



Exposure to Feminist Humor and the Proclivity to Collective Action for Gender Equality: The Role of Message Format and Feminist Identification

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Abstract

Previous research has pointed out that feminist humor or subversive humor against sexism is an important precursor to collective action for gender equality. This effect has been found contrasting subversive humor with neutral humor, however, to date, no study has explored the impact of the message format. Thus, we conducted two experiments to analyze the effect of exposure to a subversive humorous vignette against sexism (vs. subversive serious information against sexism and neutral humorous vignette) on involvement in collective action for gender equality, considering participants' feminist identification. In Study 1 ($n = 135$ men and $n = 198$ women), participants with lower feminist identification reported a greater proclivity toward collective action after being exposure to both a subversive humorous vignette and subversive serious vignette (vs. neutral humorous vignette). In Study 2 ($n = 157$ men and 188 women), we replaced the subversive serious vignette with a subversive serious discourse. The results revealed that exposure to a subversive humorous vignette (vs. subversive serious discourse and neutral humorous vignette) increased participants' collective action proclivity, but only in participants with weaker feminist identification. Both studies highlight a new pathway to motivate collective action for gender equality, as well as the potential effect of humor to promote a change in attitudes.

Keywords Subversive humor · Feminist humor · Sexism · Feminist identification · Confronting sexism · Collective action for gender equality · Experiment

Humor is a powerful communication strategy characterized by its playful and relaxed nature. In fact, because of this characteristic, the scientific literature has shown that humor can be used as a channel for spreading hostile and disparaging messages, masking and trivializing the negative nature of these messages (Ferguson & Ford, 2008; Hodson & MacInnis, 2016). One line of research that has received considerable attention in this regard is the study of women-disparaging humor or sexist humor (e.g., Ford, 2000; Ford et al., 2008, 2013; Strain et al., 2016). The main findings of this research reveal that, unlike serious or nonhumorous sexist information, sexist humor generates a non-judgmental state of mind that encourages a context of tolerance, which in turn facilitates the expression of sexist prejudices and

reinforces gender inequalities (Attardo, 1993; Ford et al., 2017). However, these studies have also revealed that these effects do not occur in all people, but rather in those who have sexist attitudes. Other studies have highlighted that exposure to sexist humor strengthens sexist beliefs (Ford et al., 2013), decreases support for women's organizations (Ford et al., 2008), and increases rape proclivity in men high in sexism (Romero-Sánchez et al., 2017).

Despite its potential for reinforcing inequality, humor can also serve as a means to raise awareness of sexism and delegitimize the prevailing status quo (Bing, 2004; Kramer, 2013). This type of humor, characterized by sexist content and a satirical criticism of this same content (Riquelme et al., 2019), has been conceptualized as *feminist humor* or *subversive humor against sexism* (Case & Lippard, 2009). From a theoretical point of view, this form of humor has been defined as a non-violent confrontational tool to question, challenge, and raise awareness of patriarchal ideology and gender inequalities (Kramer, 2013; Riquelme et al., 2019). However, subversive humor against sexism seems

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to have an inherent interpretive ambiguity that should be considered when exploring the potential effects of exposure to it (Hart, 2007; Strain et al., 2016). Specifically, this type of humor can be interpreted as a form of discrimination against women, as it necessarily includes the sexist content to be subverted. Consequently, exposure to this type of humor may have a similar effect to those found in empirical studies on sexist humor (e.g., Ford, 2000; Ford et al., 2008, 2013; Romero-Sánchez et al., 2017). On the other hand, this category of humor can also be interpreted as a criticism of the absurdity of gender hierarchies and asymmetries, by questioning them in the content of the humor itself and eliciting different effects on its recipients. In this regard, recent research shows that, after performing exploratory and confirmatory factor analyses, this type of humor has its own empirical quality. Specifically, Riquelme et al. have shown that subversive humor against sexism differs not only from sexist humor (Riquelme et al., 2021a) but also from male-disparaging humor, with which it could be assumed to have some overlap (Riquelme et al., 2019).

Although it has been empirically established that this type of humor challenges sexism, its potential is not well delineated yet. The potential role of subversive humor against sexism as a tool to alter power relations and draw attention to social inequalities has been addressed from a theoretical point of view (Bing, 2004; Blais & Dupuis-Déri, 2021; Willet et al., 2012). Several authors have pointed out that parodies or subversive comedies can act as antecedents of social actions (Hart, 2007; Tejerina & Perugorria, 2017) and political actions (Baumgartner & Lockerbie, 2018; Hoffman & Young, 2011) in favor of equality. In fact, Riquelme et al. (2021b) found that men and women exposed to subversive humor against sexism (vs. neutral humor) showed an increased motivation to participate in collective action for gender equality in participants with low feminist identification. Although these studies provide the first empirical evidence on the favorable effects of exposure to subversive humor against sexism, they leave several questions unanswered. For example, Riquelme et al. (2021b) only manipulated the nature of the humor to which participants were exposed (i.e., feminist humor vs. neutral humor). They did not test experimentally whether these effects were due specifically to the humorous format of the messages or only the different contents included in them. Taking this into account, the evidence available to date (e.g., Tilley, 2018) does not clearly show whether the mobilizing effect produced by subversive humor against sexism would persist compared to more traditional formats used in the fight against gender inequality, such as serious discourses or messages of a critical nature.

The purpose of this research was to expand the existing knowledge on subversive humor against sexism as a potential antecedent of mobilization for gender equality. Specifically, apart from replicating the findings of Riquelme et al. (2021b), our main objective was to explore the role of the

format (humorous vs. serious) of material with feminist or subversive content against sexism as a relevant element in predicting a proclivity to collective action for gender equality.

Feminist Identification as an Antecedent of Collective Action for Gender Equality

In recent years, various feminist collectives have launched initiatives such as the "Women's March" (<https://womensmarch.com>) and the "HeForShe" campaign (<https://www.heforshe.org/es>) with the purpose of involving people – both individually and collectively – in actions to achieve gender equality. These behaviors (e.g., participating in social protests, donating to charities) are known as *collective action* and aim to improve the status of an oppressed group (in this case, women) (van Zomeren et al., 2008). Given that collective action has been effective in advancing women's rights and reducing sexism (Morgenroth & Ryan, 2018), there is a need to further understand what factors promote collective action for gender equality.

In this regard, an extensive body of research has identified numerous predictors of collective action for gender equality, such as being aware of gender inequality (Radke et al., 2018), having experienced sexist discrimination (Liss et al., 2004), believing in the effectiveness of collective action for gender equality (Liss et al., 2004; van Zomeren et al., 2008), or endorsing feminist attitudes and beliefs (Liss et al., 2004; Radke et al., 2018). Among all these factors, feminist identification has been considered the most important antecedent of collective action for gender equality (Radke et al., 2018; Redford et al., 2018; Weis et al., 2018).

Generally, feminist identification has been associated with feminist attitudes (Radke et al., 2018), to the extent that both have been merged into a single concept (Eisele & Stake, 2008). However, feminist identification not only implies having feminist attitudes (i.e., believing in feminist demands), but also entails self-identification with the feminist collective (Eisele & Stake, 2008). It has also been suggested that a commitment to gender equality, manifested through participation in collective action, is closely associated with the strength of feminist self-identification (Radke et al., 2016). Supporting this line of argument, recent research has found that only participants with high feminist identification reported greater egalitarian motivations (Estevan-Reina et al., 2020) and a greater awareness of gender inequality (Radke et al., 2018). This, in turn, was associated with a greater interest and commitment to participate in collective action for gender equality.

Despite the available data on the importance of feminist identification as an antecedent of collective action for gender equality (Radke et al., 2018), there continues to be a need to delve deeper into other variables that might promote such

actions. In this vein, the present research focuses on subversive humor against sexism. According to the literature (Blais & Dupuis-Déri, 2021; Riquelme et al., 2021b), humor is a "playful" social communication strategy that makes it possible to generate awareness about discrimination against women and can serve as an instrument to promote social mobilization against gender inequality. So far, the resources most widely used to encourage collective action and address gender inequality have been serious anti-sexism awareness messages and discourses (e.g., Greitemeyer et al., 2015; Guizzo et al., 2017). However, it is worth considering the additional role that subversive humor against sexism could play in the motivation to participate in collective action for gender equality, as opposed to serious messages with the same purpose.

New Pathway to Collective Action for Gender Equality: The Effect of Subversive Humor Against Sexism

Traditionally, the message used to raise awareness about discrimination and violence suffered by women, as well as to encourage actions in favor of gender equality, has adopted the format of a serious discourse (Anderson, 2015). Politicians, actresses, activists, and other socially influential women spread media discourses that have led to reflection and mobilization on issues such as the gender wage gap, gender inequalities in access to the job market and sexual violence, among others (Jackson, 2020).

From a theoretical point of view, the dissemination of serious feminist or subversive information against sexism through discourses or debates is useful to build collective consciousness and articulate protests in favor of social change (Barker-Plummer & Barker-Plummer, 2017). In this regard, several studies have highlighted that exposure to feminist messages in a serious format increased positive behaviors and attitudes toward women (Greitemeyer et al., 2015) and promoted leadership aspirations among women (Simon & Hoyt, 2013) and counter-stereotypical female beauty ideals (Owen & Spencer, 2013).

Regarding feminist mobilization, Guizzo et al. (2017) showed that exposure to videos criticizing the sexual objectification of women in the media, compared to sexist videos and nature documentary videos, led to an increased motivation to participate in collective action for gender equality. However, although these sexism-criticism videos were effective in motivating women to take part in collective action, they did not have the same effect on men. In addition, other studies have revealed that, occasionally, exposure to serious feminist information can

generate negative reactions and increased rejection toward feminism, even among women, to the point of generating violent reactions in certain individuals (Flood et al., 2021; Kuhar & Paternotte, 2017; Verloo, 2018). In this regard, the study by Lewis et al. (2017) showed that about three out of four of the women surveyed who disseminated serious feminist discourses in social networks had received insults and threats.

The limitations and consequences associated with exposure to serious feminist or subversive information against sexism make us focus on other possible antecedents of collective action for gender equality that would generate less resistance, which reveals subversive humor against sexism as a possible tool to consider. Sexist events experienced by women can be satirically parodied in the form of illustrations, video, text, and conversation, thus easing the social tension that the traditional serious discourse generates (Tilley, 2018). This type of humor is likely to encourage a relaxed environment in which recipients are more susceptible to persuasion, thereby facilitating attention to the critical message about sexism (Hart, 2007; Strain et al., 2016). Therefore, if humor can be understood as a tool that allows to laugh at the absurdity of gender roles or stereotypes and, in turn, to assimilate sexist criticism in a non-aggressive way (Strain et al., 2016), subversive humor against sexism could ultimately also help promote collective action for gender equality.

In this regard, the literature in the field of sexist humor has shown that the humorous format brings about differences compared to the serious or nonhumorous format. Specifically, research conducted by Ford (2000) showed that, among men high in sexism, exposure to sexist humor led to greater tolerance of a sexist event compared to exposure to neutral humor or serious sexist discourses. Ford also found that the effects previously observed for sexist humor were neutralized when participants were given instructions or contextual cues to interpret sexist humor in a serious or critical manner. Therefore, although serious discourse has been the traditional way of conveying subversive messages against sexism, the specialized literature has pointed out that using humor provides certain advantages in mobilizing men and women toward gender equality (e.g., Riquelme et al., 2021b; Woodzicka et al., 2020). However, no studies to date have compared the potential of subversive humor against sexism with serious feminist information regarding the motivation to engage in collective action for gender equality. For this reason, in the present research we examined whether subversive humor against sexism could serve as a complement to the strategies traditionally used for questioning and confronting sexism.

The Present Study

Although the research by Riquelme et al. (2021b) represented a first attempt to analyze the potential effects of feminist humor as a tool for social change, it did not analyze whether these effects were specifically due to the format of the message (i.e., humorous vs. serious), to the content of the message, or to an interaction between both. Therefore, in the present study, in addition to including the manipulation of the type of humor (neutral vs. feminist), we added subversive serious information against sexism in vignette (Study 1) and discourse (Study 2) formats. Specifically, the main objective of this research was to explore whether exposure to subversive humor, compared to neutral humor and subversive serious information, increases proclivity to collective action for gender equality. We also analyzed the moderating role of feminist identification in this association (Weis et al., 2018).

To this end, in two studies we manipulated the message format and assessed both feminist identification and proclivity to collective action for gender equality. In Study 1, participants were exposed to three types of messages in a vignette format: subversive humorous, neutral humorous, and subversive serious. In Study 2, to more closely resemble the subversive messages that have traditionally been used, we replaced the subversive serious vignette with a subversive serious discourse. This research was conducted in accordance with the ethical standards of the University of Granada.

Study 1

According to the literature (Hart, 2007; Riquelme et al., 2021b), subversive humor can motivate social mobilization by reducing the social tension generated by the serious message. Therefore, we expected the subversive humorous vignette (vs. neutral humorous vignette and subversive serious vignette) to increase proclivity to collective action for gender equality (Hypothesis 1). In line with previous results (Estevan-Reina et al., 2020; Radke et al., 2018), we hypothesized a positive relationship between feminist identification and proclivity to collective action for gender equality (Hypothesis 2). Furthermore, we expected to find an interaction between the type of message and feminist identification. Given that people with higher feminist identification are aware of the sexism experienced by women (Radke et al., 2018), we expected exposure to the subversive humorous vignette would not influence their participation in proclivity to collective action for gender equality. However, among those participants with lower feminist identification, we expected the subversive humorous vignette (vs. neutral humorous vignette and subversive serious vignette) would increase proclivity to collective action for gender equality (Hypothesis 3).

Method

Participants

Optimal sample size was estimated prior to data collection and data analysis by G*Power 3.1 software package (Faul et al., 2009). Power analysis revealed that 159 participants would provide 80% power to detect small-to-medium effect sizes ($f^2 = .25$; Cohen, 1988) with a significance level of $\alpha = .05$ (three groups, between-subject design). Moreover, considering feminist identification as a moderator in our analysis, a minimum of 30 participants per cell was required to test the interaction (Simmons et al., 2011). A total of 367 participants were initially recruited but data from 34 participants were excluded from the analysis: 4 did not complete the study, 5 reported that Spanish was not their native language and 25 failed the control questions. The final sample consisted of 333 Spanish participants (135 men and 198 women). The mean age for men was 21.86 ($SD = 2.7$, range = 18–33) and the mean age for women was 22.79 ($SD = 4.49$; range = 18–48). Most of the individuals (59.2%) held undergraduate degrees, 35.4% had finished high school education and 5.4% had completed vocational training.

Procedure and Materials

Using various social media platforms (e.g., Facebook, WhatsApp, Twitter), we distributed an online survey hosted on Qualtrics. Participants were informed about how to participate anonymously. To minimize hypothesis guessing, we framed the study as an exploration of the opinions of Spanish people, incorporation questions about environmental attitudes and behaviors. After obtaining consent of each participant, they completed feminist identification and social desirability scales. Subsequently, participants were randomly assigned to one of the three conditions: subversive humorous vignette (39 men and 60 women), subversive serious vignette (42 men and 76 women), and neutral humorous vignette (54 men and 62 women). Within their respective conditions, participants read four vignettes each. Then, they completed a measure of proclivity to collective action for gender equality and provided sociodemographic data. Participants answered the following measures.

Feminist Identification

First, we assessed participants' feminist identification by using an adaptation of the original scale that measures ingroup identification in general (Leach et al., 2008). This measure consisted of six items assessing solidarity (e.g., "I feel a bond with feminist people") and centrality (e.g.,

“I often think about the fact that I am a feminist person”). Participants responded on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*totally agree*). An overall mean score of feminist identification was used. Similar to the studies by Estevan-Reina et al. (2020) and Riquelme et al., (2019, 2021b), Cronbach’s alpha was adequate ($\alpha = .96$).

Social Desirability

For this research, we used a Spanish adaptation of the short form of the Marlowe-Crowne Social Desirability scale (Crowne & Marlowe, 1960) developed by Ferrando and Chico (2000). The 13 items (e.g., “I am sometimes irritated by people who ask favors of me” and “I have never deliberately said something that hurt someone’s feelings”) were assessed using a true–false format ($\alpha = .63$), with higher total scores indicating more social desirability.

Vignettes

Participants answered a 5-point Likert-type scale to assess the funniness (from 0 = *not at all funny* to 4 = *very funny*) and aversiveness (from 0 = *no at all aversive* to 4 = *very aversive*) of four vignettes within each condition. Different vignettes were used for each experimental condition (i.e., subversive humorous vignettes, subversive serious vignettes, and neutral humorous vignettes). The subversive humorous and neutral humorous vignettes were extracted from the study by Riquelme et al. (2019), whereas the subversive serious vignettes were developed taking the subversive humorous vignettes as references. Specifically, the subversive humorous vignettes involved a scenario where a woman humorously confronted a sexist comment made by a man; in the subversive serious vignettes, we included the same sexist comment of the man, but the woman confronted it with a message that was similar in content but non-humorous (see an example of each type of message in the Appendix). A pilot study revealed that subversive humorous vignettes were funnier and less aversive than subversive serious vignettes. Nevertheless, there were no differences in criticism of sexism between both vignettes. The pilot study and the vignettes can be found in the online supplementary material at <https://osf.io/fwjta/>. The reliabilities for assessing funniness (subversive humorous vignette, $\alpha = .74$, subversive serious

vignette, $\alpha = .78$, neutral humorous vignette, $\alpha = .72$) and aversiveness (subversive humorous vignette, $\alpha = .80$, subversive serious vignette, $\alpha = .87$, neutral humorous vignette, $\alpha = .77$) were adequate.

Proclivity to Collective Action for Gender Equality

Participants’ proclivity to collective action for gender equality was assessed with six items used by Riquelme et al., (2019, 2021b). Participants rated their likelihood of engaging in these behaviors on a 7-point Likert scale from 1 = *strongly disagree* to 7 = *totally agree* (e.g., “going on strike to fight the wage gap between men and women”). As in previous studies (i.e., Riquelme et al., 2019, 2021b), the reliability of the scale was good ($\alpha = .85$), and we calculated an average index of proclivity to collective action for gender equality so that higher scores indicate a stronger proclivity.

Sociodemographic Information

Finally, participants provided sociodemographic information (i.e., age, gender, sexual orientation, level of education, occupation, nationality and native language).

Results

Preliminary Analyses

We conducted separate one-way ANOVAs of the funniness and aversiveness ratings, considering type of message (subversive humorous vignettes vs. subversive serious vignettes vs. neutral humorous vignettes) as the between-subject factor. For these ANOVAs, the estimation of effect size was calculated using partial eta-squared ($\eta_p^2 \geq .01 / .06 / .13$ indicate small/medium/large effects; Cohen, 1988). Descriptive statistics are shown in Table 1. There were statistically significant differences in funniness ratings between experimental conditions, $F(2, 330) = 53.68$, $p < .001$, $\eta_p^2 = .25$. Post-hoc Bonferroni-corrected tests revealed that subversive serious vignettes were rated as less funny than subversive humorous vignettes ($p < .001$; $d = 0.98$) and neutral humorous vignettes ($p < .001$; $d = 1.32$); funniness ratings in the two humorous conditions

Table 1 Descriptive Statistics for Funniness and Aversiveness Responses by Type of Message (Study 1)

	Subversive Humorous Vignette		Subversive Serious Vignette		Neutral Humorous Vignette	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Funniness	1.91	1.01	0.94	0.98	2.18	0.91
Aversiveness	1.08	1.03	1.51	1.36	0.43	0.68

Note. Pairwise comparisons were performed using the Bonferroni correction.

did not differ ($p = .109$; $d = 0.29$) ($d \geq .02/ .5/ .8$ indicate small/medium/large effects; Cohen, 1988). In addition, aversiveness ratings differed between types of messages, $F(2, 330) = 30.43$, $p < .001$, $\eta_p^2 = .16$. Post-hoc Bonferroni-corrected tests revealed that aversiveness ratings in subversive serious vignettes were significantly higher than aversiveness ratings in the subversive humorous vignette condition ($p = .010$; $d = 0.36$) and the neutral humorous vignette condition ($p < .001$; $d = 1$). In addition, consistent with the findings of Woodzicka et al. (2020), the subversive humorous vignette was perceived as more aversive than the neutral humorous vignette ($p < .001$; $d = 0.74$). A statistically significant negative correlation was found between the funniness and aversiveness scores in the subversive humorous vignette condition ($r = -.38$, $p < .001$) and the subversive serious vignette condition ($r = -.36$, $p < .001$). A negative correlation between funniness and aversiveness ($r = -.17$, $p = .068$) was also observed in the neutral humorous vignette condition, although it was not statistically significant.

To verify the equivalence of feminist identification in the groups before the experimental manipulation, we performed a 3 (type of message: subversive humorous vignette vs. subversive serious vignette vs. neutral humorous vignette) \times 2 (gender: men vs. women) ANOVA of participants' feminist identification scores. Importantly, feminist identification scores did not differ between experimental conditions (subversive humorous vignette: $M = 5.17$, $SD = 1.85$; subversive serious vignette: $M = 5.26$, $SD = 1.62$; neutral humorous vignette: $M = 5.12$, $SD = 1.72$), $F(2, 327) = 0.01$, $p = .988$. As expected, women ($M = 5.71$, $SD = 1.46$) reported higher feminist identification scores than men ($M = 4.42$, $SD = 1.79$), $F(1, 327) = 50.43$, $p < .001$, $\eta_p^2 = .13$. There was no interaction in feminist identification between type of message and gender, $F(2, 327) = 0.30$, $p = .741$.

Hypotheses Testing

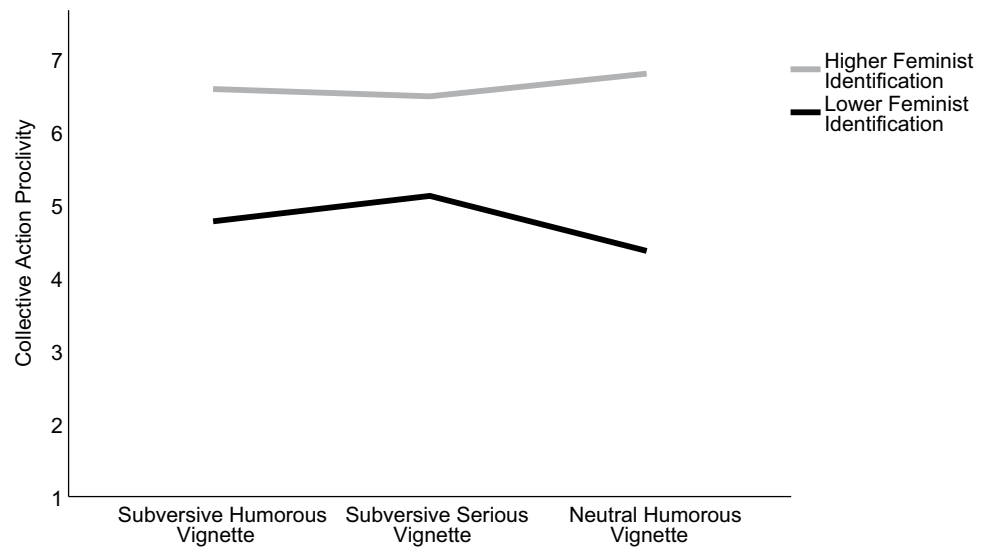
To test our predictions, a moderation analysis was performed with the PROCESS macro (Hayes, 2013; Model 1) for SPSS. We considered type of message as the independent variable, proclivity to collective action for gender equality as the dependent variable, and feminist identification as the moderator variable. Previous research has pointed out the relevance of assessing the extent to which participants try to gain social approval when responding to gender-related issues (Costa-Lopes et al., 2013; Crowne & Marlowe, 1960). Moreover, the literature has revealed gender differences in mobilization for collective action and the interpretation of feminist humor (Becker & Wright, 2011; Guizzo et al., 2017; Riquelme et al., 2021a). However, previous research has shown that gender does not moderate the effect of feminist humor on

collective action for gender equality (Riquelme et al., 2021b). Therefore, we included gender as covariate along with social desirability (see supplementary analyses in results section of Study 2). Experimental conditions were represented in two orthogonal contrasts. The first contrast, C1, compared the subversive serious vignette condition, coded as 1, with the humorous conditions (i.e., subversive humorous vignette and neutral humorous vignette), coded as 0. The second contrast, C2, compared the subversive humorous vignette condition, coded as 1, with the other conditions (i.e., neutral humorous vignette and subversive serious vignette), coded as 0. We calculated the standardized effect size f^2 for the interaction between type of message and feminist identification ($f^2 \geq .02/ .15/ .35$ indicate small/medium/large effects; Cohen, 1988) based on the change in R^2 (Δf^2). In the presence of a significant interaction, we selected simple slope analyses to test the effect of type of humor at high (84th) and low (16th) values of feminist identification. Following the recommendations of Hayes and Rockwood (2017), we did not include values that were out the range of the data sample and therefore selected percentiles as conditioning values (i.e., above the maximum or below the minimum of observed values).

Results revealed that there was no main effect of type of message on proclivity to collective action for gender equality (Hypothesis 1); in other words, scores in proclivity to collective action for gender equality did not differ across the experimental conditions. The first contrast (C1) was not statistically significant ($b = .19$, $SE = .12$, $t = 1.68$, $p = .093$, 95% CI [-.03, .42]). Likewise, the second contrast (C2) did not have a significant effect on proclivity to collective action for gender equality ($b = .08$, $SE = .12$, $t = .68$, $p = .497$, 95% CI [-.15, .32]). In line with Hypothesis 2, feminist identification predicted proclivity to collective action for gender equality. Specifically, participants with stronger feminist identification reported a greater proclivity to collective action for gender equality ($b = .63$, $SE = .05$, $t = 12.87$, $p < .001$, 95% CI [.54, .73]), in keeping with results of earlier studies (Estevan-Reina et al., 2020; Radke et al., 2018).

Further, as shown in Fig. 1, we found a significant two-way interaction between type of message and feminist identification (Hypothesis 3; $\Delta f^2 = .03$). The interaction between contrast C1 and feminist identification was statistically significant ($b = -.28$, $SE = .07$, $t = -4.03$, $p < .001$, 95% CI [-.41, -.14]). Results revealed that exposure to subversive serious vignettes was related to higher proclivity to collective action for gender equality only in participants with weaker feminist identification ($b = .75$, $SE = .18$, $t = 4.14$, $p < .001$, 95% CI [.40, 1.11]), and not in participants with stronger feminist identification ($b = -.31$, $SE = .17$, $t = -1.84$, $p = .070$, 95% CI [-.64, .02]). The interaction between contrast C2 and feminist identification was also statistically significant ($b = -.16$, $SE = .07$, $t = -2.38$, $p = .018$, 95% CI [-.29, -.03]).

Fig. 1 Collective Action Proclivity as a Function of Type of Message and Feminist Identification (Study 1)



Exposure to subversive humorous vignettes increased participants' proclivity to collective action for gender equality, but only in participants with lower feminist identification ($b = .41$, $SE = .18$, $t = 2.26$, $p = .024$, 95% CI [.05, .76]), and not in participants with higher feminist identification ($b = -.21$, $SE = .17$, $t = -1.22$, $p = .224$, 95% CI [-.55, .13]).

Discussion

This first study expanded the existing literature on the effects of subversive humor. First, we did not find a main effect of subversive humorous vignettes on proclivity to collective action for gender equality (Hypothesis 1). However, as expected, we observed that participants with higher feminist identification reported a higher proclivity to collective action for gender equality (Hypothesis 2). These data support classic studies that conclude that social identification as a key precursor to collective action (Tajfel & Turner, 1979; van Zomeren et al., 2008). More importantly, we found an interaction effect between type of message and feminist identification: among participants who reported lower feminist identification, both exposure to subversive humorous vignettes and exposure to subversive serious vignettes increased proclivity to collective action for gender equality (Hypothesis 3). These results partially confirm our predictions and replicate the findings of Riquelme et al. (2021b) by showing that humor can have a similar effect, although smaller, to a serious message in encouraging participation in proclivity to collective action for gender equality, with the added advantage that it generates more funniness and less aversiveness than the serious message.

Despite the potential of these results, the use of subversive serious messages in vignette format may not adequately reflect the format in which critiques of sexism are usually

presented. Vignettes, in themselves, may generate a relaxed context by the very format they present and differ from the use of subversive or critical discourses such as those generally shared in feminist mobilizations and demands (Anderson, 2015). This possible influence of the format (i.e., vignette) chosen to present subversive serious information led us to conduct a second study to examine this possibility.

Study 2

In this study we tried to overcome the limitations of Study 1 by replacing the subversive serious vignette with a more widely used format such as a subversive serious discourse. As in Study 1, we expected subversive humorous vignettes to increase proclivity to collective action for gender equality compared to neutral humorous vignettes and a subversive serious discourse (Hypothesis 1). We also hypothesized a positive relationship between feminist identification and proclivity to collective action for gender equality (Hypothesis 2). Finally, we expected subversive humorous vignettes (vs. neutral humorous vignettes and a subversive serious discourse) to increase proclivity to collective action for gender equality, especially among participants with low feminist identification (Hypothesis 3).

Method

Participants

As in Study 1, using G*Power 3.1 (Faul et al., 2009), we estimated that 159 participants would detect small-to-medium effect sizes ($f^2 = .25$; Cohen, 1988), with a significance level of $\alpha = .05$ and a power of .80 (three groups,

between-subject design). Again, following the guidelines of Simmons et al. (2011), we considered 30 participants per cell to test predicted interactions. The initial sample consisted of 373 young adults. However, data from 28 participants were deleted: 17 reported that Spanish was not their native language, 9 failed the control questions and 1 did not reach legal age. The final sample consisted of 345 Spanish participants (157 men and 188 women). The mean age for men was 24.75 ($SD=6.84$, range = 18–52) and the mean age for women was 23.08 ($SD=5.39$, range = 18–51). Most participants had undergraduate studies (54.2%), 35.1% had completed high school education and 10.7% had finished vocational training.

Procedure and Materials

As in Study 1, data collection was carried out via an online survey (created in Qualtrics) distributed by social media. Participants were randomly assigned to one of three experimental conditions: subversive humorous vignette (56 men and 61 women), subversive serious discourse (46 men and 52 women), or neutral humorous vignette (55 men and 75 women). All participants received similar instructions and measures as in Study 1. First, participants responded to the measures of feminist identification (Estevan-Reina et al., 2020, $\alpha = .96$) and social desirability (Ferrando & Chico, 2000, $\alpha = .65$). Second, participants rated the funniness and aversiveness evoked by four different stimuli for each condition (i.e., subversive humorous vignette, subversive serious discourse or neutral humorous vignette). In this study, the subversive and neutral humorous vignettes used were the same as in Study 1. However, the subversive serious vignettes were replaced by subversive serious discourses, which included similar content to the subversive humorous vignettes but embedded in a short essay (see an example of a discourse in the Appendix and all the material in the online supplementary material at <https://osf.io/fwjta/>). A previous pilot study revealed that subversive serious discourses were less funny and more aversive than subversive humorous vignettes, but they were similar regarding criticism of sexism. The pilot study is available in the online supplementary material at <https://osf.io/fwjta/>. Cronbach's alphas for funniness (subversive humorous vignette, $\alpha = .83$,

subversive serious discourse, $\alpha = .91$, neutral humorous vignette, $\alpha = .76$) and aversiveness (subversive humorous vignette, $\alpha = .9$, subversive serious discourse, $\alpha = .86$, neutral humorous vignette, $\alpha = .72$) were adequate. Finally, as in Study 1, participants answered a measure of proclivity to collective action for gender equality (Riquelme et al., 2019, 2021b, $\alpha = .92$) and provided sociodemographic information.

Results

Preliminary Analyses

We performed separate one-way ANOVAs with type of message (subversive humorous vignette vs. subversive serious discourse vs. neutral humorous vignette) as the independent variable and funniness and aversiveness ratings as the dependent variable. As in Study 1, estimates of effect size were calculated using partial eta-squared ($\eta_p^2 \geq .01 / .06 / .13$ indicate small/medium/large effects; Cohen, 1988). Descriptive statistics are presented in Table 2. Similarly to the pattern observed in Study 1, there were significant differences between funniness ratings, $F(2, 342) = 72.10$, $p < .001$, $\eta_p^2 = .30$. Post-hoc Bonferroni-corrected tests revealed that funniness ratings in the subversive serious discourse condition were lower than funniness ratings in the subversive humorous vignette condition ($p < .001$, $d = 1.36$) and the neutral humorous condition ($p < .001$; $d = 1.63$) ($d \geq .02 / .5 / .8$ indicate small/medium/large effects; Cohen, 1988). Funniness ratings in the last two conditions did not differ significantly ($p = .442$, $d = 0.10$). As expected, aversiveness ratings differed between type of message, $F(2, 342) = 33.66$, $p < .001$, $\eta_p^2 = .16$. Post-hoc Bonferroni-corrected tests revealed that the subversive serious discourse was more aversive than the subversive humorous vignette ($p = .001$, $d = 0.41$) and the neutral humorous vignette ($p < .001$, $d = 1.12$). Moreover, aversiveness ratings of the subversive humorous vignette condition were higher than those of the neutral humorous vignette ($p < .001$, $d = 0.67$). A statistically significant negative correlation was found between funniness and aversiveness ratings in the subversive humorous vignette condition ($r = -.42$, $p < .001$) and the neutral humorous vignette condition ($r = -.18$, $p = .041$). The

Table 2 Descriptive Statistics for Funniness and Aversiveness Responses by Type of Message (Study 2)

	Subversive Humorous Vignette		Subversive Serious Discourse		Neutral Humorous Vignette	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Funniness	1.92	1.18	0.49	0.89	2.02	0.99
Aversiveness	1.07	1.24	1.60	1.38	0.40	0.64

Note. Pairwise comparisons were performed using the Bonferroni correction.

correlation between funniness and aversiveness ratings was around zero for the subversive serious discourse condition ($r = .04, p = .671$).

As in Study 1, we performed a 3 (type of message: subversive humorous vignette vs. subversive serious discourse vs. neutral humorous vignette) \times 2 (gender: men vs. women) ANOVA with feminist identification scores as the dependent variable. Results showed no significant differences in participants' feminist identification between groups, $F(2, 339) = 2.11, p = .122$ (subversive humorous vignette: $M = 5.06, SD = 1.92$; subversive serious discourse: $M = 4.67, SD = 2.04$; neutral humorous vignette: $M = 4.76, SD = 1.89$). Again, feminist identification was stronger among women ($M = 5.61, SD = 1.65$) than men ($M = 3.92, SD = 1.87$), $F(1, 339) = 80.75, p < .001, \eta_p^2 = .19$. The interaction between type of message and gender on feminist identification was not significant, $F(2, 339) = 0.35, p = .704$.

Hypotheses Testing

Using the PROCESS macro for SPSS, we performed a similar moderation analysis as in Study 1. Gender and social desirability were also included as covariates. Again, experimental conditions were represented in two orthogonal contrasts. First contrast, C1, compared the subversive serious discourse condition, coded as 1, with the humorous conditions (neutral humorous vignette and subversive humorous vignette), coded as 0. Second contrast, C2, compared the subversive humorous vignette condition, coded as 1, with the other conditions (neutral humorous vignette and subversive serious discourse), coded as 0.

Consistently with Study 1, results revealed no significant main effect of type of message on proclivity to collective action for gender equality (Hypothesis 1). The first contrast

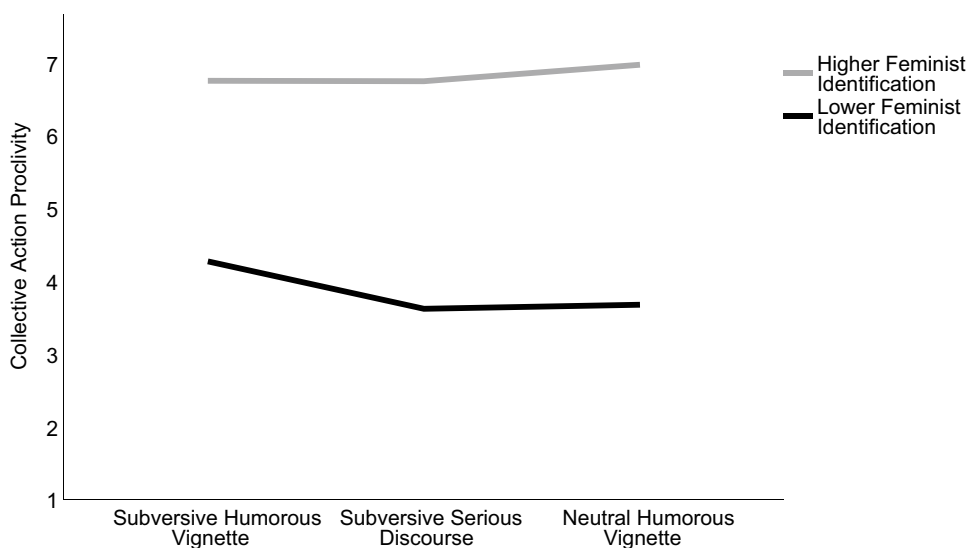
(C1) was not statistically significant ($b = -.15, SE = .14, t = -1.02, p = .308, 95\% \text{ CI} [-.43, .14]$). Likewise, the second contrast (C2) did not have a significant effect on proclivity to collective action for gender equality ($b = .16, SE = .14, t = 1.14, p = .253, 95\% \text{ CI} [-.11, .43]$). As previously expected in Hypothesis 2, feminist identification predicted proclivity to collective action for gender equality; specifically, participants with higher feminist identification reported a greater proclivity to collective action for gender equality ($b = .71, SE = .05, t = 13.55, p < .001, 95\% \text{ CI} [.60, .81]$).

Interestingly, the model showed an interaction between type of message and feminist identification (Hypothesis 3, $\Delta f^2 = .01$). There was no interaction between contrast C1 and feminist identification ($b = -.04, SE = .07, t = -.50, p = .617, 95\% \text{ CI} [-.18, .11]$); however, the interaction between contrast C2 and feminist identification was statistically significant ($b = -.18, SE = .07, t = -2.42, p = .016, 95\% \text{ CI} [-.32, -.03]$). In keeping with Hypothesis 3, exposure to the subversive humorous vignette increased participants' proclivity to collective action for gender equality, but only in participants with lower feminist identification ($b = .60, SE = .23, t = 2.57, p = .011, 95\% \text{ CI} [.14, 1.05]$), not in participants with higher feminist identification ($b = -.22, SE = .20, t = -1.08, p = .280, 95\% \text{ CI} [-.62, .18]$) (see Fig. 2). Remarkably, this interaction pattern was not found with the subversive serious discourse.

Exploratory Analyses

Considering the interest of some researchers in understanding gender differences on collective action, we also explored the differences between women and men on proclivity to collective action for gender equality. Specifically, we conducted one-way ANOVA on collective action scores, considering gender as the between-subjects factor. In Study 1, women

Fig. 2 Collective Action Proclivity as a Function of Type of Message and Feminist Identification (Study 2)



($M=6.13$, $SD=.91$) reported higher proclivity to collective action for gender equality than men ($M=5.15$, $SD=1.51$), $F(1, 331)=54.59$, $p<.001$, $\eta_p^2=.14$. The same pattern was observed in Study 2: women ($M=5.98$, $SD=1.29$) showed higher proclivity to collective action for gender equality than men ($M=4.79$, $SD=1.83$), $F(1, 343)=50.01$, $p<.001$, $\eta_p^2=.13$.

Additionally, we analyzed if gender could moderate the results previously found regarding the type of message and feminist identification on proclivity to collective action for gender equality. We conducted a moderated moderation analyses (Model 3 of PROCESS; Hayes, 2013) with type of humor and gender as the independent variables, proclivity to collective action for gender equality as the dependent variable and feminist identification as the moderator variable. Social desirability was included as a covariate. Contrast C1 compared the subversive serious message condition with the humorous conditions, while C2 compared the subversive humorous vignette condition with the other conditions (neutral humorous vignette and subversive serious message).

In Study 1, we observed that the interaction between contrast C1, feminist identification, and gender was not significant ($b=.07$, $SE=.15$, $t=.48$, $p=.632$, 95% CI [-.22, .37]). Similarly, we found no interaction effect between contrast C2, feminist identification, and gender on proclivity to collective action for gender equality ($b=.13$, $SE=.14$, $t=.89$, $p=.374$, 95% CI [-.16, .41]). In Study 2, we did not observe a significant effect of the interaction between contrast C1, feminist identification, and gender ($b=.18$, $SE=.16$, $t=1.17$, $p=.244$, 95% CI [-.13, .49]). Likewise, the interaction between contrast C2, feminist identification, and gender was not significant ($b=.04$, $SE=.15$, $t=.25$, $p=.794$, 95% CI [-.26, .34]). Thus, according to previous research (i.e., Riquelme et al, 2019, 2021b), the relationship between feminist humor and feminist identification on proclivity to collective action for gender equality remains regardless of participants' gender.

Discussion

The results of Study 2 reflect the role that subversive humor can play in mobilizing people in the fight against gender inequality. Specifically, these findings show how its use can have certain advantages over traditional subversive anti-sexist or feminist discourse. As in Study 1, results show that subversive humor has certain limitations because it does not increase proclivity to collective action for gender equality in all individuals (Hypothesis 1). Our results also reflect the main effect of feminist identification on proclivity to collective action for gender equality (Hypothesis 2), also highlighting its moderating role in the relationship between type of message and proclivity to collective action for gender

equality (Hypothesis 3). Specifically, this study shows that, compared to the use of traditional subversive discourses, the use of subversive humor is more effective in motivating participation in collective action for gender equality among individuals who identify less with feminism.

General Discussion

In this research, two studies were conducted with the main objective of comparing the effect that the format of the message (humorous vs. serious) with subversive content against sexism has on proclivity to collective action for gender equality, considering the feminist identification of the participants. Our results not only replicate the findings of Riquelme et al. (2021b), but also expand the existing empirical literature on the role of subversive humor in the struggle for gender equality.

In both studies, participants with higher feminist identification reported a greater proclivity to collective action for gender equality, supporting previous research that has shown that people who identify more as feminists show a higher motivation to demand, improve, and protect women's rights (Radke et al., 2016, 2018; Riquelme et al., 2021b). These findings are also consistent with classic proposals according to which social identity is a key antecedent in social mobilization (Tajfel & Turner, 1979; van Zomeren et al., 2008). More importantly, the results of our first study showed that participants exposed to subversive humorous vignettes and those exposed to subversive serious vignettes (vs. neutral humorous vignettes) reported a greater proclivity to collective action for gender equality, but this effect was only present among participants with lower feminist identification. However, the subversive serious vignettes used may not adequately reflect the format in which subversive serious messages are often presented in feminist campaigns and movements (Anderson, 2015; Jackson, 2020). This led us to conduct a second study in which subversive serious vignettes were replaced by subversive serious discourses with similar content. Again, we found that subversive humorous vignettes (vs. neutral humorous vignettes) increased proclivity to collective action for gender equality among participants with lower feminist identification. Yet, more importantly and in keeping with our predictions, we found that this increase did not occur with exposure to subversive serious discourses.

In recent years, feminist humor has not only been present in social mobilizations (e.g., "March 8 International Feminist Strike", "Women's March"); female comedians have also become more visible in the media and on digital platforms, using humor as a tool to question patriarchal ideology and gender inequalities (Case & Lippard, 2009). This has led several theorists to become interested in the role of humor as a means of transmitting a message critical of

sexism (Meisner & Mounsef, 2014). In fact, humorous communication has been proposed as an alternative or complementary strategy to traditional forms (i.e., serious messages or discourses) of encouraging social mobilization and subverting the status quo, as this humor confronts the oppressor and reduces the fear of the oppressed (Strain et al., 2016). Unlike serious and direct communication, humor generates a "standard of lightness" (Riquelme et al., 2021b, p. 10) that makes its content less likely to be rejected by the recipient.

However, to date no studies have been undertaken to analyze the influence of the format of the feminist message (humorous vs. non-humorous). The present research provides the first empirical evidence of the advantages of using subversive humor, compared to feminist discourses, as a tool to involve men and women in proclivity to collective action for gender equality. Our results also explore the potential influence of subversive humor on proclivity to collective action for gender equality depending on individual factors such as feminist identification.

In this regard, although there has been a positive shift in egalitarian attitudes (Scarborough et al., 2019), there are still certain barriers that limit the willingness of certain people to self-identify as feminists (Anderson, 2015; Radke et al., 2016). For example, some studies focused on analyzing social stereotypes have pointed out that feminists are considered as "women who seek to be superior to men" (Alexander & Ryan, 1997; Anderson, 2015) and are associated with negative characteristics such as a lack of sense of humor (Willet et al., 2012) or anti-masculine stances (Alexander & Ryan, 1997), among others. Similarly, feminist men have been attributed traditionally feminine characteristics (i.e., weakness, powerlessness and insecurity) and have also been associated with homosexual tendencies (Anderson, 2009). This explains the rejection that certain people have to self-identifying as feminist and can, consequently, be expected to have a negative impact on participation in collective action for gender equality (Radke et al., 2016).

To overcome these limitations and encourage a greater criticism of sexism, attempts have been made to strengthen feminist mobilization by using subversive serious discourses. In this regard, several studies have shown that exposure to messages challenging gender stereotypes and discrimination against women in a serious tone increased proclivity to engage in collective action for gender equality (e.g., Becker & Wright, 2011; Guizzo et al., 2017). However, the literature has also highlighted the hostility and resistance generated by the dissemination of serious feminist messages among certain individuals, in the form of violent and rejectionist reactions to women and men who denounce and criticize sexism and gender inequalities through serious discourses and messages (e.g., Anderson, 2015; Lewis et al., 2017; Nutbeam & Merish, 2021). This explains our results, which show no effect of the serious feminist discourse on collective action for gender

equality. In fact, our research shows that subversive humor, which generates more funniness and less aversiveness than a subversive serious discourse, could be considered as an alternative strategy to traditional messages. In this regard, studies such as that of Woodzicka et al. (2020) show that humorous confrontation of sexist events is perceived as more funny and pleasant than serious confrontation.

More importantly, the results of our research suggest that subversive humor not only reduces the social rejection or tension generated by the serious feminist discourse but is also more effective in socially mobilizing certain people to take collective action for gender equality. Our research showed that the relationship between subversive humor and proclivity to collective action for gender equality was moderated by feminist identification. Specifically, the increase in collective action for gender equality only occurred among people with lower feminist identification who were exposed to subversive humorous vignettes, but this effect did not hold when participants were exposed to traditional feminist discourses. These findings can be understood with the help of the Elaboration Likelihood Model (Petty & Cacioppo, 1986), whose two routes could explain how humor influences participation in collective action: the central route is likely to be activated in people with a solid commitment to the persuasive message argument, whereas the peripheral route is probably activated in people who are not initially committed to the message and are more focused on peripheral elements about the topic (e.g., the humorous tone of the message). Thus, in individuals with high feminist identification, the central pathway of the model is likely to be activated. Among these participants, results of both studies showed that exposure to subversive humor did not affect their proclivity to participate in collective action, as they already showed high levels of commitment and solidarity with feminism. Consequently, it is unlikely that an external influence, such as subversive humor, would further increase their motivations that are already in favor of gender equality.

However, compared to the subversive serious discourse, exposure to subversive humor motivated proclivity to collective action for gender equality among participants with lower feminist identification. In these individuals, the peripheral route of the model proposed by Petty and Cacioppo (1986) is likely to be activated. The use of a playful and relaxed context to convey a critique of sexism may generate a more positive view of the struggle for gender equality. Therefore, considering that this group of people is more receptive to the external or peripheral characteristics of the message, the subversive humorous format would be an ideal way to capture their attention. Also, given that humor implies a non-aggressive confrontation of their beliefs, this could lead to less development of counterarguments to the critical message (Lyttle, 2001), which could ultimately lead to a greater tendency to engage in collective action for gender equality.

These findings are in keeping with those of previous research that suggest that sometimes humor can be more persuasive than serious messages (e.g., Baumgartner & Lockerbie, 2018; Hoffman & Young, 2011). Therefore, in societies in which feminism still has a stigma, or ideas about sexism as a problem of the past are prevalent (Radke et al., 2016), subversive humor could serve as an additional tool to the serious discourse in the fight against gender inequality.

Limitations and Future Research Directions

Although this paper contributes to expand the existing literature on the role of subversive humor in promoting an involvement in collective action for gender equality, it has some limitations. First, we acknowledge the artificial nature of the humorous vignettes. To address this, future research should promote more natural contexts where humor emerges more spontaneously, such as verbal interactions or videos of feminist comedians. A second limitation of our research is related to the nature of the measurement of participation in collective action: although exposure to feminist humor increased proclivity to collective action for gender equality in people with low feminist identification, this cannot be generalized to actual participation behavior, as previous research has highlighted (e.g., van Zomeren et al., 2008). Third, the literature has shown the importance of motivation in participation in collective action with real engagement (Estevan-Reina et al., 2020; Radke et al., 2018). Therefore, to establish whether exposure to this type of humor generates an egalitarian motivation (e.g., improving the situation of oppression experienced by women) or a paternalistic one (e.g., protecting women), we should explore the reasons that would lead participants to engage in collective action. Finally, it would be interesting to evaluate the social reactions triggered in participants by this type of material (i.e., feminist humor) beyond their intention to participate in collective action. Future studies should explore other aspects close to everyday life, such as the probability of sharing this type of humor in public profiles or among acquaintances, as a strategy to raise awareness on the issue of gender equality.

Practice Implications

Currently, the social stereotypes about feminism that prevail in part of the collective imagination and the internalization of some ideologies in the Western world (e.g., neoliberalism) limit certain men and women from defining themselves as feminists and/or engaging in activities for gender equality. Thus, despite the rise in feminist demands (e.g., the #MeToo movement on social media),

traditional feminist discourses continue to be met with reluctance by certain people. In this regard, although our study highlights the effectiveness of presenting subversive messages in a playful and humorous format, it is not our intention to present humor as a sufficient strategy to increase participation in collective action for gender equality. Our results confirm that subversive humor increases participation in collective action for gender equality among participants with lower feminist identification, but the literature shows that this format may not be suitable for those individuals with highly internalized sexist biases (Riquelme et al., 2021a). Feminist humor therefore appears as a useful and complementary tool alongside the strategies traditionally used to raise awareness about sexism and encourage social mobilization.

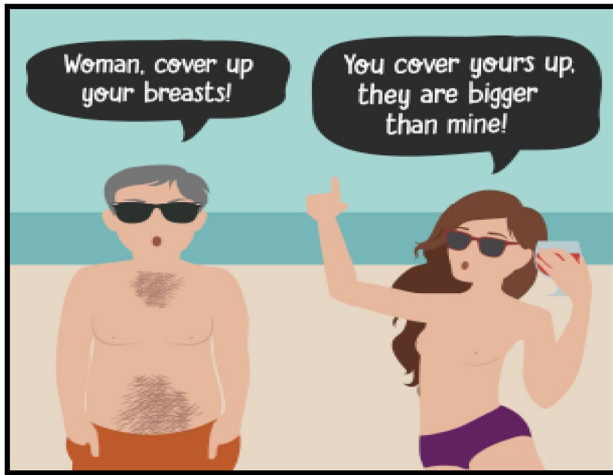
Moreover, feminist humor seems more effective among women and men weaker in feminist identification. In fact, social media make it possible to achieve greater coverage, allowing feminist humor to reach a younger audience and people who are not so interested in the feminist discourse. Similarly, considering the appeal of the humorous format, feminist humor could be used in the educational field as a complement to other traditional formats (e.g., awareness-raising videos, talks, campaigns; Carrascosa et al., 2019). In short, feminist humor could show a potential for promoting awareness and social mobilization against gender inequality, combined with the traditional feminist discourse.

Conclusion

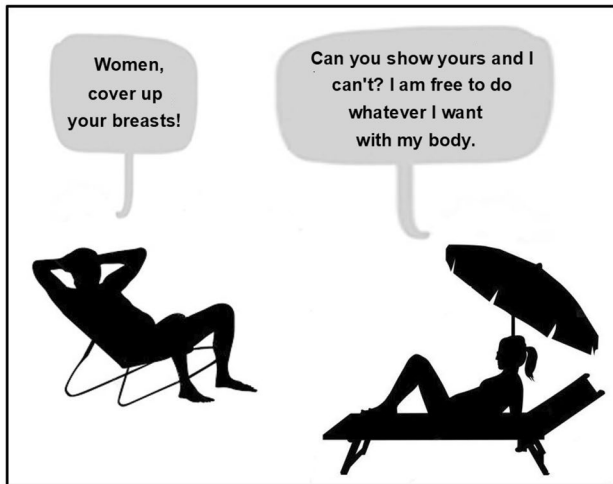
Two studies replicated and extended previous research on subversive humor (vs. neutral humor) as an effective tool to encourage collective action for gender equality among people with lower feminist identification. Specifically, this paper broadens past work by comparing subversive humor with subversive serious messages (i.e., vignettes and discourses) and expands the literature on the antecedents of collective action for gender equality. Specifically, although subversive serious vignettes were as effective as humorous subversive vignettes, the subversive message presented in a humorous format led to an increase in proclivity to collective action for gender equality. This did not happen when the same message was presented in a serious discourse format. However, this effect on collective action occurred among participants with lower feminist identification. These results encourage the use of feminist humor as a tool to achieve social mobilization against sexism along with other classic strategies such as serious feminist discourses.

Appendix

Subversive Humorous Vignette Against Sexism



Subversive Serious Vignette Against Sexism



Neutral Humorous Vignette



Subversive Discourse Against Sexism

"It is unbelievable that there are still men who see it as inappropriate for a woman to freely display her body topless on the beach, yet they see it as totally normal for men to go bare-chested wherever they please. That a woman can't do the same with her body as a man is yet another example of society's sexism".

Author contributions Rocío Vizcaíno-Cuenca: Conceptualization, Methodology, Formal analysis, Investigation, Writing – original draft preparation, Writing – review & editing. Andrés R. Riquelme: Conceptualization, Methodology, Formal analysis, Investigation, Writing – review & editing. Mónica Romero-Sánchez: Conceptualization, Methodology, Formal analysis, Writing – review & editing, Supervision. Jesús L. Megías: Conceptualization, Methodology, Formal analysis, Writing – review & editing, Funding acquisition, Resources, Supervision. Hugo Carretero-Dios: Conceptualization, Methodology, Formal analysis, Writing – review & editing, Funding acquisition, Resources, Supervision.

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Availability of Data and Material The data and supplementary material are available at OSF (<https://osf.io/fwjta>).

Compliance with Ethical Standards

Ethics Approval The procedures used in collection of data conform to current APA ethical standards for the protection of human subjects. These procedures were in accordance with ethical standards of the University of Granada. We also certify that the manuscript is no under review elsewhere and has not been previously published in whole or in part.

Consent to Participate Informed consent was obtained from all participants.

Competing Interests The authors have no known conflict of interest to disclose.

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References

- Alexander, S., & Ryan, M. (1997). Social constructs of feminism: A study of undergraduates at a women's college. *College Student Journal*, 31(4), 555–567.
- Anderson, K. (2015). *Modern misogyny: Anti-feminism in a post-feminist era*. Oxford University Press.
- Anderson, V. N. (2009). What's in a label? Judgments of feminist men and feminist women. *Psychology of Women Quarterly*, 33(2), 206–215. <https://doi.org/10.1111/j.1471-6402.2009.01490.x>
- Attardo, S. (1993). Violation of conversational maxims and cooperation: The case of jokes. *Journal of Pragmatics*, 19(6), 537–558. [https://doi.org/10.1016/0378-2166\(93\)90111-2](https://doi.org/10.1016/0378-2166(93)90111-2)

- Barker-Plummer, B., & Barker-Plummer, D. (2017). Twitter as a feminist resource: #YesAllWomen, digital platforms, and discursive social change. In J. Earl, & D. A. Rohlinger (Eds.), *Social movements and media* (pp. 91–118). Emerald Publishing Limited. <https://doi.org/10.1108/S2050-206020170000014010>
- Baumgartner, J. C., & Lockerbie, B. (2018). Maybe it is more than a joke: Satire, mobilization, and political participation. *Social Science Quarterly*, 99(3), 1060–1074. <https://doi.org/10.1111/ssqu.12501>
- Becker, J. C., & Wright, S. C. (2011). Yet another dark side of chivalry: Benevolent sexism undermines and hostile sexism motivates collective action for social change. *Journal of Personality and Social Psychology*, 101(1), 62–77. <https://doi.org/10.1037/a0022615>
- Bing, J. (2004). Is feminist humor an oxymoron? *Women and Language*, 27(1), 22–33.
- Blais, M., & Dupuis-Déri, F. (2021). Feminist and antifeminist everyday activism: Tactical choices, emotions, and 'humor.' *Gender Issues*, 39, 275–290. <https://doi.org/10.1007/s12147-021-09290-7>
- Carrascosa, L., Cava, M. J., Buelga, S., & Saúl-Neves, J. (2019). Reduction of sexist attitudes, romantic myths, and aggressive behaviors in adolescents: Efficacy of the DARSI program. *Psicothema*, 31(2), 121–127. <https://doi.org/10.7334/psicothema2018.245>
- Case, C. E., & Lippard, C. D. (2009). Humorous assaults on patriarchal ideology. *Sociological Inquiry*, 79(2), 240–255. <https://doi.org/10.1111/j.1475-682X.2009.00282.x>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Routledge Academic.
- Costa-Lopes, R., Dovidio, J. F., Pereira, C. R., & Jost, J. T. (2013). Social psychological perspectives on the legitimization of social inequality: Past, present and future. *European Journal of Social Psychology*, 43(4), 229–237. <https://doi.org/10.1002/ejsp.1966>
- Crowne, P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24(4), 349–354. <https://psycnet.apa.org/doi/10.1037/h0047358>
- Eisele, H., & Stake, J. (2008). The differential relationship of feminist attitudes and feminist identity to self-efficacy. *Psychology of Women Quarterly*, 32(3), 233–244. <https://doi.org/10.1111/j.1471-6402.2008.00432.x>
- Estevan-Reina, L., de Lemus, S., & Megías, J. L. (2020). Feminist or paternalistic: Understanding men's motivations to confront sexism. *Frontiers in Psychology*, 10, 1–15. <https://doi.org/10.3389/fpsyg.2019.02988>
- Ferrando, J., & Chico, E. (2000). Adaptación y análisis psicométrico de la escala de deseabilidad social de Marlowe y Crowne. *Psicothema*, 12(3), 383–389.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Ferguson, M. A., & Ford, T. E. (2008). Disparagement humor: A theoretical and empirical review of psychoanalytic, superiority, and social identity theories. *Humor: International Journal of Humor Research*, 21(3), 283–312. <https://doi.org/10.1515/HUMOR.2008.014>
- Flood, M., Dragiewicz, M., & Pease, B. (2021). Resistance and backlash to gender equality. *Australian Journal of Social Issues*, 56(3), 393–408. <https://doi.org/10.1002/ajs4.137>
- Ford, T. E. (2000). Effects of sexist humor on tolerance of sexist events. *Personality and Social Psychology Bulletin*, 26(9), 1094–1107. <https://doi.org/10.1177/01461672002611006>
- Ford, T. E., Boxer, C. F., Armstrong, J., & Edell, J. R. (2008). More than "just a joke": The prejudice-releasing function of sexist humor. *Personality and Social Psychology Bulletin*, 34(2), 159–170. <https://doi.org/10.1177/0146167207310022>
- Ford, T. E., Breeden, C. J., O'Connor, E. C., & Banos, N. C. (2017). Jokes and humor in intergroup relations. *Oxford Research*

- Encyclopedia of Communication*. <https://doi.org/10.1093/acrefore/9780190228613.013.431>
- Ford, T. E., Woodzicka, J. A., Triplett, S. R., & Kochersberger, A. O. (2013). Sexist humor and beliefs that justify societal sexism. *Current Research in Social Psychology*, 21(7), 64–81.
- Greitemeyer, T., Hollingdale, J., & Traut-Mattausch, E. (2015). Changing the track in music and misogyny: Listening to music with pro-equality lyrics improves attitudes and behavior toward women. *Psychology of Popular Media Culture*, 4(1), 56–67. <https://doi.org/10.1037/a0030689>
- Guizzo, F., Cadinu, M., Galdi, S., Maass, A., & Latrofa, M. (2017). Objecting to objectification: Women's collective action against sexual objectification on television. *Sex Roles*, 77(5), 352–365. <https://doi.org/10.1007/s11199-016-0725-8>
- Hart, M. (2007). Humour and social protest. *International Review of Social History*, 52(S15), 1–20. <https://doi.org/10.1017/S0020859007003094>
- Hayes, A. F., & Rockwood, N. J. (2017). Regression-based statistical mediation and moderation analysis in clinical research: Observations, recommendations, and implementation. *Behaviour Research and Therapy*, 98, 39–57. <https://doi.org/10.1016/j.brat.2016.11.001>
- Hayes, F. (2013). *An introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.
- Hodson, G., & MacInnis, C. C. (2016). Derogating humor as a delegitimization strategy in intergroup contexts. *Translational Issues in Psychological Science*, 2(1), 63–74. <https://doi.org/10.1037/tps0000052>
- Hoffman, L. H., & Young, D. G. (2011). Satire, punch lines, and the nightly news: Untangling media effects on political participation. *Communication Research Reports*, 28(2), 159–168. <https://doi.org/10.1080/088824096.2011.565278>
- Jackson, S. (2020). “A very basic view of feminism”: Feminist girls and meanings of (celebrity) feminism. *Feminist Media Studies*, 21(7), 1–19. <https://doi.org/10.1080/14680777.2020.1762236>
- Kramer, C. A. (2013). An existentialist account of the role of humor against oppression. *Humor: International Journal of Humor Research*, 26(4), 629–651. <https://doi.org/10.1515/humor-2013-0045>
- Kuhar, R., & Paternotte, D. (2017). *Anti-gender campaigns in Europe: Mobilizing against equality*. Rowman & Littlefield International.
- Leach, C. W., van Zomeren, M., Zebel, S., Vliek, M. L. W., Pennekamp, S. F., Doosje, B., et al. (2008). Group-level self-definition and self-investment: A hierarchical (multicomponent) model of in-group identification. *Journal of Personality and Social Psychology*, 95(1), 144–165. <https://doi.org/10.1037/0022-3514.95.1.144>
- Lewis, R., Rowe, M., & Wiper, C. (2017). Online abuse of feminists as an emerging form of violence against women and girls. *British Journal of Criminology*, 57(6), 1462–1481. <https://doi.org/10.1093/bjc/azw073>
- Liss, M., Crawford, M., & Popp, D. (2004). Predictors and correlates of collective action. *Sex Roles*, 50(11), 771–779. <https://doi.org/10.1023/B:SERS.0000029096.90835.3f>
- Lyttle, J. (2001). The effectiveness of humor in persuasion: The case of business ethics training. *Journal of General Psychology*, 128(2), 206–216. <https://doi.org/10.1080/00221300109598908>
- Meisner, N., & Mounsef, D. (2014). Gender, humour and transgression in Canadian women's theatre. *Prague Journal of English Studies*, 3(1), 47–63. <https://doi.org/10.2478/pjes-2014-0017>
- Morgenroth, T., & Ryan, K. (2018). Addressing gender inequality: Stumbling blocks and roads ahead. *Group Processes & Intergroup Relations*, 21(5), 671–677. <https://doi.org/10.1177/1368430218786079>
- Nutbeam, M., & Mereish, E. H. (2021). Negative attitudes and beliefs toward the #MeToo movement on Twitter. *Journal of Interpersonal Violence*, 37(15–16), NP13018–NP13044. <https://doi.org/10.1177/08862605211001470>
- Owen, R., & Spencer, R. M. (2013). Body ideals in women after viewing images of typical and healthy weight models. *Body Image*, 10(4), 489–494. <https://doi.org/10.1016/j.bodyim.2013.04.005>
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In R. E. Petty, & J. T. Cacioppo (Eds.), *Communication and persuasion. Springer series in social psychology* (pp. 1–23). Springer. https://doi.org/10.1007/978-1-4612-4964-1_1
- Radke, M., Hornsey, J., & Barlow, K. (2016). Barriers to women engaging in collective action to overcome sexism. *American Psychologist*, 71(9), 863–874. <https://doi.org/10.1037/a0040345>
- Radke, H., Hornsey, J., & Barlow, K. (2018). Changing versus protecting the status quo: Why men and women engage in different types of action on behalf of women. *Sex Roles*, 79(9), 505–518. <https://doi.org/10.1007/s11199-017-0884-2>
- Redford, L., Howell, J. L., Meijs, M. H., & Ratliff, K. A. (2018). Implicit and explicit evaluations of feminist prototypes predict feminist identity and behavior. *Group Processes & Intergroup Relations*, 21(1), 3–18. <https://doi.org/10.1177/1368430216630193>
- Riquelme, A. R., Carretero-Dios, H., Megías, J. L., & Romero-Sánchez, M. (2019). Subversive humor against sexism: Conceptualization and first evidence on its empirical nature. *Current Psychology*, 1–14. <https://doi.org/10.1007/s12144-019-00331-9>
- Riquelme, A. R., Carretero-Dios, H., Megías, J. L., & Romero-Sánchez, M. (2021a). Individual differences in the appreciation and interpretation of subversive humor against sexism versus sexist humor: The role of feminist identity and hostile sexism. *Personality and Individual Differences*, 177(110794). <https://doi.org/10.1016/j.paid.2021.110794>
- Riquelme, A. R., Carretero-Dios, H., Megías, J. L., & Romero-Sánchez, M. (2021b). Joking for gender equality: Subversive humor against sexism motivates collective action in men and women with weaker feminist identity. *Sex Roles*, 84(2), 1–13. <https://doi.org/10.1007/s11199-020-01154-w>
- Romero-Sánchez, M., Carretero-Dios, H., Megías, J. L., Moya, M., & Ford, T. E. (2017). Sexist humor and rape proclivity: The moderating role of joke teller gender and severity of sexual assault. *Violence against Women*, 23(8), 951–972. <https://doi.org/10.1177/1077801216654017>
- Scarborough, W. J., Sin, R., & Risman, B. (2019). Attitudes and the stalled gender revolution: Egalitarianism, traditionalism, and ambivalence from 1977 through 2016. *Gender & Society*, 33(2), 173–200. <https://doi.org/10.1177/0891243218809604>
- Simon, S., & Hoyt, C. L. (2013). Exploring the effect of media images on women's leadership self-perceptions and aspirations. *Group Processes & Intergroup Relations*, 16(2), 232–245. <https://doi.org/10.1177/1368430212451176>
- Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2011). False-positive psychology: Undisclosed flexibility in data collection and analysis allows presenting anything as significant. *Psychological Science*, 22(11), 1359–1366. <https://doi.org/10.1177/0956797611417632>
- Strain, L., Martens, L., & Saucier, A. (2016). “Rape is the new black”: Humor's potential for reinforcing and subverting rape culture. *Translational Issues in Psychological Science*, 2(1), 86–95. <https://doi.org/10.1037/tps0000057>
- Tajfel, H., & Turner, C. (1979). An integrative theory of inter-group conflict. In W. Austin & S. Worchel (Eds.), *The social-psychology-of-intergroup-relations* (pp. 33–47). Brooks/Cole.
- Tejerina, B., & Perugorria, I. (2017). *Crisis and social mobilization in contemporary Spain: The 15M Movement*. Routledge.
- Tilley, E. (2018). Feminist discourse analysis. *The Blackwell Encyclopedia of Sociology*, 1–5. <https://doi.org/10.1002/9781405165518.wbeos1098>

- van Zomeren, M., Postmes, T., & Spears, R. (2008). Toward an integrative social identity model of collective action: A quantitative research synthesis of three socio-psychological perspectives. *Psychological Bulletin*, 134(4), 504–535. <https://doi.org/10.1037/0033-2909.134.4.504>
- Verloo, M. (2018). *Varieties of opposition to gender equality in Europe*. Routledge.
- Weis, A. S., Redford, L., Zucker, A. N., & Ratliff, K. A. (2018). Feminist identity, attitudes toward feminist prototypes, and willingness to intervene in everyday sexist events. *Psychology of Women Quarterly*, 42(3), 279–290. <https://doi.org/10.1177/0361684318764694>
- Willett, C., Willett, J., & Sherman, Y. D. (2012). The seriously erotic politics of feminist laughter. *Social Research: An International Quarterly*, 79(1), 217–246. <https://muse.jhu.edu/article/528059>
- Woodzicka, A., Mallett, K., & Melchiori, J. (2020). Gender differences in using humor to respond to sexist jokes. *Humor: International Journal of Humor Research*, 33(2), 219–238. <https://doi.org/10.1515/humor-2019-0018>

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