

Burdened and Blamed: Empowerment Messaging Increases Attributions of Women's Responsibility for Gender Inequality in the Canadian Armed Forces

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Gender inequality persists in the workplace and especially in male-dominated organizations like the Canadian Armed Forces (CAF). One cultural response to gender inequality is empowerment messaging, which entails an optimistic and individualistic focus on women's agency and ability to succeed in life. Although empowerment messaging may seem beneficial on the surface, it has the unintended negative consequence of increasing attributions for women's responsibility for gender inequality. We proposed that this unintended negative consequence generalizes to empowerment messaging concerning women's role in the CAF. In two experiments (total $N = 812$), one of which was preregistered, results demonstrated that exposure to empowerment messaging in an informational video produced by the CAF directly increased the burden placed on women to solve gender inequality in the CAF and indirectly predicted more blame placed on women for causing gender inequality in the CAF. This research suggests that the CAF should avoid empowerment messaging in its public communications to avoid potential harm to women, especially now when the organization is grappling with the systemic problem of gender inequality.

Public Significance Statement

Empowerment messaging seemingly uplifts women by focusing on their agency and ability to succeed. Yet, this research demonstrates that empowerment messaging in an informational video produced by the Canadian Armed Forces (CAF) increased perceptions of women's burden for solving and blame for causing gender inequality in the CAF. Thus, organizations should be cautious about using empowerment messaging in their public communications to avoid potential harm to women.

Keywords: empowerment messaging, gender inequality, military, Canadian Armed Forces

It's not always enough to lean in.

—Michelle Obama (as quoted in Wamsley, 2018)

Gender inequality persists in the workplace, with women earning less and holding less secure jobs than men globally (Fisher & Ryan, 2021). Women also continue to be underrepresented in many occupations. For example, women occupy fewer than 5% of CEO positions (Kim et al., 2018), women comprise just 23% of Canadian science and technology workers (Wall, 2019, Persistence and representation of women in Science, Technology, Engineering, and Math programmes, para. 1), and women represent only 21% of police officers (Murray, 2021) and 21.7% of the Royal Canadian Mounted Police (Royal Canadian Mounted Police, 2020) in Canada. These and other male-dominated occupations offer stable, well-paying jobs with benefits and pensions. Women's underrepresentation in these industries perpetuates the gender pay gap and increases women's risk

for stress and anxiety (Shannon et al., 2019). Institutions themselves are also hurt by a lack of gender diversity because a diverse workforce supports innovation, maximizes talent and productivity, improves recruitment and retention of talent, and enhances decision making (Vandenberghe, 2021). Reflecting these realities, many male-dominated institutions and workplaces are actively trying to address gender inequality by changing their hostile work cultures and recruiting more women. Yet, these institutions are still struggling to achieve gender equality.

One traditionally male-dominated institution that has been working to address gender inequality is the Canadian Armed Forces (CAF). Although the CAF has lifted the formal restrictions that previously limited women's full participation (Davis, 2004), women still face barriers to equality, including a hostile, sexualized culture, lack of support for members who are parents, and stunted

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career progressions (Deschamps, 2015; Waruszynski et al., 2019). Acknowledging these barriers and the undesirable underrepresentation of women that they cause, in 2016, the CAF set a goal of increasing its complement of women from 15% to 25% by the year 2026 (Department of National Defence, 2017). As part of this effort, the CAF established Operation HONOUR with its purpose to eliminate sexual harassment and abuse in the military through understanding the issue, responding more decisively to incidents, supporting affected persons, and preventing incidents (Department of National Defence, 2019; Waruszynski et al., 2019). However, years later, the CAF continues to experience a sexual harassment and abuse crisis; numerous men in leadership positions were the subject of public allegations of sexual harassment or abuse in 2021 (Connolly, 2022). In 2023, the representation of women in the CAF remained low at 16% (Department of National Defence, 2023).

One reason that gender inequality persists in the CAF and other male-dominated institutions may stem, in part, from the broader cultural discourse about gender inequity that focuses on individualistic empowerment messaging. As Michelle Obama stated in the quote that opens this article, promoting women's empowerment to resolve gender inequality does not always work. Indeed, empowerment messaging can even backfire and place added burden and blame on women for resolving and causing gender inequality.

Empowerment Messaging

Empowerment was originally used to describe a sociopolitical process that shifted power between and across individuals and social groups to flatten inequities, but it has now become a buzzword devoid of its original meaning (Batiwala, 2007). Indeed, Rutherford (2018) argued that in recent cultural discourse empowerment is not about shifts in actual power; instead, the term references shifts in perceptions of power. For example, in the 1990s, empowerment rhetoric like "Girl Power" was used to sell products under the guise of reclaiming femininity and expressing independence. Rutherford (2018) argued that empowerment messaging is used to push a neoliberalist agenda focused on women's continuous, individualistic self-improvement through books, magazines, and online media. Empowerment messaging is meant to convey that women have agency, choice, and the ability to succeed in life. Thus, modern empowerment messaging aimed at women is characterized by two features (Kim et al., 2018). First, the messages focus on individual action, calling on women as individuals to make their own choices to succeed in life. Second, the messages are positively framed and future oriented, meaning that women are urged to "improve themselves and change the world for the better" (Kim et al., 2018, p. 975). While this aspect of empowerment messaging may seem more supportive than being explicitly criticized "for their own sorry situation" (Kim et al., 2018, p. 975), it actually harms women by blaming the individual for lack of success while disregarding external barriers.

Recently, Kim et al. (2018) examined the harms of empowerment messaging, expressed in the bestselling book, *Lean In* (Sandberg, 2013), written by the Chief Operating Officer of Facebook, Sheryl Sandberg. In her book, Sandberg (2013) argued that women are holding themselves back and preventing their own success by failing to "lean in" (p. 8) at work. She advises women to take charge of their careers and overcome their own "internal barriers" (p. 9) by taking more risks and being more confident in the workplace. This advice demonstrates the characteristics of empowerment messaging by

focusing on individual actions (e.g., leaning in, overcoming internal barriers) and by focusing optimistically on future outcomes (e.g., taking charge of their careers). Kim et al. (2018) found that reading quotes from *Lean In* that reflected the characteristics of empowerment messaging caused people to place more burden on women to overcome gender inequality in the workplace and place more blame on women for causing workplace gender inequality, most likely due to the heightened perceptions of women's agency that empowerment messaging engenders. These findings reveal that empowerment messaging meant to increase women's agency has the potential to undermine equality by leading people to believe that women can, and should, overcome sexism through their personal agency or choices.

Empowerment Messaging in the CAF

We observed that some of the CAF's recent public messaging also includes empowerment messaging. In 2019, the CAF posted a video called "Women in the Canadian Armed Forces" on a Government of Canada website (it has since been removed) and on YouTube (Canadian Armed Forces, 2019). The almost 4-min video is narrated by women in uniform whose words are accompanied by inspirational orchestral music. Their narration is intercut with historical and present-day images of smiling women in uniform engaging in activities like flying planes, fixing an engine, sitting in a tank, marching in a parade, working in a combat zone, and holding a weapon ready to fire. Most importantly from our perspective, the video includes features of empowerment messaging (see Table 1).

Focus on Individual Action. After detailing the CAF's history of excluding women from service, the video concludes that "it is the individual women who blazed a trail with their determination to seize those opportunities" (Canadian Armed Forces, 2019, 0:23) who created change. This statement emphasizes the difference that individual women can make rather than emphasizing the collective actions that women can take as a group or the actions that the military institution can take to improve its environment for women. The video also includes a slide show of the individual women who were the first to hold important positions in the CAF. By highlighting the accomplishments of these exceptional women, the video implies that systemic sexism no longer exists in the CAF and thus if individual women simply work hard enough, they too can excel (see Schmitt et al., 2009, for a discussion of this rhetorical strategy for dismissing or downplaying systemic inequality by focusing on exceptions to the rule).

Positive Framing and Future Focus. The video definitively claims that restrictions on women's equitable access to opportunities in the CAF reside in the past. It states that "Attitudes and laws restricted women's opportunities in uniform—not anymore" (Canadian Armed Forces, 2019, 0:06). Moreover, it focuses on women's positive contributions to the CAF and their ability to succeed in the future (provided they lean in, of course). For example, "Are you ready to be part of the success of women in the Canadian Armed Forces?" (Canadian Armed Forces, 2019, 3:23). The video includes images of diverse young women happily flying planes, fixing engines, and aiming weapons while inspirational music plays in the background. The video also claims that "Women continue to make their mark in the military" (Canadian Armed Forces, 2019, 3:02), suggesting that today's women in uniform will continue to achieve great things like the exceptional individual women who came before.

Table 1
Empowerment Messaging in CAF Video

Characteristic 1: Individual action
Images of numerous individual women who have been successful in the CAF.
Individual women narrate; they do not narrate together.
Individual women who have achieved high ranks or won prestigious awards in the CAF are cited as evidence of women's accomplishments in the CAF.
"It is the individual women who blazed a trail with their determination to seize those opportunities."
"The individual's skill and dedication to serve in the military."
"Opportunities for women to serve in any occupation and to advance based on their performance and potential and not on their gender."
Characteristic 2: Positively framed and future focused
Inspirational music
Many images of smiling women in the military.
Image of the Royal Military College opening its doors.
"Attitudes and laws restricted women's opportunities in uniform—not anymore."
"While society's attitudes towards women in the military have grown more accepting."
"Integration and acceptance of women within the military increased exponentially after 1967."
"In the 70s, women constituted 1.5 percent of the Forces. Today, it has grown past 15 percent."
"We recognized the importance of a military that reflects the diversity of Canada, a country where over 50 percent of the population are women."
"Women continue to make their mark in the military."
"All Canadians can take pride in the accomplishments of the women who have served, are serving, and will serve in the Canadian Armed Forces."

Note. CAF = Canadian Armed Forces.

The Current Research

We propose that the empowerment messaging in the CAF video will have the same unintended negative consequences of burdening women to solve, and blaming women for causing, gender inequality in the CAF that Sandberg's (2013) lean in messages had of burdening women to solve and blaming women for causing, gender inequality in society. Thus, we sought to conceptually replicate and extend Kim et al. (2018) empowerment messaging research in two experiments, one of which was preregistered (Experiment 2). In each experiment, participants read background information about gender inequality in the CAF and then were randomly assigned to watch the CAF video with empowerment messaging, a CAF video that did not include empowerment messaging (Experiment 1 only) or no video at all. Participants then reported their perceptions of women's burden to solve gender inequality in the CAF and blaming of women for causing gender inequality in the CAF. We hypothesized that compared to the control condition(s), exposure to empowerment messaging in a CAF video would increase perceptions of women's burden to solve gender inequality in the CAF (Hypothesis 1 [H1]) and would also increase the blaming of women for causing gender inequality in the CAF (Hypothesis 2 [H2]). Following Kim et al. (2018), we also tested a mediation model examining whether heightened perceptions of women's burden to solve gender inequality as a function of the experimental manipulation explained changes in the amount of blame placed on women for causing gender inequality in the CAF. For exploratory and comparison purposes, we also examined perceptions

of men's burden to solve and the blaming of men for causing gender inequality in the CAF as a function of the various experimental conditions in our studies, but we did not have a priori hypotheses concerning these potential effects.

This research is important for a number of reasons. First, in light of the replication crisis in science (Ioannidis, 2005), including psychological science (Maxwell et al., 2015), it is essential to verify published results to establish the credibility of observed psychological phenomena. Kim et al.'s (2018) original findings concerning the negative impact of empowerment messaging are robust, having been replicated in their six original experiments already, but reproducing their results using different stimuli and among residents of a different country will lend further credence to the finding and test its generalizability. In particular, because Sandberg's (2013) book and its central premise became part of popular culture, our research will test whether a less prominent example of empowerment messaging—specifically, the empowerment messaging in a CAF video—can have similarly negative effects. The CAF empowerment messaging also differs from Sandberg's messaging because it comes from an institution rather than an individual, and the message is a video, rather than written text. Thus, our research tests whether Kim et al.'s effects generalize to other stimuli and other modes of message delivery. Furthermore, although Canada is a Western country and has many cultural similarities with the United States—for example, the historical and present-day colonization of Indigenous Peoples by White settlers and the ongoing social legacy of those events, including gender-based inequality and violence; English as the most commonly spoken language; and shared media and entertainment and professional sports leagues—the two cultures are not identical. In particular, Canadians score lower in individualism and higher in gender equity (e.g., Pew Research Center, 2004) than their counterparts in the United States, both of which could influence Canadian's susceptibility to empowerment messaging and attitudes about solutions to gender inequality.

Our research may also have direct, applied benefits to Canadian organizations, in general, and the CAF, in particular, who may benefit from understanding how empowerment messaging in their public communications impacts attributions of women's responsibility for gender inequality in their organization. If Canadian institutions like the CAF are serious about improving gender equality in their organizations, and we believe that they are, they should be very interested to know whether the messaging they are using in their communication materials or other advertising has the potential to harm their female members by creating the impression that they are burdened to solve and blamed for causing institutional gender inequality.

Experiment 1

In our first experiment, we tested our hypotheses by comparing Canadian women's attributions of women's responsibility for gender inequality in the CAF after watching a CAF video that uses empowerment messaging, after watching a CAF video that does not use empowerment messaging, and in a no video condition. For comparison purposes, we also examined women's attributions of men's responsibility for gender inequality in the CAF.

Method

In both experiments that we report, we describe how we determined our sample size, all data exclusions, all manipulations,

and most study measures (additional measures that were not directly relevant to our main hypotheses and additional analyses for each study are described in the additional materials: <https://osf.io/x6szm/>). This research received ethical approval from the Human Research Ethics Board at the University of Victoria; certificate 19-0489).

Participants

We aimed to recruit as many participants as we could within a single academic term (to meet the degree requirements of the lead researcher). Participation was limited to Canadian citizens to ensure that the CAF videos were relevant to participants and to ensure that participants shared cultural beliefs about the military. In the specified time frame, we recruited 77 women from Amazon's Mechanical Turk (MTurk) and 175 women from the University of Victoria research subject pool. We excluded 31 participants for the following reasons: failing to complete the dependent variables ($n = 10$); duplicate IP addresses (suggesting duplicate participation; $n = 4$); failing the attention check (selecting a response other than "strongly disagree" to the question "Please select strongly disagree. This is for verification purposes"; $n = 6$); taking longer than 1 hr to complete the survey ($n = 11$). Our final sample included 221 Canadian women ($M_{\text{age}} = 25.93$ years, $SD_{\text{age}} = 10.83$, range = 18–66 years) representing a wide range of ethnicities (see additional materials for a complete description). Participants on MTurk were paid \$1.85 USD, and student participants were awarded course credit in appreciation for their time.

A sensitivity analysis using G*Power (Faul et al., 2007) revealed that our final sample size could detect effects of $f = 0.21$, with >80% power, two-tailed $\alpha = .05$ for a one-way analysis of variance (ANOVA).

Procedure

We invited participants to complete an online study they believed to be about public perceptions of the CAF. Participants first completed an online questionnaire that included some filler items to disguise our focus on gender and the military (e.g., personality measures) and additional exploratory measures that were part of the broader thesis of which this research was a part (i.e., belief in a just world, political orientation; see additional materials). Then participants read a brief summary (i.e., a *brief*) of gender inequality in the CAF, ostensibly written by a highly respected woman who is an expert in the Canadian military, as per Kim et al.'s (2018) procedure for their Study 2. The *brief* included statements such as

The percentage of women in the Canadian Armed Forces has barely budged over the past two decades. A meager 16 percent of military personnel are women and women occupy less than 9 percent of the top leadership positions. This means that when it comes to making the decisions that most affect our military and our country, women's voices are not heard equally. (See additional materials for the entire text)

Participants were then randomly assigned to one of three experimental conditions: a *no video* condition ($n = 77$), a *control video* condition ($n = 75$), or an *empowerment video* condition ($n = 69$). We have included links to the two videos and transcripts in the additional materials, but in brief, the control video was a standard informational video depicting male and female military personnel engaging in work like basic military training, aircraft maintenance, working on a naval ship, and evacuating injured personnel out of the

field, with the tag line "train for your true calling," whereas the empowerment video highlighted women's history and contributions to the military using empowerment messaging features like a focus on individual action, positive framing, and future focus, as we explained in the introduction (see additional materials for a complete transcript). After watching the assigned video, or no video, all participants completed the dependent measures, which were randomized within the questionnaire for each participant, and then completed a brief demographic questionnaire that included measures of socioeconomic status, education level, age, ethnicity, and gender, and an exploratory measure of willingness to join the military that was not relevant to the current research. Finally, participants were provided with a debrief and feedback letter revealing the true nature of the study and awarded their compensation.

Measures

Burden to Solve Gender Inequality. Participants used a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*) to indicate their agreement with four statements concerning women's *agency and ability* to solve gender inequality in the CAF (e.g., "Women have the power to address the problem," "Women are best able to tackle the problem," "Women are capable of dealing with the problem," and "Women have the potential to solve the problem") and two statements concerning women's *responsibility to solve* gender inequality in the CAF ("Women should do the work to fix the problem" and "Women are responsible for solving the problem"; Kim et al., 2018). Kim et al. (2018) treated these as two separate variables in their analysis and observed the same results for both variables (i.e., empowerment messaging increased scores on both variables). However, among our sample, the agency items did not hang together sufficiently to warrant the creation of a distinct variable ($\alpha = .56$). Therefore, we opted to average all six items to yield an adequately reliable index of women's *burden to solve* gender inequality ($\alpha = .65$) for three reasons: (a) our hypothesized effects were identical for both measures; (b) the measures loaded onto a single factor in exploratory factor analysis (see additional materials); and (c) we were not concerned with distinguishing between agency and responsibility in our theorizing. Participants also rated the same six statements concerning men's *burden to solve* gender inequality in the CAF ($\alpha = .73$).

Blame for Causing Gender Inequality. Participants used the same 7-point scale to indicate their agreement with two statements concerning the blame placed on women for causing gender inequality in the CAF ("Women have caused the problem" and "Women have contributed to the problem"; Kim et al., 2018). Items were averaged to yield a measure of women's *blame for causing* gender inequality in the CAF that had adequate reliability ($\alpha = .64$). Participants again answered the same questions about men ($\alpha = .78$).

Results and Discussion

Confirmatory Hypotheses

We tested our first two hypotheses concerning the burden and blame placed on women with a series of two ANOVAs in which condition (no video vs. control video vs. empowerment video) was used to predict each dependent measure. Results are presented in the top half of Table 2.

Table 2

Perceptions of Burden to Solve and Blame for Causing Gender Inequality in the CAF as a Function of Experimental Condition in Experiment 1

Variable	df	Mean square	F	p	η^2
DV: Women's burden to solve					
Condition	2	2.63	4.36	.014	.038
Error	218	0.60			
DV: Women's blame for causing					
Condition	2	3.39	2.47	.087	.022
Error	218	1.38			
DV: Men's burden to solve					
Condition	2	1.85	2.69	.070	.024
Error	218	0.69			
DV: Men's blame for causing					
Condition	2	1.68	1.19	.305	.011
Error	218	1.41			

Note. CAF = Canadian Armed Forces; DV = dependent variable; df = degrees of freedom.

Consistent with H1, the video condition predicted perceptions of women's burden to solve gender inequality in the CAF. As indicated in Table 3, least significant difference testing indicated that participants rated women's burden to solve gender inequality in the CAF higher in the empowerment video condition than in the no video condition, 95% confidence interval (CI) of the mean difference [.12, .62], $p = .004$, $d = .48$, or the control video condition, 95% CI of the mean difference [.01, .52], $p = .042$, $d = .36$. The no video condition and the control video condition did not differ on this variable, 95% CI of the mean difference [−.35, .14], $p = .401$, $d = .12$.

Our parallel analyses for blame placed on women for causing gender inequality in the CAF did not support H2, in that there was not a detectable main effect of condition on this variable.

We explored the effect of the video manipulation on men's burden to solve gender inequality and blame placed on men for causing gender inequality using the same two ANOVAs described previously (see the bottom half of Tables 2 and 3). Video condition did not influence perceptions of men's burden to solve gender inequality in the CAF nor did video condition influence blaming of men for causing gender inequality in the CAF.

Mediation Analysis

Although our results conceptually replicated Kim et al.'s (2018) finding that empowerment messaging increased perceptions of

women's burden to solve gender inequality in the workplace, we did not observe the direct effects of the video manipulation on blaming of women for causing gender inequality in the CAF. Thus, our results did not replicate Kim et al. (2018) in this respect. However, the absence of a direct effect of the empowerment video on blaming of women for causing gender inequality does not preclude the possibility that an indirect effect may exist via a mediator variable (Hayes, 2009). Thus, it is possible that empowerment messaging increases perceptions of women's burden to solve gender inequality, which in turn has the downstream effect of predicting heightened blaming of women for causing gender inequality in the CAF (i.e., messaging condition → women's burden to solve → blaming women for causing). Indeed, Kim et al. (2018) observed a similar indirect effect in their research (see the additional materials for Kim et al., 2018). Thus, we proceeded to test this possibility with a mediation analysis. Note that we did not conduct a parallel analysis for men's burden and blame because video condition did not predict the proposed mediator and thus mediation was not possible.

Because our video condition manipulation had three conditions, following Aiken et al. (1991), we created two dummy-coded condition variables to use in these analyses: C1 contrasted the empowerment video condition with the no video condition (*empowerment video* = 0, *control video* = 0, *no video* = 1) and C2 contrasted the empowerment video condition with the control video condition (*empowerment video* = 0, *control video* = 1, *no video* = 0). By entering both C1 and C2 into the mediation model, we were able to obtain a coefficient estimating both indirect effects simultaneously, one of which examined the indirect effect of the empowerment video versus no video (C1) and one of which examined the indirect effect of the empowerment video versus the control video (C2). We then used Hayes' (2022) PROCESS macro v4.0 for SPSS with 10,000 bootstrap samples to test a version of Model 4 in which $X_1 = C1$, $X_2 = C2$, M = women's burden to solve gender inequality, and Y = women's blame for causing gender inequality. The results of the mediation analysis are reported in Table 4 and Figure 1 (please also see the additional materials for a discussion of the significant c_1 and c_1' paths in Figure 1, which may be indicative of suppression).

Consistent with our proposed mediation model, the results confirmed that relative to the no video condition, the empowerment video caused participants to place more burden on women to solve gender inequality (i.e., path a_1 in Figure 1; note that because C1 coded the empowerment video condition as 0 and the no video condition as 1, path a_1 is negative in these analyses, but it still reflects a condition difference whereby the experimental condition scored higher than the no video condition). In turn, heightened perceptions

Table 3

Burden to Solve and Blame for Causing Gender Inequality as a Function of Experimental Condition in Experiment 1

Variable	No video	Control video	Empowerment video
Women's burden to solve	4.64 (0.83) _a	4.74 (0.78) _b	5.01 (0.71) _{a,b}
Women's blame for causing	2.84 (1.27)	2.63 (1.13)	2.41 (1.11)
Men's burden to solve	4.77 (0.89)	5.08 (0.78)	4.86 (0.81)
Men's blame for causing	5.31 (1.06)	5.03 (1.22)	5.25 (1.27)

Note. Numbers in brackets are standard deviations. Pairs of means within a given row that share a subscript are statistically different from one another at $p < .05$.

Table 4
PROCESS Results Testing Mediation Model in Experiment 1

Variable	β	b [CI]	SE	t	p	R^2
DV: Women's blame for causing						0.02
Constant		2.41 [2.13, 2.68]	0.14	17.03	<.001	
X ₁ (path c_1)	.18	0.43 [0.05, 0.82]	0.19	2.22	.027	
X ₂ (path c_2)	.09	0.23 [-0.16, 0.61]	0.20	1.16	.246	
DV: Women's burden to solve						0.04
Constant		5.01 [4.83, 5.19]	0.09	53.62	<.001	
X ₁ (path a_1)	-.23	-0.37 [-0.62, -0.12]	0.13	-2.88	.004	
X ₂ (path a_2)	-.16	-0.27 [-0.52, -0.01]	0.13	-2.05	.042	
DV: Women's blame for causing						0.05
Constant		1.20 [0.15, 2.23]	0.53	2.25	.025	
X ₁ (path c_1')	.21	0.52 [0.14, 0.91]	0.20	2.66	.008	
X ₂ (path c_2')	.12	0.29 [-0.09, 0.68]	0.20	1.49	.137	
W's burden to solve (path b)	.16	0.24 [0.04, 0.44]	0.10	2.39	.018	

Note. DV = dependent variable; CI = confidence interval; SE = standard error. Path labels refer to Figure 1.

of women's burden to solve gender inequality predicted heightened blaming of women for causing gender inequality (i.e., path b in Figure 1). This indirect path was significant (i.e., path $a_1 \times b$ in Figure 1). The results also confirmed that relative to the control video condition, the empowerment video caused participants to place more burden on women to solve gender inequality (i.e., path a_2 in Figure 1; note that once again, because C2 coded the empowerment video condition as 0 and the control video condition as 1, path a_2 is negative in these analyses, but it still reflects a condition difference whereby the experimental condition scored higher than the control video condition), and once again, the mediation analysis comparing the empowerment video to the control video was significant (i.e., path $a_2 \times b$ in Figure 1).

Experiment 2

In our second experiment, we sought to replicate the results of Experiment 1, but to reduce the required sample size and simplify our analyses, we compared the empowerment video condition to the no video condition only. We also extended Experiment 1 by including men in our sample, to explore potential gender differences in responses to empowerment messaging.

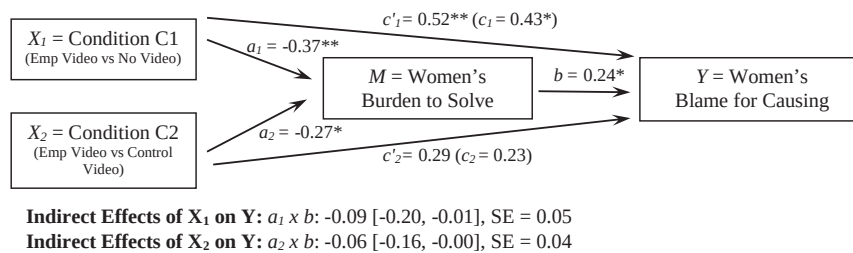
Method

This experiment was preregistered on the Open Science Framework at <https://osf.io/x6szm/registrations>.

Participants

We aimed to recruit at least 580 participants, including at least 200 men, based on power calculations using the effects we observed in Experiment 1 as the benchmark (see additional materials). As in Experiment 1, participation was limited to Canadian citizens. In total, we recruited 666 eligible participants from the University of Victoria research subject pool. We excluded 77 participants for the following reasons: failing to complete the dependent variables ($n = 22$); failing the attention check (selecting a response other than "strongly disagree" to the question "Please select strongly disagree. This is for verification purposes"; $n = 40$); taking longer than 1 hr to complete the survey ($n = 15$). Because we planned to explore gender differences in our analyses, we excluded participants who did not report their gender ($n = 4$). We did not have an adequate sample of nonbinary participants to explore gender differences including those individuals, so we also excluded participants who reported a nonbinary gender from our analyses ($n = 7$). Our final sample

Figure 1
Mediation Model for Experiment 1



Note. Emp = empowerment; SE = standard error.

* $p < .05$. ** $p < .01$.

included 578 participants (395 women, $M_{\text{age}} = 20.86$ years, $SD_{\text{age}} = 3.97$, range = 18–54 years; 183 men, $M_{\text{age}} = 21.40$ years, $SD_{\text{age}} = 4.43$, range = 17–50 years).

A sensitivity analysis using G*Power (Faul et al., 2007) revealed that our final sample size of 578 could detect effects of $f = 0.12$, with $>80\%$ power, two-tailed $\alpha = .05$ for a two-way ANOVA.

Procedure

The procedure for Experiment 2 was identical to Experiment 1, except participants were randomly assigned to one of two experimental conditions: *no video* ($n = 291$) or *empowerment video* ($n = 287$).

Measures

The measures for Experiment 2 were identical to Experiment 1 and had the following reliabilities: women's burden $\alpha = .69$; women's blame $\alpha = .68$; men's burden $\alpha = .72$; men's blame $\alpha = .77$.

Results and Discussion

Confirmatory Hypotheses

We tested our first hypothesis concerning women's burden to solve gender inequality in the CAF with a 2 (condition: no video vs. empowerment video) $\times$ 2 (binary gender: women vs. men) ANOVA. Including participant gender in the ANOVA allowed us to explore potential gender effects. Results are presented in Table 5. There was a main effect of the video condition on participant ratings for women's burden to solve gender inequality in the CAF, such that participants

rated women's burden to solve higher in the empowerment video condition ($M = 4.75$, $SD = 0.83$) than in the no video condition ($M = 4.57$, $SD = 0.87$). These results replicate the results of Experiment 1 and once again support H1.

Next, we used the same ANOVA to predict blaming of women for causing gender inequality in the CAF, which once again was nonsignificant and did not support H2 (empowerment condition: $M = 2.40$, $SD = 1.22$ vs. no video condition: $M = 2.48$, $SD = 1.16$; see Table 5). Instead, this test simply revealed a main effect of participant gender: Compared to women, men blamed women more for causing gender inequality in the CAF ($M_s = 2.83$ vs. 2.26, $SD_s = 1.26$ vs. 1.11).

Using the same ANOVA once again, video condition did not predict perceptions of men's burden to solve gender inequality in the CAF (empowerment condition: $M = 5.06$, $SD = 0.80$ vs. no video condition: $M = 5.03$, $SD = 0.83$), but there was a main effect of participant gender whereby compared to women, men placed less burden on men to solve gender inequality in the CAF ($M_s = 4.91$ vs. 5.11, $SD_s = 0.80$ vs. 0.79; see Table 5).

There was also no main effect of video condition on blaming of men for causing gender inequality (empowerment condition: $M = 5.41$, $SD = 1.22$ vs. no video condition: $M = 5.40$, $SD = 1.19$), but there was another main effect of participant gender whereby compared to women, men once again placed less blame on men for causing gender inequality in the CAF ($M_s = 5.15$ vs. 5.52, $SD_s = 1.24$ vs. 1.17; see Table 5).

Mediation Analysis

The results of Experiment 2 replicated the results of Experiment 1, observing that empowerment messaging increased perceptions of women's burden to solve gender inequality in the CAF, whereas there was no direct effect of video condition on blaming of women for causing gender inequality in the CAF. Thus, we tested this same mediation model that we tested in Experiment 1. To facilitate comparison between experiments, for this analysis, we also recoded the condition variable to match Experiment 1 (0 = *empowerment video*, 1 = *no video*). Once again, we did not conduct a parallel analysis for men's burden and blame because video condition did not predict the proposed mediator and thus mediation was not possible.

In our mediation analysis, we used Hayes' (2022) PROCESS macro v4.0 for SPSS with 10,000 bootstrap samples to test a version of Model 4 in which X = video condition, M = women's burden to solve gender inequality, and Y = blaming of women for causing gender inequality. Participant gender was also included as a covariate in the model to account for the main effects of gender that we described previously (results are similar if we do not control for gender). The results of the mediation analysis are reported in Table 6 and depicted in Figure 2.

The results confirmed that relative to the no video condition, the empowerment video caused participants to place more burden on women to solve gender inequality (i.e., path a in Figure 2), and in turn, heightened perceptions of women's burden to solve gender inequality predicted heightened blaming of women for causing gender inequality (i.e., path b in Figure 2). This indirect path was significant (i.e., path $a \times b$ in Figure 2; note that because the condition coded the empowerment video condition as 0 and the control conditions as 1, path a and the resultant indirect path are negative in these analyses, but it still reflects a condition difference

Table 5

Perceptions of Burden to Solve and Blame for Causing Gender Inequality in the CAF as a Function of Participant Gender and Experimental Condition in Experiment 2

Variable	<i>df</i>	Mean square	<i>F</i>	<i>p</i>	η^2
DV: Women's burden to solve					
Condition	1	3.65	5.04	.025	.009
Participant gender	1	0.00	0.00	.990	.000
Condition $\times$ Participant Gender	1	0.15	0.20	.654	.000
Error	574	0.72			
DV: Women's blame for causing					
Condition	1	0.74	0.55	.459	.001
Participant gender	1	41.30	30.59	<.001	.051
Condition $\times$ Participant Gender	1	0.21	0.15	.697	.000
Error	574	1.35			
DV: Men's burden to solve					
Condition	1	0.41	0.64	.424	.001
Participant gender	1	4.87	7.63	.006	.013
Condition $\times$ Participant Gender	1	0.46	0.73	.394	.001
Error	574	0.64			
DV: Men's blame for causing					
Condition	1	0.46	0.32	.571	.001
Participant gender	1	17.48	12.29	<.001	.021
Condition $\times$ Participant Gender	1	1.75	1.23	.268	.002
Error	574	1.42			

Note. CAF = Canadian Armed Forces; DV = dependent variable; *df* = degrees of freedom.

Table 6
PROCESS Results Testing the Mediation Model in Experiment 2

Variable	β	b [CI]	SE	t	p	R^2
DV: Women's blame for causing						0.00
Condition (path c)	-.04	-0.09 [-0.28, 0.11]	0.10	-0.88	.378	
DV: Women's burden to solve						0.01
Constant		4.75 [4.46, 4.86]	0.06	85.17	<.001	
Condition (path a)	-.11	-0.18 [-0.32, -0.04]	0.07	-2.59	.010	
Participant gender	.00	0.00 [-0.15, 0.15]	0.08	0.01	.990	
DV: Women's blame for causing						0.08
Constant		1.09 [0.54, 1.63]	0.28	3.93	<.001	
Condition (path c')	.06	0.14 [-0.05, 0.32]	0.10	1.41	.158	
Women's burden to solve (path b)	.17	0.24 [0.13, 0.35]	0.06	4.22	<.001	
Participant gender	.23	0.57 [0.37, 0.78]	0.10	5.61	<.001	

Note. DV = dependent variable; CI = confidence interval; SE = standard error. Path labels refer to Figure 2.

whereby the experimental condition scored higher than the control conditions).

General Discussion

We sought to conceptually replicate and extend Kim et al.'s (2018) research demonstrating that exposure to written empowerment messaging concerning women's empowerment in the general workforce increases the burden placed on women to solve gender inequality while also increasing the blame placed on women for causing gender inequality. In our experiments, we tested whether exposure to a video from the CAF that used empowerment messaging increased perceptions of women's burden to solve gender inequality while also increasing blaming of women for causing gender inequality in the CAF.

Consistent with our first hypothesis (H1), compared to the control condition(s), exposure to the CAF video that used empowerment messaging increased the burden placed on women to solve gender inequality in the CAF in both experiments.

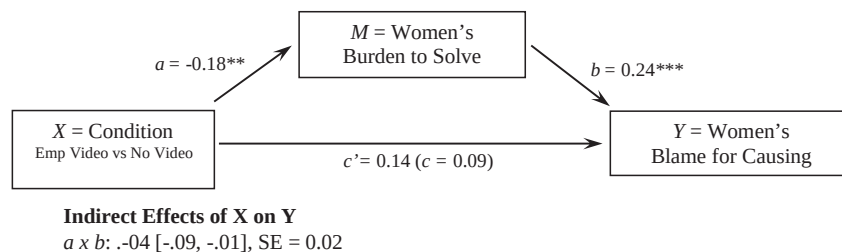
Our second hypothesis (H2) was not supported: Exposure to the CAF empowerment video did not directly affect blaming of women for causing gender inequality in the CAF. However, both experiments supported our exploratory mediation model: Exposure to the CAF empowerment messaging increased perceptions of women's burden to solve gender inequality, which in turn predicted heightened blaming of women for causing gender inequality in the CAF. We also observed that men were generally more blaming of women and forgiving of men for causing gender inequality in the CAF. Because the CAF is 84%

men, these are concerning findings, such attitudes may pose an additional barrier for overcoming gender inequality in the CAF.

Implications

Empowerment messaging is common and popular in Western society (Kim et al., 2018), and thus understanding the psychology of empowerment messaging is important for the fields of social psychology, communication, and organizational psychology, among other fields. Kim et al. (2018) examined empowerment messaging in written and audio formats that were offered by a successful businesswoman. We examined empowerment messaging communicated in a video format that was offered by a public Canadian institution. Text and video media are different because readers control the rate of incoming information by reading texts at their own pace, whereas viewers of video media do not exert such control. This difference in controllability could plausibly affect how individuals are impacted by the information (Busselle & Bilandzic, 2009). For example, readers may absorb more of, and conceivably be more impacted by, the information they are reading because they can reread portions that they missed from inattention or dense portions that require a deeper understanding. Viewers who miss information in a video because they are distracted may not be able to revisit those portions; at least, they were not able to do so in our experiment. We did not observe the same direct effect of empowerment messaging on blaming of women for causing gender inequality that Kim et al. (2018) observed, and this difference in processing between written

Figure 2
Mediation Model for Experiment 2



Note. Emp = empowerment; SE = standard error.
 $^{**}p < .01$. $^{***}p < .001$.

and video messaging could account for the less consistent effects that we observed.

Moreover, previous research has observed that a communicator with negative attributes may be more persuasive in written media than in video or audio media (Chaiken & Eagly, 1983). Though we did not measure participant attitudes about the CAF, participants could conceivably hold negative views about the CAF, just as the participants in Kim et al. (2018) research may have held negative attitudes towards a polarizing figure like Sheryl Sandberg. Thus, the fact that we used a CAF empowerment video rather than a CAF empowerment text may partially explain why we did not observe the same direct effects that Kim et al. (2018) observed with their written text. However, we did observe a direct effect for women's burden to solve gender inequality in the CAF and an indirect effect for blaming of women for causing gender inequality in the CAF. Therefore, our research using video messaging from an institution contributes to the limited empowerment literature by demonstrating that video messaging may still be compelling, even when coming from an institution with potentially negative attributes.

The current research also contributes to the understanding of gender inequality in the workplace. Popular neoliberalist beliefs in Western society focus on individual choice, even when addressing workplace gender inequality (Rutherford, 2018). However, resolving workplace gender inequality should not depend on individual women "taking risks, choosing growth, challenging ourselves, and asking for promotions (with smiles on our faces, of course)" (Sandberg, 2013, p. 63). Gender inequality in the workplace is connected to structural issues in organizations (Schmidt & Cacace, 2019). The responsibility to remedy workplace inequality should lie with the institution to make the necessary changes to create a welcoming and inclusive work environment (Kalev et al., 2006). Previous research has demonstrated that efforts to establish organizational responsibility for improving diversity were more effective at increasing managerial diversity than individual efforts such as mentoring and networking (Kalev et al., 2006). Our research provides further evidence that empowerment messaging increases the attributions of women's burden to solve gender inequality in the workplace and its use should be reconsidered in the cultural discourse around workplace gender inequality, especially when known structural barriers are preventing the full participation of women (Schmidt & Cacace, 2019; Waruszynski et al., 2019), as they do in the CAF.

Limitations

There were some limitations to these experiments. The internal consistency of some of the dependent measures was lower than ideal (i.e., less than 0.70), and thus, future research will need to develop and validate better measures of burden and blame to support knowledge in this area. We also cannot ensure that participants focused on the experiments without distractions because they participated online nor can we ensure that participants watched the video in the video conditions. To encourage watching the video, there was a timer set to prevent participants from continuing in the survey until the set time, the length of the video, elapsed, but we cannot evaluate its effectiveness. Another limitation of online research is the possibility of bots completing the surveys on MTurk, which may have impacted Study 1. Bots are automated programmes imitating humans to complete surveys on online platforms. We

specified a geographic region on MTurk—Canada—because this strategy can reduce bot participation. We also included two bot check questions (e.g., a captcha verification and a math question; no bots were detected with these checks). We would have preferred to conduct Experiment 2 in person to address these issues, but we were unable to do so because of the COVID-19 pandemic. Future research should be conducted in person to enhance participant focus and prevent any possibility of bot participation.

Another limitation is the sample composition. Experiment 2 had uneven numbers of women and men (395 vs. 183), which may have affected the ANOVA results because it violates some of the assumptions of that test. Our samples also included participants with a wide range of ages; yet, we were not able to examine moderation by age because all ages were not equally represented. Future research should address these issues. Additionally, fully 73% of the participants for Experiment 1, and all participants for Experiment 2, were undergraduate students. Findings from this student sample may not generalize to other populations. Students may have higher education and higher SES than the general population, and this may impact their responses to our dependent measures about gender inequality. Conceivably, university-educated individuals may be less likely to place blame and responsibility on women for gender inequality because they hold more egalitarian values than their peers without postsecondary education (Henry, 2008). This sample difference may partly explain why we did not fully replicate Kim et al. (2018). Individuals with greater egalitarianism values might be more likely to view gender inequality as a societal issue that requires systemic changes rather than placing blame on individuals or on one group of individuals. Future research should examine this possibility.

Future Directions

Advice from *Lean In* is based on the experiences of a White socioeconomically privileged woman (Chrobot-Mason et al., 2019). The experiences of White women may be different from the experiences of women with multiple marginalized identities. Other marginalized identities can include race, sexual orientation, disability, neurodiversity, and more. The combination of multiple marginalized identities, such as a Black woman or a lesbian immigrant woman, and their complex experiences of discrimination is known as *intersectionality* (Crenshaw, 1989). Chrobot-Mason et al. (2019) examined the literature concerning women of colour in leadership roles and concluded that women of colour were already leaning in long before Sandberg (2013) wrote her book, but their careers might suffer when applying some of Sandberg's advice. Chrobot-Mason et al. (2019) also concluded that Sandberg's advice is irrelevant for women with lower socioeconomic status who lack agency, mentors, and advancement in their jobs. Moreover, women holding multiple marginalized identities may have different responses to the messaging. If the messaging is irrelevant to some women, it is plausible that these women might not experience an increased burden to solve gender inequality. Future research should take an intersectional lens to examine how various marginalized identities are impacted by empowerment messaging.

Future research may seek to identify if there are elements of empowerment messaging that may be implemented to help individuals without the harmful attributions observed in our experiments. Kim et al. (2018) examined whether tying women's

internal barriers to external social structures would affect attributions. Unfortunately, this manipulation undermined the empowerment message, suggesting that individualistic agency may be an inseparable part of empowerment messaging. Thus, more research is needed to determine whether empowerment messaging can be framed so that it does not burden and blame women for gender inequality in the workplace.

Future research should also focus on men's responsibility to solve gender inequality. Anisman-Razin et al. (2018) observed that if a woman talks about gender inequality in the workplace, she may encounter personal costs including being evaluated more negatively by men and having men be less interested in befriending her. These negative consequences may discourage her from continuing to speak up about gender inequality or even lead her to quit her job, thereby perpetuating the status quo of gender inequality in the workplace. As this example suggests, men in the workplace tend to defend the status quo regarding gender inequality initiatives in their workplaces (Cortis et al., 2022). Cortis et al. (2022) reported that male leaders supported the status quo more so than female leaders and that junior men reported better organizational gender equality climates than women. These findings are problematic because men must acknowledge there is gender inequality in the workplace if they are going to advocate for resolving the issue. Further, as we observed in Experiment 2, compared to women, men placed greater blame on women and less blame on men for gender inequality in the CAF. Gender inequality is a systemic issue that should not fall on one gender to resolve but instead will require concerted efforts from everyone to effect the necessary structural changes. Future research is needed to explore how to engage everyone, including men, to address workplace gender inequality.

Conclusion

Empowerment messaging in public communications from the CAF has the unintended direct consequence of increasing the burden on women for solving gender inequality in the workplace, while also indirectly predicting increased blaming of women for causing gender inequality in the workplace. These outcomes have the potential to harm women while being unlikely to result in meaningful structural changes to the organization. Institutions like the CAF that are grappling with gender inequality may want to avoid empowerment messaging in their public communications to avoid these potential harms.

Résumé

L'inégalité entre les sexes persiste sur le lieu de travail et en particulier dans les organisations à dominante masculine comme les Forces armées canadiennes (FAC). L'une des réponses culturelles à l'inégalité entre les sexes est le message d'attribution de pouvoir, qui met l'accent de manière optimiste et individualiste sur la capacité des femmes à agir et à réussir dans la vie. Bien que ces messages puissent sembler bénéfiques à première vue, ils ont pour conséquence négative non intentionnelle d'accroître la responsabilité des femmes dans l'inégalité entre les sexes. Nous avons proposé que cette conséquence négative non intentionnelle s'applique aux messages d'attribution de pouvoir concernant le rôle des femmes dans les FAC. Dans deux expériences ($N = 812$ au total), dont l'une était préenregistrée, les résultats ont démontré que l'exposition à des messages d'attribution de pouvoir dans une vidéo d'information

produite par les FAC augmentait directement le fardeau imposé aux femmes pour résoudre l'inégalité entre les sexes dans les FAC et prédisait indirectement plus de blâme sur les femmes pour avoir causé l'inégalité entre les sexes dans les FAC. Cette recherche suggère que les FAC devraient éviter les messages d'attribution de pouvoir dans leurs communications publiques afin d'éviter de nuire aux femmes, en particulier maintenant que l'organisation est aux prises avec le problème systémique de l'inégalité entre les sexes.

Mots-clés : messages d'attribution de pouvoir, inégalité des sexes, militaires, Forces armées canadiennes

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