The Relationship Between Characteristics of Collective Action, Introversion/Extraversion, and Collective Action Endorsement

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The Relationship between Characteristics of Collective Action, Introversion/Extraversion, and Collective Action Endorsement

By

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Abstract
Given the social and psychological benefits of collective action, it is important to understand what motivates participation. The most heavily researched predictors of collective action are group-level predictors (e.g., perceived group injustice). Although these are consistent predictors, they still show only small to moderate relationships with collective action. Thus, the current research focused on individual-level predictors. First, the personality trait introversion/extraversion was examined; given extraverts’ enjoyment of social situations, it was predicted that extraverts would endorse collective action more than introverts. Another consideration is how individuals perceive collective action along various characteristics such as whether the action is perceived as active/passive or private/public. Specifically, collective action characteristics that are consistent with introversion (e.g., private, normative, low social cost, safe) were expected to predict introverts' endorsement of collective action, whereas collective action characteristics consistent with extraversion (e.g., public, active, non-normative) were expected to predict extraverts' endorsement. Study 1 (N=179) used correlational methods to test whether introversion/extraversion moderated the effect of perceived characteristics on endorsement. Results showed that among introverts, perceiving collective action as higher in risk and social cost was associated with lower endorsement. Also, among introverts, perceiving collective action as more effective and formal was associated with greater endorsement. Among extraverts, perceiving collective action as more public was associated with greater endorsement. Study 2 (N=297) tested the causal impact of perceived social cost of participating in the online campaign, #MeToo, on endorsement of collective action, and how that relationship may be moderated by introversion/extraversion. Participants randomly assigned to read about the high social cost of participating in #MeToo endorsed social media activism significantly less than participants in the low social cost condition, although there was no significant interaction with
introversion/extraversion. To better understand how participants differentially perceive the risk of online and offline collective action, Study 3 (N=185) asked participants to write a few sentences describing how they perceived the risk of both types of action. Their language use was analyzed and showed that offline action was described using more emotional, anxiety, risk, reward, and achievement words than were used to describe online action; however, this was not related to introversion/extraversion. Findings were discussed in the context of how personality may be utilized to enhance collective action.

Keywords: introversion, extraversion, collective action, online collective action, risk, social cost
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The Relationship between Characteristics of Collective Action, Introversion/Extraversion, and Collective Action Endorsement

In 2017, the Women’s March gathered 500,000 women and allies in Washington, and millions more in mini marches around the globe, to demand action against domestic violence and protection of reproductive rights (Presley & Presswood, 2018). In 2017, the Me Too movement, originally created by Tarana Burke in 2006, was reignited on Twitter with #MeToo. The movement empowered millions of women to share their stories of sexual assault and harassment, and demand justice (Santiago & Criss, 2017). These movements are real-world examples of collective action, namely, any action taken individually or in a group for the benefit of the group (Wright & Lubensky, 2009).

The benefits of collective action are both social and psychological. Socially, collective action is an impetus for positive social change through its impact on bystanders’ perceptions of social issues, and their behaviour. For example, Thomas and Louis (2014) found that, in comparison to participants in a control condition who did not read about collective action, participants who were randomly assigned to read about non-violent collective action taken in response to coal mining rated the status quo as more illegitimate (i.e., they believed that mining is harmful, and therefore action against it is legitimate). They also believed that the group of activists had the efficacy to create change. In turn, these perceptions increased support for future collective action. In regard to gender discrimination, confrontation can even reduce future bias. For instance, Mallett and Wagner (2011) found that when confronted about use of sexist language during an experimental task, male participants were less likely to use sexist language in subsequent tasks.
Collective action also has psychological benefits for participants. Collective action indicators (e.g., activist identity, commitment to activism, behavioural intentions to engage in activism, and past participation in activism) are positively correlated with measures of hedonic well-being (i.e., life satisfaction, frequency of positive and negative emotion), eudaimonic well-being (i.e., making meaning out of one’s life and expressing oneself), and social well-being (i.e., the appraisal of one’s circumstances and functioning in society measured with items such as, “I feel close to other people in my community”; Klar & Kasser, 2009). Additionally, Klar and Kasser (2009) found that participants who engaged in a brief activist activity experienced higher levels of subjective vitality (i.e., a state of feeling alive and alert; Ryan & Deci, 2001) than participants who participated in a control activity. Kaplan and Liu (2000) found that participating in a social movement (measured with self-reported participation in a protest, strike, riot, or demonstration for any cause during the month prior to the study) was associated with increased feelings of self-worth among adolescents with stigmatized identities. Drury and Reicher (2005) found that participating in a protest to prevent a road being built over green space fostered empowerment and improved psychological well-being. Further, in a longitudinal study by Boehnke and Wong (2011), among adolescents who reported worries such as concern over environmental destruction, nuclear power plant accidents, world hunger, and overpopulation, those who engaged in collective action had higher well-being as adults compared to participants who did not engage in collective action.

Although less research has focused specifically on the psychological benefits of collective action against gender discrimination, findings are similar in that confronting gender discrimination specifically also offers benefits to women’s well-being. These benefits include increased feelings of competence, self-esteem, empowerment (Gervais, Hillard, & Vescio, 2010),
and psychological well-being (Foster, 2013; 2014; 2015). For example, Foster (2014) found that when undergraduate women perceived gender discrimination as pervasive, engaging in collective action such as informing friends, family, or the media, reduced negative mood and improved psychological well-being. Additionally, Foster (2015) found that after being exposed to sexism, undergraduate women who tweeted a response on the social media website Twitter experienced reduced negative affect and increased psychological well-being over three days of tweeting, compared to women who did not tweet a response. Conversely, not confronting perceived sexism can lead to negative self-directed thoughts and rumination (Shelton, Richeson, Salvatore, & Hill, 2006). Yet, despite the positive social and psychological benefits of collective action, women do not often confront the gender discrimination they face (e.g., Ayres, Friedman, & Leaper, 2009; Fletcher & Chalmers, 1991; Foster, 2009; Jost, Becker, Osborne, & Badaan, 2017; Lalonde & Silverman, 1994). As such, it is worthwhile to develop a better understanding of the predictors of collective action, so that women can benefit from attempts to change the status quo.

Perhaps the most well-researched predictors of collective action are group-focused predictors which are factors related to one’s group membership. These include perceived injustice against one’s group, perceived group efficacy to correct the injustice, and politicized identity (i.e., a collective identity beyond a simple identification with a social group to encompass the desire to fight for equity on behalf of that group; Simon & Klandermans, 2001). Although these variables are consistent predictors of collective action, they still only show small to moderate relationships with collective action (van Zomeren, Postmes, & Spears, 2008). This leaves open the possibility that other predictors, such as individual-focused variables (e.g., individual differences such as personality), may also play a role in collective action.
However, an individual focus in collective action research has been historically criticized as insufficient for predicting collective action. For instance, Schrager (1985) argues that internal factors are over-estimated in the amount of impact they can have on collective action because self-reported attitudes are inherently flawed as subjective measures. However, ignoring the contribution of individual variables may not be appropriate either (Duncan, 1999; Duncan & Stewart, 2007), in that it is the individual who ultimately decides to participate in collective action. Indeed, past research has found that individual differences such as personal political salience (i.e., the extent to which an individual sees political events as relevant to themselves; Duncan, 1999), and openness to experience (Mondak, Hibbing, Canache, Seligson, & Anderson, 2010) are associated with higher participation in collective action. Moreover, individual-level variables may become increasingly important now that digital forms of collective action (e.g., hashtags activism) which can be conducted individually are becoming increasingly popular (Foster, 2019).

An individual-level variable that may be particularly relevant is the personality trait introversion/extraversion, as many collective actions involve engagement in a social context, for instance, attending a protest or volunteering. Typically, extraverts are characterized as enjoying social attention and stimulating social situations and external stimuli, whereas introverts prefer less stimulating social situations and external stimuli (Ashton, Lee, & Paunonen, 2002). As such, we might expect introverts to be less engaged in collective action than extraverts. In support of this expectation, one previous study found that extraversion is associated with an increased likelihood of engaging in political action that involves social activities, for example, campaigning for a politician by calling constituents on the phone, but not associated with non-social political activities such as placing a bumper sticker with a political message on one’s car.
However, introversion/extraversion has not yet been examined in the context of women’s collective responses to gender discrimination. Therefore, the first purpose of this research was to examine differences in collective action endorsement in response to sexism. Understanding how introversion/extraversion influences participation in collective action against gender discrimination might help to inform methods of increasing collective action.

- Hypothesis 1: It was hypothesized that higher extraversion would be associated with higher collective action endorsement.

Another consideration in predicting collective action is how it is perceived by individuals. Lalonde, Stroink, and Aleem (2002) have argued that the way an individual perceives collective action with regard to various characteristics will play a role in the extent to which they endorse collective action. To test this, participants read scenarios depicting discrimination, and were presented with a list of collective actions they could take in response. Participants were asked to rate each action with regard to nine characteristics (e.g., safe/risky, effective/ineffective). For example, participants were asked to rate the action “filing a lawsuit” on a five-point semantic differential scale on the degree to which filling a lawsuit was 1(safe) to 5(risky). This was repeated for several other characteristics such as 1(private) to 5(public). These characteristics of collective action influenced participants’ endorsement of collective action. Results showed that the more participants rated actions as low in cost and highly normative, the more they were endorsed. Moreover, this relationship was moderated by ethnicity such that participants who identified as a racial minority (in this sample, Black and South Asian participants) showed a stronger preference for action when they defined it as safe, and White participants showed a stronger preference for action when they defined it as preparatory. This finding is important in that it suggests that the relationship between how collective action is
perceived and whether it is endorsed can be moderated by additional personal factors, such as one’s ethnicity and/or the personal experiences of past discrimination that co-occur with that ethnicity.

One other personal factor may be the personality trait introversion/extraversion. Indeed, it is the individual who decides whether to participate in collective action, and whether they do so may be based on the interaction between their individual personality and how they perceive that action. Further, certain characteristics of collective action may be more consistent with either introversion or extraversion. For example, essential components of extraversion include sociable, gregarious, and affiliative tendencies (Hills & Argyle, 2001). Fishman, Ng, and Bellugi (2011) found that social stimuli (e.g., pictures of human faces) evoke more attention from, and have a higher reward value for extraverts than other pleasant stimuli (e.g., pictures of flowers), but this difference was not observed in introverts. There is also evidence for differences in introverts’ and extraverts’ optimal level of arousal. For instance, Furnham and Strbac (2002) found that introverts and extraverts had similar performance on a reading comprehension task when the task was performed in silence, but introverts performed significantly worse than extraverts when the task was performed while listening to music or background noise.

Different preferences for social stimuli and differences in optimal level of arousal between introverts and extraverts suggest that extraverts may prefer collective action when they perceive it as public compared to private, and active compared to passive. These characteristics might signal to individuals the opportunity to engage socially and increase their level of stimulation. Conversely, introverts tend to be lower in the sociable and gregarious traits that comprise extraversion. They are also more sensitive to potentially aversive social situations and over-predict how aversive certain social situations will be. For example, Graziano, Bernstein
Feldesman, and Rahe (1985) found that introverts predicted that participating in a competitive task with other participants would be more aversive than extraverts predicted; as such, we may expect introverts to prefer action that is private compared to public.

- **Hypothesis 2:** Introversion/extraversion will interact with the private/public characteristic such that, Hypothesis 2a: for extraverts, the more action is perceived as public, the more it will be endorsed. Further, Hypothesis 2b: for introverts, the more action is perceived as public, the less it will be endorsed.
- **Hypothesis 3:** Introversion/extraversion will interact with the active/passive characteristic such that, Hypothesis 3a: for extraverts, the more action is perceived as active, the more it will be endorsed, however, Hypothesis 3b: for introverts, the relationship between passive/active characteristic and endorsement will be negative.

There is also evidence that extraverts are more sensitive to reward than punishment compared to introverts (Zuckerman, Joireman, Kraft, & Kuhlman, 1999), and more willing to take risks. For example, Watson and Pulford (2004) found that people who participate in extreme sports score higher in extraversion than those who do not participate, and Li and Liu (2008) found that participants high in extraversion were consistently more risk-seeking in an investment task. Therefore, extraverts may be more willing to engage in action that they perceive as non-normative (i.e., actions that go against social norms).

Conversely, introverts tend to be more inhibited by punishments than are extraverts (Ball & Zuckerman, 1990; Zuckerman et al., 1999), and therefore may be inhibited from participating in collective action by perceived negative consequences. As such, in order to avoid potential negative consequences, introverts may prefer collective action that is perceived as normative.
compared to non-normative, low in social cost compared to high in social cost, and safe compared to risky.

- Hypothesis 4: Introversion/extraversion will interact with the non-normative/normative characteristic such that, Hypothesis 4a: for extraverts, the more action is perceived as non-normative the more it will be endorsed, however, Hypothesis 4b: for introverts, the more action is perceived as non-normative the less it will be endorsed.

- Hypothesis 5: Introversion/extraversion will interact with the low/high social cost characteristic such that, Hypothesis 5a: for introverts, the more action is perceived as high in social cost, the less it will be endorsed, however, Hypothesis 5b: for extraverts, this relationship will be significantly weaker, or there will be a positive relationship between the low/high social cost characteristic and endorsement.

- Hypothesis 6: Introversion/extraversion will interact with the safe/risky characteristic such that, Hypothesis 6a: for introverts, the more action is perceived as risky, the less it will be endorsed, however, Hypothesis 6b: for extraverts, this relationship will be significantly weaker, or there will be a positive relationship between the safe/risky characteristic and endorsement.

Study 1

Background

The first purpose of Study 1 was to determine if there are differences in endorsement of collective action against gender discrimination between introverts and extraverts. It was hypothesized that extraverts would endorse collective action more than introverts. The second purpose was to test whether introversion/extraversion might moderate the effect of perceived
characteristics of collective action on collective action endorsement. It was hypothesized that, consistent with their preference for social stimulation, and their lower sensitivity to risk compared to introverts, extraverts would be more willing to engage in collective action when they perceived it as public compared to private (Hypothesis 2a), active compared to passive (Hypothesis 3a), and non-normative compared to normative (Hypothesis 4a). Further, it was hypothesized that introverts would want to avoid potential conflict or punishment and would endorse action less when they perceived it as public compared to private (Hypothesis 2b), non-normative compared to normative (Hypothesis 4b), high in social cost compared to low in social cost (Hypothesis 5a), and risky compared to safe (Hypothesis 6a). There were no other a-priori hypotheses regarding the other characteristics described by Lalonde et al. (2002), however, exploratory analyses were conducted on the remaining characteristics.

Although these characteristics were measured on a dimension scale (e.g., the low end of the scale represented perceiving action on one extreme of the characteristic, for example, safe, and the high end of the scale represented perceiving the action on the other extreme, for example, risky) it was not hypothesized that introverts and extraverts would behave in exact opposite manners. For example, it was hypothesized that introverts would be demotivated by perceived risk, but it was not hypothesized that extraverts would be motivated by perceived risk. Although as explained above, extraverts are more willing to take risks than introverts; this doesn’t necessarily mean that perceiving an action as risky will make an extravert want to engage more than perceiving it as safe.

Method

Participants and Procedure

Two-hundred and forty-five participants initially agreed to participate in this online study in exchange for course credit. Three participants were eliminated for not reporting their gender,
39 were eliminated for entering the survey and exiting without answering any questions, and 24 were eliminated for failing to respond to more than 20% of the questionnaires. Due to experimenter error, attention checks were not included in this study. One-hundred and seventy-nine undergraduate women\(^1\) were included in the final sample.

The mean age of participants was 21.16 years (SD=3.94 years). Sixty-seven percent of participants self-identified as White, 15% as Asian, 10% as South Asian, 4% as Black, and 4% as other or mixed race. Forty percent of participants identified their major as psychology, 21% as science (e.g. biology, chemistry, kinesiology, health sciences, computer science), 18% as arts (e.g. language, communications, child and youth studies, criminology, geography, sociology), 12% as business and economics, 2% as fine arts (e.g. music, film), 2% as social work, and 2% were undeclared or did not respond to this question.

Participants first read the study description on the undergraduate participant pool website; to reduce demand characteristics, they were told that the purpose of the study was to assess if personality traits can predict various opinions about social issues. Those who consented to participate were provided with a link to the questionnaires on the study website. They completed a series of questionnaires, including demographics, a personality inventory, a questionnaire about their perceptions of gender discrimination, their perceptions of different collective actions, and their endorsement of those actions. Participants were then debriefed.

\(^1\) Men were assessed in study 1 in order to satisfy departmental participant pool requirements, ensuring that there were sufficient opportunities for all students to earn credits. Measures were therefore re-worded for participants who identified as men. However, these data were not analyzed because predicting collective action on behalf of a group to which one does not belong (i.e., allyship) is beyond the scope of this research.
Measures

Big-5 Factor Inventory Short-Form (BFI; John & Srivastava, 1999). Participants answered the Big-5 Factor Inventory Short-Form (John & Srivastava, 1999) which assesses the Big-5 personality traits: openness to experience, contentiousness, extraversion, agreeableness, and neuroticism. Participants respond to statements such as, “I see myself as someone who is outgoing and sociable” on a scale from 1 (strongly disagree) to 5 (strongly agree). The mean across the eight items from the introversion/extraversion subscale was used as the overall introversion/extraversion score, with higher scores representing higher extraversion, and lower scores representing higher introversion ($\alpha=.85$). It is important to note that introversion/extraversion is a dimension and not a dichotomous variable, but for the sake of simplicity, participants high in extraversion will be referred to as extraverts, and participants high in introversion will be referred to as introverts.

Psychometric data shows good reliability for the BFI across various samples. De Fruyt, McCrae, Szirmak, and Nagy (2004) found a Cronbach’s alpha for the introversion/extraversion subscale of $\alpha=.91$ in an American sample, $\alpha=.91$ in a Belgian sample, and $\alpha=.89$ in a Hungarian sample. Hong, Paunonen, and Slade (2008) found that the BFI introversion/extraversion subscale also has good criterion validity. Extraversion scores were significantly positively correlated with several outcome criterion variables including alcohol consumption ($r=.25$), self-rating of popularity ($r=.57$), parties attended ($r=.36$), self-rating of attractiveness ($r=.33$), dating variety ($r=.20$), and routine exercise ($r=.29$).

Schedule of Sexist Events (SSE; Klonoff & Landrine, 1995). In order to make sexism salient (because collective action is taken in response to perceived injustice (e.g., Zomeren et al., 2008), participants completed a modified version of the SSE. Using a scale ranging from 1 (Never happens), 3 (Sometimes happens), 5 (Happens almost all of the time), the original
questionnaire asks women to rate how often they have experienced sexist events (e.g., “How often have you been called a sexist name”) in the past year, as well as in their entire lives. Psychometric data indicates good reliability for the SSE. Klomoff and Landrine (1995) tested the original scale in a sample of 631 women. The Cronbach’s alpha for the lifetime scale was $\alpha=.92$, and for the past year scale was $\alpha=.90$. Given that discrimination is a stressor, the scale was positively, significantly correlated with two well-established measures of stress, the Psychiatric Epidemiology Research Interview Life Events Scale (Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978; $r = .27$) and the Hassles Scale (Kanrer, Coyne, Schaffer, & Lazarus, 1981; $r=.24$), indicating good criterion validity.

However, given the young age of the current sample (undergraduate women), a ‘lifetime’ of discrimination may not be perceived by participants as strongly applicable. As such, the lifetime experience question was changed to ask about perceptions of the experiences of women in general. The mean across all 48 items was used as the overall perceived sexism score ($M=3.02, SD=.62; \alpha=.96$). The mean was not significantly different from the mid-point of the scale, indicating that on average, participants perceived sexism to occur “sometimes”.

**Characteristics and Endorsement of Collective Action Questionnaire (adapted from Lalonde et al., 2002; Foster & Matheson, 1995).** Before completing this collective action measure, participants were asked to remind themselves of the sexist treatment they have encountered and were provided with a link back to their responses on the SSE. They then saw 16 blocks of questions; 1 block for each collective action (derived from Foster & Matheson, 1995; see Appendix A). In each block, they were first presented with the collective action (e.g., signing

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2 Running the analyses with SSE scores (personal, group, and the reported combined score) as a covariate did not change the pattern of results, as such, the results reported do not control for SSE score.
a petition to support women’s issues). They then rated this action along 10 characteristics on a 5-point scale (e.g., signing a petition is: 1 (safe) to 5 (risky); 1 (effective) to 5 (ineffective), etc.; Lalonde et al., 2002; see Appendix A). The original characteristic ‘cost’ from Lalonde et al. (2002) was reworded as two separate characteristics: financial cost and social cost, in order to disentangle the possible effects of each type of cost. Following the ten ratings, participants indicated on a scale of 1 (completely unlikely) to 5 (completely likely) their endorsement of the action (e.g., “How likely are you to sign a petition in support of women’s issues?”) This block was repeated 15 more times for each collective action. Consistent with Lalonde et al. (2002), the overall score for each characteristic was computed by taking the mean of each characteristic rating across the 15 actions ($\alpha$’s > .55; see Table 1). The action ‘do nothing ’ was analyzed separately, as it encompasses, ‘inaction’ rather than action.

To assess overall endorsement of collective action, the mean of the question, “How likely are you to [participate in this action]?” across 15 of the actions (excluding do nothing) was used ($\alpha$=.92). This approach to scoring is consistent with past research that uses a wide range of collectively intended actions as a measure of overall collective action endorsement (e.g., Foster, 2001; Foster & Matheson, 1995; Kelly & Breinlinger, 1995; Louis, 2009). Confirmatory factor analysis shows overall collective action endorsement to be a good estimate of the latent variable it is designed to assess (Foster & Matheson, 1999), and shows good reliability ($\alpha = .93$; Foster, 2000).

**Results**

Descriptive statistics for the characteristic ratings, overall endorsement score, and introversion/extraversion are presented in Table 1. The means do not suggest any floor or ceiling effects, and Cronbach’s alphas are mostly acceptable, with the exceptions of the alphas for both the individual/collective characteristic, and the low/high financial cost characteristic.
Table 1

*Descriptive Statistics for the ten Characteristic Ratings, Overall Collective Action Endorsement, and Introversion/Extraversion*

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>M (SD)</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private/Public</td>
<td>3.53 (.59)</td>
<td>.69</td>
</tr>
<tr>
<td>Passive/Active</td>
<td>3.87 (.68)</td>
<td>.85</td>
</tr>
<tr>
<td>Non-Normative/Normative</td>
<td>3.35 (.69)</td>
<td>.83</td>
</tr>
<tr>
<td>Low/High Social Cost</td>
<td>3.04 (.63)</td>
<td>.79</td>
</tr>
<tr>
<td>Safe/Risky</td>
<td>2.67 (.61)</td>
<td>.80</td>
</tr>
<tr>
<td>Individual/Collective</td>
<td>3.12 (.52)</td>
<td>.55</td>
</tr>
<tr>
<td>Low/High Financial Cost</td>
<td>2.18 (.71)</td>
<td>.55</td>
</tr>
<tr>
<td>Preparatory/Final Step</td>
<td>2.88 (.56)</td>
<td>.80</td>
</tr>
<tr>
<td>Formal/Informal</td>
<td>3.11 (.52)</td>
<td>.68</td>
</tr>
<tr>
<td>Effective/Ineffective</td>
<td>2.53 (.61)</td>
<td>.85</td>
</tr>
<tr>
<td>Overall Collective Action Endorsement Score</td>
<td>2.91 (.74)</td>
<td>.92</td>
</tr>
<tr>
<td>Introversion/Extraversion</td>
<td>3.21 (.71)</td>
<td>.85</td>
</tr>
</tbody>
</table>
Intercorrelations between the mean characteristic ratings and with introversion/extraversion and collective action endorsement are presented in Table 2. There were no correlations between introversion/extraversion and any characteristic ratings. There was a significant, positive relationship between collective action endorsement and the passive/active and individual/collective characteristics, such that the more action was perceived as active and collective the more it was endorsed. There was a significant, negative relationship between collective action endorsement and the low/high social cost characteristic, the safe/risky characteristic, and the effective/ineffective characteristic such that the more action was perceived as high in social cost, risky, and ineffective, the less it was endorsed.

The main analyses were conducted using Hayes Process (2017) custom dialog for SPSS (model 1). Moderation analyses were conducted for all 10 characteristics separately, whereby collective action endorsement (Y) was regressed onto each characteristic (X) with introversion/extraversion score as the moderator (W). When appropriate, simple slopes were examined at 1SD above (extraversion) and 1SD below (introversion) the mean of the introversion/extraversion measure. The a priori hypotheses included were the characteristics that were most consistent with the introversion/extraversion personality trait: private/public, active/passive, non-normative/normative, low/high social cost, and safe/risky. The remaining characteristics (individual/collective, low/high financial cost, preparatory/final step, formal/informal, effective/ineffective) were examined for exploratory purposes. Regressions for overall collective action endorsement are summarized in Table 3.
Table 2

*Intercorrelations among the Mean Characteristics Ratings, Collective Action Endorsement, and Introversion/Extraversion*

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*p<.05(2-tailed)
### Table 3

*Moderation Analyses Predicting Collective Action Endorsement from Characteristics, Introversion/Extraversion (I/E), and their Interaction*

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<th>p</th>
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<td>[ 0.06, 0.37 ]</td>
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<td>.048</td>
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*Note.* Higher I/E scores represent higher extraversion, and higher characteristic scores represent rating action as higher in that characteristic. For each analysis, the first R² applies to the model that included both the main effects of the characteristic and introversion/extraversion. The second R² refers to the change in R² for the interaction term above and beyond the main effects.
Consistent with Hypothesis 1, there was a significant main effect of introversion/extraversion score such that higher extraversion predicted higher endorsement (see Table 3). Further, there were main effects of the following dimensions; passive/active, individual/collective, and effective/ineffective. In particular, the more action was rated as active, collective, and effective, the more it was endorsed. The main effects of introversion/extraversion and the effective/ineffective characteristic were qualified by interactions. Further, there were five significant interactions between characteristic ratings and introversion/extraversion score, detailed below.

**Hypothesis 2: Private/Public.** As hypothesized, the interaction between the introversion/extraversion score and the private/public characteristic was significant, explaining 2.8% unique variance in overall action endorsement, $F(1,175)=5.24, p=.02$. Simple slopes analyses showed that, consistent with Hypothesis 2a, among extraverts, perceiving collective action as more public was significantly associated with greater endorsement, $b=.303, p=.02, 95\% \text{ CI } [.04, .56]$. However, contrary to Hypothesis 2b, among introverts, there was no significant relationship between ratings and endorsement, $b=-.093, p=.44, 95\% \text{ CI } [-.33, .15]$ (see Figure 1).
Figure 1. Interaction between Introversion/Extraversion and the Private/Public Characteristic on Endorsement.

* p<.05

**Hypothesis 5: Low/High Social Cost.** As hypothesized, the interaction between introversion/extraversion score and the low/high social cost characteristic was significant, explaining 2.3% unique variance in overall action endorsement, $F(1,175)=4.48$, $p=.04$. Simple slopes analyses showed that, consistent with Hypothesis 5a among introverts, perceiving collective action as higher in social cost was associated with lower endorsement $b=-.318$, $p=.005$, 95% CI [-.54, -.10] (see Figure 2). Further, consistent with Hypothesis 5b, among extraverts, there was no significant relationship between ratings and endorsement, $b=-.017$, $p=.88$, 95% CI [-.24, .20].
Figure 2. Interaction between Introversion/Extraversion and the Low/High Social Cost Characteristic on Endorsement.

* p<.05

Hypothesis 6: Safe/Risky. As hypothesized, the interaction between the introversion/extraversion score and the safe/risky characteristic was significant, explaining 4.2% unique variance in overall action endorsement, $F(1,175)=8.14$, $p=.005$. Simple slopes analyses showed that, consistent with Hypothesis 6a, among introverts, perceiving collective action as higher in risk was associated with lower endorsement, $b=-.377$, $p=.001$, 95% CI [-.60, -.16]. Further, consistent with Hypothesis 6b, among extraverts, there was no significant relationship between ratings and endorsement, $b=.046$, $p=.69$, 95% CI [-.18, -.28] (see Figure 3).
**Exploratory: Formal/Informal.** The interaction between the introversion/extraversion score and the formal/informal characteristic was examined in an exploratory fashion. The interaction was significant, explaining 4% unique variance in overall action endorsement, $F(1,175) = 7.68, p = .006$. Simple slopes analyses showed that, among extraverts, there was no significant relationship between ratings and endorsement, $b = .073, p = .56, 95\% CI [-.17, .32]$. However, among introverts, perceiving action as more formal was associated with higher endorsement, $b = -.41, p = .006, 95\% CI [-.70, -.12]$ (See Figure 4).
Exploratory: Effective/Ineffective. The interaction between the introversion/extraversion score and the effective/ineffective characteristic was examined in an exploratory fashion. The interaction was significant, explaining 2% of the unique variance in overall action endorsement, $F(1,175)=3.98$, $p=.048$. Simple slopes analyses showed that, among extraverts, there was no significant relationship between ratings and endorsement, $b=-.146$, $p=.26$, 95% CI [-.40, .11]. However, among introverts, perceiving action as more effective was associated with higher endorsement, $b=-.484$, $p<.001$, 95% CI [-.71, -.26] (see Figure 5).
**Figure 5.** Interaction between Introversion/Extraversion and the Effective/Ineffective Characteristic on Endorsement.

* *p<.05

**Exploratory Analysis of Inaction**

**Inaction.** Inaction was defined in the collective action questionnaire as *do nothing*. There were no a-priori hypotheses for this item. Across the majority of the regression analyses, there was a significant main effect of introversion/extraversion score such that higher introversion predicted higher endorsement of inaction (see Table 4 for coefficients). Further, there were statistically significant main effects of the following dimensions; non-normative/normative, preparatory/final step, and safe/risky such that the more inaction was rated as normative, preparatory, and safe, the more it was endorsed by all participants (see Table 4 for coefficients). However, there were also two statistically significant interactions between characteristic ratings and introversion/extraversion score, detailed below.
### Table 4

*Moderation Analyses Predicting Endorsement of Inaction from Characteristics, Introversion/Extraversion, and their Interaction*

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<th>p</th>
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*Note.* Higher I/E scores represent higher extraversion, and higher characteristic scores represent rating action as higher in that characteristic. For each analysis, the first $R^2$ applies to the model that included both the main effects of the characteristic and introversion/extraversion. The second $R^2$ refers to the change in $R^2$ for the interaction term above and beyond the main effects.
Non-Normative/Normative. The interaction between the non-normative/normative characteristic and introversion/extraversion was significant, explaining 3% of the unique variance in endorsement of inaction, $F(1,174)=5.78$, $p=.02$. Simple slopes analyses showed that, among extraverts, there was no significant relationship between ratings and endorsement, $b=.05$, $p=.50$, 95% CI [-.10, .20]. However, among introverts, the more inaction was rated as normative, the more it was endorsed, $b=.31$, $p<.001$, 95% CI [.15, .47] (see Figure 6).

![Figure 6](image.png)

*Figure 6. Interaction between Introversion/Extraversion and the Non-Normative/Normative Characteristic on Endorsement of Inaction.
* $p<.05$

Effective/Ineffective. The interaction between the effective/ineffective characteristic and introversion/extraversion was significant, explaining 5% of the unique variance in endorsement of inaction, $F(1,173)=9.63$, $p=.002$. Simple slopes analyses showed that, among extraverts, there was no significant relationship between ratings and endorsement, $b=.14$, $p=.21$, 95% CI [-.08,
.35]. However, among introverts, the more inaction was rated as effective, the more it was endorsed, $b=-.32, p=.002$, 95% CI [-.52, -.13] (see Figure 7).

![Figure 7](image)

*Figure 7. Interaction between Introversion/Extraversion and the Effective/Ineffective Characteristic on Endorsement of Inaction.*

* $p<.05$

**Discussion**

The purpose of study 1 was to determine how the personality trait introversion/extraversion may predict collective action endorsement in a context of sexism, and how it may moderate the relationship between characteristics of collective action and action endorsement. Similar to Mondak et al. (2010), there was a main effect of introversion/extraversion on collective action endorsement such that the more extraversion participants reported the higher was their endorsement of collective action against gender discrimination. Further, for the majority of the regression analyses, there was a main effect of
introversion/extraversion such that the more introversion participants reported, the more they endorsed ‘do nothing’. There were also main effects of certain characteristics on endorsement. The more action was rated as active, collective, and effective, the more collective action was endorsed by all participants. These findings are consistent with research that found that the more action is perceived as active and collective, the more it increases well-being (Foster, 2014). Indeed, given the fact that people tend to repeat behaviours that are followed by positive consequences (Skinner, 1971), if active and collective actions make us feel good, we may also be likely to endorse them.

The main effects of introversion/extraversion and the effective/ineffective characteristic were qualified by interactions. Additionally, there were significant interactions in the regression analyses for four other characteristics. Consistent with hypothesis 2a, introversion/extraversion interacted with the private/public characteristic such that among extraverts, perceiving action as more public was associated with greater endorsement. Given extraverts’ preference for high social stimulation and social interaction, one aspect of collective action that may encourage extraverts to participate is the opportunity to engage socially with others. In contrast, and inconsistent with hypothesis 2b, there was no significant relationship between introverts’ ratings of action as public and endorsement. Perhaps introverts are not demotivated from collective action by perceiving action as public, because even during a public action such as a protest, introverts can observe on the sidelines, thereby maintaining some privacy in a public space. As such, the private/public characteristic may be less relevant to introverts’ endorsement of action.

Contrary to hypothesis 4a, there was no relationship between extraverts’ ratings of action as non-normative and endorsement. It is possible that perceiving an action as going against social norms may only be preferred in certain situations, for example, when individuals feel contempt
towards the outgroup and when they perceive low group efficacy to change their circumstances. An example of when non-normative action is preferred comes from outside the gender discrimination literature. Tausch et al. (2011) found that when Muslim students in India felt contempt towards the religious majority, and felt low efficacy to improve their disadvantaged position, they approved violent, non-normative action more than if they did not feel contempt and low efficacy. Given that contempt and low efficacy were not necessarily present in the current study a preference for non-normative action among extraverts may not have been captured. Possibly, when there are conditions of contempt and low-efficacy, extraverts may be more likely endorse non-normative action compared to introverts. Also inconsistent with Hypothesis 4b, introverts’ ratings of action as normative was not related to endorsement but was significantly positively related to their endorsement of inaction. Possibly, normative influence may be more effective when it is effortless to follow the norm (i.e., doing nothing), and is consistent with personality.

Consistent with hypotheses 5a and 6a, introverts were demotivated to act by perceived high social cost and risk, which is consistent with introverts’ tendency to be more sensitive to potential punishment. However, exploratory analyses showed that introverts were also motivated by greater perceived formality and effectiveness of action. The fact that introverts are demotivated by perceived high social cost and risk and motivated by formality and effectiveness may at first seem counter-intuitive; can action that is low risk also be effective? Interestingly, however, correlations showed that perceived risk and social cost were strongly correlated with the perceived effectiveness characteristic such that the lower in risk and social cost actions were rated the more effective they were considered. Low social cost and safe actions may be perceived as effective because they may placate the public and therefore would be more likely to elicit
INTROVERSION/EXTRAVERSION AND COLLECTIVE ACTION

support. For example, Thomas and Louis (2014) found that non-violent collective action is more effective at garnering support for a cause and in building confidence in the efficacy of the group, which increased support for future action. Thus, given introverts’ desire to avoid punishment, actions that may incur negative consequences (i.e., that have high perceived risk and/or social cost) may be considered ineffective and therefore demotivating for introverts. Similarly, given the significant correlation between effectiveness and formality, whereby the more formal an action is rated, the more effective it is rated, it may be that introverts are more willing to engage in formal actions because they perceive them as effective.

Exploratory analyses of inaction showed that introverts were also more likely to endorse inaction the more they perceived it as effective and normative. Combined with the result that introverts were also more likely to endorse action the more they perceived it as effective, this suggests that for introverts, what appears to be motivating is effectiveness, regardless of if the behaviour is action or inaction. For example, if an introvert experiences discrimination and thinks that ignoring the discrimination will be more effective at ending the discrimination than it would be to act, they may endorse inaction. Indeed, correlations suggested that the more an action was perceived as effective, the more it was perceived as normative and low in risk. Thus, given introvert’s tendency to avoid risk (e.g., Ball & Zuckerman, 1990) perhaps normative, effective behaviours are endorsed regardless of whether they reflect action or inaction.

In contrast, extraverts’ endorsement of collective action was not significantly affected by their perceptions of high social cost or risk, consistent with hypotheses 5b and 6b. Extraverts’ higher sensitivity to reward than punishment may mean that even when they perceive social costs and risks of collective action, they may be more concerned with possible rewards, such as social interaction, and as such, perceived social cost and risk do not predict their collective action.
endorsement. Interestingly, extraverts’ endorsement of collective action was also not significantly affected by perceptions of effectiveness or formality the way introverts’ endorsement was. A possible explanation for extraverts’ seeming lack of sensitivity to effectiveness is that because their personality is more consistent with activism (e.g., interacting with others, maintaining high social energy), they may more easily identify with activists. Activist identification is an important predictor of collective action (Simon et al., 1998), an even stronger predictor than perceptions of effectiveness (Hornsey et al., 2006). Therefore, the effective/ineffective characteristic may not be as relevant to extraverts’ endorsement because they satisfy other goals with collective action. Moreover, formality may not be a characteristic that is relevant for a person who is rewarded by social interaction as they can likely find a way to connect with others regardless of formality.

Limitations of this study include that fact that some aggregate characteristic-ratings did not have acceptable reliability. For instance, the characteristic financial cost had a Cronbach’s alpha of .55. This may be due to the fact that some actions were free, such as lodging a complaint, whereas others were not, such as donating money. As such, certain actions may be objectively higher/lower in certain characteristics.

Despite this limitation, Study 1 extends the literature on predictors of collective action against gender discrimination by demonstrating that perceptions of the characteristics of action and introversion/extraversion interact to predict collective action endorsement. Specifically, that the more introverts rate action as high in social cost and risk, the less it is endorsed, and the more they rate action as effective and formal, the more it is endorsed. The more extraverts rate action as public, the more it is endorsed. If willingness to engage in collective action can be influenced by the interaction between perceived characteristics and personality traits, then it may be
possible to uncover the combinations of characteristics that will best predict collective action based on personality. However, Study 1 was correlational. As such, the purpose of Study 2 was to determine if the results of Study 1 would be maintained using experimental methods.

Study 2

Background

To examine the causal impact of characteristics of collective action on endorsement, and how this relationship may be moderated by introversion/extraversion, social cost was selected as the characteristic to be experimentally manipulated in Study 2. Social cost refers to harm to reputation or relationships, for example, being seen as a complainer, being disliked, or having one’s values dismissed (Shelton & Stewart, 2004). There is an extensive literature on the social costs of confronting discrimination. The seminal work on the costs of confronting discrimination was conducted by Kaiser and Miller (2001). Specifically, they researched the costs of confronting racial discrimination. They exposed participants to a vignette describing a Black student who had taken a test that predicted his future career success. Participants read that the student failed the test and were then randomly assigned to read that he attributed his failure to either racial discrimination, or his own shortcomings. Results showed that, compared to participants who read that the student attributed his failure to his own shortcomings, participants who read that the student attributed his failure to discrimination rated him as a complainer and evaluated him more negatively. This result occurred even when participants were informed that it was very likely that the student’s failure was due to racial discrimination.

In the context of sexism in particular, Shelton and Stewart (2004) asked women to play the role of an interviewee in a simulated job interview. Male participants were given the role of interviewer and were directed to ask the women either sexist questions (e.g., Do you have a
boyfriend?) or non-sexist but otherwise inappropriate questions (e.g., Do you think it is important for people to believe in God?). The women were randomly assigned to either a low cost condition (they were told that the job market was not competitive and it would be easy for them to get the job), or a high cost condition (they were told that the job market was competitive and it would be very difficult for them to get the job). There was an interaction between type of question and cost, such that for women in the non-sexist question condition, low or high cost did not predict confronting the interviewer. For women in the sexist question condition however, women in the high cost condition were significantly less likely to confront the interviewer compared to women in the low-cost condition, suggesting that women fear the consequences of confronting sexism.

Subsequently, many studies have supported these findings, under different conditions and using different methodologies. For example, Becker, Glick, Ilic, and Bohner (2011) found that a woman who rejects an offer of help from a man to do something that is traditionally “masculine” (e.g., setting up a network server), is perceived as cold by observers compared to women who accept the help. Other research demonstrates that women are aware of these consequences, and this awareness can prevent them from confronting gender discrimination. For instance, in a diary study by Hyers (2007), participants described various instances of discrimination, their motivations for responding to or ignoring the discrimination (i.e., to educate the perpetrator, impression management), their actual response, and the consequence of their response. Women who responded to discrimination reported negative consequences including social costs such as conflict, as well as emotional costs such as regret, anger, emotional discomfort, and guilt. Concerns about social costs were cited as reasons why women did not confront. For instance, participants reported wanting to be liked, wanting to avoid being stereotyped as “bitch”, and to
avoid perpetuating the stereotype that women in general are “bitchy”. These concerns over impression management appear founded. Dodd, Giuliano, Boutell, and Moran (2001) found that when a woman confronts a sexist remark, men who read about the exchange respect her as much as a woman who did not confront, but also rate her as less likeable. Moreover, perceiving these social costs reduces willingness to confront gender discrimination (e.g., Good, Moss-Racusin, & Sanchez, 2012; Shelton & Stewart, 2004).

Indeed, these findings are not limited to the lab, as recent real-world events have shown. For example, when Christine Blasey Ford came forward to dispute the appointment of Brett Kavanaugh to the Supreme Court based on sexual assault charges, she incurred social costs including public ridicule, harm to her reputation, and even death threats. Thus, given the evidence-based implications and the real-world relevance, the social cost of collective action was chosen as the characteristic to be manipulated in Study 2.

Based on the findings in Study 1, it was hypothesized that introverts who were exposed to a manipulation presenting collective action as high in social cost would have significantly lower collective action endorsement than introverts who were exposed to a manipulation presenting collective action as low in social cost.

**Method**

**Participants**

Four-hundred and nine participants were recruited to participate in an online study in exchange for course credit. Sixty-five were removed for responding to fewer than 20% of the questions. Seventeen were removed because they did not indicate that they identified as a woman, and as such it was unclear whether the questionnaire would be relevant to them. There was one attention check in this survey, and the 30 participants who failed it were removed from the data set. The final sample consisted of 297 undergraduate women ($M_{age}=20.03$, $SD=2.98$).
Self-reported race/ethnicity was 63.3% White, 13.1% South Asian, 11.4% Asian, 3.4% Middle Eastern, 3% Black, 1% Aboriginal, 4.4% identified as other, and .3% did not report their race/ethnicity. Due to experimenter oversight, information about participants’ majors was not collected for this study.

Procedure

Participants first read the study description on the undergraduate participant pool website. Participants were told that the purpose of this online study was to learn about peoples’ perceptions and opinions on social activism. In order to reduce demand characteristics, participants were told that they would be randomly assigned to read about one of four different social issues (either rights of sexual minorities and women, rights of ethnic minorities, the impact of guns on children, or environmental issues), however in reality participants only read about sexism. Those who consented to participate in the study were provided with a link to the questionnaires. Participants first answered demographic questions and the personality and perceived sexism measures used in Study 1. Participants were then randomly assigned to one of two social cost conditions. Participants assigned to the high social cost condition read that women who participate in #MeToo incur high social costs. They read about two women who had been rejected by potential mentors, been chastised by their friends, and lost their friends’ trust after participating in #MeToo (see Appendix B for a copy of the article). In contrast, participants randomly assigned to the low social cost condition read that women who participate in #MeToo incur low social costs. They read about the same two women who had experienced support at work and from their friends and were perceived as brave for coming forward after participating in #MeToo (see Appendix B for a copy of the article). Participants then completed various measures of collective action endorsement. Finally, participants were debriefed.
Measures

**Participation in Past Collective Action.** First, to assess the impact of past participation in collective action on responses to the manipulation, participants were asked if they had ever participated in a protest or online collective action campaign such as #MeToo or March for our Lives. Participants were told to indicate however many protests or online campaigns they had engaged in, however due to low rates of participation, answers were simply coded as 0= “has not participated” or 1= “has participated”. Each participant received one participation score for protests, and one for online campaigns.

**Big-5 Factor Inventory Short-form (BFI; John & Srivastava, 1999).** Participants answered the same personality inventory from Study 1. The mean across the eight introversion/extraversion subscale items was used as the introversion/extraversion score, with higher scores representing higher extraversion ($\alpha=.84$).

**Schedule of Sexist Events (SSE; Klonoff & Landrine, 1995).** As in Study 1, participants completed the same modified version of the SSE. The mean score was $M=3.77$, $SD=.84$ which was significantly different from the midpoint of the scale, $t(296)=15.70$, $p<.001$, indicating that, on average, participants perceived sexism ‘sometimes’.

An independent samples $t$-test comparing the mean SSE scores from Study 1 and 2 found that perceived discrimination was significantly lower in Study 1 than in Study 2, $t(474)=-10.34$, $p<.001$. This may be due to how the studies were advertised. Study 1 was advertised to all genders, whereas Study 2 specifically recruited women. The focus on women in Study 2 may have attracted women who are interested in women’s issues, and therefore more aware of sexism, which may explain why they perceived more sexism. However, as in Study 1, the results
did not change when controlling for either personal, group, or combined SSE scores. As such, all reported results do not control for SSE scores.

**Manipulation Check.** To ensure that participants appropriately perceived social cost differences between the two conditions, participants were asked four questions. First, they were asked, “In the article you just read, how were the consequences of participating in the #MeToo movement characterized?” Participants then rated the consequences on a scale from 1(*extremely positive*) to 5(*extremely negative*). Second, participants used a scale from 1(*not at all like this*) to 5(*very much like this*) to respond to the question, “How do you think Sarah and Amanda were perceived by others after participating in #MeToo?” by describing them using the following descriptors (Kaiser & Miller, 2004); impolite, trouble makers, making excuses, emotional, complainers, likeable, friendly, honest, nice, argumentative, irritating, bad coworkers, bad employees, poor team players, and a risk to their employers. A mean positive perceptions score was calculated from the ratings on the four positive descriptors (\(M=3.11, SD=1.10; \alpha=.94\)), and a mean negative perceptions score was calculated from the ratings on the 11 negative descriptors (\(M=3.03, SD=1.16; \alpha=.96\)).

Finally, participants responded to the following two questions using a scale from 1(*very likely*) to 5(*very unlikely*), “To what extent do you think participating in this kind of activism in the future will result in negative consequences for yourself if you were to participate?” and, “To what extent do you think participating in this kind of action is going to result in negative consequences for women if they were to participate?”
Collective Action Measures

Characteristics and Endorsement of Collective Action Questionnaire (adapted from Lalonde et al., 2002; Foster & Matheson, 1995). This questionnaire was used to assess whether manipulating perceived social costs in one context (i.e., #MeToo) would predict overall collective action tendency. The overall collective action endorsement score was calculated by taking the mean across all 15 endorsement questions (α=.96; excluding do nothing). Mean endorsement for the low social cost condition was \( M=3.24, \text{SD}=.66 \), and for the high social cost condition, \( M=3.17, \text{SD}=.78 \).

Endorsement of Social Media Activism. To assess collective action more specifically to the manipulated context of #MeToo, participants responded to a single-item measure of endorsement of online social media campaigns. Participants responded to a single-item question, “In the future, how likely are you to engage in social media activism similar to #MeToo?” They responded on a scale from 1(very unlikely) to 5(very likely). The mean for the low social cost condition was \( M=3.79, \text{SD}=1.01 \), and for the high social cost condition, \( M=3.39, \text{SD}=1.20 \).

Behavioural Measure of Collective Action. This measure was included to assess whether manipulating perceived social costs in the #MeToo context would predict participants’ endorsement of collective action, but with a behavioural measure. Participants read, “LSPRIG (Laurier Students’ Public Interest Research Group) is an organization on campus that advocates for various groups. They offer different activism opportunities”. Participants were told to select “yes” if they wanted to be sent more information, or “no” if they did not want to be sent more information on the following actions: Sign a petition for Kassidi’s Law to support sexual assault survivors by encouraging the government to strengthen support for sexual assault survivors; participate in Always’ #LikeAGirl campaign that seeks to help girls maintain their self-esteem
through puberty; engage in future Women’s Marches, and volunteer for “Not My Laurier: Golden Hawks Combating Gender Violence” an organization involved in creating safe spaces. If participants selected “yes” to an action, they were given a score of 1; if they selected ‘no’, they were given a score of 0. This allowed for the computation of a sum to represent the overall behavioural action score. The mean score for the low social cost condition was, $M=1.55$, $SD=1.54$, and scores ranged from 0 to 4, and for the high social cost condition, $M=1.63$, $SD=1.57$, and scores ranged from 0 to 4. Participants were informed in the debriefing form that they would not actually be contacted with information about these initiatives, but instead were provided with websites they could visit themselves for more information.

**Results**

Descriptive statistics for the dependent variables are presented in Table 5. The means indicate that participants were somewhat likely to endorse collective action. The correlations among the dependent variables are presented in Table 6. The dependent variables were moderately correlated. Hayes Process (2017) custom dialog for SPSS (model 1) was used to conduct moderation analyses, whereby each dependent variable (Y) was regressed onto the independent variable (condition; X) with introversion/extraversion score as the moderator (W).
Table 5

Descriptive Statistics for Introversion/Extraversion and the Dependent Variables

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Collective Action Endorsement</td>
<td>3.02</td>
<td>.72</td>
</tr>
<tr>
<td>Endorsement of Social Media Activism</td>
<td>3.57</td>
<td>1.15</td>
</tr>
<tr>
<td>Behavioural Measure</td>
<td>1.59</td>
<td>1.55</td>
</tr>
<tr>
<td>Introversion/Extraversion</td>
<td>3.22</td>
<td>.69</td>
</tr>
</tbody>
</table>
Table 6

*Correlations among the Dependent Variables*

<table>
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<th></th>
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<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall Collective Action Endorsement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Social Media Activism</td>
<td>.60**</td>
<td></td>
</tr>
<tr>
<td>3. Behavioural Measure (Total)</td>
<td>.51**</td>
<td>.39**</td>
</tr>
</tbody>
</table>

**p < .01 (2-tailed)**
Participation in Past Collective Action

Twenty-seven participants (9.1%) reported having participated in a protest. Eighty-seven participants (29.2%) reported having participated in online collective action campaigns. There was no significant correlation between participating in a protest and extraversion, $r = .01, p = .85$. There was also no significant correlation between engaging in online collective action campaigns and extraversion, $r = -.04, p = .51$. There was a significant, positive correlation between engaging in online collective action campaigns and protests, $r = .29, p < .001$.

To assess whether past action should be used as a covariate in the main analysis, several regression analyses were conducted to test if past collective action participation predicted responses on the collective action dependent variables. Results indicate that engaging in past online collective action significantly predicted overall collective action endorsement, $b = .28, p < .001, CI = [.26, .63]$, but past participation in a protest did not, $b = .03, p = .58, CI = [-.21, .37]$. Additionally, engaging in past online collective action significantly predicted self-rated likelihood of engaging in future social media activism similar to #MeToo, $b = .33, p < .001, CI = [.54, 1.10]$, but past participation in a protest did not, $b = .04, p = .64, CI = [-.30, .59]$. Engaging in past online collective action significantly predicted the behavioural measure score, $b = .27, p < .001, CI = [.52, 1.31]$, but past participation in a protest did not, $b = .01, p = .82, CI = [-.55, .69]$. However, controlling for past participation in the following analyses did not influence the results. As such, the reported results do not control for past participation.

Manipulation Checks

To test whether participants appropriately perceived social costs differences, an independent samples $t$-test was conducted on the ratings for the first manipulation check question (i.e., “In the article you just read, how were the consequences of participating in the #MeToo
movement characterized?”). Participants in the low social cost condition (\(M=1.52, SD=.83\)) rated the consequences of participating in #MeToo as significantly less negative (\(M=3.87, SD=1.15\)) than participants in the high social cost condition, \(t(295) = -19.99, p<.001\). A regression analysis confirmed that there was no significant interaction between condition and introversion/extraversion score on this manipulation check item, \(b=-.15, p=.40, 95\% CI [-.49, .20]\), indicating that perceived differences in social cost were similar across introversion/extraversion.

Independent samples \(t\)-tests were also conducted on the positive and negative perceptions scores. Participants in the low social cost condition (\(M=3.80, SD=.84\)) reported that the women in the article would be perceived as significantly more positive than participants in high social cost condition (\(M=2.49, SD=.89\), \(t(295) = 13.10, p<.001\). Participants in the low social cost condition (\(M=2.22, SD=1.00\)) reported that the women in the article would be perceived as significantly less negative than participants in the high social cost group (\(M=3.76, SD=.73\), \(t(295) = -15.27, p<.001\). A regression analysis confirmed that there was no significant interaction between condition and introversion/extraversion score for either positive perceptions, \(b=-.10, p=.49, 95\% CI [-.39, .19]\) or negative perceptions, \(b=-.09, p=.57, 95\% CI [-.38, .21]\), again indicating that perceived social costs were similar across introversion/extraversion.

An independent samples \(t\)-test was conducted on the scores for the item, “To what extent do you think this kind of activism will result in negative consequences for yourself in the future?” Participants in the low social cost condition (\(M=2.53, SD=1.15\)) rated negative future consequences to the self as significantly less likely than participants in the high social cost condition (\(M=3.44, SD=3.4\), \(t(295) = -7.11, p<.001\). A regression analysis confirmed that there
was no significant interaction between condition and introversion/extraversion score on this manipulation check item, $b=.01$, $p=.95$, 95% CI [-.36, .38].

A final independent samples $t$-test was conducted on the scores for the item, “To what extent do you think this kind of activism will result in negative consequences for other women in the future if they were to participate?” Participants in the low social cost condition ($M=2.68$, $SD=1.23$) rated negative future consequences for women of activism similar to #MeToo as significantly less likely than participants in the high social cost condition ($M=3.78$, $SD=.92$), $t(295) = -8.79$, $p<.001$. A regression analysis confirmed that there was no significant interaction between condition and introversion/extraversion score on this manipulation check item, $b=-.16$, $p=.40$, 95% CI [-.52, .21].

In summary, across all manipulation checks, participants perceived greater social costs in the high social cost condition, and this did not differ along the introversion/extraversion scale.

**Overall Collective Action Endorsement**

Overall collective action endorsement score was regressed onto condition with introversion/extraversion score as the moderator to determine if condition differentially impacted endorsement for introverts and extraverts. Inconsistent with Study 1, there was no significant main effect of condition, $b=-.07$, $p=.43$, 95% CI [-.23, .10], or of introversion/extraversion, $b=-.03$, $p=.61$, 95% CI [-.10, .15]. There was no significant interaction between condition and introversion/extraversion, $b=.12$, $p=.34$, 95% CI [-.13, .36].

**Social Media Activism Endorsement**

Endorsement rating for the online campaign item was regressed onto condition with introversion/extraversion score as the moderator to determine if condition differentially impacted endorsement of participating in social media activism for introverts and extraverts. Consistent
with Study 1, there was a significant main effect of condition such that those in the high cost condition reported significantly lower likelihood of participating in social media activism such as the #MeToo movement in the future, $b = -.41, p = .002, 95\% \text{ CI } [-.67, -.15]$ compared to participants in the low cost condition. Inconsistent with Study 1, there was no significant main effect of introversion/extraversion score, $b = -.07, p = .51, 95\% \text{ CI } [-.26, .13]$, and there was no significant interaction between condition and introversion/extraversion score, $b = .16, p = .43, 95\% \text{ CI } [-.23, .54]$.

*Behavioural Measure*

Total behaviour score was regressed onto condition with introversion/extraversion score as the moderator to determine if condition differentially impacted behaviour for introverts and extraverts. Inconsistent with Study 1, there was no significant main effect of condition, $b = -.10, p = .57, 95\% \text{ CI } [-.46, .26]$, or introversion/extraversion, $b = .10, p = .47, 95\% \text{ CI } [-.17, .36]$, and no significant interaction between condition and introversion/extraversion on total behaviour score, $b = .21, p = .44, 95\% \text{ CI } [-.32, .74]$.

To explore whether the overall behavioural measure was obscuring results for specific behaviours, a repeated measures one-way ANOVA with post-hoc Bonferroni comparisons was conducted to assess which behaviours were preferred (see Figure 8). There was a significant difference in endorsement of the four actions, $F(3,876)=14.43, p<.001$. The number of participants who requested information about the petition and #LikeAGirl campaign was significantly higher than the number who requested information about the Women’s March and volunteering, ($p<.01$ for each comparison). However, there was no significant difference between the number of participants who requested more information about the petition compared to the #LikeAGirl campaign, ($p = .70$). There was also no significant difference between the
number of participants who requested more information about the Women’s March and volunteering ($p=1.00$).

There was no significant main effect of condition on participants’ desire to receive more information about a petition, $b=.427, p=.07$, although the means suggest that participants in the high social cost condition were slightly more likely to request information about the petition. There was also no significant main effect of introversion/extraversion, $b=-.077, p=.65$, and no significant interaction, $b=-.312, p=.37$. There was no significant main effect of condition on participants’ desire to receive more information about the #LikeAGirl campaign, $b=-.028, p=.91$. There was also no significant main effect of introversion/extraversion, $b=-.008, p=.96$, and no significant interaction, $b=-.243, p=.48$. There was no significant main effect of condition on participants’ desire to receive more information about future Women’s Marches, $b=-.173, p=.49$. There was also no significant main effect of introversion/extraversion, $b=-.215, p=.24$, and no significant interaction, $b=-.209, p=.57$. Finally, there was no significant main effect of condition on participants’ desire to receive more information about volunteering, $b=.099, p=.69$. There was also no significant main effect of introversion/extraversion, $b=-.055, p=.76$, and no significant interaction, $b=.002, p=.99$.

Overall, these results suggest that there was no effect of condition, introversion/extraversion, or their interaction on participants’ desire for more information on any of the behavioural items.
Discussions

The hypothesis of Study 2 was not supported. Contrary to Study 1, Study 2 did not find a main effect of extraversion on endorsement of collective action. However, past research has found a correlation between extraversion and social collective action (Mondak et al., 2010). As such, there may be a relationship that was not captured in this study. There was no significant main effect of condition or introversion/extraversion score, and no significant interaction effect on overall endorsement of collective action, or on the total behavioural measure of collective action. This suggests that when social cost was experimentally manipulated in one context (i.e., #MeToo), it did not influence an overall willingness to engage in collective action. This may mean that if someone believes there are social costs for acting in one context, they may not necessarily be discouraged from participating in actions relevant in another context (e.g.,
participants in this study were discouraged from participating in social media activism, but not in other actions). Conversely, this may also mean it may be difficult to encourage an overall tendency toward collective action simply by focusing on one context of discrimination and type of action.

Unlike overall collective action, and the behavioural measure, there was a significant main effect of condition on self-reported likelihood of engaging in social media activism in the future. Those in the high social cost condition endorsed social media activism significantly less than those in the low social cost condition. This is consistent with the marginal main effect of social cost on endorsement found in Study 1, and suggests that, consistent with Lalonde et al. (2002), that defining action as high in cost decreases the desire to participate.

However, contrary to Study 1, there was no interaction between condition and introversion/extraversion on endorsement of social media activism. The fact that there was a main effect of social cost on endorsement of online campaigns, yet, contrary to Study 1, there was no interaction with introversion/extraversion, could be explained by several factors. First, discrimination was made salient differently across the two studies. In Study 1, participants imagined their own experiences of gender discrimination when asked to complete the SSE, whereas in Study 2, they completed the SSE, and in addition, read about sexual assault and harassment, within the context of the #MeToo movement. Perhaps acting against sexual harassment, compared to other types of gender discrimination, has more extreme perceived social or emotional costs that deter even extraverts. Especially in a workplace setting, participants might feel powerless to confront sexual harassment, and personality might not be enough to overcome perceived costs in this situation. Future research should test the effects of type and severity of discrimination on how personality predicts endorsement of collective action.
A second reason the results were not consistent across studies may be that the types of actions that were salient across the two studies also differed. The actions in Study 1 included a wide range of actions including both offline and online actions, with the majority being offline. In contrast, Study 2 was explicitly focused on one context. In particular, it was focused on one online action, namely participating in #MeToo. It is possible, therefore, that the effects found in Study 1 were not replicated because they were driven by offline rather than online action. To explore this possibility, the analyses from Study 1 were repeated for the online and offline actions separately (see Appendix D). The effects of social cost and risk on endorsement and the moderating effect of introversion/extraversion only held for endorsement of offline action (i.e., social cost and risk did not predict endorsement of online action for either introverts or extraverts; social cost and risk predicted endorsement of offline action for introverts, but not extraverts). If introversion/extraversion moderates the effect of social cost on endorsement of offline but not online collective actions, then it is unsurprising that manipulating perceived social cost of an online action did not result in a significant interaction. This may suggest that the risks and social costs of online and offline action are different, and thus influence endorsement differently.

A third possibility for the inconsistent results across Study 1 and Study 2 is that how social cost was perceived by participants differed across the two studies. In Study 1, social cost was defined as the potential for backlash, bullying etc. This could be interpreted by participants as costs being incurred from strangers, whereas in Study 2, social costs were defined in terms of coworkers and friends (i.e., costs incurred from non-strangers). Moreover, perhaps the degree of social costs incurred from online action differs from offline. Thus, differences in how people perceive social cost may explain inconsistent results.
In Study 1, the social cost and risk characteristics were moderately correlated. However, the term risk may encompass a wide variety of consequences (e.g., social, legal, physical, etc.) whereas social cost encompasses only social consequences. Additionally, the term social cost may not be relevant to participants, as they may be more familiar with the term risk than social cost, which may instead be academic jargon. Thus, Study 3 was designed to further understand how risk may be perceived by participants in both online and offline contexts and whether this would vary as a function of introversion/extraversion.

Study 3

Background

The purpose of Study 3 was to further clarify the nuances of participants perceived ‘risk’ of both online and offline collective action and if this differs across introversion and extraversion. For the reasons mentioned in the Study 2 discussion, the term risk was used in Study 3 rather than social cost. This was done in two ways. First, quantitative measures were used. Participants rated four online actions and four offline actions on risk and indicated their level of endorsement.

Second, the language participants used to describe the risk of these actions was analyzed. Given that language conveys meaning, the words people choose to use when describing events has provided a predictive and unobtrusive measure of various phenomenon including psychological and physical health (See Chung & Pennebaker, 2007; Tausczik & Pennebaker, 2010 for reviews).

Past research has found that the language people use to describe events indicates their level of depression (Rude, Gortner, & Pennebaker, 2004). In one study, participants were asked
to spend 20 minutes writing an essay describing their feelings about being in college and the life changes they were going through as new students. Using computerized text analysis software called Linguistic Inquiry and Word Count (LIWC; Pennebaker, Boyd, Jordan, & Blackburn, 2015), researchers analyzed participants’ use of first person singular (I, me, my) and plural (we, us, our) pronouns, social references (e.g., mention of friends, family, or communication), along with negatively (e.g., gloom, sad) and positively (e.g., joyful, best) valenced words. They found that depressed students (measured with the Beck Depression Inventory; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961 and the Inventory to Diagnose Depression; Zimmerman & Coryell, 1987) used “I” significantly more often than students who had never been depressed. Depressed students also used significantly more negative emotion words, and marginally fewer positive emotion words compared to students who had never been depressed.

In another example, Pennebaker, Chung, Frazee, Lavergne, and Beaver (2014) analyzed the language of college entrance essays. They created an algorithm comprised of various word choices (e.g., articles, prepositions) designed to reflect ‘categorical language use’ (i.e., a language style that reflects abstract thinking and cognitive complexity; Pennebaker et al., 2014). Correlations between this index and grade point average (GPA) over four years of college showed that greater use of categorical language in college entrance essays was associated with higher GPA.

Given the predictive utility of language, participants were asked to describe why they thought collective action was either safe or risky. This written data was analyzed using LIWC software (Pennebaker et al., 2015) to understand the language people use to describe the risk of online and offline action and whether this might differ across introversion/extraversion. This software counts the percentage of words in a text that belong to different categories. The
software includes 32 categories that have been shown to reflect various psychological processes (Pennebaker et al., 2015). For example, the software produces a percentage of positive emotion words used in a given text by counting words such as love, nice, or sweet (Pennebaker et al., 2015).

The word categories of interest for the current study were; I, we, negative and positive emotion words, anxiety, inhibition, cognitive processing, tentative, reward, and risk. The word category “I” was chosen because the use of this pronoun indicates a self-focus, which might represent emotional pain (Rude et al., 2004). Therefore, greater use of “I” might signal more emotional distress when considering one type of collective action compared to another (e.g., either online or offline). Given that the more offline action was rated as risky by introverts, the less it was endorsed in Study 1:

- **Hypothesis 1:** There would be a significant correlation between use of the word “I” and introversion/extraversion such that higher introversion will be associated with higher use of the word “I” for offline, but not online action.

Using the word “we” signals a focus on the group, and affiliative tendencies. For instance, the tendency to “bask in reflected glory” describes the phenomenon whereby individuals publicly announce their affiliation and closeness with successful others. For example, when fans of a successful sports team claim, “We won!” Cialdini et al. (1976) interviewed university students after school football games. They found that participants were more likely to use the word “we” to describe the game when the team won, compared to when the team lost. This suggests that when individuals want to affiliate with a group, they will use the word “we” more often. Given extraverts’ preference for socializing, when extraverts think of the risk of
collective action, they may be more concerned with potential consequences to social affiliation and relationships.

- **Hypothesis 2**: There would be a significant correlation between the use of the word “we” and introversion/extraversion such that higher extraversion will be associated with higher use of the word “we” for both online and offline action.

Past research confirms that positive emotion words (e.g., love, nice, sweet) are used more when writing about a positive event, and negative emotion words (e.g., hurt, ugly, nasty) are used more when writing about a negative event. Khan, Tobin, Massey, and Anderson (2007) had students write an essay about an amusing time in their life, a sad time in their life, and a typical day in their life. Using LIWC software, they found that participants used significantly more positive emotion words when writing about an amusing time, compared to a sad time or a typical day. Participants also used significantly more negative emotion words when writing about a sad time in their life compared to an amusing time or a typical day. To the extent that offline action is inconsistent with the behavioural repertoire of introversion, it may be unpleasant for individuals high in introversion. In contrast, to the extent that online action is more consistent with introversion, it may be more pleasant.

- **Hypothesis 3**: There would be a significant correlation between emotional language and introversion/extraversion such that higher introversion will be correlated with higher use of positive emotion words for online action, and higher use of negative emotion words for offline action.

Lyons, Aksayli, and Brewer (2018) analyzed writing from people with Generalized Anxiety Disorder (GAD) in a chat room meant for people with GAD to discuss their anxiety and compared it with writing from a control group in a chat room about financial issues. They found
that individuals with GAD used significantly more anxiety words than controls, bolstering the notion that individuals’ mental states are reflected in their language use. Further, Faasse, Chatman, and Martin (2016) analyzed comments on a Facebook post about vaccines. They found that compared to control comments (comments on the post unrelated to the topic, e.g., “Is this convo still going on?”) both pro and anti-vaccine comments contained significantly more risk words. Pro-vaccine commenters are concerned with risks of not vaccinating, whereas anti-vaccine commenters are concerned with risks of vaccines, and these concerns are reflected in their language use. Again, to the extent that offline action is even less consistent with introversion than online action, and higher perceived risk was associated with lower endorsement for introverts but not extraverts in Study 1, introverts may be more preoccupied with the risk of collective action than extraverts.

- **Hypothesis 4:** There would be a significant correlation between introversion/extraversion and use of anxiety (e.g., worried, fearful), risk (e.g., danger, doubt), and tentative (e.g., maybe, perhaps) words such that higher introversion will be correlated with higher use of these word categories when describing offline, but not online, action.

  Further, it was hypothesized that given extraverts’ greater sensitivity to rewards compared to introverts, they would be more likely to use reward and achievement words.

- **Hypothesis 5:** There would be a significant correlation between introversion/extraversion and the reward (e.g., prize, benefit) and achievement (e.g., success, better) word categories such that higher extraversion will be correlated with higher use of these word categories for both online and offline action.
Cognitive processing was chosen as a word category of interest to determine if one type of action required more thought and consideration. Given that collective action is less consistent with introversion, introverts might give greater consideration to collective action participation than extraverts.

- Hypothesis 6: There would be a significant correlation between introversion/extraversion and use of cognitive processing words such that higher introversion will be correlated with higher use of cognitive processing words for offline but not online action.

Other word categories were analyzed in an exploratory fashion. Further, it was hypothesized that, similar to Study 1, rating offline collective action as risky would be negatively related to endorsement (Hypothesis 7). It was further hypothesized that this relationship would be moderated by introversion/extraversion such that for introverts, the more offline action was rated as risky, the less it would be endorsed.

Method

Participants & Procedure

Two-hundred and sixty-three participants initially responded to the survey. Forty-eight were eliminated for completing fewer than 20% of the questions, 10 were eliminated because they did not identify as a woman, and 12 were eliminated because they failed the one attention check. Six participants answered the survey twice. Two of those participants had different responses each time; as such those four responses were removed. The other four participants had the same responses both times, so only 1 response for each of those four participants was deleted. The final sample consisted of one-hundred and eighty-five undergraduate women ($M_{age} = 19.95$, $SD=2.3$) who participated in this online study in exchange for course credit. Seventy-six percent of participants self-identified as White, 9.40% as Asian, 6.80% as South Asian, 3.60% as other,
2.60% as Black, 1.00% as Middle Eastern, and .5% did not report their race/ethnicity. Self-reported major was 45.3% psychology, 24.5% arts (e.g. language, communication, child and youth studies, criminology, geography, sociology), 19.8% science (e.g. biology, chemistry, kinesiology, health sciences, computer science), 4.7% social work, 2.6% business or economics, 1.6% as fine arts (e.g. music, film), and 1.6% were undeclared or did not respond to this question.

Participants first read the study description on the university participant pool website. The description informed students that the study was about participants’ opinions of collective action and used recent examples of collective action against gender discrimination as illustrations of what collective action is. Those who consented were sent a link to the study website to begin the questionnaires. They first completed demographic questionnaires, and then the Big-5 Factor Inventory to measure introversion/extraversion. Next, they were asked to rate an action as safe or risky, rate their endorsement of the action, and were then prompted to write a few sentences about why they think that action is safe or risky. This process was repeated for eight actions. There were four online actions: express opinions about sexism online, share information about sexism online, make your views known to someone in power online (e.g., emailing or tweeting), and blocking someone who posts sexist content online. There were also four offline actions: attending a protest or demonstration, volunteering for an organization that supports women, encouraging family and friends to be sensitive to women’s issues, and speaking up to someone who is being sexist (see Appendix C).

Measures

**Big-5 Factor Inventory Short-form (BFI; John & Srivastava, 1999).** Participants answered the same personality questionnaire used in studies 1 and 2. The mean of the eight
introversion/extraversion subscale items was used as the introversion/extraversion score, with higher scores representing higher extraversion, and lower scores representing higher introversion ($\alpha=.86$).

**Perceived Risk and Collective Action Endorsement Questionnaire.** Risk was assessed by asking participants to rate eight collective actions on a scale from 1 (*not at all risky/completely safe*) to 5 (*completely risky/not at all safe*). A risk rating was calculated for online and offline action separately by taking the mean of the risk ratings for the four online ($\alpha =.54$) and the four offline ($\alpha=.45$) actions respectively. Endorsement was assessed by asking participants to rate how likely they were to participate in the action on a scale from 1 (*not at all likely*) to 5 (*completely likely*). An endorsement rating was calculated for online action by taking the mean of the four online action endorsement ratings ($\alpha =.76$) and four offline action endorsement ratings ($\alpha =.74$). Participants were then prompted to write a few sentences describing why they gave the action the rating they did. They read the following prompt, “You rated [the action e.g., attending a protest] as [their rating was piped into the text; e.g., not at all risky/completely safe]. Please write a few sentences about why you gave this action this rating. What do you think would happen if you were to participate in [the action, e.g., a protest]?”

**Results**

*Quantitative Endorsement and Risk Ratings of Online and Offline Collective Action*

Descriptive statistics are presented below in Table 7. Endorsement scores indicate that participants endorsed both online and offline action ‘somewhat’. Risk scores indicate that risk ratings were low.
Table 7

*Descriptive Statistics for the Quantitative Measures of Risk and Collective Action Endorsement, and Introversion/Extraversion*

<table>
<thead>
<tr>
<th>Type of Collective Action</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Collective Action Endorsement</td>
<td>3.01</td>
<td>.91</td>
</tr>
<tr>
<td>Offline Collective Action Endorsement</td>
<td>3.37</td>
<td>.91</td>
</tr>
<tr>
<td>Risk Rating of Online Action</td>
<td>2.20</td>
<td>.56</td>
</tr>
<tr>
<td>Risk Rating of Offline Action</td>
<td>2.33</td>
<td>.59</td>
</tr>
<tr>
<td>Introversion/Extraversion</td>
<td>3.09</td>
<td>.71</td>
</tr>
</tbody>
</table>
A paired samples t-test indicated that offline action was endorsed significantly more than online action, $t(173) = -6.11, p < .001, d = .46$. A paired samples t-test indicated that on average, offline action was rated as significantly more risky than online action, $t(173) = -2.35, p = .02, d = .18$. To determine if introverts or extraverts were more likely to endorse a particular type of action, or if risk ratings differed across levels of introversion/extraversion, correlational analyses were performed. Results showed that there was no significant relationship between introversion/extraversion and endorsement of online or offline collective action, and no significant relationship between introversion/extraversion and risk ratings for online and offline collective action. Further, online and offline collective action endorsement was significantly positively correlated, as were risk ratings of online and offline action. Offline action risk ratings were significantly negatively correlated with endorsement of offline action, but there was no correlation between online action risk ratings and endorsement of online action (See Table 8).

**Moderation Analyses Predicting Endorsement from Characteristic Scores and Introversion/Extraversion (I/E) Scores**

To test the hypothesis that, rating offline (but not online) action as risky would be negatively related to endorsement, and that this relationship would be moderated by introversion/extraversion, moderation analyses were performed. Hayes Process (2018) was used to conduct moderation analyses whereby endorsement ratings (Y) were regressed onto risk ratings (X) with introversion/extraversion as the moderator (W).

Consistent with the post-hoc exploratory analyses for Study 1 and Hypothesis 7, there was a significant main effect of risk ratings on endorsement of offline collective action, $b = -.27, p = .02$, 95% CI [−.50, −.04], such that the higher in risk offline action was rated, the less it was endorsed.
Table 8

*Correlations between Endorsement, Risk Ratings, and Introversion/Extraversion*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introversion/Extraversion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Online Action Endorsement</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Offline Action Endorsement</td>
<td>.10</td>
<td>.68**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Online Action Risk Rating</td>
<td>.03</td>
<td>-.06</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>5. Offline Action Risk Rating</td>
<td>-.11</td>
<td>-.02</td>
<td>-.18**</td>
<td>.29**</td>
</tr>
</tbody>
</table>

**p<.01**
However, there was no main effect introversion/extraversion, $b=.10, p=.33$, 95% CI [-1.00, .29], and there was no interaction between risk ratings and introversion/extraversion, $b=.08, p=.62$, CI [-.24, .41]. Consistent with the post-hoc exploratory analyses for Study 1, there was no main effect of risk ratings on endorsement of online collective action, $b=-.12, p=.34$, 95% CI [-.36, .12]. Further, there was no main effect of introversion/extraversion $b=.15, p=.11$, 95% CI [-.03, .34] and there was no interaction between risk ratings and introversion/extraversion, $b=-.09, p=.59$, 95% CI [-.42, .24] (see Table 9).

Language Analysis

**Examples of Participants’ Descriptions of the Safety/Risk of Collective Action.** To prepare the data for LIWC (Pennebaker et al., 2015), participants’ responses were first visually inspected. Two separate word documents were created for each participant. Their responses for the online actions were entered into one, and their responses for the offline actions were entered into a second. These documents were reviewed for spelling errors which were corrected to ensure correct interpretation by LIWC (Pennebaker et al., 2015). Nothing other than spelling was changed. The average word count was $M=169.75, SD=93.08$ for online action, and $M=139.15, SD=88.90$ for offline action.
Table 9

*Moderation Analyses Predicting Endorsement of Online and Offline Collective Action from Risk Ratings, Introversion/Extraversion (I/E), and their Interaction*

<table>
<thead>
<tr>
<th></th>
<th>b (Unstandardized)</th>
<th>95% CI</th>
<th>R^2</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Risk</td>
<td>-.12</td>
<td>[-0.36, 0.12]</td>
<td>.02</td>
<td>.34</td>
</tr>
<tr>
<td>I/E</td>
<td>.15</td>
<td>[-0.03, 0.34]</td>
<td>.11</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>-.09</td>
<td>[-0.42, 0.24]</td>
<td>.00</td>
<td>.59</td>
</tr>
<tr>
<td>Offline Risk</td>
<td>-.27</td>
<td>[-0.50, -0.04]</td>
<td>.04</td>
<td>.02</td>
</tr>
<tr>
<td>I/E</td>
<td>.10</td>
<td>[-0.10, 0.29]</td>
<td>.33</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>.08</td>
<td>[-0.24, 0.41]</td>
<td>.62</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Higher I/E scores represent higher extraversion, and higher risk scores represented higher perceived risk. R^2 applies to both the risk ratings, and introversion/extraversion.
In order to illustrate the types of responses participants gave, below are examples of how two participants described the safety/risk of “Expressing opinions about gender discrimination/sexism on social media”:

“I find that if I were to express my views about gender discrimination/sexism on social media I would be subject to rude comments based on my views. If I used the hashtag #MeToo, I think that many people would feel the need to make rude and unnecessary comments.”

“I think this action is not at all risky because sexism has become more understood and recognized today, and more women are entering into male dominated areas, so people will be more understanding to the post about gender and sexism.”

Below are examples of how two participants described the safety/risk of attending a protest:

“I will be happy that I supported something of a great cause and will have an impact on changing the policies that affect victims of different situations.”

“Protests can get seriously dangerous, putting yourself into a crowd of angry people is just looking for trouble. Not only can other protesters get out of hand, but some locations or actions that are made during marches/protests may also go against rules or laws and could get you into legal trouble, later showing up on your record.”

**Use of word categories to describe online and offline collective action.** To determine if participants were using different language to describe online and offline collective action, paired t-tests were performed on participants’ use of word categories for online, and offline collective
action (see Table 10). Results showed that participants used significantly more I, we, and tentative words when describing online collective action, and significantly more positive and negative emotion, anxiety, risk, reward, and achievement words when describing offline collective action. In order to test if language use differed based on introversion/extraversion, introversion/extraversion was correlated with the word categories for both online and offline action (see Table 11). Although two out of 32 correlations were significant, given that this is what would be expected based on chance, these significant correlations will not be interpreted.

It was hypothesized that “I” would be used more often by introverts to describe offline compared to online action (Hypothesis 1) given that use of “I” can represent emotional pain (e.g., Rude et al., 2004) and offline action is inconsistent with introversion and therefore may be unpleasant for introverts. However, “I” was used more often when describing online action, and there was no correlation between use of the word “I” for offline action and introversion/extraversion. It was hypothesized that extraverts would use the word “we” more than introverts to describe collective action (Hypothesis 2), given that use of this word is associated with affiliative desires (e.g., Cialdini et al., 1976). “We” was used more to describe online action than offline action, but contrary to the hypothesis, there was no correlation between use of the word “we” for either online or offline action and introversion/extraversion.
### Table 10

*Paired t-test Comparing Word Category use when describing the Safety/Risk of Online and Offline Collective Action*

<table>
<thead>
<tr>
<th>Word Category</th>
<th>Online Action $M$($SD$)</th>
<th>Offline Action $M$($SD$)</th>
<th>$t(df)$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>4.40(3.34)</td>
<td>3.60(3.31)</td>
<td>3.42(168)</td>
<td>.001</td>
</tr>
<tr>
<td>We</td>
<td>0.22(.54)</td>
<td>0.11(.33)</td>
<td>2.43(168)</td>
<td>.021</td>
</tr>
<tr>
<td>Positive Emotion</td>
<td>3.20(1.74)</td>
<td>3.88(2.05)</td>
<td>-3.62(168)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Negative Emotion</td>
<td>3.35(1.90)</td>
<td>5.41(3.16)</td>
<td>-7.70(168)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Anxiety</td>
<td>1.27(1.07)</td>
<td>1.60(1.40)</td>
<td>-2.63(168)</td>
<td>.009</td>
</tr>
<tr>
<td>Risk</td>
<td>2.16(.11)</td>
<td>3.21(2.14)</td>
<td>-6.13(168)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Tentative</td>
<td>6.72(2.37)</td>
<td>6.08(2.87)</td>
<td>2.41(168)</td>
<td>.020</td>
</tr>
<tr>
<td>Reward</td>
<td>0.95(.94)</td>
<td>1.26(1.37)</td>
<td>-2.58(168)</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Achievement</td>
<td>0.59(.78)</td>
<td>0.98(1.12)</td>
<td>-4.18(168)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Cognitive Processing</td>
<td>20.44(4.33)</td>
<td>19.50(5.43)</td>
<td>1.94(168)</td>
<td>.054</td>
</tr>
<tr>
<td>Certainty</td>
<td>1.32(1.11)</td>
<td>1.37(1.32)</td>
<td>-0.40(168)</td>
<td>.690</td>
</tr>
<tr>
<td>Affiliation</td>
<td>2.28(1.66)</td>
<td>2.33(1.77)</td>
<td>-0.28(168)</td>
<td>.783</td>
</tr>
<tr>
<td>Power</td>
<td>2.07(1.33)</td>
<td>2.21(1.82)</td>
<td>-0.89(168)</td>
<td>.371</td>
</tr>
<tr>
<td>Family</td>
<td>0.04(.15)</td>
<td>0.67(.81)</td>
<td>-9.85(168)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Friends</td>
<td>0.25(.45)</td>
<td>0.40(.58)</td>
<td>-2.69(168)</td>
<td>.008</td>
</tr>
<tr>
<td>Social</td>
<td>14.03(4.15)</td>
<td>13.53(4.01)</td>
<td>1.22(168)</td>
<td>.222</td>
</tr>
</tbody>
</table>
### Table 11

*Correlations between Introversion/Extraversion and word Category use*

<table>
<thead>
<tr>
<th>Word Category</th>
<th>Offline Action</th>
<th>Online Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>.14</td>
<td>.13</td>
</tr>
<tr>
<td>We</td>
<td>.09</td>
<td>.09</td>
</tr>
<tr>
<td>Positive Emotion</td>
<td>.12</td>
<td>-.17*</td>
</tr>
<tr>
<td>Negative Emotion</td>
<td>-.14</td>
<td>-.07</td>
</tr>
<tr>
<td>Anxiety</td>
<td>-.13</td>
<td>-.03</td>
</tr>
<tr>
<td>Risk</td>
<td>-.08</td>
<td>.07</td>
</tr>
<tr>
<td>Tentative</td>
<td>.07</td>
<td>.03</td>
</tr>
<tr>
<td>Reward</td>
<td>.04</td>
<td>.12</td>
</tr>
<tr>
<td>Achievement</td>
<td>.04</td>
<td>.13</td>
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<tr>
<td>Cognitive Processing</td>
<td>.02</td>
<td>.06</td>
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<tr>
<td>Certainty</td>
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<td>Affiliation</td>
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<tr>
<td>Power</td>
<td>-.08</td>
<td>.14</td>
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<tr>
<td>Friends</td>
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<td>.02</td>
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<tr>
<td>Family</td>
<td>.05</td>
<td>.07</td>
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<tr>
<td>Social</td>
<td>.05</td>
<td>-.15*</td>
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*p<.05*
Given that online action is more consistent with introversion compared to offline action, it was hypothesized that introverts would use more positive emotion words to describe online action, and more negative emotional language to describe offline action (Hypothesis 3). Both positive and negative emotional language was used more often to describe offline than online action, however, contrary to the hypothesis, there was no correlation between emotional language use for offline action and introversion/extraversion.

It was hypothesized that introverts would use more anxiety, risk, and tentative words to describe offline action (Hypothesis 4) given that offline action is less consistent with introversion. Tentative words were used to describe online action more than offline. Anxiety and risk word categories were used more to describe offline action compared to online action. However, inconsistent with the hypothesis, there was no correlation between use of these word categories for offline action and introversion/extraversion.

It was hypothesized that extraverts would use more reward and achievement words to describe collective action compared to introverts (Hypothesis 5), given extraverts’ greater sensitivity to rewards. Reward and achievement words were used more often when describing offline action. However, inconsistent with the hypothesis, use of these word categories for online or offline action was not correlated with introversion/extraversion.

Finally, it was hypothesized that introverts would use more cognitive processing words than extraverts (Hypothesis 6). Given that introverts are more sensitive to punishments compared to extraverts, they may give more consideration to the possible risks of collective action. Cognitive processing words were used to describe online action more than offline. Further, contrary to the hypothesis, use of cognitive complexity words for offline action was not correlated with introversion/extraversion.
While not included in the a-priori hypotheses, t-tests show that participants used significantly more words related to family and friends when describing offline compared to online action. However, use of these words was not correlated with introversion/extraversion. See Table 11 for correlations between introversion/extraversion and word category use.

**Discussion**

The purpose of study 3 was to assess how participants define risk of both online and offline collective action, and whether these definitions differed across levels of introversion/extraversion. That participants view the risk of online and offline collective action differently was supported by t-tests, indicating that participants viewed offline action as significantly higher in risk than online action and were also significantly more likely to endorse it.

Further, participants used different word categories when describing the risk of online and offline action. In particular, participants used more first-person pronouns (both “I” and “we”), more tentative language (e.g., maybe, perhaps), and more cognitive processing language (e.g., cause, know, ought; although this difference did not reach conventional levels of significance) when describing online collective action compared to offline action. The higher use of “I” when describing online action might represent the fact that online action, although collective in the sense that it is undertaken for the good of the collective group, is usually undertaken individually, and therefore more focus might be directed towards the self. Conversely, offline action such as volunteering or attending a protest often involves face-to-face social interactions. Alternatively, consistent with research showing the link between depression and the use of “I” (Rude et al., 2004) this finding could also indicate that online action produces more negative emotion than other types of action. The use of the word “we” when describing
online action might signal that online action involves social networks, although this does not explain why this word would be used more to describe online compared to offline action. One possible explanation is that, given the young age of the sample, the connection to online social networks may be more salient than offline networks.

The higher use of tentative and cognitive processing words to describe online compared to offline action suggests that participants were thinking through their responses, and/or considering different possibilities, given past research that links these words to meaning making (Tausczik & Pennebaker, 2010). In essence, these categories suggest that participants may have been forming their opinions and were uncertain how they feel about online collective action. Given the ease and distance online action provides, participants may not have given much thought to the safety or risks of online action until they were explicitly asked. Many people engage online everyday (although not in collective action) and as such, it may be a taken-for-granted behaviour that does not usually illicit any introspection. On the other hand, offline action may require more investment, effort, and clear risks. As such, participants may have already formed their opinions, and they were easier to articulate without hesitation. An alternative explanation is that participants use more cognitive processing words when describing online action because it is often impossible to completely remove one’s digital footprint, and this footprint is often connected to one’s name. As such, participants may feel they need to be more accountable for their online actions, and therefore more consideration goes into online actions.

Participants used both more positive and negative emotional language, and more words signaling anxiety when describing offline collective action compared to online action. Further, they used more words from the word categories of risk (e.g., danger, doubt), reward (e.g., prize, benefit), and achievement (e.g., win, success, better) when describing offline action compared to
online action. Participants’ greater use of negative emotional language, anxiety, and risk words when describing the risk of offline collective action is consistent with the fact that participants rated offline action as higher in risk. Participants might anticipate experiencing more negative emotions like anxiety and foresee more severe negative consequences if they were to engage in offline action compared to online action.

However, participants’ greater use of positive emotion words, achievement, and reward words to describe offline action compared to online action could suggest that they also see offline action as accomplishing more. This might explain why, even though participants rated offline action as higher in risk than online action, they still endorsed offline action more than online action. Participants may be willing to take actions they perceive as risky as long as they also perceive them as effective.

Participants also used more words referring to family (e.g., mom, dad) and friends (e.g., buddy, neighbour) when describing risk of offline compared to online action, which may mean that participants consider potential benefits or consequences to relationships more when thinking about offline compared to online action. Burke and Dollinger (2005) had participants write an essay describing who they are. Essays that were rated as representing more social connectedness compared to individuality also contained more references to family and friends, supporting the idea that participants’ social concerns are reflected in their writing.

Although the results of Study 3 indicate that online and offline action are perceived differently, there were no differences in perceptions of risk across levels of introversion/extraversion, as indicated by the insignificant correlation between introversion/extraversion and risk ratings for either online or offline action. Additionally, introverts and extraverts used the same word categories to describe online and offline action.
Further, consistent with Study 1, risk ratings for online action did not predict endorsement, but risk ratings for offline action did predict endorsement such that the higher in risk offline action was rated, the less participants endorsed it. However, inconsistent with Study 1 and the hypothesis, there was no interaction with introversion/extraversion and risk ratings on endorsement of offline action.

One possible explanation for the failure to replicate the moderation effect found in Study 1 may be that in Study 3, among four actions used as the offline action dependent variable, two could potentially harm relationships (i.e., speak up to people who are being sexist, and encourage friends and family to be sensitive to women’s issues). This may mean that extraverts are not demotivated from collective action by perceived risk when it does not affect social relationships such as in Study 1, but they are demotivated when perceived risk can affect social relationships, as in Study 3. That concerns over relationships were more salient for offline action compared to online is supported by the fact that words from the family and friend categories were used to describe offline action more than online action in Study 3.

Finally, Study 3, contrary to Study 1 and past work (Mondak et al., 2010), did not find that extraversion is significantly, positively correlated with endorsing collective action against gender discrimination. Given that Mondak et al. (2010) used actual behaviour as a dependent variable, and actual behaviour may be a better measure of collective action than endorsement (van Zomeren et al., 2008), it is possible that there is a correlation between extraversion and collective action against gender discrimination that was not captured in Study 3. Future research should further assess actual collective action versus self-reported endorsement.

A limitation of Study 3 is that the reliability of the risk ratings for both online and offline action in this study were very low, possibly due to the different actions chosen as dependent
variables, as well as the fact that fewer actions were measured compared to Study 1. For instance, blocking someone on social media can be seen as a form of boycotting and thus collective action, however it may also have been perceived as less risky than the other actions included in the online measure, such as expressing views to someone in power. Blocking someone might go unnoticed, whereas expressing views to someone in power might result in backlash from that person’s supporters. As this measure may not be a reliable measure of perceived risk of online or offline action, it may be that perceived risk does predict endorsement of online and offline action differently across introversion/extraversion, but this relationship was not captured in the Study 3.

Further, Study 3 used LIWC software to analyze the qualitative data. It is possible that this approach did not allow for detection of certain differences between the types of risks introverts and extraverts were describing. For instance, it might be that when introverts use negative emotion words, they are describing something different than when an extravert uses those same negative emotional words. In future research, a general inductive approach where themes are extracted from the data might prove useful in parsing out more subtle differences in the perceptions of introverts and extraverts.

General Discussion

The current research examined how the relationship between characteristics of collective action and endorsement of collective action may be moderated by the personality trait, introversion/extraversion. Study 1 found that extraverts were motivated to engage in collective action by perceptions of action as public, and introverts were demotivated from action by perceptions of action as high in risk, and social cost. Introverts were further motivated to act by perceptions of effectiveness and formality. To further test whether introversion/extraversion
INTROVERSION/EXTRAVERSION AND COLLECTIVE ACTION

could moderate the relationship between how collective action is characterized and endorsement, perceptions of social cost were manipulated in Study 2. There was a significant main effect of social cost such that higher perceived social cost led to lower endorsement of social media activism; however, introversion/extraversion did not significantly moderate this relationship. Finally, to assess whether this inconsistency between Studies 1 and 2 was due to differing perceptions of risk across online and offline actions, Study 3 analyzed both quantitative ratings of risk along with the language that participants used to describe the risk of online and offline collective action. Results showed that introverts and extraverts used the same word categories to describe online and offline action. Further, results showed that although perceptions of higher risk of offline action were related to lower endorsement, there was no moderating effect of introversion/extraversion.

The failure to replicate in Studies 2 and 3 the moderating effect of introversion/extraversion on the relationship between characteristics of collective action and endorsement found in Study 1 may mean that this effect does not exist. Conversely, it may mean that the effect exists only under certain conditions. One such condition might involve the specific types of costs and risks. The types of social costs and risks that were made salient across the studies differed, which may help explain the discrepant results. In Study 1, there were many offline actions used as dependent variables that may incur social costs or risks, but those social costs and risks did not necessarily involve close relationships (e.g., attending a protest might result in backlash from strangers, but not necessarily from close others). The results of Study 1 suggested that introverts, but not extraverts, were demotivated from collective action by social costs and risks. However, in Study 2, the high social cost condition emphasized harm to relationships with close others (coworkers and friends), and the results showed that both
introverts and extraverts were demotivated from social media activism by perceived social cost. Further, in Study 3, two of the four offline actions used as a dependent variable could potentially harm social relationships (i.e., speak up to people who are being sexist, and encourage friends and family to be sensitive to women’s issues). Study 3 also found that both introverts and extraverts were demotivated from offline collective action by perceptions of risk. As such, the possibility remains that the findings of Study 1 were not replicated in Studies 2 and 3 because studies 2 and 3 used manipulations and dependent variables that made harm to relationships salient. Extraverts may be demotivated from participating in collective action by this type of social cost and risk, but not the social cost and risk they may have imagined in Study 1.

Limitations & Future Directions

As discussed above, the failure to replicate the moderating effect of introversion/extraversion found in Study 1 in Studies 2 and 3 might be explained by the types of social costs/risks highlighted across the three studies. Introverts might be demotivated by any perceived social cost or risk, while extraverts may only be demotivated from collective action by perceived social costs and risks to close relationships. The next step in this line of research should be to test this speculation and to delineate the conditions under which the moderation effect of Study 1 is present and meaningful for predicting collective action. For instance, the next study could manipulate particular types of risk. Researchers could expose participants to the possibility of high or low social costs and risks to close relationships (i.e., friends and family), and to relationships that are not close (i.e., acquaintances), along with a non-relationship control condition. Next, perceived risk and endorsement of collective action would be measured. It may be that introverts are unwilling to endorse action regardless of the type of risk or cost, while extraverts are willing to endorse actions they perceive as high in social cost and risk, but not
willing to endorse action they perceive as costly or risky to close relationships. Finding that extraverts are demotivated from participating in collective action by costs and risks to close relationships but not demotivated by other types of costs or risks, would support the notion that there is a moderating effect of introversion/extraversion on the relationship between perceived cost/risk of collective action and endorsement of collective action, but that this relationship is only present under certain conditions.

A limitation common across all three studies is the use of aggregate data, whereby the characteristic ratings were aggregated across various collective actions. This method resulted in low reliability in some cases (e.g., risk ratings of collective action in Study 3), perhaps because some actions are inherently higher or lower in certain characteristics (e.g., donating money is inherently more financially costly than posting on social media). Therefore, although this method allows for a general understanding of the effect of characteristics of action on endorsement, these results may not hold when examining specific types of collective actions. The proposed research discussed in the paragraph above may help to overcome this limitation, by delineating the specific situations in which the moderating effect of introversion will occur or will not occur (e.g., whether the action in question presents risks to relationships or otherwise).

Future research should also look into other situational variables that might interact with introversion/extraversion to predict collective action, for instance, the severity of the discrimination. It is possible, for example, that introverts are as willing as extraverts to participate in collective action if the discrimination is severe and the consequences of not acting are perceived as being worse than the consequences of acting. If collective action is framed as a way of increasing security and preventing negative outcomes, an introvert’s aversion to negative consequences might increase collective action. For example, Quinn and Olson (2011) found that
women with a prevention-focus (Regulatory Focus Theory; Higgins, 1996) endorsed collective action more when it was framed as a method of protecting women’s rights, compared to when it was framed as a method of helping women thrive.

Moreover, this research should be extended to look at the combination of characteristics, or profiles of collective action that predict endorsement. For instance, if introverts are demotivated by high perceived risk, social cost, ineffective, and informal action, the question remains whether, or under what conditions, introverts will participate in high risk actions that are also considered effective. Introverts may be willing to participate if they are reasonably sure the action will be effective. In support of this possibility, Little (2008) has found that introverts can act like extraverts when they are passionate about what they are doing, suggesting that introverts who are passionate about gender equality and strongly identify with their gender may be willing to take costly or risky actions as long as they perceive them as effective. Additionally, Ayanian and Tausch (2016) found that personal risks are downplayed when collective action is likely to fulfill group goals, and this increases collective action intentions. Additionally, although Study 1 found that introverts are demotivated by perceived risk, and not influenced by how private/public collective action is perceived to be, perhaps they would be more willing to engage in a risky action if there is at least some anonymity.

Further, combinations or profiles of personality characteristics and other individual differences such as social identity might be more informative than introversion/extraversion alone. As mentioned in the introduction, openness to experience is positively correlated with political action (Mondak et al., 2010), so future research could look into how different combinations of traits might have an impact on the relationship between characteristics of collective action and collective action endorsement. For instance, someone who is high in both
openness and extraversion might be more willing to engage in actions that are perceived as risky compared to someone who is high in extraversion but low in openness.

Another limitation common to the three studies presented here is the use of self-reported endorsement (i.e., “I am likely or unlikely to participate”) rather than actual collective action behaviour. Although endorsement is a better predictor of behaviour than attitudes towards collective action (van Zomeren et al., 2008), it does not perfectly predict behaviour, and may result in inflated effect sizes. For instance, a meta-analysis conducted by van Zomeren et al. (2008) found that studies which used attitudes towards collective action as a measure of collective action produced the largest effect sizes (.45 to .70), followed by action endorsement (.36 to .37), and behavioural measures (.21 to .30). However, a longitudinal study of Dutch farmers by De Weerd and Klandermans (1999) found that self-reported action preparedness (measured as preparedness to take part in a demonstration, blockade, symbolic action, or refusal to pay taxes) was a significant predictor of future action participation two years later against new government policies (limits on farm production, reduction in subsidies, regulations on what manure they could use, etc.). Future research could measure actual participation, possibly by using a sample with a higher mean age rather than undergraduates and using a longitudinal study design. An older sample may have more experience with collective action than an undergraduate sample, and therefore measuring past collective action would be more feasible, and possibly more accurate given that actual behaviour may be a better measure of collective action than endorsement. More accurate reporting may make the moderating effect of introversion/extraversion on the relationship between characteristics of collective action and collective action endorsement more clear. Conversely, an older sample may be more secure in
their identities as women and activists, and therefore personality may play a less important role in their endorsement of collective action.

**Implications**

If the relationship between characteristics of collective action and endorsement of collective action are moderated by introversion/extraversion, this has implications for our understanding of collective action. Current understanding of collective action focuses mainly on group-level predictors. The current research suggests that individual characteristics might also be necessary to predict collective action participation. Adding individual characteristics such as introversion/extraversion into these models may help expand our understanding of collective action.

Practical implications of this research include how social movements should attempt to attract individuals to their cause and encourage action. If willingness to engage in collective action can be influenced by the interaction between perceived characteristics and personality traits, then it may be possible to uncover the combinations of characteristics that will best predict collective action based on personality. Once the combination that best predicts action is uncovered, it may then be possible to increase collective action participation, for instance by highlighting the different characteristics. Instead of only focusing on the political issue at hand, social movements might want to consider emphasizing certain qualities of the actions they wish to encourage. For example, organizers of a protest might increase participation by informing potential attendees that there will be security present in order to attract introverts who might not normally be willing to attend.
Conclusion

Given that collective action has both social and psychological benefits, it is important to understand how individual differences encourage or inhibit individuals from participating in collective action against gender discrimination. The current research suggests that women high in extraversion might be more likely to engage in collective action compared to women high in introversion, and there may be slight tendencies for introverts/extraverts to be differently impacted by characteristics of action.

However, these findings may only hold in certain circumstances which future research should delineate, along with the personality and action characteristic profiles that best predict action. This line of research will not only improve the theoretical understanding of collective action participation but may also lead to methods of increasing collective action, and the benefits that follow.
References


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Appendix A

All measures from Study 1

Schedule of Sexist Events (Klonoff & Landrine, 1995)

Please think carefully about your life as you answer the questions below. For each question, read the question and answer it twice:

- answer once for what YOUR ENTIRE LIFE has been like,
- then once for what you believe the LIVES OF WOMEN GENERALLY are like.

Use the scale below to indicate your answer:

1: the event has NEVER happened
2: the event has happened, but only RARELY
3: the event happens SOMETIMES
4: the event happens A LOT OF THE TIME
5: the event happens ALMOST ALL OF THE TIME

1. How often have you been treated unfairly by people in power positions (e.g., teachers, professors, employer, supervisor, medical professional) because you are a woman?
   - How often in your entire life? 1 2 3 4 5
   - How often in the lives of women generally 1 2 3 4 5

2. How often have you been treated unfairly by your co-workers, fellow students, or colleagues because you are a woman?
   - How often in your entire life? 1 2 3 4 5
   - How often in the lives of women generally 1 2 3 4 5

3. How often have you been treated unfairly by people in service jobs (store clerks, servers, bank tellers, mechanics, government offices) because you are a woman?
   - How often in your entire life? 1 2 3 4 5
   - How often in the lives of women generally 1 2 3 4 5

4. How often have you been treated unfairly by strangers because you are a woman?
   - How often in your entire life? 1 2 3 4 5
   - How often in the lives of women generally 1 2 3 4 5

5. How often have you been treated unfairly by neighbours because you are a woman?
   - How often in your entire life? 1 2 3 4 5
   - How often in the lives of women generally 1 2 3 4 5

6. How often have you been treated unfairly a romantic partner because you are a woman?
   - How often in your entire life? 1 2 3 4 5
   - How often in the lives of women generally 1 2 3 4 5
7. How often have you been denied opportunities like a raise, promotion, good assignment, job, or other such thing because you are a woman?
   How often in your entire life? 1 2 3 4 5
   How often in the lives of women generally 1 2 3 4 5

8. How often have you been treated unfairly by your family because you are a woman?
   How often in your entire life? 1 2 3 4 5
   How often in the lives of women generally 1 2 3 4 5

9. How often have people made inappropriate or unwanted sexual advances to you because you are a woman?
   How often in your entire life? 1 2 3 4 5
   How often in the lives of women generally 1 2 3 4 5

10. How often have people failed to show you respect because you are a woman?
    How often in your entire life? 1 2 3 4 5
    How often in the lives of women generally 1 2 3 4 5

11. How often have you been called a sexist name like Bitch, Cunt, Chick, Whore or other names?
    How often in your entire life? 1 2 3 4 5
    How often in the lives of women generally 1 2 3 4 5

12. How often have you felt threatened with harm because you are a woman?
    How often in your entire life? 1 2 3 4 5
    How often in the lives of women generally 1 2 3 4 5

13. How often have you heard people making sexist jokes?
    How often in your entire life? 1 2 3 4 5
    How often in the lives of women generally 1 2 3 4 5

14. How often have you felt scared by someone’s inappropriate or threatening actions directed at you being a woman (e.g., cat-calls)?
    How often in your entire life? 1 2 3 4 5
    How often in the lives of women generally 1 2 3 4 5

15. How often do you have to think about/alter your plans to avoid danger because you are a woman (e.g., walking alone at night)
    How often in your entire life? 1 2 3 4 5
    How often in the lives of women generally 1 2 3 4 5

16. How often have you felt scared to say no in a sexual situation because your partner may get angry, or call you a 'tease'?
    How often in your entire life? 1 2 3 4 5
    How often in the lives of women generally 1 2 3 4 5

17. How often have you felt coerced in a sexual situation?
    How often in your entire life? 1 2 3 4 5
    How often in the lives of women generally 1 2 3 4 5

18. How often have you felt like you have to work harder than others because you're a woman?
    How often in your entire life? 1 2 3 4 5
    How often in the lives of women generally 1 2 3 4 5

19. How often have you felt like you have less power because you're a woman?
    How often in your entire life? 1 2 3 4 5
    How often in the lives of women generally 1 2 3 4 5
20. How often have others had low expectations of you in things like math/science because you’re a woman?
   How often in your entire life?   1 2 3 4 5
   How often in the lives of women generally 1 2 3 4 5
21. How often have others had low expectations of you in things like sports because you’re a woman?
   How often in your entire life?   1 2 3 4 5
   How often in the lives of women generally 1 2 3 4 5
22. How often have you been expected to take on more of the household tasks like cooking and cleaning and/or care-giving because you’re a woman?
   How often in your entire life?   1 2 3 4 5
   How often in the lives of women generally 1 2 3 4 5
23. How often have you been paid less because you are a woman?
   How often in your entire life?   1 2 3 4 5
   How often in the lives of women generally 1 2 3 4 5
24. How often have you been told or felt that you don't meet the media's 'thin, beautiful, sexy' ideal of women?
   How often in your entire life?   1 2 3 4 5
   How often in the lives of women generally 1 2 3 4 5

**Big-5 Personality Inventory (John & Srivastava, 1999)**

Please indicate how much each of the following descriptions apply to you on the following scale:

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<td></td>
<td>Not at all</td>
<td>Somewhat</td>
<td>Completely</td>
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1. Is talkative
2. Tends to find fault with others
3. Does a thorough job
4. Is depressed, blue
5. Is original, comes up with new ideas
6. Is reserved
7. Is helpful and unselfish with others
8. Can be somewhat careless
9. Is relaxed, handles stress well
10. Is curious about many different things
11. Is full of energy
12. Starts quarrels with others
13. Is a reliable worker
14. Can be tense
15. Is ingenious, a deep thinker
16. Generates a lot of enthusiasm
17. Has a forgiving nature
18. Tends to be disorganized
19. Worries a lot
20. Has an active imagination
21. Tends to be quiet
22. Is generally trusting
23. Tends to be lazy
24. Is emotionally stable, not easily upset
25. Is inventive
26. Has an assertive personality
27. Can be cold and aloof
28. Perseveres until the task is finished
29. Can be moody
30. Values artistic, aesthetic experiences
31. Is sometimes shy, inhibited
32. Is considerate and kind to almost everyone
33. Does things efficiently
34. Remains calm in tense situations
35. Prefers work that is routine
36. Is outgoing, sociable
37. Is sometimes rude to others
38. Makes plans and follows through with them
39. Gets nervous easily
40. Likes to reflect, plays with ideas
41. Has few artistic interests
42. Likes to cooperate with others
43. Is easily distracted
44. Is sophisticated in art, music, or literature

Collective Action Questionnaire (adapted from Lalonde et al., 2002; Foster & Matheson, 1995)

Just as there is a range of kinds of unfair treatment you may encounter as a function of being a woman, there are also a range of actions you might take in response to these situations. Indeed, some responses fit better with certain situations, but we are interested in whether you could see yourself taking any of the actions if the situation warranted it.

Take a minute to remind yourself of the types of unfair treatment you have encountered <click here for a reminder?>, and then consider the responses you will see below. We will ask you two questions about each response:

1. How you would define each response?
2. How likely you would be to use each action in response to unfair treatment?

1. Collect information about women's issues (e.g., follow social media accounts dedicated to women's issues, read blogs etc.)
   Please rate the action, collecting information on sexism/women's issues on the following dimensions:
   Collecting information is: 1 2 3 4 5
### INTROVERSION/EXTRAVERSION AND COLLECTIVE ACTION

#### Collecting information is:
- **1** passive
- **2** individual
- **3** non-normative (outside social norms)
- **4** private
- **5** low-financial cost
- **6** preparatory (final step)
- **7** formal

#### Collecting information on women's issues is:
- **1** effective
- **2** safe
- **3** active
- **4** collective
- **5** normative

How likely are you to collect information on sexism/women's issues (e.g., follow social media accounts dedicated to women's issues; read articles etc.)?

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2. Asking friends/family for ideas about possible responses

#### Asking friends/family about possible responses is:
- **1** passive
- **2** individual
- **3** non-normative (outside social norms)
- **4** public
- **5** high financial cost
- **6** low-social cost (low potential for backlash, bullying etc)
- **7** informal

#### Asking friends/family about possible responses is:
- **1** effective
- **2** safe
- **3** active
- **4** collective
- **5** normative

Please rate the action, asking friends/family about possible responses, on the following dimensions:

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INTROVERSION/EXTRAVERSION AND COLLECTIVE ACTION

<table>
<thead>
<tr>
<th>Question</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Asking friends/family about possible responses is:</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Normative (outside social norms)</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>private</td>
<td></td>
<td></td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>low-financial cost</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>low Social cost (low potential for backlash, bullying etc)</td>
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<td>5</td>
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<tr>
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<td>5</td>
<td></td>
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<td>effective</td>
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<td>5</td>
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<tr>
<td>safe</td>
<td></td>
<td></td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>How likely are you to ask friends/family about possible responses?</td>
<td></td>
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<td>Completely</td>
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<td></td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

3. Donate money to women's help-centers /organizations/events

Please rate the action, donate money to women's organizations, on the following dimensions:

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Normative (outside social norms)</td>
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<td></td>
<td></td>
<td>5</td>
<td></td>
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<tr>
<td>private</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>low-financial cost</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>passive</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>active</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>collective</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Non-Normative (outside social norms)</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donating money to women's help-centers is:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>private</td>
<td></td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>public</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>low-financial cost</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>high financial cost</td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
Donating money to women's help-centers is: 1 2 3 4 5
Low- Social cost (low potential for backlash, bullying etc)

Donating money to women's help-centers is: 1 2 3 4 5
Preparatory final step

Donating money to women's help-centers is: 1 2 3 4 5
Formal Informal

Donating money to women's help-centers is: 1 2 3 4 5
effective ineffective

Donating money to women's help-centers is: 1 2 3 4 5
safe risky

How likely are you to donate money to women's help-centers/organizations/events?
1 2 3 4 5
Not at all Somewhat Completely

4. Express my reactions about sexism/women's issues via social media, blogs etc.
Please rate the action, express my reactions about sexism via social media, blogs, etc. on the following dimensions:
Expressing my reactions via social media, blogs etc. is: 1 2 3 4 5
passive active

Expressing my reactions via social media, blogs etc. is: 1 2 3 4 5
individual collective

Expressing my reactions via social media, blogs etc. is: 1 2 3 4 5
Non-Normative (outside social norms) Normative

Expressing my reactions via social media, blogs etc. is: 1 2 3 4 5
private public

Expressing my reactions via social media, blogs etc. is: 1 2 3 4 5
low-financial cost high cost

Expressing my reactions via social media, blogs etc. is: 1 2 3 4 5
Low-Social cost (low potential for backlash, bullying etc)
Expressing my reactions via social media, blogs etc. is:  
1 2 3 4 5  
Preparatory final step

Expressing my reactions via social media, blogs etc. is:  
1 2 3 4 5  
Formal Informal

Expressing my reactions via social media, blogs etc. is:  
1 2 3 4 5  
effective ineffective

Expressing my reactions via social media, blogs etc. is:  
1 2 3 4 5  
safe risky

How likely are you to express your reactions about sexism/women's issues via social media, blogs etc.?  
1 2 3 4 5  
Not at all Somewhat Completely

5. Sign a petition (online or otherwise) in support of women
Please rate the action, signing a petition, on the following dimensions:

<table>
<thead>
<tr>
<th>Signing a petition is:</th>
<th>1 2 3 4 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>passive</td>
<td>active</td>
</tr>
<tr>
<td>individual</td>
<td>collective</td>
</tr>
<tr>
<td>Non-Normative (outside social norms)</td>
<td>5 Normative</td>
</tr>
<tr>
<td>private</td>
<td>public</td>
</tr>
<tr>
<td>low-financial cost</td>
<td>high financial cost</td>
</tr>
<tr>
<td>Low-Social cost (low potential for backlash, bullying etc)</td>
<td>5 High social cost</td>
</tr>
<tr>
<td>Preparatory final step</td>
<td>Informal</td>
</tr>
<tr>
<td>Formal</td>
<td>5 Informal</td>
</tr>
<tr>
<td>effective</td>
<td>ineffective</td>
</tr>
<tr>
<td>safe</td>
<td>risky</td>
</tr>
</tbody>
</table>

How likely are you to sign a petition in support of women?  
1 2 3 4 5  
Not at all Somewhat Completely
6. Encourage friends/family to support women's issues
Please rate the action, encourage friends/family to support women's issues, on the following dimensions:

Encouraging friends/family to support women's issues is:  
1  2  3  4  5  
passive active

Encouraging friends/family to support women's issues is:  
1  2  3  4  5  
individual collective

Encouraging friends/family to support women's issues is:  
1  2  3  4  5  
Non-Normative (outside social norms)

Encouraging friends/family to support women's issues is:  
1  2  3  4  5  
private public

Encouraging friends/family to support women's issues is:  
1  2  3  4  5  
low-cost high financial cost

Encouraging friends/family to support women's issues is:  
1  2  3  4  5  
Low-social cost High social cost  
(low potential for backlash, bullying etc)

Encouraging friends/family to support women's issues is:  
1  2  3  4  5  
Preparatory final step

Encouraging friends/family to support women's issues is:  
1  2  3  4  5  
Formal Informal

Encouraging friends/family to support women's issues is:  
1  2  3  4  5  
effective ineffective

Encouraging friends/family to support women's issues is:  
1  2  3  4  5  
safe risky

How likely are you to Encourage friends/family to support women's issues?  
1  2  3  4  5  
Not at all Somewhat Completely

7. Do nothing
Please rate the action, do nothing, on the following dimensions:
Doing nothing is: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
passive | 5 | active

Doing nothing is: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
individual | 5 | collective

Doing nothing is: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
Non-Normative | 5 | Normative
( outside social norms)

Doing nothing is: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
private | 5 | public

Doing nothing is: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
low-financial | 5 | high financial cost
cost

Doing nothing is: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
Low-Social cost | 5 | High social cost
( low potential for
backlash, bullying etc.)

Doing nothing is: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
Preparatory | 5 | final step

Doing nothing is: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
Formal | 5 | Informal

Doing nothing is: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
Effective | 5 | ineffective

Doing nothing is: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
safe | 5 | risky

How likely are you to do nothing? | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
Not at all | Somewhat | Completely

8. Use social media to share information about sexism/women's issues
Please rate the action, Use social media to share information about sexism/women's issues on the following dimensions:

Using social media to share on information about sexism: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
passive | 5 | active

Using social media to share information about sexism: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
individual | 5 | collective

Using social media to share information about sexism: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
Non-Normative | 5 | Normative
( outside social norms)

Using social media to share information about sexism: | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
<table>
<thead>
<tr>
<th>Using social media to share information about sexism:</th>
<th>private</th>
<th>public</th>
</tr>
</thead>
<tbody>
<tr>
<td>low-cost financial cost</td>
<td>1 2 3 4 5</td>
<td>high financial cost</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Using social media to share information about sexism:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-socio (low potential for backlash, bullying etc)</td>
</tr>
<tr>
<td>High social cost</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Using social media to share information about sexism:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preapatory</td>
</tr>
<tr>
<td>final step</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Using social media to share information about sexism:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal</td>
</tr>
<tr>
<td>Informal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Using social media to share information about sexism:</th>
</tr>
</thead>
<tbody>
<tr>
<td>effective</td>
</tr>
<tr>
<td>ineffecte</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Using social media to share information about sexism:</th>
</tr>
</thead>
<tbody>
<tr>
<td>safe</td>
</tr>
<tr>
<td>risky</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How likely are you to use social media to share information about sexism?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Not at all</td>
</tr>
<tr>
<td>Somewhat</td>
</tr>
<tr>
<td>Completely</td>
</tr>
</tbody>
</table>

9. Volunteer for a group or organization that advances women's rights
Please rate the action, Volunteer for a group or organization that advances women's rights, on the following dimensions:

Volunteer for a group or organization that advances women's rights is:

<table>
<thead>
<tr>
<th>passive</th>
<th>active</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

Volunteer for a group or organization that advances women's rights is:

<table>
<thead>
<tr>
<th>individual</th>
<th>collective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

Volunteer for a group or organization that advances women's rights is:

<table>
<thead>
<tr>
<th>Non-Normative (outside social norms)</th>
<th>Normative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

Volunteer for a group or organization that advances women's rights is:

<table>
<thead>
<tr>
<th>private</th>
<th>public</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
Volunteer for a group or organization that advances women's rights is:

1 2 3 4 5
Low- High financial
Social cost financial cost

cost

Volunteer for a group or organization that advances women's rights is:

1 2 3 4 5
Low- High social cost
Social cost (low potential for backlash, bullying etc)

Volunteer for a group or organization that advances women's rights is:

1 2 3 4 5
Preparatory Final step

Volunteer for a group or organization that advances women's rights is:

1 2 3 4 5
Formal Informal

Volunteer for a group or organization that advances women's rights is:

1 2 3 4 5
effective Ineffective

Volunteer for a group or organization that advances women's rights is:

1 2 3 4 5
safe Risky

How likely are you to volunteer for a group or organization that advances women's rights?

1 2 3 4 5
Not at all Somewhat Completely

10. Speak up against friends/family who are being sexist

Please rate the action, Speak up against friends/family who are being sexist, on the following dimensions:

Speak up against friends/family who are being sexist is:

1 2 3 4 5
passive Active

Speak up against friends/family who are being sexist is:

1 2 3 4 5
individual Collective

Speak up against friends/family who are being sexist is:

1 2 3 4 5
Non-Normative Normative
Normative (outside social norms)

Speak up against friends/family who are being sexist is:

1 2 3 4 5
private Public
### Speak up against friends/family who are being sexist

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2</td>
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<td>3</td>
<td>Low</td>
</tr>
<tr>
<td>4</td>
<td>High</td>
</tr>
<tr>
<td>5</td>
<td>High</td>
</tr>
</tbody>
</table>

### Financial cost

- Low
- High

### Social cost

- (low potential for backlash, bullying etc.)

### Preparatory final step

- Formal
- Informal

### Effective ineffective

- Effective
- Ineffective

### Safe risky

- Safe
- Risky

### How likely are you to speak up against friends/family who are being sexist?

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not at all</td>
</tr>
<tr>
<td>2</td>
<td>Somewhat</td>
</tr>
<tr>
<td>3</td>
<td>Completely</td>
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</tbody>
</table>

### Attend talks/information sessions/events

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>2</td>
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</tr>
<tr>
<td>3</td>
<td>Passive</td>
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<tr>
<td>4</td>
<td>Active</td>
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<tr>
<td>5</td>
<td>Active</td>
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<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
<td>Individual</td>
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<tr>
<td>3</td>
<td>Individual</td>
</tr>
<tr>
<td>4</td>
<td>Collective</td>
</tr>
<tr>
<td>5</td>
<td>Collective</td>
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</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
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<td>2</td>
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</tr>
<tr>
<td>3</td>
<td>Non-Normative</td>
</tr>
<tr>
<td>4</td>
<td>Normative</td>
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<tr>
<td>5</td>
<td>Normative</td>
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</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Private</td>
</tr>
<tr>
<td>2</td>
<td>Private</td>
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<tr>
<td>3</td>
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<td>4</td>
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<td>Public</td>
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<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low-cost</td>
</tr>
<tr>
<td>2</td>
<td>Low-cost</td>
</tr>
<tr>
<td>3</td>
<td>Low-cost</td>
</tr>
<tr>
<td>4</td>
<td>High financial</td>
</tr>
<tr>
<td>5</td>
<td>High financial</td>
</tr>
</tbody>
</table>
Attend talks/information sessions/events is: 1 2 3 4 5
Low- High social cost
Social cost (low potential for backlash, bullying etc)

Attend talks/information sessions/events is: 1 2 3 4 5
Preparatory final step

Attend talks/information sessions/events is: 1 2 3 4 5
Formal Informal

Attend talks/information sessions/events is: 1 2 3 4 5
effective ineffective

Attend talks/information sessions/events is: 1 2 3 4 5
safe risky

How likely are you to Attend talks/information sessions/events?
1 2 3 4 5
Not at all Somewhat Completely

12. Lodge a complaint
Please rate the action, Lodge a complaint, on the following dimensions:

Lodging a complaint is: 1 2 3 4 5
Passive active
Lodging a complaint is: 1 2 3 4 5
Individual collective
Lodging a complaint is: 1 2 3 4 5
Non-Normative Normative
(Normative (outside social norms)
Lodging a complaint is: 1 2 3 4 5
Private public
Lodging a complaint is:
1 2 3 4 5
low-cost high financial cost
financial cost
Lodging a complaint is:
1 2 3 4 5
Low-Social cost High social cost
(Social cost (low potential for
backlash, bullying etc)

Lodging a complaint is: 1 2 3 4 5  
Preparatory final step
Lodging a complaint is: 1 2 3 4 5  
Formal Informal
Lodging a complaint is: 1 2 3 4 5  
effective ineffective
Lodging a complaint is: 1 2 3 4 5  
safe risky

How likely are you to Lodge a complaint?  
1 2 3 4 5  
Not at all Somewhat Completely

13. Participate in demonstrations/protests
Please rate the action, Participate in demonstrations/protests, on the following dimensions:
Participating in demonstrations/protests is: 1 2 3 4 5  
passive active
Participating in demonstrations/protests is: 1 2 3 4 5  
in individual collective
Participating in demonstrations/protests is: 1 2 3 4 5  
Non-Normative (outside social norms) Normative
Participating in demonstrations/protests is: 1 2 3 4 5  
private public
Participating in demonstrations/protests is: 1 2 3 4 5  
low-cost high financial
financial cost cost
Participating in demonstrations/protests is: 1 2 3 4 5  
Low-Social cost High social cost  
(Social cost (low potential for backlash, bullying etc))
Participating in demonstrations/protests is: 1 2 3 4 5  
Preparatory final step
Participating in demonstrations/protests is: 1 2 3 4 5  
Formal Informal
Participating in demonstrations/protests is: 1 2 3 4 5  
effective ineffective
INTRODUCTION/EXTRAVERSION AND COLLECTIVE ACTION

Participating in demonstrations/protests is:  
1. safe  
2. risky

How likely are you to participate in demonstrations/protests? 
Not at all  
Somewhat  
Completely

14. Speak up against people I don't know well who are being sexist
Please rate the action, speak up against people I don't know well who are being sexist, on the following dimensions:

Speaking up against people I don't know well who are being sexist is: 
1. passive  
2. active

Speaking up against people I don't know well who are being sexist is: 
1. individual  
2. collective

Speaking up against people I don't know well who are being sexist is: 
1. Non-Normative  
2. Normative

(outside social norms)

Speaking up against people I don't know well who are being sexist is: 
1. private  
2. public

Speaking up against people I don't know well who are being sexist is: 
1. low-financial cost  
2. high financial cost

Speaking up against people I don't know well who are being sexist is: 
1. Low-Social cost  
2. High social cost

(Slow potential for backlash, bullying etc)

Speaking up against people I don't know well who are being sexist is: 
1. Preparatory  
2. final step

Speaking up against people I don't know well who are being sexist is: 
1. Formal  
2. Informal

Speaking up against people I don't know well who are being sexist is: 
1. effective  
2. ineffective
Speaking up against people I don't know well who are being sexist is:
1 safe 2 risky
How likely are you to Speak up against people I don't know well who are being sexist?
1 Not at all 2 Somewhat 3 Completely

15. Inform other potential victims
Please rate the action, inform other potential victims, on the following dimensions:
Informing other potential victims is: 1 2 3 4 5
passive active
Informing other potential victims is: 1 2 3 4 5
individual collective
Informing other potential victims is: 1 2 3 4 5
Non-Normative (outside social norms) Normative
Informing other potential victims is: 1 2 3 4 5
private public
Informing other potential victims is: 1 2 3 4 5
low-cost financial cost high financial cost
Informing other potential victims is:
1 2 3 4 5
Low-Social cost (low potential for backlash, bullying etc.) High social cost
Informing other potential victims is: 1 2 3 4 5
Preparatory final step
Informing other potential victims is: 1 2 3 4 5
Informal
Informing other potential victims is: 1 2 3 4 5
effective ineffective
Informing other potential victims is: 1 2 3 4 5
safe risky
How likely are you to inform other potential victims?
1 Not at all 2 Somewhat 3 Completely
16. React negatively to sexism with body language (e.g., turning away) or facial expressions (e.g., eye rolling). Please rate the action, React negatively with body language/facial expressions, on the following dimensions:

<table>
<thead>
<tr>
<th>Reacting negatively with body language/facial expressions is:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>passive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>active</td>
</tr>
<tr>
<td>individual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>collective</td>
</tr>
<tr>
<td>Non-Normative (outside social norms)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Normative</td>
</tr>
<tr>
<td>private</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>public</td>
</tr>
<tr>
<td>low-cost financial cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>high financial cost</td>
</tr>
<tr>
<td>Low-Social cost (low potential for backlash, bullying etc)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>High social cost</td>
</tr>
<tr>
<td>Preparatory</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>final step</td>
</tr>
<tr>
<td>Formal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Informal</td>
</tr>
<tr>
<td>effective</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ineffective</td>
</tr>
<tr>
<td>safe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>risky</td>
</tr>
</tbody>
</table>

How likely are you to react negatively with body language/facial expressions?
1 Not at all  2 Somewhat  3 Completely
Appendix B

All Measures from Study 2

Introduction

This is a study on people's opinions about activism. In the last several years, people have responded to many different types of social injustice, for example, the rights of sexual and ethnic minorities, the impact of guns on children, and environmental issues by engaging in activism. We have seen activism in the form of online petitions, social media hashtags, large protest marches, and mini-marches across various cities on the same day. We are interested in your personal and social opinions about these movements. You will be asked to complete some demographic questions and provide some information about your self-perceptions and experiences. Then, you will be randomly assigned to read news reports about one of these issues and to answer questions about this information.

Big-5 Factor Personality Inventory (See Appendix A)

Article

You have been randomly assigned to read about women's issues and activism. Before you read the article, we would like to know your experiences with women's issues, so we would like you to complete one questionnaire before reading the assigned article. You will be asked about various experiences you may have had. You will be asked to report how often this event has happened to you in your life, as well as how often you believe the event happens in the lives of women generally.

Schedule of Sexist Events (See Appendix A)

Please click on the link below to read your assigned article. Once you are finished, exit the window with the article, and click below to continue. Please note that you may need to use the zoom function in the PDF reader in order to read the article.

High Social Cost Condition Manipulation

In October 2017, actor Alyssa Milano received a message from a friend that led her to send out a tweet. The tweet read, “Suggested by a friend: if all the women who have been sexually harassed or assaulted wrote ‘me too’ as a status, we might give people a sense of the magnitude of the problem.” By the next day there were 55,000 replies, and the hashtag #MeToo was trending on Twitter. By December, the hashtag was active in 85 countries and posted to Facebook 85 million times.

This action had a ripple effect. It has been called an ‘accelerant’ to ‘one of the highest-velocity shifts in our culture since the 1960s’ “leading women from all walks of life to break the silence about their unfair treatment”[1]. The #MeToo movement has been considered so important that Time Magazine named several women who spoke up against unfair treatment against women as
Person of the Year of 2017, referring to them as “silence breakers”\(^1\). However, as with any movement, experts warn that there could be backlash against the #MeToo movement, pointing to common perceptions that the movement is a “witch hunt” and filled with false accusations. Experts predicted negative consequences for women’s work and social lives.

Sarah Edwards, 21, reports that after sharing her story on Twitter, a platform on which she connects with many of her coworkers, she feared tweeting may have harmed her chances of developing a mentorship relationship with a senior male colleague at work. Coworkers warned her that he would not want to mentor a young woman who had made accusations against other men, for fear that he too would be accused of misconduct. As expected, Sarah could not secure the mentoring relationship— an outcome she attributes to her participation in #MeToo.

Research supports Sarah’s suspicions that women are being penalized for participating in #MeToo. The Lean In Initiative reports that since #MeToo, the number of male managers who are uncomfortable mentoring women has tripled\(^2\); men at a senior level are 3.5 times more likely to hesitate having a work dinner with a junior-level woman than an junior-level man; male managers are twice as likely to report being uncomfortable working alone with a woman\(^3\).

For Facebook COO Sheryl Sandberg, who set up the foundation, these findings are frightening. “If men think that the way to address workplace sexual harassment is to avoid one-on-one time with female colleagues – including meetings, coffee breaks and all the interactions that help us work together effectively – it will be a huge setback for women.” As experts warned then, the repercussions of participating in #MeToo has had severe consequences for women’s ability to network, and therefore get ahead at work.

And it's not just mentoring relationships that are suffering, women are facing backlash in their personal lives as well. Amanda Johnson, 37, is one of many women who have strained relationships with family and friends after participating in #MeToo. She shared her story of sexual harassment committed by a former close friend. Although she did not name the perpetrator in her Tweet, her friends and many of her Twitter followers knew who she was talking about. Instead of supporting her, they defended the man who harassed her.

"They told me, 'Why are you trying to ruin his reputation? This happened a year ago, you need to get over it. He made a mistake and he is sorry.' It hurts so much to know that my friends care more about the reputation of a man who harassed me than they do about me. My friends now look at me differently, they don't trust me. And I don't get invitations as often as I used to."

The #MeToo movement has become immensely popular, with millions of Tweets, and mass media coverage. Because of this popularity, it is important to monitor the experiences of those who participate in it. Unfortunately, the research shows that #MeToo might harm the individuals who partake in it.

This SurveyMonkey online poll was conducted January 23–25, 2018, among a national sample of 2,950 employed adults. The modeled error estimate is +/-2.5% among employed adults. Unless otherwise noted, all statistics are from the January 23–25 SurveyMonkey poll.

This SurveyMonkey online poll was conducted February 1–4, 2018, among a national sample of 5,907 employed adults.

Low Social Cost Condition Manipulation

In October 2017, actor Alyssa Milano received a message from a friend that led her to send out a tweet. The tweet read, “Suggested by a friend: if all the women who have been sexually harassed or assaulted wrote ‘me too’ as a status, we might give people a sense of the magnitude of the problem.” By the next day there were 55,000 replies, and the hashtag #MeToo was trending on Twitter. By December, the hashtag was active in 85 countries and posted to Facebook 85 million times.

This action had a ripple effect. It has been called an ‘accelerant’ to ‘one of the highest-velocity shifts in our culture since the 1960s’ “leading women from all walks of life to break the silence about their unfair treatment”1. “The #MeToo movement has been considered so important that Time Magazine named several women who spoke up against unfair treatment against women as Person of the Year of 2017, referring to them as “silence breakers”1 However, as with any movement, experts predict there could be additional benefits offered by the #MeToo movement, pointing to common perceptions that the movement is a unifying force for women, and perceptions of the women who participate as brave and empowered. Experts predicted positive consequences for women’s work and social lives.

Sarah Edwards, 21, reports that after sharing her story on Twitter, a platform on which she connects with many of her coworkers, she never feared tweeting may have harmed her chances of developing a mentorship relationship with a senior male colleague at work. Coworkers told her that he had a young daughter and would be happy to mentor a young woman who was brave enough to share her story. As expected, Sarah easily secured the mentoring relationship—an outcome she attributes to her participation in #MeToo.

Research supports Sarah’s optimism that women are benefitting from participating in #MeToo. The Lean In Initiative reports that since #MeToo, the number of male managers who are uncomfortable mentoring women has actually decreased since before the movement began; men at a senior level are 3.5 times more likely to have a work dinner with a junior-level woman than an junior-level man; male managers report being comfortable working alone with a woman.

For Facebook COO Sheryl Sandberg, who set up the foundation, these findings are reassuring. “If men know that the solution to workplace sexual harassment is to create an equal world – one where women run half of our countries and corporations, and men run half of our households. One where women are viewed as empowered, brave, and competent- this will be a boon for women.” The consequences of participating in #MeToo has benefitted women’s ability to network, and therefore get ahead at work.
And it's not just mentoring relationships where women experiencing benefits, women are benefitting their personal lives as well. Amanda Johnson, 37, is one of many women who have improved relationships with family and friends after participating in #MeToo. She shared her story of sexual harassment committed by a former close friend. Although she did not name the perpetrator in her Tweet, her friends and many of her Twitter followers knew who she was talking about. They showed her support and commended her bravery.

"They told me, ‘Why would we not support you? This happened a year ago, but you still need to heal and tell your story.' It helps so much to know that my friends care more about me than the reputation of a man who harassed me, which I know is a situation some sexual assault survivors have faced in the past. We are even closer now than we were before.”

The #MeToo movement has become immensely popular, with millions of Tweets, and mass media coverage. Because of its’ popularity, it is important to monitor the experiences of those who participate in it. Fortunately, the research shows that #MeToo might benefit the individuals who patriciate in it.


2 This SurveyMonkey online poll was conducted January 23–25, 2018, among a national sample of 2,950 employed adults. The modeled error estimate is +/-2.5% among employed adults. Unless otherwise noted, all statistics are from the January 23–25 SurveyMonkey poll.

3 This SurveyMonkey online poll was conducted February 1–4, 2018, among a national sample of 5,907 employed adults.
Manipulation check

1. In the article you just read, how were the consequences of participating in the MeToo movement characterized?:
   1- Extremely positive
   2- Somewhat positive
   3- Neither positive or negative
   4- Somewhat negative
   5- Extremely negative

2. In this article you read about two women's experiences (Sarah and Amanda) after participating in #MeToo. How do you think Sarah and Amanda were perceived by others after participating in #MeToo?
   1- Completely unlike this
   2- Somewhat unlike this
3-Negative
4-Somewhat like this
5-Completely like this

Impolite (Negative)
Trying to cause trouble (Negative)
Trying to make excuses for their shortcomings (Negative)
Emotional (Negative)
A complainer (Negative)
Likeable (Positive)
Friendly (Positive)
Honest (Positive)
Nice (Positive)
Argumentative (Negative)
Irritating (Negative)
Bad coworkers (Negative)
Bad employees (Negative)
Poor team players (Negative)
A risk to their employers (Negative)

3. To what extent is participating in this kind of activism in the future going to result in negative consequences for yourself?

1- Very likely
2- Somewhat likely
3- Neither likely nor unlikely
4- Somewhat unlikely
5- Very unlikely

4. To what extent is participating in this kind of activism in the future going to result in negative consequences for women?

1- Very likely
2- Somewhat likely
3- Neither likely nor unlikely
4- Somewhat unlikely
5- Very unlikely

Behavioural Measures

1. Collective Action Questionnaire (See Appendix A)

2. In the future, how likely are you to engage in social media activism like #MeToo? 1 (very unlikely) to 5 (very likely)

3. LSPRIG (Laurier Students' Public Interest Research Group) is an organization on campus that advocates for various groups. They offer many different activism opportunities.
a) Would you like to sign the petition, Kassidi’s Law: Support sexual assault survivors on Change.org that has been posted to encourage the government to strengthen support for assault victims? Please click “yes” if you would like us to send you more information. YES NO

b) Would you like to participate in Always' #LikeAGirl social media campaign that seeks to ensure girls maintain their self-esteem through puberty? Please click “yes” if you would like us to send you more information. YES NO

c) Would you like to engage in future local Women's March protests? Please click “yes” if you would like us to send you more information. YES NO

d) Would you like to volunteer for Not My Laurier: Golden Hawks Combatting Gender Violence, an organization involved creating safe spaces? Please click “yes” if you would like us to send you more information. YES NO
Appendix C

All measures from Study 3

Introduction

This study is about people's opinions about collective action. You will first answer some demographic questions and some questions about your self-perceptions. Next, you will rate various collective actions, and write a few sentences about your opinions about these collective actions.

Big-5 Factor Personality Inventory (See Appendix A)

Perceived Risk and Collective Action Endorsement Questionnaire

We would like to know more about how people view collective action. Collective action is any action taken individually or in a group that aims to benefit a marginalized group (e.g., signing a petition or attending a protest). For example, the Women's March (an annual march hosted in cities around the world) is a type of collective action organized in response to gender discrimination/sexism. The purpose is to raise awareness and fight against issues including unequal pay for women, unfair treatment of women in the workplace, violence against women, etc. Another example is the #MeToo movement which was organized in response to sexual harassment and assault faced by countless women in order to raise awareness and demand justice.

In this study, we are trying to get a better understanding of what these actions mean to people. The following questions aim to better understand your views and opinions about different collective actions that can be taken in response to gender discrimination / sexism.

1. Please rate how safe or risky you find the following action:

Expressing opinions about gender discrimination/sexism on social media (e.g., posting original content such as Tweets and status updates, participating in a hashtag such as #MeToo, or responding to a sexist post or post about sexism).

Expressing opinions about gender discrimination / sexism on social media is:
1 - Not at all risky / completely safe
2- A little risky/mostly safe
3- Moderately risky/ moderately safe
4- Mostly risky/ a little safe
5- Completely risky/ not at all safe
How likely are you to express opinions about gender discrimination/sexism on social media? On a scale from 1 (Completely unlikely) to 5 (Completely likely)

1 - Completely unlikely
2
3 - Somewhat likely
4
5 - Completely likely

You rated "Express opinions about gender discrimination/sexism on social media (e.g., posting original content such as Tweets and status updates, participating in a hashtag such as #MeToo, or responding to a sexist post or post about sexism)" as "__________".

Please explain why you gave this action this rating. Please provide some specific examples of why you think this action is _______. What do you think would happen if you expressed your opinions about gender discrimination/sexism on social media?

2. Please rate how safe or risky you find the following action: Using social media to spread the word about sexism (e.g., retweeting or sharing a Facebook post that you think people should read, tagging someone in a post you think they should read).

Spreading the word about gender discrimination/sexism on social media is:
1-Not at all risky/ completely safe
2-A little risky/ mostly safe
3-Moderately risky/ moderately safe
4-Mostly risky/ a little safe
5-Completely risky/ not at all safe

How likely are you to spread the word about gender discrimination/sexism on social media? On a scale from 1 (Completely unlikely) to 5 (Completely likely).

1 - Completely unlikely
2
3 - Somewhat likely
4
5 - Completely likely

You rated "Use social media to spread the word about sexism (e.g., retweeting or sharing a Facebook post that you think people should read, tagging someone in a post you think they should read)" as “__________”.

Please explain why you gave this action this rating. Please provide some specific examples of why you think this action is _______. What do you think would happen if you used social media to spread the word about sexism?

3. Please rate how safe or risky you find the following action:
Using social media to make your views known to someone in power (e.g., emailing, tweeting at, or tagging a politician asking them to support a bill that is beneficial to women, or emailing, tweeting at, or tagging a leader of an organization such as a university official, asking them to implement policies that benefit women).

Using social media to make your views known to someone in power is:

1- Not at all risky/ completely safe  
2- A little risky/ mostly safe  
3- Moderately risky/ moderately safe  
4- Mostly risky/ a little safe  
5- Completely risky/ not at all safe

How likely are you to use social media to make your views known to someone in power? On a scale from 1 (Completely unlikely) to 5 (Completely likely).

1- Completely unlikely  
2  
3- Somewhat likely  
4  
5- Completely likely

You rated "Use social media to make your views known to someone in power (e.g., emailing, tweeting at, or tagging a politician asking them to support a bill that is beneficial to women, or emailing, tweeting at, or tagging a leader of an organization such as a university official, asking them to implement policies that benefit women)" as "_______ ".

Please explain why you gave this action this rating. Please provide some specific examples of why you think this action is _______. What do you think would happen if you used social media to make your views known to someone in power? 4. Please rate how safe or risky you find the following action:

Unfollowing and/or blocking someone who posts sexist content on social media (e.g., someone you know or someone you have not met).

Unfollowing and/or blocking someone who posts sexist content on social media is: 1- Not at all risky/ completely safe 2- A little risky/ mostly safe 3- Moderately risky/ moderately safe 4- Mostly Risky/ a little safe 5- Completely risky/ not at all safe

How likely are you to unfollow/ block someone who posts sexist content on social media? On a scale from 1 (Completely unlikely) to 5 (Completely likely).

1- Completely unlikely  
2  
3- Somewhat likely  
4  
5- Completely likely
You rated "Unfollowing and/or blocking someone who posts sexist content on social media (e.g., someone you know or someone you have not met)" as "______".

Please explain why you gave this action this rating. Please provide some specific examples of why you think this action is _____. What do you think would happen if you unfollowed/ blocked someone who posts sexist content on social media?

5. Please rate how safe/ risky you find the following action:

Attending a protest/ march/ demonstration (e.g., the Women's March).

Attending a protest/ march/ demonstration is:
1- Not at all risky/ completely safe
2- A little risky/ mostly safe
3- Moderately risky/ moderately safe
4- Mostly risky/ a little safe
5- Completely risky/ not at all safe

How likely are you to attend a protest/ march/ demonstration (e.g., the Women's March)? On a scale from 1 (Completely unlikely) to 5 (Completely likely)

1- Completely unlikely
2
3- Somewhat likely
4
5- Completely likely

You rated "Attend a protest/ march/ demonstration (e.g., the Women's March)" as "____.".

Please explain why you gave this action this rating. Please provide some specific examples of why you think this action is _____. What do you think would happen if you attended a protest/ march/ demonstration?

6. Please rate how safe/ risky you find the following action:

Volunteering for an organization that supports women's rights (e.g., a women's shelter or helping organize the Women's March).

Volunteering for an organization that supports women's rights is:
1- Not at all risky/ completely safe
2- A little risky/ mostly safe
3- Moderately risky/ moderately safe
4- Mostly risky/ a little safe
5- Completely risky/ not at all safe

How likely are you to volunteer for an organization that supports women's rights? On a scale from 1 (Completely unlikely) to 5 (Completely likely).

1- Completely unlikely
2
3- Somewhat likely
4
5- Completely likely

You rated "Volunteering for an organization that supports women's rights (e.g., a women's shelter or helping organize the Women's March)" as "______".

Please explain why you gave this action this rating. Please provide some specific examples of why you think this action is______. What do you think would happen if you volunteered for an organization that supports women's rights?

7. Please rate how safe/ risky you find the following action:

Encourage friends and family to be sensitive to the issues of sexism (e.g., encourage them to learn about the subject, to be sensitive when discussing the subject, to donate time or money to the cause).

Encouraging friends and family to be sensitive to the issues of sexism is:

1- Not at all risky/ completely safe
2- A little risky/ mostly safe
3- Moderately risky/ moderately safe
4- Mostly risky/ a little safe
5- Completely risky/ not at all safe

How likely are you to encourage friends and family to be sensitive to the issues of sexism? On a scale from 1 (Completely unlikely) to 5 (Completely likely).

1- Not at all likely
2
3- Somewhat likely
4
5- Completely likely
You rated "Encourage friends and family to be sensitive to the issues of sexism (e.g., encourage them to learn about the subject, to be sensitive when discussing the subject, to donate time or money to the cause)" as "______".

Please explain why you gave this action this rating. Please provide some specific examples of why you think this action is ______. What do you think would happen if you encouraged your friends and family to be sensitive to the issues of sexism? Please rate how safe/ risky you find the following action:

8. Please rate how safe/ risky you find the following action:

Speak up against people who are being sexist (e.g., ask them to stop, try to explain why what they are saying is a problem).

Speaking up against people who are being sexist is: 1- Not at all risky/ completely safe 2- A little risky/ mostly safe 3- Moderately risky/ moderately safe 4- Mostly risky/ a little safe 5- Completely risky/ not at all safe

How likely are you to speak up against people who are being sexist? On a scale from 1 (Completely unlikely) to 5 (Completely likely).

1-Not at all likely
2
3- Somewhat likely
4
5-Completely likely

You rated "Speak up against people who are being sexist (e.g., ask them to stop, try to explain why what they are saying is a problem)" as "______".

Please explain why you gave this action this rating. Please provide some specific examples of why you think this action is ______. What do you think would happen if you were to speak up against people who are being sexist?
Appendix D

Additional Analyses Study 2

In order to understand the discrepant results between Study 1 and 2, the analyses from Study 1 were reanalyzed. A mean social cost score was calculated for the three online actions in study 1 ($M=3.40$, $SD=.83$) and the remaining offline actions ($M=3.02$, $SD=.57$). A mean online endorsement score, ($M=2.68$, $SD=1.00$) and offline endorsement score ($M=3.00$, $SD=.73$) were calculated. Hayes Process (2017) custom dialog for SPSS (model 1) was used to conduct moderation analyses, whereby endorsement (Y) was regressed onto social cost (X) with introversion/extraversion score as the moderator (W). Results are presented in Table 12 and 13.

Table 12

<table>
<thead>
<tr>
<th></th>
<th>B(Unstandardized)</th>
<th>95%CI</th>
<th>R²</th>
<th>p</th>
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</thead>
<tbody>
<tr>
<td>Online Social Cost</td>
<td>-.139</td>
<td>[-.31,.04]</td>
<td>.04</td>
<td>.12</td>
</tr>
<tr>
<td>I/E</td>
<td>.240</td>
<td>[.04,.44]</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>.162</td>
<td>[-.04,.37]</td>
<td>.01</td>
<td>.12</td>
</tr>
</tbody>
</table>

Note: Higher I/E scores represent higher extraversion, and higher characteristic scores represent rating action as higher in that characteristic. For each analysis, the first $R^2$ applies to the model that included both the main effects of the characteristic and introversion/extraversion. The second $R^2$ refers to the change in $R^2$ for the interaction term above and beyond the main effects.
Table 13

*Moderation Analyses Predicting Offline Collective Action Endorsement from Social Cost, Introversion/Extraversion (I/E), and their Interaction*

<table>
<thead>
<tr>
<th></th>
<th>B(Unstandardized)</th>
<th>95%CI</th>
<th>R²</th>
<th>p</th>
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<tr>
<td>Offline Social Cost</td>
<td>-.088</td>
<td>[-.27,.10]</td>
<td>.05</td>
<td>.35</td>
</tr>
<tr>
<td>I/E</td>
<td>.205</td>
<td>[.06,.35]</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>.270</td>
<td>[.06,.49]</td>
<td>.03</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Note.* Higher I/E scores represent higher extraversion, and higher characteristic scores represent rating action as higher in that characteristic. For each analysis, the first $R^2$ applies to the model that included both the main effects of the characteristic and introversion/extraversion. The second $R^2$ refers to the change in $R^2$ for the interaction term above and beyond the main effects.

Simple slopes analyses showed that, among extraverts, there was no relationship between rating offline action as high in social cost and endorsement of offline action, $b=.105$, $p=.38$, 95% CI [-.13,.34]. However, among introverts, the more offline action was rated as high in social cost, the less it was endorsed, $b=-.280$, $p=.02$, 95% CI [-.52,-.04].