author for the text).
2.1.1.2 Materials and Procedure

After completing the attention check, participants filled out 16 items measuring perceptions of gender inequality in American workplaces (see Appendix A for full text). All the items referenced “the problem of gender inequality in American workplaces.” Four of the items measured perceived empowerment of women to tackle workplace gender inequality (“Women have power to address the problem,” “Women are best able to tackle the problem,” “Women are capable of dealing with the problem,” and “Women have potential to solve the problem”; $\alpha = .79$; $M = 4.93$, $SD = 1.09$). The items reflect the popular understanding of empowerment (e.g., Rappaport, 1984; Rowlands, 1997), which is not only associated with individual power and ability, but also with potential (e.g., Maslow, 1968; Rogers, 1951; Sennett, 2007) and individual capacity (e.g., Nussbaum, 1999; Sen, 1982).

Two of the items measured perceptions of women’s responsibility to solve the problem (“Women should do the work to fix the problem” and “Women are responsible for solving the problem”; $r = .58$, $p < .001$; $M = 4.04$, $SD = 1.30$). Two of the items measured women’s responsibility for creating the existing problem (“Women have caused the problem” and “Women have contributed to the problem”; $r = .60$, $p < .001$; $M = 3.20$, $SD = 1.53$). Participants also answered the same eight items but referring to men instead of women: perceived empowerment of men ($\alpha = .76$; $M = 5.10$, $SD = 1.03$), perceived responsibility of men to resolve the problem ($r = .74$, $p < .001$; $M = 4.43$, $SD =$
1.48), and perceived responsibility of men for creating the problem ($r = .72, p < .001; M = 4.89, SD = 1.61$). The 16 items were rated on a 7-point scale (1 – Strongly Disagree, 7 – Strongly Agree), and their order of presentation was randomized.

Participants then completed a short social desirability measure, composed of eight highly loading items from the original social desirability scale (Crowne & Marlowe, 1960). Four of the negatively worded items (e.g., “I like to gossip at times”) were reverse-coded and were combined with the four positively worded items (e.g., “I am always careful about my manner of dress”) to form a composite (sum) score for social desirability ($M = 3.79, SD = 2.25$). The scale achieved acceptable reliability ($\alpha = .74$). Higher scores on this scale indicated greater need for approval (see Appendix B for the list of items used). I included this social desirability measure because I thought it might predict responses to political statements about the role of men and women in the workplace, and because I sought to test for any role of positivity bias or response bias in our dataset (e.g., people who score higher on this scale may hold women less responsible for gender inequality). Finally, participants reported their gender and their political orientation, measured by a 7-point scale (1 – Very Liberal, 7 – Very Conservative). These measures were included as I assumed that both might predict the tendency to

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3 I include the 8 items referring to men in all studies, although our focus is on women. I do not find consistent associations or effects with these measures.
assign responsibility to women for gender inequality, and to test for any confounding role of such variables in the correlations of interest.

2.1.2 Results and Discussion

Confirmatory Factor Analysis. I conducted a confirmatory factor analysis on the women-focused items, using Stata software (StataCorp, 2011) to examine whether the hypothesized model has a relatively good fit, compared to two alternative models. If so, that supports treating the three constructs as distinct for the purpose of later analyses.

The first structure tested was the hypothesized three-factor model (empowerment; responsibility for solving the problem; responsibility for causing the problem). The second structure tested was a two-factor model (empowerment; combined responsibility for both causing and solving), while the third was a different two-factor model (combined empowerment and responsibility for solving; responsibility for causing).

Results indicated that the first structure performed the best. Model fitting results indicated a poor fit for the third structure, as this structure failed to converge. The first structure (CFI = 0.921, χ² = 81.86 (17) = .0000, SRMR = 0.077, RMSEA = 0.116 (90% C.I. 0.091 0.142) had a better fit than the alternative second structure (CFI = 0.755, χ² = 220.62 (19) = .0000, SRMR = 0.123, RMSEA = 0.193 (90% C.I. 0.171 0.217)). Therefore, I used the three-factor model (i.e., 4-item perceived empowerment of women, 2-item perceived responsibility of women for solving the problem, 2-item perceived responsibility of
women for creating the problem) in this and all subsequent studies. Thus, the results of the CFA suggest that the three constructs are statistically distinguishable, which allows for greater confidence in the use of the measures in later studies.

**Correlations Among the Variables of Interest.** See Table 1 for the correlations among the variables of interest. As predicted, perceptions that women are empowered to tackle workplace gender inequality was positively correlated with attributions of women’s responsibility for solving the problem, $r(284) = .52, p < .001$. Perceptions that women have responsibility for solving gender inequality were positively correlated with attributions of women’s responsibility for causing inequality, $r(284) = .35, p < .001$. In contrast to our prediction, perceived empowerment of women was not positively correlated with attributions of women’s responsibility for causing inequality, $r(284) = .008, p > .250$. These relationships held when gender, political orientation, and social desirability were included as covariates in the analysis. In covariate-included analyses, perceived empowerment of women was positively correlated with attributions of women’s responsibility for solving the problem, $r(279) = .52, p < .001$, but was again not significantly correlated with attributions of women’s responsibility for causing the problem, $r(279) = .07, p = .238$. The two types of attributions were positively correlated, $r(279) = .36, p < .001$.

However, in conducting the same correlations with the rest of our datasets that used this measure, I found a significant and positive correlation between perceived empowerment of women and attributions of women’s causal responsibility in every other study (i.e., Studies 2, 3, and 4) except one (i.e., Study 5).
Table 1. Correlations among the variables of interest in Study 1

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<tbody>
<tr>
<td>1. Participant Gender</td>
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<td>2. Political orientation</td>
<td>-.07</td>
<td>-</td>
<td></td>
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<tr>
<td>3. Social desirability</td>
<td>.01</td>
<td>.009</td>
<td>-</td>
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<tr>
<td>4. Women’s empowerment</td>
<td>.11</td>
<td>-.08</td>
<td>.19**</td>
<td>-</td>
<td></td>
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<tr>
<td>5. Women’s responsibility for solving the problem</td>
<td>.03</td>
<td>.09</td>
<td>.11</td>
<td>.52**</td>
<td>-</td>
<td></td>
<td></td>
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<tr>
<td>6. Women’s causal responsibility for the problem</td>
<td>-</td>
<td>.15**</td>
<td>.42**</td>
<td>-.02</td>
<td>.008</td>
<td>.35**</td>
<td>-</td>
<td></td>
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<tr>
<td>7. Men’s empowerment</td>
<td>.06</td>
<td>-.14*</td>
<td>.06</td>
<td>.33**</td>
<td>.12*</td>
<td>.25**</td>
<td>-</td>
<td></td>
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<tr>
<td>8. Men’s responsibility for solving the problem</td>
<td>.09</td>
<td>.29**</td>
<td>.05</td>
<td>.15**</td>
<td>.05</td>
<td>.30**</td>
<td>.57**</td>
<td>-</td>
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<tr>
<td>9. Men’s causal responsibility for the problem</td>
<td>.14*</td>
<td>.45**</td>
<td>-.01</td>
<td>.07</td>
<td>-.11</td>
<td>.42**</td>
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Note: Participant gender (0 = Male, 1 = Female). Political orientation (1 – Very Liberal, 7 – Very Conservative). * p < .05, two-tailed. ** p < .01, two-tailed.
2.2 Study 2: Women’s Empowerment Messages (Text) on Perceptions of Gender Inequality

In Study 2, I sought to manipulate perceptions of women’s empowerment to determine if exposure to women’s empowerment messages would affect attributions of women’s responsibility for both creating and solving gender inequality in the workplace. Study 2 employed self-improvement messages taken directly from the book Lean In. I expected that the messages, which aim to empower women, would succeed in doing so, but would also result in additional attributional consequences.

2.2.1 Method

2.2.1.1 Participants

No prior work used this or a similar manipulation; thus, I had no strong precedent for estimates of effect size. Without any such guidance, I predetermined a sample size required to detect an intermediate effect \( (f = 0.175) \) to achieve adequate power \( (1 - \beta > 0.80) \). This analysis indicated that I needed at least 360 participants for a four-cell design study. Data collection was stopped on the day that the minimum sample was obtained. Four hundred seventy-one United States residents were recruited online via Amazon’s Mechanical Turk (see Buhrmester, Kwang, & Gosling, 2011, for details on analyses confirming the quality of the platform). Thirty-one participants who did not pass the attention check (identical to that used in Study 1) were excluded from analyses, leaving a total of 440 participants \( (M_{age} = 34.36, SD = 11.06; 52.3\% \text{ female}) \). The results below are identical when including those thirty-one participants in the analyses.
2.2.1.2 Materials and Procedure

All participants first completed the identical attention check used in Study 1. Next, as a manipulation, I gave participants unaltered passages from Sandberg’s book *Lean In* (2013, p. 5-8). These passages (except the instructions paragraph about the female leader who is ostensibly giving the statements) were extracted from the introduction of the book, in which Sandberg discusses both “internal” (psychological) and “external” (structural) barriers against women in American workplaces. In keeping with the rest of the book, and the way in which the book is represented in popular culture, Sandberg’s (2013) focus in the introductory chapter is on women’s own self-improvement. She directly states that the book focuses more on women overcoming the internal barriers (“Internal obstacles are rarely discussed and often underplayed…These internal obstacles deserve a lot more attention…”, p. 9) than the external obstacles. However, because this section of the book briefly discusses both types of barriers, it offers an opportunity to test the relative effects of women’s empowerment messages compared to messages emphasizing structural/system factors. Using Sandberg’s own text in all experimental conditions also holds stylistic and cultural language patterns constant.

Participants were randomly assigned to one of four conditions (baseline vs. external barriers vs. internal barriers vs. combined barriers). In the baseline condition, participants (N = 115) read no text, and simply completed the dependent measures. In the external barriers condition, participants (N = 111) read statements (taken directly
from the introductory chapter of *Lean In*) attributing workplace gender inequality to external barriers that exist for women (e.g., lack of flexibility at work, discrimination, the structures stacked against women). In the internal barriers condition, participants \((N = 108)\) read statements (taken directly from the same chapter) attributing the problem to “internal barriers that exist within” women (e.g., holding oneself back, internalizing negative messages, lowering one’s own expectations). This condition captures the rhetoric common to the women’s empowerment approach to gender inequality, in that the statements promote women’s achievement via overcoming internal (i.e., psychological) barriers. A fourth condition, the combined barriers condition \((N = 106)\), combined the statements from the other two experimental conditions. I added this condition as a conservative comparison. I speculated that given research suggesting people’s readiness to hold victims responsible for their misfortunes (Jost & Banaji, 1994; Lerner, 1980), any inclusion of internal barriers messages might suffice to increase perceptions of women’s responsibility, even if complemented by messages about external obstacles such as bias and systemic factors.

Before reading their condition-specific text, all participants (except those in the baseline condition) read background information about gender inequality in American workplaces, ostensibly given by a highly respected female leader (because of the copyright issue, the text of this background information and manipulations is not included in this dissertation; please contact the author for the text used in the study).
After reading the background information and condition-specific text, all participants answered the identical 16-item gender inequality questions used in Study 1. The 4-item women’s empowerment measure is used here as a manipulation check ($\alpha = .81$; $M = 5.16$, $SD = 1.12$). The other women-oriented items form the dependent measures: a) 2-item perceived responsibility of women to solve the problem ($r = .65$, $p < .001$; $M = 4.45$, $SD = 1.35$); b) 2-item perceived responsibility of women for contributing to the problem ($r = .62$, $p < .001$; $M = 3.46$, $SD = 1.54$).

This study also included the same items regarding men’s role in workplace inequality. There were no consistent effects on the male-oriented items in any of the studies (e.g., main effects on male-oriented items were not significant). Therefore, I do not present results on these items here. I return to this topic in the General Discussion.

All the items pertaining to workplace gender inequality were rated on a 7-point scale (1 – Strongly Disagree, 7 – Strongly Agree), and their order of presentation was randomized. Finally, participants reported their gender and political orientation (1 – Very Liberal, 7 – Very Conservative).\(^6\)

\(^6\) Gender and political orientation were measured in all studies. I explored their role as predictors and moderators of the condition effects, to determine if these effects held more strongly or weakly for men versus women, and those who are politically conservative versus liberal. Effects were inconsistent across studies, but largely suggested women see themselves as more empowered. As they are not related to our hypotheses, participant gender and political orientation are not described further in this dissertation.
2.2.2 Results

**Perceived Empowerment of Women.** As predicted, a one-way Analysis of Variance (ANOVA) indicated that condition significantly affected perceptions of women’s empowerment to tackle workplace gender inequality, $F(3, 436) = 5.43, p = .001$, partial $\eta^2 = 0.036$ (see Figure 1). Contrast analyses revealed that participants in the internal barriers condition saw women as more empowered ($M = 5.43, SD = 0.99$) than did participants in the baseline condition ($M = 4.95, SD = 1.08$), $F(1, 436) = 10.38, p = .001$, or the external barriers condition ($M = 4.96, SD = 1.20$), $F(1, 436) = 9.52, p = .002$.

Participants in the combined barriers condition also saw women as more empowered ($M = 5.33, SD = 1.13$) than did participants in the baseline condition, $F(1, 436) = 6.42, p = .011$, or the external barriers condition, $F(1, 436) = 5.78, p = .016$. The baseline condition and external barriers condition did not differ on perceptions of women’s empowerment, $F(1, 436) = 0.01, p > .250$. The two conditions that both contained statements about internal barriers – the internal barriers condition and the combined barriers condition – also did not differ on perceived power of women, $F(1, 436) = 0.44, p > .250$. 

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Figure 1. Results from Study 2: Effect of condition on perceived empowerment of women (1–7 Likert Scale). Error bars indicate ± 1 SEM.

Perceived Responsibility of Women to Address Workplace Gender Inequality.
As predicted, a one-way Analysis of Variance (ANOVA) indicated that condition significantly affected attributions of women’s responsibility to address workplace gender inequality, $F(3, 436) = 10.81, p < .001$, partial $\eta^2 = 0.069$ (see Figure 2). Contrast analyses revealed that participants in the internal barriers condition held women more responsible for solving workplace gender inequality ($M = 4.81, SD = 1.21$) than did
participants in the baseline condition ($M = 4.03, SD = 1.30$), $F(1, 436) = 19.22$, $p < .001$, or the external barriers condition ($M = 4.18, SD = 1.40$), $F(1, 436) = 12.26$, $p < .001$. Similarly, participants in the combined barriers condition held women more responsible for solving workplace gender inequality ($M = 4.82, SD = 1.32$) than did participants in the baseline condition, $F(1, 436) = 19.80$, $p < .001$, or the external barriers condition, $F(1, 436) = 12.74$, $p < .001$. Again, the baseline condition and external barriers condition did not differ on perceived responsibility of women, $F(1, 436) = 0.74$, $p > .250$. The internal barriers condition and the combined barriers condition also did not differ on perceived responsibility of women, $F(1, 436) = 0.01$, $p > .250$. 
Figure 2. Results from Study 2: Effect of condition on perceived responsibility of women to address workplace gender inequality (1–7 Likert Scale). Error bars indicate ± 1 SEM.

Perceived Responsibility of Women for Causing Workplace Gender Inequality. A one-way Analysis of Variance (ANOVA) indicated that condition also significantly affected attributions of women’s responsibility for causing workplace gender inequality, $F(3, 436) = 12.26, p < .001$, partial $\eta^2 = 0.078$ (see Figure 3). Contrast analyses revealed that participants in the internal barriers condition attributed a greater
causal responsibility to women for inequality ($M = 4.00, SD = 1.27$) than did participants in the baseline condition ($M = 3.10, SD = 1.49$), $F(1, 436) = 20.62, p < .001$, or the external barriers condition ($M = 3.00, SD = 1.58$), $F(1, 436) = 25.21, p < .001$. Similarly, participants in the combined barriers condition attributed a greater causal responsibility to women ($M = 3.77, SD = 1.57$) than did participants in the baseline condition, $F(1, 436) = 11.33, p < .001$, or the external barriers condition, $F(1, 436) = 14.85, p < .001$. Again, the baseline condition and external barriers condition did not differ on perceived causal responsibility of women, $F(1, 436) = 0.28, p > .250$. The internal barriers condition and the combined barriers condition also did not differ on perceived causal responsibility of women, $F(1, 436) = 1.29, p > .250$. 
Figure 3. Results from Study 2: Effect of condition on perceived responsibility of women for causing workplace gender inequality (1 – 7 Likert Scale). Error bars indicate ± 1 SEM.

2.2.3 Discussion

Thus, Study 2 finds that, compared to baseline or messages focused on external barriers to women’s advancement in the workplace, women’s empowerment messages (whether coupled with the external barriers-messages or not) achieves one of their apparently-intended effects: Increasing perceptions that women have the ability to
address workplace gender inequality. However, as hypothesized, women’s empowerment messages also led to potentially negative consequences—attributions that women are relatively more responsible both for creating and solving workplace gender inequality.

2.3 Study 3: Women’s Empowerment Messages (Audio Clip) on Perceptions of Gender Inequality

Study 3 sought to test the same hypothesis as Study 2, using a different medium of the popular messages to generalize the effects beyond the direct texts. I created two audio clips, extracted from two longer talks given in the popular TED series by Sheryl Sandberg, which covered external and internal barriers to women’s equality. Given the popularity of TED talks (e.g., Galant, 2014), I thought that this medium aptly simulates how women’s empowerment messages are commonly consumed (for instance, Sandberg’s two talks have been viewed more than nine million times as of July 2017). Study 3 also made three other small methodological changes. First, I ran only two conditions (internal and external barriers), removing both the baseline condition (to reduce the required N) and the combined barriers condition (to keep length of message constant). Second, I added a question about the study’s purpose, to see whether participants were explicitly making the connection between the manipulation and the dependent measures. Third, I used different wording for the attention/manipulation check, specific to the use of the audio clips.
2.3.1 Method

2.3.1.1 Participants

I predetermined a sample size required to detect an intermediate effect \((f = 0.193)\) to achieve adequate power \((1 - \beta > 0.80)\) [given the effect size of the manipulation on perceived empowerment of women in Study 2]. This analysis indicated that I needed at least 214 participants for a two-cell design study. Data collection was stopped on the day that the minimum sample was obtained. Two hundred thirty-five United States residents were recruited online via Amazon’s Mechanical Turk. Forty-one participants were excluded from analyses, either because they failed the attention/manipulation check (explained in the procedure section; 36 participants) or because they correctly guessed the main hypothesis (5 participants; 2.12% of all recruited participants; e.g., one participant guessed that the study was “seeing if listening to the clip affected my thoughts on the subject”). This left a total of 194 participants \((M_{age} = 37.27, SD = 12.99; 57.7\% \text{ female})\). The results below are identical when including these participants in the analyses.

2.3.1.2 Materials and Procedure

As a manipulation, I gave participants short audio clips (YouTube files) extracted from Sandberg’s two TED talks on the topics of gender inequality in the workplace (“Why We Have Too Few Women Leaders,” “So We Leaned In…Now What?”). In these

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7 Two participants did not identify themselves as male or female.
talks, Sandberg emphasizes women overcoming internal barriers, but also discusses external barriers, allowing us to compare the effects of messages highlighting internal versus external factors. Using Sandberg’s own speech in all experimental conditions holds stylistic and cultural language patterns constant.

At the beginning of the survey, all participants were informed that the survey contains a section in which they will listen to a speech. I asked participants if they were ready to listen to the speech and only those who said yes participated in the survey. Next, participants were informed that the survey has two sections. In the first section, participants were told that they will “listen to a speech (about 2 min) and evaluate it for its communication style” and “answer some questions about the content of the speech.” Participants were randomly assigned to one of two conditions (external barriers vs. internal barriers). In the external barriers condition (N = 101), participants listened to a short audio clip (2 min) with a closed caption, attributing gender inequality to external barriers against women (e.g., women are expected to do most of housework; gender bias continues to affect women’s advancement). In the internal barriers condition (N = 93), participants listened to a short audio clip (2 min 9 sec) with a closed caption, attributing the problem to women’s own internal barriers (e.g., women underestimate their own abilities; women lack self-confidence).

I decided to use audio rather than video clips as a manipulation to control for variations in the speaker’s appearance, position, body language, etc. I also sought to
control for participants’ preference to use YouTube’s embedded closed caption feature by inserting closed captions into all audio clips. The closed captions also helped to ensure the clarity of the manipulation.

The clips in both conditions started by providing background information about gender inequality. The speaker was identified only as “a highly respected woman who is also an expert in her field.” After the portion of the speech providing the background information, participants then listened to Sandberg speaking either about internal or external barriers to gender inequality (see Appendix C for the transcripts/closed captions of this background information and manipulations).

Next, participants were asked to evaluate the speech (“Now, we would like to ask you a few questions about the speech you just heard. Please remember that there is no right or wrong answer”) with two filler items: “How comprehensible are the statements given by the speaker?” (1 – Not at all comprehensible, 7 – Extremely comprehensible) and “How clear of a communicator is the speaker?” (1 – Not at all clear, 7 – Extremely clear).

Next, participants moved to a new section of the study, explained to be about participants’ understanding of workplace problems. All participants answered 16 workplace gender inequality questions, nearly identical to those used in Studies 1 and
All the items referenced “the problem of gender inequality in American workplaces.”

All scales showed adequate reliability (empowerment: $\alpha = .83; M = 5.20, SD = 1.12$;
responsibility for solving the problem: $r = .58, p < .001; M = 4.48, SD = 1.27$; responsibility
for creating the problem: $r = .56, p < .001; M = 3.59, SD = 1.51$).

Participants then completed an attention check about the speech. The first item
asked whether the speaker was male or female. The second item asked the topic of the
speech (“What was the speech about?”; Gender inequality, Racial inequality, Poverty,
TV shows, Sports). The third item asked which of the following statements came at the
end of the speech; the correct answer varied by condition with the third response option
presented as a distractor (“It's just that we judge them through a different lens...in a
man, he's a boss, and in a woman, she's bossy”, “We assume men can do it all, slash -
have jobs and children. We assume women can't, and that's ridiculous...”, “We assume
men and women are equally capable...and that's a problem.”). Participants then
reported their gender and political orientation (1 – Very Liberal, 7 – Very Conservative).
Finally, I asked participants whether they recognized the speaker (no one reported
recognizing her), and to guess the true purpose of the study.

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8 This scale was different from that used in Studies 1 and 2 in that I made minor grammatical corrections: I
added the word “the” to several items (e.g., “Women have the power to address the problem”).
2.3.2 Results

**Perceived Empowerment of Women.** As predicted, a one-way Analysis of Variance (ANOVA) indicated that the manipulation successfully altered perceptions of women’s empowerment to tackle workplace gender inequality, $F(1, 192) = 4.33, p = .039$, partial $\eta^2 = 0.022$ (see Figure 4). Participants in the internal barriers condition saw women as more empowered ($M = 5.37, SD = 1.16$) than did participants in the external barriers condition ($M = 5.04, SD = 1.07$).

![Figure 4](image_url)

**Figure 4.** Results from Study 3: Effect of condition on perceived empowerment of women (1 – 7 Likert Scale). Error bars indicate ± 1 SEM.
Perceived Responsibility of Women to Address Workplace Gender Inequality.

As predicted, a one-way Analysis of Variance (ANOVA) indicated that condition significantly affected attributions of women’s responsibility to address workplace gender inequality, $F(1, 192) = 11.75, p = .001$, partial $\eta^2 = 0.058$ (see Figure 5). Participants in the internal barriers condition held women more responsible for solving workplace gender inequality ($M = 4.80, SD = 1.29$) than did participants in the external barriers condition ($M = 4.19, SD = 1.19$).
Figure 5. Results from Study 3: Effect of condition on perceived responsibility of women to address workplace gender inequality (1 – 7 Likert Scale). Error bars indicate ± 1 SEM.

Perceived Responsibility of Women for Causing Workplace Gender Inequality. Also as predicted, condition significantly affected attributions of women’s responsibility for causing workplace gender inequality, $F(1, 192) = 6.99, p = .009$, partial $\eta^2 = 0.035$ (see Figure 6). Participants in the internal barriers condition attributed a
greater causal responsibility to women for inequality \((M = 3.88, SD = 1.47)\) than did participants in the external barriers condition \((M = 3.32, SD = 1.49)\).

Figure 6. Results from Study 3: Effect of condition on perceived responsibility of women for causing workplace gender inequality \((1–7\text{ Likert Scale})\). Error bars indicate \(±1\ SEM\).
2.3.3 Discussion

Study 3 finds that, compared to messages focused on external barriers against women, women’s empowerment messages—those focused on women overcoming their own internal barriers—successfully led to perceptions that women are more empowered to tackle gender inequality at American workplaces. However, as hypothesized, women’s empowerment messages also lead to perceptions that women have greater responsibility both for creating and solving gender inequality in the workplace.

2.4 Study 4: Women’s Empowerment Messages (Text) on Perceptions of Gender Bias at an Organization and Preferred Interventions for the Problem

Like Studies 2 and 3, Study 4 employed an experimental design to test the hypothesis that women’s empowerment messages can affect attributions of women’s responsibility for inequality. Unlike those studies, Study 4 used a specific workplace context: a major tech company in the United States. Study 4 also extended beyond previous studies to examine how such messages affect the perceived merits of various interventions aimed at solving the problem. Because women’s empowerment messages privilege individual action over collective structural change (Keller, 2011), I predicted that exposure to the messages would lead to greater endorsement of interventions focusing on changing the female employees themselves (and less endorsement of structural changes, like changes to process or policy). Study 4 also tested whether
attributions of responsibility play a mediational role in shaping endorsement of interventions (cf. Bullock et al., 2010; Imai et al., 2011).

Last, Study 4 also explored whether anti-egalitarianism interacts with our predicted effects. I thought that participants who score higher on anti-egalitarianism – i.e., those who prefer systematic group-based inequality (Ho et al., 2015) – might interpret women’s empowerment messages as an implicit ideology reinforcing gender inequality, thus holding female employees responsible for gender inequality to a greater extent. To explore this idea, I included a recent measure of anti-egalitarianism, the Social Dominance Orientation (SDO) scale (Ho et al., 2015).

2.4.1 Method

2.4.1.1 Participants

I predetermined a sample size required to detect an intermediate effect ($f = 0.171$) to achieve adequate power ($1 - \beta > 0.80$) [given the average effect sizes of the manipulation on perceived empowerment of women in Studies 2 and 3]. This analysis indicated that I needed at least 333 participants for a three-cell design study. Data collection was stopped on the day that the minimum sample was obtained. Three hundred fifty-two United States residents were recruited online via Amazon’s Mechanical Turk. Twenty-two participants who correctly guessed the purpose of the study (9.37% of all recruited participants; e.g., one participant guessed that the purpose of the study was to examine “whether reading the article…affects our opinions on a
situation that involves gender inequality”) were excluded from analyses, leaving a total of 330 participants ($M_{age} = 35.11, SD = 11.94; 46.1\%$ female). The results below hold when including those twenty-two participants in the analyses except in one aspect. Because all findings held with or without exclusions based on the attention check in Studies 1 and 2, I did not include the attention check in Study 4. Like Study 3, however, I still asked participants to guess the purpose of the study because I had no a priori speculation about how many participants would correctly guess the purpose with these experimental materials.

2.4.1.2 Materials and Procedure

The manipulation was identical to that in Study 2 except in one key aspect – we administered just three of the four conditions: baseline, internal barriers, and combined barriers. The external barriers condition produced the same pattern of results as the baseline in Study 2, and the information presented in the external barriers condition is presented within the combined barriers condition. I again included the combined barriers condition to investigate the limits of the influence of internal messages – as in Study 2, I expected that the presence of the internal messages would outweigh the external messages, and thus, this condition would produce the same pattern as the internal barriers condition.

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9 One participant misreported his or her gender as “Caucasian.”
10 An indirect effect of the baseline vs. combined barriers $\rightarrow$ perceived responsibility of women for solving the problem and for causing the problem (parallel mediators) $\rightarrow$ perceived effectiveness of structural-change becomes nonsignificant.
Participants were randomly assigned to one of three conditions (baseline vs. internal barriers vs. combined barriers). In the baseline condition (N = 110), participants read no text, and simply completed the dependent measures. In the internal barriers condition (N = 113) and the combined barriers condition (N = 107), participants were informed that they will “read a short speech and evaluate it for its communication style” and read their condition-specific texts. As in Study 2, the background information (about workplace gender inequality) and condition-specific texts they read were ostensibly given by a highly respected female leader. After reading their condition-specific text, participants in the internal barriers condition and the combined barriers condition answered two filler items about the speaker’s communication style: “How comprehensible are the statements given by Nancy Sullivan?” (1 – Not at all comprehensible, 7 – Extremely comprehensible) and “How clear of a communicator is Nancy Sullivan?” (1 – Not at all clear, 7 – Extremely clear).

After reading the background information and condition-specific text, all participants were informed that we are interested in their “understanding of various workplace problems” and were asked to provide their “opinion about what is happening in this workplace.” All participants then read background information about a workplace problem at Facebook. This information read as follows:
According to a recent Wall Street Journal article, Facebook recently conducted a study to look at how the company approves code written by male and female engineers. The study found that code written by female engineers gets rejected 35 percent more often than work by their male peers. During the duration of the study, female engineers also waited 3.9 percent longer for submitted code to be approved, and their work received 8.2 percent more questions from their superiors, as compared to male engineers.

The paragraph was adapted from news articles in the Wall Street Journal (Seetharaman, 2017) and the Guardian (Wong, 2017). According to these articles, a former Facebook software engineer studied the company’s code review process and found the gendered code rejection as described above. Facebook conducted an internal investigation to verify this finding and concluded that while the code rejection rate is higher for female engineers, this difference disappears when controlling for the gender distribution between job-levels. Regardless of its cause, the example provides an opportunity to test our hypothesis as it applies to a timely real-world event.

Next, all participants answered the 16-item gender bias questions about Facebook, adapted from the gender inequality scale used in Studies 1, 2, and 3. Items were identical to those used in prior studies except that a) they now specifically referenced “Facebook’s problem with coding rejection rates” rather than gender
inequality at American workplaces, and b) the wording of the items have been modified accordingly (e.g., “Female engineers at Facebook” or “Male engineers at Facebook” instead of “Women” or “Men”). Four of the items measured perceived empowerment of female Facebook engineers to tackle this problem ($\alpha = .81; M = 4.58, SD = 1.20$). Two of the items measured attributions of responsibility of female Facebook engineers to solve the problem ($r = .57, p < .001; M = 3.85, SD = 1.44$). Two of the items measured perceived attributions of responsibility of female Facebook engineers for causing the problem ($r = .71, p < .001; M = 3.10, SD = 1.57$).

All participants next answered four questions measuring the perceived effectiveness of different interventions to solve the coding problem at Facebook. These items were rated on a 7-point scale (1 – It would be not effective at all, 4 – It would help somewhat, 7 – It would be highly effective), and their order of presentation was randomized. For these questions, participants were first asked to assume that “Facebook wants its female engineers to succeed at the same rate as its male engineers” and then rate the extent to which “the following changes would help Facebook accomplish this goal.” Two of the items focused on structural change as a solution (“Moving to a process in which the engineers’ code was reviewed “blind,” that is, without the reviewers knowing who wrote the code” and “Training upper management how to avoid applying unconscious stereotypes and biases when evaluating employees’ work”). These two items were averaged to form a composite score for perceived effectiveness of structural
change ($r = .39, p < .001; M = 5.64, SD = 1.27$). The other two items focused on individual change as solution (“Offering female engineers the chance to do unpaid training, on evenings and weekends. Unpaid training would teach female engineers how to be more accurate and rigorous in their coding” and “Workshops that teach female engineers how to present and defend their work more aggressively”). These two items were averaged to form a composite score for perceived effectiveness of female employees’ self-change ($r = .27, p < .001; M = 3.95, SD = 1.31$).

After completing the dependent measures, participants completed a short anti-egalitarianism scale, composed of eight highly loading items from the Social Dominance Orientation (SDO$^7$) scale (Ho et al., 2015). The four contra-trait anti-egalitarianism items (“We should work to give all groups an equal chance to succeed,” “We should do what we can to equalize conditions for different groups,” “No matter how much effort it takes, we ought to strive to ensure that all groups have the same chance in life,” and “Group equality should be our ideal”) were reverse-coded and combined with the four pro-trait anti-egalitarianism items (“We should not push for group equality,” “We shouldn’t try to guarantee that every group has the same quality of life,” “It is unjust to try to make groups equal,” and “Group equality should not be our primary goal”) to form a composite average score for anti-egalitarianism belief ($M = 2.42, SD = 1.36$). The scale achieved high reliability ($\alpha = .91$) using the original 7-point scale (1 – Strongly Oppose, 2 – Somewhat Oppose, 3 – Slightly Oppose, 4 – Neutral, 5 – Slightly Favor, 6 –
Participants then were asked to explain the purpose of the study, as in prior studies. Finally, participants reported their gender and political orientation (1 – Very Liberal, 7 – Very Conservative).

2.4.2 Results

**Perceived Empowerment of Female Employees.** Contrary to predictions, a one-way Analysis of Variance (ANOVA) indicated that condition did not significantly affect the measure of perceived empowerment of female engineers to tackle the gendered coding problem, $F(2, 327) = 0.55, p > .250$, partial $\eta^2 = .003$. Contrast analyses revealed that the internal barriers condition ($M = 4.62, SD = 1.30$) did not differ from baseline ($M = 4.64, SD = 1.18$), $F(1, 327) = 0.01, p > .250$, nor from the combined barriers condition ($M = 4.48, SD = 1.13$), $F(1, 327) = 0.73, p > .250$. The baseline condition and the combined barriers condition also did not differ on perceived empowerment, $F(1, 327) = 0.94, p > .250$.

**Perceived Responsibility of Female Employees for a Solution to the Coding Problem.** As predicted, a one-way Analysis of Variance (ANOVA) indicated that condition significantly affected attributions of female engineers’ responsibility to address the gendered coding problem, $F(2, 327) = 5.90, p = .003$, partial $\eta^2 = 0.035$ (see Figure 7). Contrast analyses revealed that participants in the internal barriers condition held female engineers more responsible for solving the problem ($M = 4.20, SD = 1.44$) than did participants in the baseline condition ($M = 3.56, SD = 1.44$), $F(1, 327) = 11.46, p <
The baseline condition and the combined barriers condition did not differ on assignment of responsibility to female engineers, \( F(1, 327) = 1.37, p = .242. \)

**Figure 7.** Results from Study 4: Effect of condition on perceived responsibility of female employees to address the gendered coding problem (1 – 7 Likert Scale).

Error bars indicate ± 1 SEM.

**Perceived Responsibility of Female Employees for Causing the Coding**

**Problem.** As predicted, a one-way Analysis of Variance (ANOVA) indicated that
condition significantly affected attributions of female engineers’ responsibility for 
causing the gendered coding problem, $F(2, 327) = 3.38, p = .035$, partial $\eta^2 = 0.02$ (see 
Figure 8). Contrast analyses revealed that participants in the internal barriers condition 
attributed a greater causal responsibility to female engineers for the problem ($M = 3.30, 
SD = 1.59$) than did participants in the baseline condition ($M = 2.79, SD = 1.54$), $F(1, 327) = 
5.91, p = .015$, but not more than participants in the combined barriers condition ($M = 
3.22, SD = 1.55$), $F(1, 327) = 0.15, p > .250$. Participants in the combined barriers condition 
also attributed a greater causal responsibility to female engineers for the problem ($M = 
3.22, SD = 1.55$) than did participants in the baseline condition, $F(1, 327) = 4.07, p = .044$. 
Figure 8. Results from Study 4: Effect of condition on perceived responsibility of female employees for causing the gendered coding problem (1–7 Likert Scale). Error bars indicate ± 1 SEM.

Perceived Effectiveness of Structural Change (vs. Female Employees’ Self-Change). I also hypothesized that women’s empowerment messages would decrease the perceived effectiveness of structural change at Facebook as a means to address the coding problem. As predicted, a one-way Analysis of Variance (ANOVA) indicated that condition significantly affected perceived effectiveness of structural change, $F(2, 327) =$
4.09, $p = .018$, partial $\eta^2 = 0.024$ (see Figure 9). Contrast analyses revealed that participants in the combined barriers condition perceived that changing the organizational structure is less effective ($M = 5.42$, $SD = 1.24$) than did participants in the baseline condition ($M = 5.90$, $SD = 1.25$), $F(1, 327) = 7.85$, $p = .005$. The internal barriers condition ($M = 5.58$, $SD = 1.27$) and the baseline condition differed on perceived effectiveness of structural change only to a marginal level of significance, $F(1, 327) = 3.61$, $p = .058$; the internal barriers condition and the combined barriers condition did not differ on perceived effectiveness of structural change, $F(1, 327) = 0.87$, $p > .250$. 
I hypothesized that women’s empowerment messages would increase the perceived effectiveness of self-change as a means to address the gendered coding problem. As predicted, a one-way Analysis of Variance (ANOVA) indicated that condition significantly affected the perceived effectiveness of female engineers changing themselves via workshops and training, $F(2, 327) = 3.80, p = .023$, partial $\eta^2 = 0.023$ (see Figure 10). Contrast analyses revealed that participants in the internal barriers condition
perceived that female engineers’ self-change would be more effective ($M = 4.11$, $SD = 1.33$) than did participants in the baseline condition ($M = 3.67$, $SD = 1.33$), $F(1, 327) = 6.41$, $p = .011$. Similarly, participants in the combined barriers condition perceived that female engineers’ self-change would be more effective ($M = 4.06$, $SD = 1.23$) than did participants in the baseline condition, $F(1, 327) = 4.92$, $p = .027$. The internal barriers condition and the combined barriers condition did not differ on perceived effectiveness of self change, $F(1, 327) = 0.08$, $p > .250$.

Figure 10. Results from Study 4: Effect of condition on perceived effectiveness of female employees’ self-change (1 – 7 Likert Scale). Error bars indicate ± 1 SEM.
**Role of Anti-Egalitarianism Beliefs.** To explore whether these effects might be stronger for participants who endorse anti-egalitarianism beliefs, I tested whether there were significant interactions between the condition manipulations and participants’ SDO score, on all the possible dependent measures. None of these interactions was significant (all $p > .250$), providing initial evidence that women’s empowerment messages elicit their effect among those who are pro- and anti-egalitarianism to the same extent.

### 2.4.3 Discussion

Study 4 finds that, compared to the control condition (baseline), women’s empowerment messages focusing solely on women’s internal barriers led participants to attribute greater responsibility to female employees for both causing and solving a gender-related problem in the workplace. The combined barriers condition produced mixed results on these key dependent measures.

Study 4 also finds that women’s empowerment messages affected the perceived effectiveness of interventions that place the onus on female employees to change themselves (vs. changing the upper management and the structure). Both the internal barriers and combined barriers conditions led participants to see the structure-change intervention as less effective, and the women’s self-change intervention as more effective, compared to baseline. (One of these four comparisons was marginally significant.)
The mediational results tentatively suggest that responsibility for having caused the problem was more influential than was responsibility for solving the problem. To the extent that women’s empowerment messages led participants to see women as having played a larger role in creating the gendered coding problem, they also tended to lead them to see structural interventions as less effective, and to see women changing themselves as more effective.

Unexpectedly, in contrast to Studies 2 and 3, Study 4 did not find that the empowerment messages succeeded at what they were apparently designed to do – affect perceptions of women’s empowerment. This was a surprise; the empowerment effect is essentially a manipulation check. I am unsure of why it did not replicate here. Of course, even a high-powered set of studies (that report all experimental conditions, dependent variables, covariates, etc.) can produce some nonsignificant results (Schimmack, 2012; Simmons, Nelson, & Simonsohn, 2011). Still, I speculate that perhaps this specific scenario context constrained perceptions of empowerment in some way.

Finally, Study 4 explored whether the effects of women’s empowerment messages would depend on individuals’ pro- or anti-egalitarian beliefs. It seemed possible to us that those who are motivated to see lower-status groups as deserving might be more readily affected by these messages. I did not find any support for that idea; instead, the condition seemed to affect those high and low in SDO equally. I return to this issue in the General Discussion.
2.5 Study 5: Conveying Women’s Empowerment without Eliciting Negative Attributions

In Study 5, I sought to explore a novel question – whether one can convey women’s empowerment to address inequality without eliciting negative attributions about women’s responsibility for inequality. Studies 2 and 4 began to look at this question by using messages that combined the core women’s empowerment theme with more traditionally feminist messages about the structural and interpersonal barriers faced by women in the workplace. Based on the pattern of results in Studies 2 and 4, it seems that simply adding information about these external barriers does not suffice to avoid negative attributions about women’s responsibility for workplace inequality.

One possible route to accomplish this goal is to tie individual barriers to the structural social factors that may predict their emergence. As Claro and colleagues (2016) explain, and as demonstrated by a wide literature in sociology (e.g., Elder, 1994) and developmental psychology (e.g., Bigler & Liben, 2007), “…structural inequalities can give rise to psychological inequalities and…those psychological inequalities can reinforce the impact of structural inequalities on achievement and future opportunity.” Thus, although individuals may be able to improve their situation through their own action, that does not negate the causal role of broader social and systemic factors.

In the case of gender inequality in the workplace, for example, structural inequalities such as the under-representation of women in upper-level management may generate lower expectations and ambition among women for their own career
success. Those lower expectations, in turn, may hurt their actual achievement. Indeed, Sandberg provides several examples of these types of causal connections between external and internal barriers in her book. For example, she notes, “The gender stereotypes introduced in childhood are reinforced throughout our lives and become self-fulfilling prophesies. Most leadership positions are held by men, so women don’t expect to achieve them, and that becomes one of the reasons they don’t.” (Sandberg, p. 22). These more nuanced analyses, however, are not the core message of the book, and are neglected in popular media descriptions of this book and the broader ideology.

I speculated that messages that directly convey the interdependence of external and internal factors may reduce the interpretation that women are responsible for inequality. That being said, I also thought it possible that this type of message could weaken the manipulation’s effect on empowerment, in that it may constrain perceptions that women could, for example, freely choose to have higher career expectations in the face of external information suggesting such expectations may be unrealistic. Thus, in Study 5, I aimed to explore how messages that state that internal barriers are caused by external barriers would affect our same dependent measures. Specifically, I tested whether the new condition (stating that internal barriers are caused by external barriers) reduces the effect of women’s empowerment messages on perceptions of women’s responsibility and contribution.
2.5.1 Method

2.5.1.1 Participants

I predetermined a sample size required to detect an intermediate effect \((f = 0.171)\) to achieve adequate power \((1 - \beta > 0.80)\) [given the average effect sizes of the manipulation on perceived empowerment of women in Studies 2 and 3]. This analysis indicated that I needed at least 333 participants for a three-cell design study. Data collection was stopped on the day that the minimum sample was obtained. Three hundred fifty-six United States residents were recruited online via Amazon’s Mechanical Turk. As in Study 4, participants who correctly guessed the purpose of the study \((N = 12; 3.37\% \text{ of all recruited participants})\) were excluded from analyses, leaving a total of 344 participants \((M_{age} = 38.04, SD = 12.71; 61.0\% \text{ female})\).\(^{11}\) The results below hold when including those twelve participants in the analyses.

2.5.1.2 Materials and Procedure

Participants were randomly assigned to one of three conditions (baseline vs. internal \(by\) external barriers vs. internal \(and\) external barriers). In the baseline condition \((N = 123)\), participants read no text, and simply completed the dependent measures. In the internal \(by\) external barriers condition \((N = 110)\), which is a new addition in Study 5, participants read statements attributing women’s internal barriers to the existing external barriers against women (e.g., “Women are hindered by barriers that exist within

\(^{11}\) One participant reported his/her gender as transgender.
ourselves, which are the results of real obstacles women face in society and in the professional world, including blatant and subtle sexism, discrimination, and sexual harassment”). I created this new condition by adapting the internal barriers condition and external barriers condition from Studies 2, 3, and 4. In this new condition, every internal barrier was connected to and explained as the result of a corresponding external barrier (e.g., “These external barriers have, over time, led us [women] to hold ourselves back in ways both big and small…”; because of the copyright issue, the text of the manipulation is not included in this dissertation; please contact the author for the text used in the study). The internal and external barriers condition (N = 111) was a modification of the internal by external barriers condition. I sought to make as little change as possible so that the two conditions have the same types and numbers of barriers, but differ only in terms of whether the internal barriers are attributed to external barriers or not.

As in Studies 2 and 4, the texts participants read were ostensibly given by a highly respected female leader. After reading the background information and then their condition-specific text, participants answered the identical two-item filler questions of the speaker’s communication style used in Study 4, which provided a rationale for reading the text.

Next, participants moved to a new section of the study, explained to be about participants’ understanding of workplace problems. All participants answered the
identical 16-item workplace gender inequality questions used in Study 3. All the items referenced “the problem of gender inequality in American workplaces.” Four of the items measured perceived empowerment of women to tackle workplace gender inequality (α = .73; M = 5.14, SD = 0.94). Two of the items measured attributions of women’s responsibility for solving the problem (r = .49, p < .001; M = 4.30, SD = 1.20). Two of the items measured attributions of women’s responsibility for causing the problem (r = .60, p < .001; M = 3.18, SD = 1.41). Items were again rated on a 7-point scale (1 – Strongly Disagree, 7 – Strongly Agree), and their order of presentation was randomized. Next, participants were asked to explain the purpose of the study. Finally, participants reported their gender and political orientation (1 – Very Liberal, 7 – Very Conservative).

2.5.2 Results

Perceived Empowerment of Women. A one-way Analysis of Variance (ANOVA) indicated that, across all three conditions, condition significantly affected perceptions of women’s empowerment to tackle workplace gender inequality, F(2, 341) = 3.83, p = .023, partial η² = 0.022 (see Figure 11). Participants in the internal by external barriers condition (M = 5.02, SD = 0.99) saw women as less empowered than participants in the internal and external barriers condition (M = 5.34, SD = 0.88), F(1, 341) = 6.67, p = .010, and did not differ from baseline (M = 5.07, SD = 0.93), F(1, 341) = 0.23, p > .250. Thus, the new condition failed to increase women’s perceived empowerment over baseline.
Perceived Responsibility of Women to Address Workplace Gender Inequality.

A one-way Analysis of Variance (ANOVA) indicated that, across all three conditions, condition significantly affected attributions of women’s responsibility to address workplace gender inequality, $F(2, 341) = 6.93, p = .001$, partial $\eta^2 = 0.039$ (see Figure 12). Participants in the internal *by* external barriers condition held women less responsible for solving workplace gender inequality ($M = 4.21, SD = 1.15$) than those in the internal
and external barriers condition \((M = 4.63, SD = 1.18), F(1, 341) = 7.01, p = .008,\) and did not differ from baseline \((M = 4.08, SD = 1.20), F(1, 341) = 0.78, p > .250.\) Thus, this version of the “internal by external” barriers condition looked more like the baseline, not producing negative attributions about women’s role.
Figure 12. Results from Study 5: Effect of condition on perceived responsibility of women to address workplace gender inequality (1 – 7 Likert Scale). Error bars indicate ± 1 SEM.

Perceived Responsibility of Women for Causing Workplace Gender Inequality. A one-way Analysis of Variance (ANOVA) indicated that, across all three conditions, condition did not significantly affect attributions of women’s responsibility for causing workplace gender inequality, $F(2, 341) = 0.28$, $p > .250$, partial $\eta^2 = 0.002$. The
internal by external barriers condition \( (M = 3.14, SD = 1.29) \) did not differ from the internal and external barriers condition \( (M = 3.27, SD = 1.42) \), \( F(1, 341) = 0.46, p > .250 \), nor from baseline \( (M = 3.15, SD = 1.49) \), \( F(1, 341) = 0.01, p > .250 \). Baseline and internal and external barriers condition also did not differ, \( F(1, 341) = 0.39, p > .250 \).

### 2.5.3 Discussion

The main goal of Study 5 was to examine how messages that tie internal barriers to their external precedents affect attributions. This study found that the new condition (i.e., the internal by external barriers condition) produced a weaker pattern of results, generally looking more like the baseline than the internal only (or internal and external barriers) conditions. That is, this condition did not elicit the same negative attributions about women’s role in gender inequality. However, the condition also failed to elicit an increase in women’s perceived empowerment to effect change. Thus, if the ideal intervention were to increase the individual’s sense of his/her own agency while protecting the group from negative attributions about responsibility (Claro et al., 2016; Okonofua et al., 2016), this attempt here fell short. On the other hand, it is perhaps encouraging that the negative implications of popular messages of women’s empowerment can be countered by providing information that women’s internal barriers to progress are themselves tied to broader structural obstacles.
2.6 Study 6: Women’s Empowerment Messages (Text) on Women’s Perceptions of Self-Empowerment and Self-Responsibility

Studies 2, 3, 4, and 5 have examined how women’s empowerment messages might shape people’s perceptions of responsibility of women in general. In Study 6, I switched a gear and examined how the same messages might affect women’s perceptions of their own responsibility (and empowerment) in relation to the problem. The primary goal of women’s empowerment messages is to empower women (e.g., Lean In messages are introduced as “solutions that can empower women”). In addition, such messages seek to avoid making women feel that they themselves responsible for the problem (e.g., “they accuse me of blaming the victim. Far from blaming the victim, I believe that female leader are key to the solution”; Sandberg, 2013, p. 11). Given these goals, women’s empowerment messages might successfully help women feel that they are empowered, while not inviting negative attributions about themselves. On the other hand, like Studies 2, 3, 4, and 5, the messages might lead to similar negative attributional consequences – leading women perceive that they hold greater responsibility for gender inequality.

2.6.1 Method

2.6.1.1 Participants

For this study, I predetermined the sample size and collected over 50 observations per experimental condition (see Simmons, Nelson, & Simonsohn, 2013).
Data collection was stopped on the day that the minimum sample was obtained. Two hundred fifty-one female United States residents were recruited online via Amazon’s Mechanical Turk (Mage = 37.45, SD = 12.34).12

2.6.1.2 Materials and Procedure

Participants (all female) were randomly assigned to one of five conditions (baseline vs. external barriers vs. internal barriers vs. combined barriers). In the baseline condition (N = 63), participants read no text, and simply completed the dependent measures. The external barriers condition (N = 70), the internal barriers condition (N = 60), and the combined barriers condition (N = 58) were identical to those used in Studies 2 and 4.

As in Studies 2, 4, and 5, the texts participants read were ostensibly given by a highly respected female leader. After reading the background information and then their condition-specific text, participants answered the identical two-item filler questions of the speaker’s communication style used in Studies 3, 4, and 5.

Next, all participants answered the 8-item questions, adapted from the gender inequality scale used in Study 4. Specifically, the wording of these items changed so that they referred to participants’ perceptions of their own empowerment and responsibility:

4-item measure of perception of self-empowerment (“I have the power to address the

12 I also recruited a separate group of male participants (N = 214) and found that the manipulation did not significantly affect male participants’ perceptions of their own empowerment and responsibility in relation to gender inequality.
problem,” “I am best able to tackle the problem,” “I am capable of dealing with the problem,” and “I have the potential to solve the problem;” $\alpha = .90; M = 4.32, SD = 1.52$), a 2-item measure of perception of self-responsibility for solving the problem (“I should do the work to fix the problem” and “I am responsible for fixing the problem;” $r = .69, p < .001; M = 4.23, SD = 1.59$), and a 2-item measure of perception of self-responsibility for creating the existing problem (“I have caused the problem” and “I have contributed to the problem;” $r = .76, p < .001; M = 2.34, SD = 1.55$).

### 2.6.2 Results

**Perception of Self-Empowerment.** A one-way Analysis of Variance (ANOVA) indicated that, for female participants, condition did not significantly affect the measure of perception of self-empowerment, $F(3, 247) = 1.85, p = .121$, partial $\eta^2 = .023$.

Contrast analyses revealed that female participants in the combined barriers condition ($M = 4.71, SD = 1.63$) thought that they were more empowered than female participants in baseline ($M = 4.13, SD = 1.33$), $F(1, 431) = 10.60, p = .001$, or in the external barriers condition ($M = 4.15, SD = 1.54$), $F(1, 431) = 10.60, p = .001$. All other comparisons were not significant (all $ps > .196$).

**Perception of Self-Responsibility to Address Gender Inequality.** A one-way Analysis of Variance (ANOVA) indicated that, for female participants, condition did not significantly affect the measure of perception of self-responsibility for solving gender inequality, $F(3, 247) = 1.93, p = .124$, partial $\eta^2 = .023$. 

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Female participants in the combined barriers condition thought that they were more responsible for solving gender inequality ($M = 4.62, SD = 1.49$) than those in baseline ($M = 3.96, SD = 1.53$), $F(1, 247) = 5.39, p = .021$, but did not differ from the external barriers condition ($M = 4.12, SD = 1.67$), $F(1, 247) = 3.17, p = .076$. All other comparisons were not significant (all $ps > .194$).

**Perception of Self-Responsibility for Causing Gender Inequality.** A one-way Analysis of Variance (ANOVA) indicated that, for female participants, condition did not significantly affect the measure of perception of self-responsibility for solving gender inequality, $F(3, 247) = 5.43, p = .001$, partial $\eta^2 = .062$ (see Figure 13).

Female participants in the internal barriers condition thought that they were more responsible for causing gender inequality ($M = 2.92, SD = 1.64$) than those in baseline ($M = 1.98, SD = 1.47$), $F(1, 247) = 11.84, p < .001$, or those in the external barriers condition ($M = 2.02, SD = 1.39$), $F(1, 247) = 11.48, p < .001$, but did not differ from the combined barriers condition ($M = 2.51, SD = 1.55$), $F(1, 247) = 2.13, p = .145$. All other comparisons were not significant (all $ps > .054$).
Figure 13. Results from Study 6: Effect of condition on female participants’ perception of self-responsibility for causing workplace gender inequality (1 – 7 Likert Scale). Error bars indicate ± 1 SEM.

2.6.3 Discussion

Study 6 finds that, compared with baseline or messages focused on external barriers against women, women’s empowerment messages led women to perceive that they are more responsible for creating workplace gender inequality. Of importance, women’s empowerment messages did not make women feel empowered. Thus,
women’s empowerment messages may not be effective when it comes to empowering women; rather, they may risk making women feel that they hold greater responsibility for causing the existing gender inequality – the very outcome that women’s empowerment messages, such as Lean In messages, seek to avoid.

2.7 Study 7a: Empowerment Messages for African Americans (Text) on Perceptions of Racial Inequality

In Studies 7a and 7b, the final studies, I sought to explore whether empowerment messages lead to similar consequences when they are applied to social contexts other than workplace gender inequality. I began to examine this question by testing the effects of empowerment messages for African Americans on perceptions of racial inequality. Specifically, in Studies 7a and 7b, I sought to manipulate perceptions of African American’s empowerment to examine if exposure to empowerment messages for African Americans would affect attributions of African American’s responsibility for creating and solving racial inequality. I chose this social context because of history behind it. At the end of the 19th century, many African American leaders emphasized African-American’s self-improvement and individual achievement as solutions to racial injustice (Cole & Omari, 2003). This “racial uplift” movement held that African-Americans, as a race, would progress when they embrace the culture and values of the White middle class (Gaines, 1996). Thus, like women’s empowerment messages, the “racial uplift” approach assumes that African-Americans have “deficiencies” and need to “improve” themselves on traits associated with a more advantaged group. This
movement was more explicit in its suggestions that the lower-status group should be the ones to do the work to reduce inequality, but similar processes to those examined here likely apply. Namely, to the extent that the movement suggested that African Americans had the power to reduce inequality by addressing their own “internal barriers,” it is likely that people perceived African-Americans as having caused their own inequality and as more responsible for addressing it going forward. These processes, in turn, would likely similarly result in reduced support for structural interventions and changes, and increased support for African Americans changing themselves.

Given the similarities between empowerment messages for African Americans and women’s empowerment messages, I speculated that they would lead to similar attributional consequences. However, I also thought it possible that the manipulation could have a weaker effect. For instance, people might be more ready to acknowledge the external barriers against socially disadvantaged groups when it comes to racial inequality (vs. gender inequality). If so, exposure to empowerment messages for African Americans (i.e., internal barriers within African Americans) might not be strong enough to change perception of African Americans’ responsibility for racial inequality.

2.7.1 Method

2.7.1.1 Participants

For this study, I predetermined the sample size and collected over 50 observations per experimental condition (see Simmons, Nelson, & Simonsohn, 2013).
Data collection was stopped on the day that the minimum sample was obtained. Four hundred thirty-five United States residents were recruited online via Amazon’s Mechanical Turk ($M_{age} = 36.97$, $SD = 12.91$; 49.3% female).

2.7.1.2 Materials and Procedure

Participants were randomly assigned to one of four conditions (baseline vs. external barriers vs. internal barriers vs. combined barriers). All these conditions (except baseline) were created by adapting the external barriers condition, internal barriers condition, and combined barriers condition from Studies 2 and 4. In the baseline condition, participants ($N = 111$) read no text, and simply completed the dependent measures. In the external barriers condition, participants ($N = 108$) read statements attributing racial inequality in America to external barriers against African Americans (e.g., discrimination, having a harder time finding the mentors, the structures stacked against African Americans). In the internal barriers condition, participants ($N = 110$) read statements attributing the problem to African Americans’ internal barriers (e.g., holding oneself back, internalizing negative messages, not promoting oneself). This condition captures the tenets of the “racial uplift” movement, in that the statements promote African Americans’ achievement via overcoming internal (i.e., psychological) barriers. A fourth condition, the combined barriers condition ($N = 106$), combined the statements from the other two experimental conditions. I included this condition to explore whether, as in Studies 2 and 4, any inclusion of internal barriers messages is
sufficient enough to increase perceptions of African Americans’ responsibility, even if complemented by messages about external obstacles. Before reading their condition-specific text, all participants (except those in the baseline condition) read background information about racial inequality in America, ostensibly given by a highly respected African American leader Terrell Williams (because of the copyright issue, the text of this background information and manipulations is not included in this dissertation; please contact the authors for the text used in the study).

After reading the background information and condition-specific text, participants in the external barriers condition, internal barriers condition, and the combined barriers condition answered two filler items about the speaker’s communication style: “How comprehensible are the statements given by Terrell Williams?” (1 – Not at all comprehensible, 7 – Very comprehensible) and “How clear of a communicator is Terrell Williams?” (1 – Not at all clear, 7 – Very clear).

Next, all participants answered the 8-item racial inequality questions (all the items referenced “the problem of racial inequality in the U.S.”), adapted from the gender inequality scale used in Studies 3, 4, and 5: 4-item measure of perceived empowerment of African Americans to tackle racial inequality (“African Americans have the power to address the problem,” “African Americans are best able to tackle the problem,” “African Americans are capable of dealing with the problem,” and “African Americans have the potential to solve the problem;” $\alpha = .88$; $M = 4.86$, $SD = 1.32$), 2-item perceived
responsibility of African Americans to solve the problem ("African Americans should do the work to fix the problem" and "African Americans are responsible for fixing the problem;" \( r = .74, p < .001; M = 4.20, SD = 1.59 \)), and 2-item perceived responsibility of African Americans for creating the existing problem ("African Americans have caused the problem" and "African Americans have contributed to the problem;" \( r = .72, p < .001; M = 3.51, SD = 1.74 \)).

All the items pertaining to racial inequality were rated on a 7-point scale (1 – Strongly Disagree, 7 – Strongly Agree), and their order of presentation was randomized. Finally, participants reported their gender and political orientation (1 – Very Liberal, 7 – Very Conservative).  

### 2.7.2 Results

**Perceived Empowerment of African Americans.** A one-way Analysis of Variance (ANOVA) indicated that condition significantly affected the measure of perceived empowerment of African Americans to tackle racial inequality, \( F(3, 431) = 5.71, p = .001 \), partial \( \eta^2 = .038 \). Contrast analyses revealed that participants in the external barriers condition (\( M = 5.00, SD = 1.32 \)) saw African Americans as more empowered than participants in the baseline condition (\( M = 4.42, SD = 1.39 \)), \( F(1, 431) = 10.60, p = .001 \).

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13 Gender and political orientation were measured in all studies. I explored their role as predictors and moderators of the condition effects, to determine if these effects held more strongly or weakly for men versus women, and those who are politically conservative versus liberal. Effects were inconsistent across studies, but largely suggested women see themselves as more empowered. Because gender and political orientation are not related to the hypotheses, they are not described further in this dissertation.
Participants in the internal barriers condition \((M = 5.04, SD = 1.20)\) also saw African Americans as more empowered than participants in the baseline condition, \(F(1, 431) = 12.47, p < .001\). Likewise, participants in the combined barriers condition \((M = 5.00, SD = 1.26)\) saw African Americans as more empowered than participants in the baseline condition, \(F(1, 431) = 10.85, p = .001\). The external barriers condition, the internal barriers condition, and the combined barriers condition did not differ on perceived empowerment (all \(ps > .250\)).

**Perceived Responsibility of African Americans to Address Racial Inequality.** A one-way Analysis of Variance (ANOVA) indicated that condition significantly affected attributions of African American’s responsibility to address racial inequality, \(F(3, 431) = 2.91, p = .034\), partial \(\eta^2 = .020\).

Participants in the internal barriers condition held African Americans more responsible for solving racial inequality \((M = 4.44, SD = 1.47)\) than those in baseline \((M = 3.84, SD = 1.65)\), \(F(1, 431) = 7.81, p = .005\), but did not differ from the external barriers condition \((M = 4.22, SD = 1.64)\), \(F(1, 431) = 1.04, p > .250\), or the combined barriers condition \((M = 4.32, SD = 1.52)\), \(F(1, 341) = 0.31, p > .250\).

Participants in the combined barriers condition held African Americans more responsible for solving racial inequality than those in baseline, \(F(1, 431) = 4.88, p = .027\), but did not differ from the external barriers condition, \(F(1, 431) = 0.21, p > .250\). Baseline and external barriers condition did not differ, \(F(1, 431) = 3.09, p = .079\).
Perceived Responsibility of African Americans for Causing Racial Inequality.

A one-way Analysis of Variance (ANOVA) indicated that condition did not significantly affect attributions of African American’s responsibility for causing racial inequality, $F(3, 431) = .75, p > .250$, partial $\eta^2 = .005$.

Contrast analyses revealed that the internal barriers condition ($M = 3.66, SD = 1.71$) did not differ from baseline ($M = 3.32, SD = 1.70$), $F(1, 431) = 2.08, p = .150$, nor from the combined barriers condition ($M = 3.50, SD = 1.71$), $F(1, 431) = 0.45, p > .250$. The baseline condition and the combined barriers condition also did not differ on perceived empowerment, $F(1, 431) = 0.58, p > .250$.

2.8 Study 7b: Extension of Study 7a

Study 7a found that, compared with baseline, empowerment messages for African Americans (whether coupled with the external barriers-messages or not) led to attributions that African Americans have greater responsibility for solving (but not for creating) workplace gender inequality. These findings largely support the idea that empowerment messages for African Americans and for women should lead to similar attributional consequences. However, Study 7a also found that the external barriers messages behaved similarly like baseline, a pattern that was not found in studies using women’s empowerment messages. One potential reason for this finding is that the background information about racial inequality alone may be sufficient to lead to the attributional pattern. Indeed, the external barriers messages condition (and internal
barriers and combined barriers conditions) contains the background information and a condition-specific text. To address this potential issue, in Study 7b, I included an additional condition that only contains the background information about racial inequality. If empowerment messages for African Americans do indeed have similar effects as women’s empowerment messages, then exposure to empowerment messages for African Americans (vs. the background information) should increase attributions of African Americans’ responsibility for racial inequality.

2.8.1 Method

2.8.1.1 Participants

I predetermined to collect at least 100 participants per cell. Data collection was stopped on the day that the minimum sample was obtained. Five hundred sixty-three United States residents were recruited online via Amazon’s Mechanical Turk (Mage = 37.14, SD = 12.51; 52.7% female).

2.8.1.2 Materials and Procedure

Participants were randomly assigned to one of five conditions (baseline vs. background only vs. external barriers vs. internal barriers vs. combined barriers). In the baseline condition (N = 114), participants read no text, and simply completed the dependent measures. In the background only condition (N = 112), a new condition I created, participants only read the background information about racial inequality in the United States, and then completed the same dependent measure. The external barriers
condition (N = 112), the internal barriers condition (N = 114), and the combined barriers condition (N = 111) were identical to those used in Study 7a.

As in Study 7a, the texts participants read were ostensibly given by a highly respected African American leader. After reading the background information and then their condition-specific text, participants answered the identical two-item filler questions of the speaker’s communication style used in Study 7a.

Next, participants moved to a new section of the study, explained to be about participants’ understanding of racial inequality in the U.S. All participants answered the identical 8-item racial inequality questions used in Study 7a. Four of the items measured perceived empowerment of African Americans to tackle racial inequality ($\alpha = .88; M = 4.86, SD = 1.37$). Two of the items measured attributions of African Americans’ responsibility for solving the problem ($r = .73, p < .001; M = 4.20, SD = 1.62$). Two of the items measured attributions of African Americans’ responsibility for causing the problem ($r = .73, p < .001; M = 3.39, SD = 1.70$). Items were again rated on a 7-point scale (1 – Strongly Disagree, 7 – Strongly Agree), and their order of presentation was randomized. Finally, participants reported their gender and political orientation (1 – Very Liberal, 7 – Very Conservative).

2.8.2 Results

Perceived Empowerment of African Americans. A one-way Analysis of Variance (ANOVA) indicated that condition significantly affected the measure of
perceived empowerment of African Americans to tackle racial inequality, $F(4, 558) = 3.42, p = .009$, partial $\eta^2 = .024$.

Contrast analyses revealed that participants in the internal barriers condition ($M = 5.20, SD = 1.41$) saw African Americans as more empowered than participants in the baseline condition ($M = 4.69, SD = 1.35$), $F(1, 558) = 8.07, p = .004$, or the background only condition ($M = 4.68, SD = 1.32$), $F(1, 558) = 8.24, p = .004$, or the external barriers condition ($M = 4.70, SD = 1.34$), $F(1, 558) = 7.69, p = .005$. All other comparisons were not significant (all $ps > .077$).

**Perceived Responsibility of African Americans to Address Racial Inequality.** A one-way Analysis of Variance (ANOVA) indicated that condition significantly affected attributions of African American’s responsibility to address racial inequality, $F(4, 558) = 3.26, p = .012$, partial $\eta^2 = .023$.

Contrast analyses revealed that participants in the internal barriers condition ($M = 4.60, SD = 1.53$) held African Americans more responsible for solving racial inequality than those in baseline ($M = 3.92, SD = 1.64$), $F(1, 558) = 10.33, p = .001$, or the background only condition ($M = 4.17, SD = 1.62$), $F(1, 558) = 4.06, p = .044$, or the external barriers condition ($M = 4.00, SD = 1.68$), $F(1, 558) = 7.89, p = .005$. All other comparisons were not significant (all $ps > .058$).

**Perceived Responsibility of African Americans for Causing Racial Inequality.** A one-way Analysis of Variance (ANOVA) indicated that condition did not significantly
affect attributions of African American’s responsibility for causing racial inequality, $F(4, 558) = 1.57$, $p = .180$, partial $\eta^2 = .011$ (see Figure 14).

Contrast analyses revealed that participants in the combined barriers condition ($M = 3.67$, $SD = 1.56$) held African Americans more responsible for creating the existing racial inequality than those in the external barriers condition ($M = 3.15$, $SD = 1.77$), $F(1, 558) = 5.19$, $p = .023$. All other comparisons were not significant (all $ps > .077$).

![Figure 14. Results from Study 7b: Effect of condition on perceived responsibility of African Americans for causing racial inequality (1 – 7 Likert Scale). Error bars indicate ± 1 SEM.](image-url)
2.8.3 Discussion

Studies 7a and 7b examined how empowerment messages for African Americans would affect attributions about racial inequality. Both studies found that, compared with baseline, empowerment messages for African Americans (i.e., internal barriers only) led to attributions that African Americans have greater responsibility for solving (but not for creating) racial inequality. The combined barriers messages behaved similarly like the internal barriers messages in Study 7a, but not in Study 7b. Of importance, Study 7b ruled out the possibility that the pattern found in Study 7a is due to receiving the background information about racial inequality (rather than receiving a condition-specific text). In sum, these findings point to the possibility that the negative consequences of empowerment messages may apply to domains beyond gender inequality.
3. General Discussion

The results of six studies largely support our hypotheses. In particular, the experimental studies showed that messages (text and audio) conveying women’s ability to tackle workplace gender inequality by overcoming their own internal barriers (1) led to perceptions that women have greater responsibility for said inequality – both for the problem itself, and for its solution (Brickman et al., 1982), and (2) led women to perceive that they themselves hold greater responsibility for causing the problem. These messages also led to greater endorsement of solutions that require women to change themselves as opposed to requiring companies or management to change.

One way to prevent these attribution tendencies was to explicitly state that external barriers against women, like network access and childcare responsibilities, give rise to internal barriers within women, like low confidence and low ambition (Study 5), although doing so also failed to increase perceptions that women are empowered to make change. The final two studies (Studies 7a and 7b) began exploring empowerment messages beyond the context of workplace gender inequality, in the context of racial inequality, and found that empowerment messages for African Americans led to perceptions that African Americans have greater responsibility for causing racial inequality.

Taken together, the findings indicate that cultural messages apparently aiming to empower women may not only fail in doing so, but may also ultimately result in
negative attributions about women’s responsibility for gender inequality. Furthermore, the negative consequences of empowerment messages may go beyond gender inequality and also apply to other social domains like racial inequality.

3.1 Implications for Theory

The current research has implications for (a) basic attribution theory, (b) our understanding of gender inequality, (c) attributions about other forms of social inequality, and (d) interventions aiming to increase individual agency while minimizing victim blame.

Attribution Theory and Research. This work builds on basic research on attributions of responsibility. Attributions research has long suggested that observers rely on an actor’s control over negative outcomes when assigning responsibility (Alicke, 2000, 2008; Frazier, 1990; Hafer & Bègue, 2005; Janoff-Bulman, Timko, & Carli, 1985; Schlenker et al., 1994; Shaver, 1985). For example, people tend to hold ill people more responsible if they believe the illness was caused by the sufferer’s actions (e.g., smoking or sexual activity; Hafer & Bègue, 2005; Lerner, 1980; Marlow, Waller, & Wardle, 2010).

The present findings contribute to this literature in two ways. First, they show people’s inclination to hold individuals responsible goes beyond their tendency to readily accept narratives about what caused the outcome, but may also apply to a tendency to infer responsibility from messages about who can solve or prevent a problem going forward. To understand this distinction, it may be useful to consider an
example in a different context. Consider a working class family who was stricken with polluted water caused by a neighboring chemical plant. Classic models of attributing responsibility or blaming the victim would suggest that people would quickly embrace narratives that suggest past actions caused their plight: for example, stories that the family chose, despite advice, to move too close to the plant might be adopted as explanations for how they are partly responsible. But what if the narrative indicated that after the problem was discovered, the family learned they could potentially solve the problem by purchasing a costly barrier system for their property? Would learning about that potential solution – despite being costly and unproven – also lead people to increasingly see the family as responsible for the problem? This is, in effect, what the current studies suggest.

Thus, the present findings contribute to the basic attribution literature by suggesting that not only will people readily accept narratives around causality when offered, but even suggestions about someone’s power to solve a problem can lead to perceptions that a victim is responsible for the problem and its solution. In some circumstances, it may very well be morally reasonable to make this inference. For example, if someone can easily fix their broken arm by keeping it still but refuses to stop playing video games, that person is clearly contributing to the continuation of their problem despite not having originally caused the problem. In other cases, doing so may invite societally counterproductive attributions. In the specific case of gender inequality
and women’s empowerment messages (or racial inequality and empowerment messages for African Americans), this inference may be especially problematic since the efficacy of these strategies for solving the problem is unproven.

Second, the current research also contributes to attribution research by illustrating how communications can elicit negative attributions while appearing to convey a positive, victim-friendly, message. Because women’s empowerment messages are framed as feminist writings, apparently intended to improve gender equality, they are less likely to elicit cautious reactions from observers than would statements that explicitly state that women created the problem themselves (Czopp et al., 2015; Kay, Day, Zanna, & Nussbaum, 2013; Eagly & Mladinic, 1989; Glick & Fiske, 1996). Thus, unlike victim-blaming messages that directly hold disadvantaged groups responsible for their low status, messages that emphasize victims’ self-improvement may result in the same outcome via a more palatable and positive-seeming approach. In a culture in which “victim-blaming” is increasingly recognized as a problem (Patten, 2016; Teitel, 2017; Walton, 2017), these pro-women messages may fly under the radar and elicit the same negative attributions without the risk of being accused of blaming the victim.

**Gender Inequality.** The current research also sheds light on Western culture’s current approach to understanding gender inequality. The *Lean In* book, and related cultural messages about women’s empowerment, reflect a popular version of feminism in recent years, in which an individual woman’s capitalistic success is viewed as the
ultimate feminist accomplishment (Bellafante, 2017). Indeed, the national discourse is replete with examples of “feminist” role models, whose primary qualification is their own financial success (Filipovic, 2017; Gibson, 2016). In this context, it is worth noting that women’s empowerment messages, with their de-emphasis on radical structural change and their suggestion that women “lean in” to work, may also reflect the dominance of corporate-friendly themes in American culture.

Interestingly, women’s collective action, as opposed to individualized action, has recently become popular news again in the form of the #MeToo and #TimesUp movements (e.g., Barnes & Buckley, 2018; Zacharek, Dockterman, & Edwards, 2017). Demands for significant structural change regarding sexual harassment have taken the forefront in national conversations (Buckley, 2018; Chira & Einhorn, 2017). So far, this conversation has been largely limited to sexual abuse and harassment, but it is plausible that this conversation could move to address other forms of gender bias and inequality, leading to a pendulum swing away from women’s empowerment messages and towards more structural and social change.

**Other Forms of Social Inequality.** Self-improvement or empowerment has been adopted or proposed as a solution to many other important social problems, such as crime, poverty, and low political participation (Cruikshank, 1999; Perkins, 1995). This discourse has shaped education programs for the mentally ill (Nelson, Lord, Ochocka, 2001), interventions for minority groups (Crossley, 2001), and programs to reduce child
abuse and maltreatment (Prilleltensky, Nelson, & Peirson, 2001). Given the wide application and appeal of self-improvement/empowerment ideology, the current research may apply to other social contexts beyond workplace gender inequality.

Studies 7a and 7b began to examine this question, specifically whether empowerment messages would lead to similar attributional consequences when they are applied to empowerment of African Americans to address racial inequality. These studies find that empowerment messages for African Americans lead to similar negative consequences.

Thus, it is possible that the processes demonstrated with women’s empowerment messages and empowerment messages for African American may also apply to other disadvantaged groups. That is, when cultural messages suggest a possible solution to social inequality, people’s tendency may be to (a) interpret the potential solution as a prescription rather than a possibility; and (b) conflate the potential solution with the cause, assigning causal responsibility to those who have the power to alter the situation, even if they weren’t involved in the origination of this inequality. In Study 4, I made a first effort to explore the potential role of justification motives. Specifically, I examined whether antiegalitarianism (Ho et al., 2015), a variable strongly associated with the motivation to maintain women’s lower status in the social hierarchy (Pratto et al., 2006), moderated the effects of the Lean In messages. I hypothesized that people high in antiegalitarianism might interpret women’s empowerment messages as an implicit
ideology that bolsters gender inequality, thus attributing a greater responsibility to women for both solving and causing the problem. Study 4 did not support this idea; instead, the manipulation equally affected those low and high in SDO. Given this null effect was unpredicted, I hesitate to overinterpret it. However, I offer the following speculations as food for thought. First, despite possible status-maintaining effects, *Lean In* messages are explicitly framed as designed to help women advance. As such, those who are motivated to limit women’s advancement may not find them particularly appealing. Second, because *Lean In* messages do not emphasize any sort of zero-sum competition between women and men, the messages may not even be coded as hierarchy enhancing (or reducing) to people high in antiegalitarianism. As such, perhaps antiegalitarianism as measured by SDO will play a clearer moderating role with types of women’s empowerment messages that more explicitly discuss the social hierarchy. Finally, it is also possible that because women’s empowerment messages are so individualistic—focused on individualized actions and achievements—they are not construed as especially relevant to intergroup dynamics. That being said, there are other contexts in which I suspect the effects of the *Lean In* messages might be likelier to emerge. First, they might emerge most readily when observers are motivated to understand the inequality as fair (Lerner, 1980). For instance, people who are motivated to believe in a just world (Lerner & Miller, 1978) might interpret the solution from women’s empowerment messages not as a possibility, but as an indication that women
already have choice and ample opportunities to advance their careers and address gender inequality. This interpretation, in turn, might lead to perceptions that women have greater responsibility for both solving and creating the problem. Second, the *Lean In* effects may depend on a level of individualism in the broader culture; given that those from collectivistic cultures tend not to overestimate the actor’s responsibility for outcomes (Menon et al., 1999), they may be similarly less receptive to messages that encourage individual solutions to societal problems. Future studies should further explore the potential role of these justification motives.

**Interventions in Social Inequality.** Finally, the current research has relevance to scholars and practitioners aiming to develop effective treatments and interventions for individuals whose outcomes relate to broader social and structural problems or inequalities (Triantafillou & Nielson, 2001). In such cases, empowering the individual to make changes to his or her own circumstances is desirable and worthwhile, but the current findings suggest that there may also be risks and drawbacks associated with said empowerment messages. Teaching a student behavioral and cognitive strategies to navigate a poorly funded school system may help that student succeed. However, if doing so communicates to students that they should not expect or demand a better school system, then overall such teachings may be harmful. Given this, how do social scientists convey that individuals can help themselves without then giving those individuals the burden of more responsibility for doing so? Study 5 attempted to more
directly tie women’s internal barriers to external social structures. However, our results were mixed – the condition was not as negative in terms of attributions about women as were the original experimental conditions, but it also failed to successfully manipulate perceptions that women were empowered. Future research should continue to explore how people can simultaneously pursue structural and individual solutions to social problems.

### 3.2 Limitations

Methodologically, this work has some clear limitations. First, all samples in the present research were collected from various online survey platforms (Prolific Academic, Amazon’s Mechanical Turk). These venues have demographically diverse participants (Buhrmester et al., 2011; Peer et al., 2007), but some evidence suggests that Mechanical Turkers are different from the general population in certain aspects (e.g., Arditte, Çek, Shaw, & Timpano, 2016), and certainly, this reliance on online survey platforms is a weakness of our research and limits its generalizability. Second, the work relied exclusively on the most prominent example of women’s empowerment ideology, *Lean In,* and may thus not apply to all such messages.

Third, this research is also limited by its source material’s focus on white professional women. Americans do not hold the same stereotypes about all women, regardless of race, ethnic group, or religion (Sanchez-Hucles & Davis, 2010). Indeed, stereotypes of women as being low in assertiveness are not held uniformly for women of
all racial and cultural groups (e.g., Parker & Ogilvie, 1996). In addition, many women face completely different workplace challenges; for those in lower-wage positions and non-professional contexts, it is unclear how the strategies suggested in women’s empowerment messages would be applicable. Future work should explore these messages’ influence on perceptions of other groups of women.

3.3 Future Directions

This work raises several interesting questions for future research. First, it would be useful to know whether and how these tendencies apply in other cultures. The broader self-improvement literature, of which this new form of women’s feminism is a sub-part, is popular not only in America but also in other countries and cultures, such as those in Europe and East Asia (Bergsma, 2008). Indeed, Sandberg’s Lean In messages were well received overseas, earning broad coverage in the media in Europe and Asia (e.g., Tatlow, 2013). Thus, it is possible that similar attribution tendencies might be observed with samples recruited outside the U.S. However, it is also possible that these women’s empowerment messages may vary significantly across cultures (e.g., Henrich, Heine, & Norenzayan, 2010). For instance, because such messages are framed as individual action (e.g., Rottenberg, 2014), they may be particularly appealing to people from cultures that emphasize an independent (vs. interdependent) view of the self (Markus & Kitayama, 1991). Future research should also consider social class (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012; Stephens, Markus, & Townsend,
2007) as a potential moderating variable. Compared to middle- and upper-class individuals, working-class individuals regulate their behavior according to interdependent norms, such as adjusting to others’ needs and being part of a community (Stephens, Fryberg, & Markus, 2011; Stephens, Hamedani, Markus, Bergsieker, & Eloul, 2009). Women’s empowerment messages, focused on achieving success as individuals, may thus be less influential for members of the working class.

Second, it would be interesting to further explore the consequences of such messages for moral attributions. It is unclear from the existing findings whether people will hold women morally culpable for workplace gender inequality. For instance, will exposure to women’s empowerment messages lead people to explicitly blame women (e.g., Alicke, 2008) and hold them morally responsible (e.g., Pizarro, Uhlmann, & Salovey, 2003)? Would people respond to women’s failure to “lean in” with disgust emotions and other common reactions to moral violations (e.g., Haidt, Rozin, McCauley, & Imada, 1997)? Although causality, responsibility, and moral blame are often treated interchangeably (Schlenker et al., 1994; Zucker & Weiner, 1993), attribution theories (Alicke, 2000; Heider, 1958; Shaver, 1985; Weiner, 1995) and empirical evidence (Mantler, Schellenberg, & Page, 2003; Reisenzein 1986; Williams, Lees-Haley, & Price, 1996) suggest that they are semantically and theoretically distinct concepts. For instance, women may be perceived to be responsible for addressing gender inequality not because they are morally blameworthy but because they better understand the problem, because
no one else is going to undertake the task, or because they are the ones to benefit from equality. Similarly, although causal attribution is closely related to blaming (Alicke, 2000), people may be reluctant to explicitly blame women for gender inequality.

Third, the focus of the current manuscript was on attributions about women’s responsibility for gender inequality. However, I also measured men’s responsibility in all studies, and found no consistent pattern of effects. It is possible that such null findings simply reflect the salience of women in Sandberg’s messaging. However, it is also possible that people do not see responsibility for inequality as zero sum, and are willing to attribute greater responsibility to women while not reducing their perceptions of men’s responsibility. Future studies should explore the relation of attributions about the role of advantaged and disadvantaged groups in inequality, and seek to better understand what kind of messages might affect attributions about the role men have to play in gender inequality specifically.

Fourth, I have consistently found a weaker condition effect on perceived empowerment of women than on perceived responsibility of women for causing and solving gender inequality (Studies 2, 3, and 5). These differences might be due to people’s general tendency to report higher beliefs of women’s empowerment. Indeed, the mean of this rating is consistently higher than that of other perceptions of women in all our studies. It is also possible that empowerment is a socially desirable (Crowne & Marlowe, 1960) trait to assume in others. Consistent with this interpretation, a
correlational study (Study 1) found that social desirability is positively and significantly correlated with perceptions of women’s empowerment, but not with other variables. Future research should explore these possibilities.

Finally, there are a number of other issues raised by this work. For example, how important is the message’s emphasis on internal (vs. external) obstacles, relative to their emphasis on future change, versus past action? Future studies manipulating a past versus future focus would help reveal the extent to which developmental improvement is key to these messages’ effects. Similarly, how would people respond to empowering messages about external obstacles, such as messages about improving the workplace via collective action? It would also be interesting to explore the effects of these messages on benevolent sexism (Glick & Fiske, 1996). By portraying women as able to tackle this problem, these messages may challenge the view that women are passive and dependent on men for help. It would also be useful to explore moderating variables. For example, the messages’ focus on individual achievement (over collective struggle) may be less persuasive to women who score high on gender identification. Research suggests that strong group identification predicts support for collective action for the group (Becker, Tausch, Spears, & Christ, 2011; Klandermans, 2002). Thus, women who identify strongly with their gender may not be as strongly affected by these cultural messages. As another example, people who value qualities like human potential (e.g., Sennett, 2007) and self-realization (e.g., Rimke, 2000; Robbins, 2007) may be more receptive to
women’s empowerment messages. With their interest in self-improvement, such people may have stronger beliefs in women’s ability for self-change; as a result, they may come to believe more strongly that women can and should take care of these problems on their own.
4. Conclusions

“We hold ourselves back in ways both big and small, by lacking self-confidence, by not raising our hands and by pulling back when we should be leaning in.” (Sandberg, 2014, p. 8).

“The time is long overdue to encourage more women to dream the possible dream.” (Sandberg, 2014, p. 11).

These messages, like others in the women’s empowerment movement, can inspire and motivate women. Indeed, messages that support individual women’s career advancement have a valuable place in any effort to improve gender relations in the workplace. However, the current results suggest that caution is in order, as such messages may have consequences for the understanding of who is responsible for creating the problem, and who is responsible for its solution. When society points to how women can change – they can dream bigger, talk louder – it also points to who and what should change. Now, if it turns out that dreaming bigger and speaking more loudly will solve gender inequality, these results are perhaps no cause for concern. However, if structural and societal change is also needed, these results should worry those who seek gender equality in the workplace.
Appendix A

Perceptions of Gender Inequality in American Workplaces (Studies 1 and 2)
“The following questions concern the problem of gender inequality in American workplaces. To what extent do you agree or disagree with the following statements?”
(1 – Strongly Disagree, 7 – Strongly Agree)

1. Women have power to address the problem.
2. Women are best able to tackle the problem.
3. Women are capable of dealing with the problem.
4. Women have potential to solve the problem.
5. Women should do the work to fix the problem.
6. Women are responsible for solving the problem.
7. Women have caused the problem.
8. Women have contributed to the problem.
9. Men have power to address the problem.
10. Men are best able to tackle the problem.
11. Men are capable of dealing with the problem.
12. Men have potential to solve the problem.
13. Men should do the work to fix the problem.
14. Men are responsible for solving the problem.
15. Men have caused the problem.
16. Men have contributed to the problem.
Appendix B

Abridged Social Desirability Scale (Study 1; adapted from Crowne & Marlowe, 1960)
(True, False)

1. I am always careful about my manner of dress.
2. No matter who I'm talking to, I'm always a good listener.
3. I'm always willing to admit it when I make a mistake.
4. I am always courteous, even to people who are disagreeable.
5. It is sometimes hard for me to go on with my work if I am not encouraged.
   (reverse-coded)
6. I sometimes feel resentful when I don't get my way. (reverse-coded)
7. I like to gossip at times. (reverse-coded)
8. There have been times when I was quite jealous of the good fortune of others.
   (reverse-coded)
Appendix C

Speech Manipulation (Study 3)

Transcript/closed caption of the background information
The problem is this: Women are not making it to the top of any profession anywhere in the world. The numbers tell the story quite clearly. 190 heads of state – nine are women. Of all the people in parliament in the world, 13 percent are women. In the corporate sector, women at the top, C-level jobs, board seats – tops out at 15, 16 percent. The numbers have not moved since 2002 and are going in the wrong direction. So the question is, how are we going to fix this? How do we change these numbers at the top? How do we make this different?

Transcript/closed caption of the external barriers condition
If a woman and a man work full-time and have a child, the woman does twice the amount of housework the man does, and the woman does three times the amount of childcare the man does. So she’s got three jobs or two jobs, and he’s got one. Who do you think drops out when someone needs to be home more? And that’s a problem, because we have to make it as important a job, because it’s the hardest job in the world to work inside the home, for people of both genders. All over the world, no matter what our cultures are, we think men should be strong, assertive, aggressive, have voice; we think women should speak when spoken to, help others. Now we have, all over the world, women are called “bossy.” There is a word for “bossy,” for little girls, in every language there’s one. It’s a word that’s pretty much not used for little boys, because if a little boy leads, there’s no negative word for it, it’s expected. But if a little girl leads, she’s bossy. Now, do we think women are more aggressive than men? Of course not. It’s just that we judge them through a different lens, and a lot of the character traits that you must exhibit to perform at work, to get results, to lead, are ones that we think, in a man, he’s a boss, and in a woman, she’s bossy.

Transcript/closed caption of the internal barriers condition
I want to start out by saying, I talk about this – about keeping women in the workforce – because I really think that’s the answer. In the high-income part of our workforce, in the people who end up at the top – Fortune 500 CEO jobs, or the equivalent in other industries – the problem, I am convinced, is that women are dropping out. I want to focus on what we can do as individuals. What are the messages we need to tell ourselves? What are the messages we tell the women that work with and for us? What are the messages we tell our daughters? Women systematically underestimate their own
abilities. If you test men and women, and you ask them questions on totally objective criteria like GPAs, men get it wrong slightly high, and women get it wrong slightly low. Women do not negotiate for themselves in the workforce. A study in the last two years of people entering the workforce out of college showed that 57 percent of boys entering, or men, I guess, are negotiating their first salary, and only seven percent of women. And most importantly, men attribute their success to themselves, and women attribute it to other external factors. Everywhere in the world, women need more self-confidence, because the world tells us we’re not equal to men. We assume men can do it all, slash – have jobs and children. We assume women can’t and that’s ridiculous, because the great majority of women everywhere in the world, including the United States, work full time and have children.
References


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Biography

Jae Yun Kim received a B.A. with Honors in Psychology from the University of Wisconsin-Madison in 2010. He has published the following articles in *Journal of Personality and Social Psychology*: “Understanding Contemporary Forms of Exploitation: Attributions of Passion Serve to Legitimize the Poor Treatment of Workers” (Kim, Campbell, Shepherd, & Kay, forthcoming) and “*Lean In* Messages Increase Attributions of Women’s Responsibility for Gender Inequality” (Kim, Fitzsimons, & Kay, 2018). He has received the following awards and fellowships for his academic work and research: UW Madison Undergraduate/Faculty Research Fellowship, UW Madison Outstanding Undergraduate Research Scholar Award, Duke University James B. Duke Fellowship, the SPSP Graduate Travel Award, the SPSP Outstanding Research Award, Duke University Kenan Institute for Ethics Graduate Fellowship, and the AOM Best Student Paper Award (Finalist).