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Mind the Gap! Stereotype exposure discourages women from expressing the anger they feel about gender inequality.

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Abstract

This work examines strategic factors that impact women's intention to express anger. Research suggests that women express anger to a lesser extent than they experience it (Hyers, 2007; Swim et al, 2010), and we focus on the role of gender stereotypes in this phenomenon. We differentiate two 'routes' by which gender stereotypes can lead women to avoid expressions of anger. First, in the *stereotype disconfirmation* route, women become motivated to avoid expressing anger because it supposedly disconfirms stereotypical prescriptions for women to be kind and caring. Importantly, we also identify a *stereotype confirmation* route, in which women avoid anger expressions because anger *confirms* the stereotype that women are overly emotional. Across three experimental studies (N_{study1} = 558, N_{study2} = 694, N_{study3} = 489), we show that women experienced anger about gender inequality, but were relatively reluctant to express the anger they felt. That is, there was evidence for an "Anger Gap". Feminists in particular showed a large Anger Gap when it was suggested that anger might *confirm* stereotypes. This work demonstrates that stereotypical information introduces strategic concerns that women must take into account when deciding whether to express anger about gender inequality. Additionally, this work highlights that the notion that anger confirms a stereotype can be as powerful in discouraging anger expressions as the idea (identified in previous work) that anger may disconfirm stereotypes.

Keywords: Anger, strategic emotion expression, stereotype, feminist identification, gender

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Popular wisdom, as well as research, has long emphasized the benefits of expressing one's worries and negative emotions, rather than 'bottling them up' ("Five ways to find positivity through anger," 2016; Kircanski et al., 2012). At the same time, it may not always be wise to express emotion unreservedly. Instead, people must 'tailor' their emotional expressions to the situation in which they find themselves, and the goals that they hope to achieve (Greenaway & Kalokerinos, 2019). For instance, research has shown that people might express fear so as to elicit empathy from others (Sasse et al., 2018). Similarly, people might use emotional displays to achieve certain goals in negotiations (Kopelman et al., 2006). This process is known as 'strategic emotion expression' (Clark et al., 1996; Sasse et al., 2018). In this work, we examine strategic factors in women's expressions of anger.

Women continue to be disadvantaged compared to men in several life domains. For instance, women are paid less than men for the work they do (Office of National Statistics, 2019) and take on a disproportionate share of domestic work (Lachance-Grzela & Bouchard, 2010). It stands to reason that such inequalities would give rise to feelings of anger amongst women. Indeed, there is a great deal of evidence that experiences of inequality and prejudice lead members of the target group to feel angry (Bernstein & Crosby, 1980; Hansen & Sassenberg, 2006; Miller, 2001). However, at the same time, it seems that women are reluctant to *express* anger, so that expressed anger is lower than experienced anger (Hyers, 2007; Kopper & Epperson, 1991; Swim et al., 2010). We refer to this phenomenon as the 'Anger Gap'. We bring together literature on emotion expression and literature on gender stereotyping to examine how

gender stereotype information contributes to the occurrence of an Anger Gap amongst women (Brody, 1997).

When considering the concerns responsible for producing an Anger Gap amongst women, previous work has shown that, at least in Western cultural contexts, anger is perceived as incompatible with stereotypical prescriptions for women to be kind and caring (Brescoll, 2016; Rudman, 1998; Prentice & Carranza, 2004). Given that being kind and caring are positive traits, women may be worried that their behaviour will reflect negatively on women as a group, or on themselves, if they express anger, because it would demonstrate that women are *not* kind and caring (Kahn et al., 2016). Indeed, there is evidence that women who attach greater importance to 'feminine gender roles' are less likely to express anger (Hyers, 2007; Swim et al., 2010, see also Fischer & Evers, 2011). Importantly, even women who do not endorse gender stereotypes can be affected by them. Stereotypes of women as kind and caring suggest that anger is *counter-stereotypical* for women (Hercus, 1999; Plant et al., 2000; Prentice & Carranza, 2002), and those who engage in counter-stereotypical behaviour face 'backlash' (Rudman, 1998): negative treatment and evaluations designed to put people 'back in their place' (Brescoll, 2016; Hess et al., 2005). As such, women may be reluctant to express anger to avoid the social penalties associated with counter-stereotypical behaviour. In sum, then, women are reluctant to express anger, in part because it risks *disconfirming* (positive) stereotypes of the group.

However, here we consider an additional concern that can exacerbate the Anger Gap. Namely, we argue that an Anger Gap can also arise out of a desire to avoid *confirming* negative stereotypes of the group. It has been shown that Black Americans suppress expressions of anger, to avoid confirming stereotypes of their group as violent or aggressive (Phoenix, 2019; Wingfield, 2007). As before, expressions of anger reflect negatively on the group, but now this

arises from the confirmation of a negative stereotype, rather than the disconfirmation of a positive stereotype. As such, there are two 'routes' by which anger can reflect negatively on a group – either because it disconfirms a positive stereotype, or because it confirms a negative stereotype. We argue that, in the context of gender, the two routes co-occur, so that anger disconfirms positive elements of gender stereotypes, but *confirms* negative elements of gender stereotypes. As well as being stereotyped as kind and caring, women are also stereotyped as (overly) emotional (Fabes & Martin, 1991), or even hysterical (Shields, 2000). Anger seems to be quite compatible with this emotionality stereotype. In other words, stereotypes can have contradictory elements: anger expressions by women can be interpreted as incompatible with stereotypes (that women are kind and caring) and compatible with stereotypes (that women are emotional, see also Sindic et al., 2018 for similar reasoning regarding stereotypes of immigrants). In this paper, we examine how these two stereotype 'routes' impact the Anger Gap.

We argue that the suggestion that anger might confirm a stereotype can be just as powerful in 'silencing' women as the suggestion of disconfirming a stereotype, particularly amongst women who identify as feminists. Women who identify as feminists are more likely to object to gender stereotypes than women who do not identify as feminists (van Breen et al., 2017). In the current study, we expect that feminists' dislike and disapproval of gender stereotypes will mean that they are reluctant to confirm stereotypes through their own actions. In other words, feminist women might be particularly reluctant to engage in behaviour that confirms gender stereotypes. Accordingly, when it is suggested that anger will confirm the stereotype that women are overly emotional, we expect to see an especially large anger gap amongst women who identify as feminists.

The current studies

In this work, then, we highlight that expressions of anger can *confirm* stereotypes of women. We believe that examining this 'stereotype confirmation route' (in addition to the stereotype *dis*confirmation route identified in previous research; Hyers et al., 2007; Swim et al., 2010) can offer novel insight both to the literature on strategic emotion expression (Sasse et al., 2018; Kopelman et al., 1996), and to the literature on gender stereotyping. The two routes are to some extent complementary (see Sindic et al., 2018 for a similar discussion referring to immigrants), so that women on both sides of the gender debate can be 'caught out' by gender stereotypes. Feminists in particular are expected to be affected by the idea that anger will *confirm* gender stereotypes, of which they disapprove. From the perspective of the literature on stereotyping and prejudice, this reinforces the idea (alluded to above) that one need not endorse stereotypes to be restricted by them. From the perspective of strategic emotion expression, this means that strategic emotion expression need not be a 'choice', but can also be 'enforced' – the two complementary routes ensure that it is very difficult to escape the prescription.

Across three studies, we expose women to gender stereotypes and examine how this contributes to the occurrence of an Anger Gap. We distinguish a stereotype disconfirmation route, and a stereotype confirmation route. In both of these routes, expressions of anger reflect negatively on women as a group. Crucially, however, this is either the result of stereotype disconfirmation or of stereotype confirmation. We expect to find evidence of an Anger gap – whereby women express less anger than they experience. Moreover, we expect that feminists are particularly likely to show an Anger Gap in the stereotype confirmation condition - when anger seems to confirm stereotypes. Materials, data and syntax for these studies can be found on the Open Science Framework at www.osf.io/ymr53.

Study 1

In Study 1, we use a between-participants manipulation, in which we first establish a context in which women feel angry, by exposing them to a bogus newspaper article that reminds them of the gender pay gap (vs control). Subsequently, we manipulate the extent to which women feel that they can *express* their anger, as follows: Following the anger-inducing newspaper article, female participants are introduced to a male commenter who had commented on the newspaper article in a forum. The commenter either suggests that women who express anger disconfirm gender stereotypes because they are not as kind and caring as they should be (disconfirm condition), or suggests that women who express anger confirm gender stereotypes because they are overly emotional (confirm condition). Finally, in the non-stereotype condition the commenter suggests that women should not express anger, but does not refer to stereotypes.

We hypothesized that 1) when reminded of gender inequality (vs control), women feel angry. However, women's intention to *express* their anger is affected by the forum comment, in the following way: 2) When reference is made to gender stereotypes (disconfirm condition and confirm condition), women show evidence of an Anger Gap, whereby anger expression is lower than anger experience. Third, we hypothesise that 3) amongst feminist identifiers, the condition where anger supposedly confirms stereotypes will lead to a greater Anger Gap than the condition where anger disconfirms stereotypes. As noted above, women who identify as feminists dislike gender stereotypes and disavow their accuracy (van Breen et al., 2017). In the current study, we expect that this dislike of stereotypes will mean that they are reluctant to confirm stereotypes through their own actions – showing a larger anger gap when anger supposedly confirms stereotypes. We also include some exploratory measures (completed at the end of the procedure)

which are described in the supplement. We report how we determined our sample size, all data exclusions, all manipulations, and all measures in the study.

Method

Design

The dependent variables are Anger Experience and Anger Expression. The difference between these represents the Anger Gap – that is, the Anger Gap is operationalised as a within-participants factor with two levels: Anger Experience vs Anger Expression. The anger gap can arise from two sources; 1) a reduction in anger expression while experience remains the same; 2) an increase in anger experience while anger expression remains the same. We conduct follow-up analyses to examine whether the gap arises from an increase in anger experience or a decrease in anger expression. The second independent variable is a between-participants manipulation with four levels (see below). Finally, feminist identification is included as a third independent variable. In addition, we measure women's leadership aspirations and "counter-stereotypical skills" as exploratory variables, these are described in the supplement. Our hypotheses are assessed using (RM) ANCOVA models.

Statistical Power and Participants

Given that these studies were the first of this project, there were no effect sizes from previous studies on which to base our predictions. Therefore, we decided to assume a small effect size as input for a-priori power analysis. The analysis indicated that for the (RM) ANCOVA models described above to detect an effect of small effect size ($\beta = .005$) with a power of 80% and an alpha level of 0.05, a sample of 510 participants is required.

A total of 573 participants were recruited as part of two separate samples (Study 1A N=193; Study 1B N=380). Study 1A was conducted as a student project, which was

underpowered to test the hypotheses. Therefore, Study 1B was conducted two months later, to complete the sample. As the studies had the same research question, hypotheses and design, the two samples were pooled into a single dataset (see Curran & Hussong, 2009).

Participants' age ranged from 18 to 45 years old with a mean of 23 years old (SD=3.69). All participants took part voluntarily. The large majority of our participants had British nationality (84.4%), most of the remaining participants reported other European nationalities (10.3%). Most participants identified as White (N= 436), with a small number identifying as Asian (N=36), Black (N=31), or Hispanic (N=17), the rest (N=35) indicated Mixed or Other ethnicities, or preferred not to answer. We excluded 14 participants from the total sample who failed the manipulation check[1]. This meant our final sample size was N = 558. Given this sample and α=0.05, we are able to detect an effect of small size (d = 0.15) with 80% power.

Independent variables

Manipulation

The manipulation consisted of four conditions, designed to manipulate the Anger Gap. As noted above, stereotypes can contain contradictory elements. In this case, anger expressions by women can be interpreted as incompatible with stereotypes (that women are kind and caring) and compatible with stereotypes (that women are emotional). The different conditions within the manipulation are designed to make salient these different stereotype 'routes'.

The manipulation was composed of two stages. The first stage of the manipulation induced a feeling of anger in our female participants by presenting them with a short article about the gender pay gap (vs control). The second stage of the manipulation was designed to manipulate women's tendencies to express the anger they felt, by presenting participants with a

[1] These exclusions did not substantially change the findings reported below, please see the supplement for details.

male commenter who had written a comment in a 'forum' below the article. This forum comment made reference to gender stereotypes (or not). This manipulation gives rise to four conditions. The first condition was a control condition, in which women had no reason to feel angry and no restrictions were placed on their expressions of anger (control condition). The article was about gender differences in school exam results disappearing over time. That is, the article was about gender, but indicated no disadvantage for women. The male commenter wrote a fairly neutral comment, pointing out that "it is good to see that […] no one gender group is being disadvantaged". In the other three conditions, participants read an article reminding them of the gender pay gap. The commenter was responding to this gender pay gap article, and across conditions, dismissed concerns about the gender pay gap. In the *non-stereotype condition*, the commenter wrote 'I don't know why **people** are making such a fuss about the gender pay gap. […] I've never heard about this being a problem in my company. These things tend to resolve themselves over time anyway'. That is, in the non-stereotype condition, the commenter suggests that women should not express anger about the gender pay gap, but does not make reference to gender stereotypes. Therefore, in this condition women had a reason to feel angry (gender pay gap) but the commenter placed no restrictions on their expressions of anger. In the *stereotype disconfirmation* condition, the commenter again dismissed anger about the gender pay gap, but also made reference to stereotypes by writing '"I don't know why **women** are making such a fuss about the gender pay gap. […] The fact that women are more kind and caring is surely a good thing, so why can't they apply that soft touch in this context?' Thus, in this condition, women were reminded of the gender pay gap, so had a reason to feel angry *and* restrictions were placed on their expressions of anger by the commenter, who suggested that anger would **disconfirm** stereotypes of women as kind and caring. Finally, in the *stereotype confirmation* condition, the

commenter writes "I don't know why **women** are making such a fuss about the gender pay gap […]. Women always let emotions get the better of them and issues like this gender pay gap get twisted into hysterical dramas […]".In this condition, then, women had a reason to feel angry (gender pay gap) *and* restrictions were placed on their expressions of anger by the commenter, who suggested that anger would confirm stereotypes of women as overly emotional. Additional details about the manipulation can be found in the supplementary materials.

Identification with Feminists

Identification with feminists was measured with four items (α=0.96) taken from van Breen et al (2017). Items included "Being a feminist is an important part of how I see myself". Participants were asked to rate their agreement with these statements on a 7-point Likert-type scale.

Dependent variable

Anger Gap: Experience vs Expression

After reading the manipulation text, participants were asked to report the anger they felt and the anger they would express in response to the forum comment. To measure experience of anger, all participants were asked to indicate how much they felt a series of emotions on a 7-point Likert scale. This measure was adapted from Barreto and Ellemers (2005), and consisted of three items (anger, irritation, and annoyance) that made up the anger experience scale (α=0.92). Five other items (sad, frustrated,[2] worried, happy, and proud) were included as fillers.

[2] The item 'frustrated' is often included in scales of anger experience, but we here we decided to exclude it from the measure of anger (and instead consider it a filler) because there is some evidence that gendered norms operate differently on frustration versus anger (Aldrich & Tenenbaum, 2006). However, in response to a reviewer comment, we conducted the analyses when frustration was included in the measure of anger experience and expression. These results were highly similar to those reported in the manuscript text, and are described in more detail in the supplement.

To assess participants' anger expression, we used the same measure, with adapted instructions: "If you were to write a comment on the forum, to what extent would you *express* the following emotions?" They were then asked to what extent they would express the same 8 emotions as previously asked, on a 7-point Likert scale. As before, three items (anger, irritation, and annoyance) made up the anger expression scale (α=0.88), the other 5 items were used as fillers. The anger gap is operationalised as the difference between the Anger Experience score and Anger Expression score. The size of the gap can range from -6 to 6.

Checks

To ensure participants understood the content of the article they were asked two multiple choice questions about the topic of the article and what it conveyed about women's position relative to men (disadvantaged; advantaged; equal). Participants who failed the manipulation checks were excluded. Additionally, to obtain insight into the interpretation of the forum comment, participants were asked to rate whether they perceived the commenter as prejudiced, friendly, reasonable and selfish, on a scale from 1 (strongly disagree) to 7 (strongly agree), adapted from Swim and Hyers (1999).

Procedure

The study was approved by the ethics committee at the University of Exeter, and conducted in accordance with ethical guidelines, with informed consent obtained from all participants. The studies were administered in the form of online questionnaires, using Qualtrics software. Participants were first asked to answer a series of demographic questions and were then assigned to one of the four conditions described above. After reading the manipulated text, participants were asked to complete the measures of experienced and expressed emotion, the manipulation checks. They then ostensibly moved on to a new section of the study, and were

asked to complete the exploratory measures and feminist identification. At the end of the questionnaire, participants were asked whether they had had any problems understanding the questions. Participants were then given a short debrief outlining the aims of the study and were given the opportunity to leave comments.

Preliminary analyses

Preliminary analyses of the manipulation checks examined participants' impression of the man who made the comment in the forum. Relative to the control condition and non-stereotype conditions, participants in the stereotype conditions (disconfirm; confirm) found the male commenter less friendly, (M_{diff} = -1.98), $F(1,553) = 277.67$, $p < .001$, less reasonable, (M_{diff} = 1.99), $F(1, 553) = 218.26$, $p < .001$, more prejudiced, (M_{diff} = 1.92), $F(1,553) = 213.75$, $p < .001$, and more selfish, (M_{diff} = 1.43), $F(1,553) = 104.94$, $p < .001$ Additionally, it is relevant to note the comparison between the two stereotype conditions (confirm; disconfirm). In the condition where anger confirms stereotypes participants found the commenter less friendly than in the condition where anger disconfirms stereotypes, (M_{diff} = 0.52), $F(1,277) = 11.51$, $p = .001$, but there was no difference between conditions in his perceived prejudice, $F< 1.41$, $p =.237$, his reasonable-ness $F< 1$, n.s., or selfishness, $F< 1.23$, $p = .269$. Taken together, these findings indicate that participants interpreted the comments as intended, and that participants perceived the commenter as equally prejudiced in the two stereotype conditions.

Results

Hypothesis 1 suggested that women experience more anger when they are reminded of gender inequality (i.e. article about the pay gap) than when they are not (control). There was a main effect of the manipulation on Anger Experience, $F(3,558) = 139.45$, $p < .001$, and planned

contrasts confirmed that participants experienced more anger after the conditions that reminded them of gender inequality (M = 5.41, SD = 1.16), than after the control condition (M = 2.91, SD = 1.55), $t(557) = 20.33$, 95% CI [2.26, 2.74], p <.001. In line with this overall trend, each of the conditions that referred to the gender pay gap differed from the control condition in terms of the anger experience participants reported. Our participants reported lower anger experience in the control condition (M = 2.91, SD = 1.55) relative to the non-stereotype condition (M = 5.19, SD = 1.19), $t(279) = -15.00$, 95% CI [-2.58, -1.98], p <.001, relative to the stereotype disconfirmation condition, (M = 5.52, SD = 1.06), $t(283) = -17.28$, 95% CI [-2.90, -2.31], p <.001, and relative to the stereotype confirmation condition (M = 5.53, SD = 1.21), $t(280) = -17.24$, 95% CI [-2.92, -2.32], p<.001.

Moving on to the evidence for an anger *gap*, results showed that, overall, anger expression (M=4.51, SD = 1.76) was significantly lower than anger experience (M=4.78, SD = 1.68), $F(1,557)= 44.37$, 95% CI [0.19, 0.35], p < .001. Hypothesis 2 suggested that the size of this anger gap would be greater in the stereotype conditions than in the non-stereotype condition. Indeed, there was a significant interaction between the manipulation and the size of the anger gap, $F(3,557)= 7.21$, p < .001. Planned contrasts (Helmert) showed that, as hypothesised, the anger gap was greater in the two stereotype conditions (M_{gap}= 0.42) than in the non-stereotype condition (M_{gap}= 0.14), t (416) = 2.90, 95% CI [0.10, 0.49], p = .004. The greater gap in the stereotype conditions relative to the non-stereotype condition arose as a result of both greater anger experience (M_{diff} = 0.31), t (416) = 3.60, 95% CI [0.14, 0.48], p < .001, and reduced anger expression, (M_{diff} = - 0.25), t (416) = 2.53, 95% CI [0.06, 0.45], p = .011. In sum, hypothesis 2 was supported.

Our third hypothesis was that feminist identifiers are particularly sensitive to the suggestion that their behaviour might *confirm* stereotypes. Therefore, we now introduce feminist identification into the model described above. Results showed that the 3-way interaction between the size of the Anger Gap, the manipulation, and feminist identification was significant, $F(3,557) = 2.89$, $p = .035$. The 3-way interaction is represented in Figure 1. Breakdown of the 3-way interaction showed support for the hypothesized effect: Amongst feminist identifiers, the gap was greater for those in the confirm-stereotype condition ($M_{gap}= 0.81$) than for those in the disconfirm-stereotype condition ($M_{gap}= 0.29$), $t(557) = 3.30$, 95% CI [0.21, 0.84], $p=.001$. This effect was not present amongst non-feminists, $F<1$, ns. Table 1 summarises the simple effects arising from the 3-way interaction.

Finally, we explored whether this gap was due to reductions in expressions of anger or conversely, whether this effect was due to increases in experiences of anger, or both. Relative to the stereotype-disconfirm condition, the stereotype confirmation condition led feminist identifiers to show both a significant *increase* in anger experience (while controlling for expression), ($M_{diff}= 0.33$), $F(1,557)= 7.64$, 95% CI [0.10, 0.57], $p=.006$, and a significant *decrease* in anger expression (while controlling for experience), ($M_{diff}= - 0.58$), $F(1,557)= 10.58$, 95% CI [-0.83, -0.20], $p<.001$.

Figure 1.

Anger experience and Anger expression per condition in Study 1. Error bars reflect standard errors.

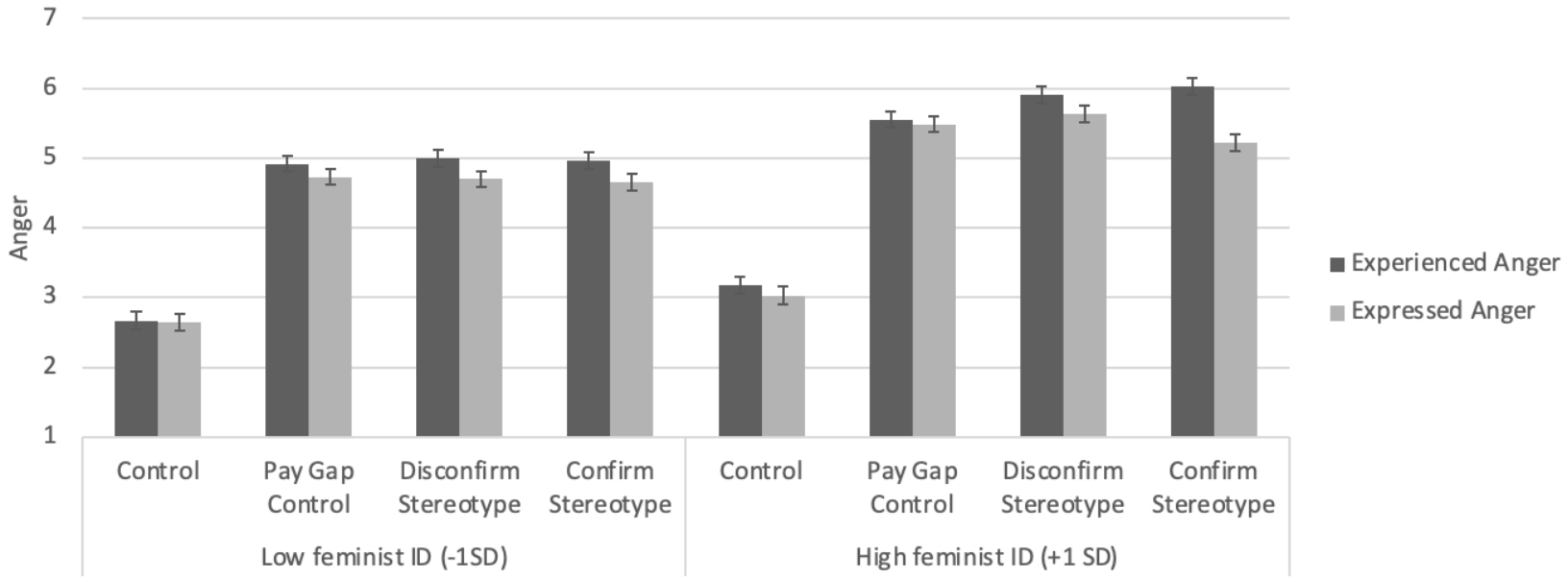


Table 1.

Simple effects arising from the 3-way interaction between the manipulation, feminist identification, and Anger (experienced vs expressed).

		Anger		**Anger Gap**				**95% CI**	
Condition	Feminist ID	Experienced	Expressed	Mean Difference	Std Error	F-value	p-value	Lower bound	Upper bound
Control	Low	2.67	2.65	0.02	0.12	0.02	0.888	-0.20	0.23
	High	3.18	3.03	0.15	0.12	1.95	0.163	-0.07	0.39
Pay Gap Control	Low	4.92	4.73	0.19	0.12	3.01	0.083	-0.03	0.41
	High	5.55	5.48	0.07	0.13	0.34	0.562	-0.17	0.32
Disconfirm Stereotype	Low	5.00	4.70	0.30	0.13	5.77	0.017	0.06	0.55
	High	5.91	5.63	0.28	0.11	6.71	0.010	0.07	0.50
Confirm Stereotype	Low	4.96	4.66	0.30	0.13	6.21	0.013	0.06	0.53
	High	6.03	5.22	0.81	0.11	54.13	0.000	0.59	1.03

Discussion

Findings from Study 1 showed that stereotype information represents a strategic concern that women take into account when deciding whether or not to express the anger they feel about gender inequality. In general, women's self-reported intention to express anger was significantly lower than the anger they reported experiencing. That is, across conditions there was evidence for an anger gap. This gap was amplified in the stereotype conditions, which suggested that anger would reflect negatively on women as a group (supposedly demonstrating that they *are not* kind; or demonstrating that they *are* overly emotional). Results showed that women are reluctant to engage in such behaviours that reflect negatively on their group – as evidenced by the fact that the anger gap was amplified in these two conditions. Finally, for feminists, these concerns were further compounded by the idea that their behaviour might *confirm* gender stereotypes. In the condition where anger expressions confirmed stereotypes, stronger feminist identification was associated with a larger anger gap.

These findings demonstrate that gender stereotypes can discourage women from expressing anger, even amongst those who do not endorse stereotypes (i.e. feminists). It is important to note that the fact that anger expressions are discouraged does not necessarily mean that women cannot confront inequality. For instance, *experiences* of anger (regardless of expression) motivate people to engage in collective actions, such as protest (van Zomeren, et al., 2012). Further, we would like to emphasise that these findings should not be interpreted to mean that women do not express anger. Rather, these findings highlight that women must make a trade-off when deciding whether or not to express anger. The stereotype implications of anger represent one aspect that women must take into account. Whether women are indeed discouraged from expressing their anger may depend on a host of factors, such as feminist identification (as

we demonstrate above), but also contextual factors such as their status position within a given situation (Hess et al., 2005; Petkanopoulou et al., 2019; Fischer & Evers, 2011).

Although our reasoning has focused mostly on how reduced intentions to express anger might produce an anger gap amongst feminists in the stereotype confirmation condition, but results indicated that the large anger gap observed amongst feminists was also shaped by an increase in the experience of anger (see Greenaway & Kalokerinos, 2019). This increased experience of anger may arise simply because feminist women realise the bind they are in – they want to express anger but if they do so will confirm stereotypes of women as overly emotional.

One alternative explanation for our findings amongst feminists would be to suggest that the stereotype of being 'too angry' is also a key element of *stereotypes of feminists,* rather than stereotypes of women. In this line of reasoning, feminists are particularly sensitive to the confirm-stereotype condition because it confirms *stereotypes of feminists.* However, we do not think that this can explain our findings for several reasons. First, identification with feminists was measured at the very end of the procedure, and as such there is no clear reason to expect that feminist stereotypes would be salient at the stage of the anger measures. Further, anger is not referred to directly in the manipulation. The commenter does not refer to stereotypes surrounding anger, but rather to stereotypes surrounding emotionality more generally (women are 'overly emotional'). This stereotype of being overly emotional is not specifically applied to feminists - the feminist stereotype is much more specific to anger only. Finally, concerns surrounding stereotypes of feminists could not explain the difference between the two stereotype conditions. As feminists are often stereotyped as not nice enough or even "bitchy", the disconfirm condition (women are not kind and caring) may also bring to mind stereotypes of feminists. In sum, then, our findings cannot be explained with reference to stereotypes of feminists.

Perhaps part of the reason *why* feminists are discouraged by the suggestion that anger will confirm stereotypes is that such anger is easily dismissed. When anger confirms a stereotype, the observer can dismiss it as a typical example of women's 'emotional nature', rather than consider the reason for that anger expression. Indeed, research has shown that stereotype-consistent emotions are perceived as less meaningful than stereotype inconsistent emotions (Hutson-Comeaux & Kelly, 2002). As such, when anger is framed as confirming a stereotype, it is less likely to be seen as 'real anger'. Perhaps the power of confirming stereotypes, then, lies not only in the risk of confirming a stereotype *per se*, but also because of what confirming a stereotype means for the likely effectiveness of anger. Study 2 explored this issue, and provided a pre-registered replication of the findings of Study 1.

Study 2

The central aim of Study 2 was to replicate the findings of Study 1. We added two exploratory variables to obtain more insight into *why* women avoid anger expressions after exposure to stereotypes. Is it because they worry about confirming or disconfirming stereotypes? Or is it because they are worried that their anger will be dismissed and therefore be ineffective? Study 2 was pre-registered at www.osf.io/u3qhw.

As part of the pre-registration, we raised four hypotheses, based on the results of Study 1. First, we hypothesized that women's experience of anger will be higher after the conditions that refer to gender inequality, than after the control condition (H1). However, when it comes to expressing that anger, women show evidence of an Anger Gap, whereby intention to express anger is lower than anger experience (H2a), especially when reference is made to stereotypes (H2b). With regards to the role of feminist identification, we expect that amongst feminist identifiers, the condition where anger confirms stereotypes will lead to a greater Anger Gap than

the condition where anger disconfirms stereotypes (H3). Finally, exploratory analyses in Study 1 indicated that when women feel unable to express the anger they feel, they may seek to compensate for this by expressing their frustration with gendered expectations through other strategies. Specifically, women who experienced a large Anger Gap, claimed more counter-stereotypical skills (see supplement for details). Based on this finding from Study 1, we hypothesize that those who experience a large anger gap claim more counter-stereotypical ('masculine') skills (H4).

Method

Design

The design of this study is the same as for Study 1. Below, we describe only the new measures that were added in this study. Specifically, we include two measures that explore possible mediators of the hypothesised effects, namely concerns about confirming/disconfirming stereotypes, and efficacy concerns. As in Study 1, hypotheses 1-3 assessed using (RM) ANCOVA models. Hypothesis 4, regarding the effect of the anger gap on counter-stereotypical skills, is assessed by regression analysis, in which the predictor is the Anger Gap, and the dependent variable is the ranking of counter-stereotypical skills.

Statistical Power and Participants

In Study 1, the size of the effect of central interest was estimated at $\beta=0.09$ with the lower bound of the confidence interval at $\beta=0.02$. A-priori power analysis using G*Power (Faul, Erdfelder, & Lang, 2007) showed that, to detect an effect of $\beta=0.02$ with a power of 80% and an alpha level of 0.05, a sample of at least 666 participants is required. Therefore, we decided to aim for a total sample size of N=700 participants to provide a buffer for unforeseen circumstances. A total of 715 participants completed the study. Participants' age ranged from 18

to 69 years old with a mean of 35.6 years old (*SD*=11.05). The large majority of our participants had the British nationality (90%), with the remaining participants split between other European nationalities (3.5%), Asian nationalities (3%), and North American nationalities (2%). Most participants identified their ethnic background as White (91%), with a small number identifying as Asian (3.7%) or Black (2.3%). Based on the pre-registered exclusion criteria, we excluded 21 participants who failed the manipulation check[3], leaving 694 participants in the final sample.

Exploratory measures.

We included two measures that might function as mediators of the central effects. First, we considered that the anger gap might arise because the conditions create the impression that expressions of anger will be dismissed, limiting its efficacy and making anger seem futile. This was assessed with three items ($\alpha = 0.77$) rated on a scale of 1-7, for instance 'the comment in the forum made me think that expressing anger would be futile.' Second, we considered that the anger gap might arise because people are worried that expressing anger will (dis)confirm stereotypes. This was assessed with two items ($r = 0.83$), rated on a scale of 1-7, for instance 'the comment in the forum made me think that expressing anger would confirm stereotypes of women.'

Procedure

This study approved by the ethics committee at the University of Exeter, and conducted in accordance with ethical guidelines, with informed consent obtained from all participants. The studies were administered in the form of an online questionnaire, using Qualtrics software. Participants were first asked to answer a series of demographic questions and were then assigned to one of the four conditions. After reading the manipulated text, participants were asked to

[3] These exclusions did not substantially change the findings reported below, please see the supplement for details.

complete the measures of experienced and expressed emotion, the measures assessing possible mediators, the manipulation checks, the masculine skills measure, the stereotype perception measure, the leadership measure and finally feminist identification. Participants were then given a short debrief outlining the aims of the study and were given the opportunity to leave comments.

Preliminary analyses

As in Study 1, we examined participants' impression of the commenter. Relative to the control condition and non-stereotype conditions, participants in the stereotype conditions (disconfirm; confirm) found the male commenter less friendly, (M_{diff} = -1.94), $F(1,692) = 387.56$, $p < .001$, less reasonable, (M_{diff} = - 2.19), $F(1, 692) = 423.84$, $p < .001$, more prejudiced, (M_{diff} = 2.18), $F(1,692) = 410.38$, $p < .001$, and also more selfish, (M_{diff} = 1.76), $F(1,692) = 219.41$, $p < .001$. Additionally, it is relevant to note the comparison between the two stereotype conditions (confirm; disconfirm). In the condition where anger confirms stereotypes (that women are overly emotional) participants found the commenter less friendly than in the condition where anger disconfirms stereotypes (that women are kind and caring), (M_{diff} = 0.50), $F(1,338) = 12.11$, $p = .001$, but there was no difference between conditions in his perceived prejudice, $F < 1.64$, $p = .202$, his perceived reasonable-ness, $F < 1$, $p = .332$, or his perceived selfishness, $F < 2.78$, $p = .097$.

As noted above, this study included the item "The comment in the forum made me think that expressing anger would confirm stereotypes of women", which can serve as a manipulation check for the stereotype confirmation condition. The mean scores for this item in each of the conditions are shown in Table 2. In line with expectations, the score in the stereotype confirmation condition ($M = 4.42$) is above the neutral mid-point of the scale (4), $t(168)=2.63$, $p = .009$, this was not the case for the other conditions. Further, concerns about confirming

stereotypes were higher in the stereotype confirmation condition (M = 4.42) than the non-stereotype condition (M = 3.99), t (336) = 2.51, p =.010. The stereotype confirmation condition also generated more concern about confirming stereotypes than the stereotype disconfirmation condition, (M = 4.42 vs M =3.92), t(336)= 5.78, p =.003. In sum, these patterns are in line with expectations.

Table 2.

Self-reported concern about 'confirming stereotypes' across the four conditions.

Condition	Mean	Std. Error
Control	2.95	0.12
Non-stereotype	3.99	0.11
Stereotype disconfirmation	3.91	0.12
Stereotype confirmation	4.42	0.12

Results

Hypothesis 1 suggested that participants would experience more anger when they are exposed to the conditions that make reference to gender inequality (i.e. the pay gap) than after the condition that does not (control). In line with this hypothesis, there was a main effect of the manipulation on Anger Experience, F(3,694)= 219.49, p < .001. Helmert contrasts showed that, as expected, anger experience was higher in the conditions that referred to gender inequality (M=5.31, SD = 1.42) than in the control condition (M =2.19, SD = 1.44), t(694)=25.45, 95% CI [2.89, 3.37], p<.001. In line with this overall trend, each of the conditions that referred to the gender pay gap, differed from the control condition. Our participants reported lower anger experience in the control condition (M = 2.19, SD = 1.44) relative to the non-stereotype condition (M = 4.96, SD = 1.44), t(354) = -18.47, 95% CI [-3.07, -2.48], p<.001, relative to the stereotype disconfirm condition, (M= 5.44, SD =1.49), t(347) = -21.38, 95% CI [-3.56,-2.95],

p<.001, and relative to the stereotype confirmation condition (M = 5.56, SD =1.27), t(344) = -22.11, 95% CI [-3.66, -3.07], p<.001.

Moving on to the evidence for an anger gap, Hypothesis 2a suggested that women's intention to express anger is lower than their anger experience ("Anger gap"). Indeed, there was evidence for an Anger Gap: anger expression (M = 4.25, SD =1.95) was significantly lower than anger experience (M=4.52, SD = 1.97), F(1,694)= 50.76, p < .001, 95% CI [-0.35, -0.20]. Hypothesis 2b further suggested that this anger gap would be larger in the stereotype conditions (disconfirm; confirm) than in the non-stereotype condition. There was a significant interaction between the manipulation and the size of the anger gap, F(3,694)= 3.46, p = .016. Helmert contrasts showed that trends were in the expected direction, with the non-stereotype condition producing a smaller gap (M_{diff}=0.27) than the stereotype conditions (M_{diff}=0.36), but this difference did not reach significance, t<1, ns. Considering anger experience and anger expression separately showed that (when controlling for anger expression) anger experience was higher in the stereotype conditions relative to the non-stereotype condition, (M_{diff}=0.21), t(510) = 2.44, 95% CI [0.04, 0.38], p =.017, but effects for anger expression were in the same direction (though non-significant), t< 1, p = .720 so that the anger gap remained of a comparable size. In sum, there was limited support for Hypothesis 2b regarding the difference between the stereotype conditions and non-stereotype condition.

Our third hypothesis was that women who identify strongly with feminists are particularly sensitive to the idea that their behaviour might confirm (vs disconfirm) gender stereotypes. As such, we now introduce feminist identification into the model described above – Figure 2 represents the 3-way interaction. Results showed that feminist identification interacted with the size of the gap, F (1, 684) = 11.17, p = .001, as well as with the manipulation, F(3,684)

= 3.95, p = .008. However, the 3-way interaction between the size of the anger gap, the manipulation, and feminist identification did not reach significance, $F(3,684) = 1.43$, p = .233. The breakdown of the 2-way interaction between feminist identification and the anger gap showed that as feminist identification goes up, the anger gap becomes more pronounced, β = 0.09, $F(1,690) = 14.87$, 95% CI [0.04, 0.13], $p < .001$. Specifically, stronger feminist identification is associated with an increase in anger experience, β = 0.11, $F(1, 690) = 27.10$, 95% CI [0.07, 0.16], $p < .001$, as well as a slight decrease in anger expression, β = - 0.05, $F(1,690) = 5.27$, 95% CI [-0.10, -0.01], p = .022. The breakdown of the interaction between the manipulation and feminist identification showed that stronger feminist identification amplified the contrast between the control condition and the conditions referring to gender inequality: as feminist identification goes up, differences in reported anger (experienced and expressed) between the control condition and the gender inequality conditions become more pronounced, β =.22, $F(1,690) = 11.74$, 95% CI [0.15, 0.29], p = .001.

Although the 3-way interaction did not reach significance, the hypothesized differences may still be evident from additive effects of the significant lower-order terms described as part of hypotheses 2 and 3. As such, we proceeded to examine evidence for the hypothesized contrasts. Results showed that, as expected, amongst feminist identifiers, the anger gap was greater in the confirm-stereotype condition (M_{gap}= 0.63) than in the disconfirm-stereotype condition, (M_{gap} = 0.29), $t(332)$= 2.34, p =.020, 95% CI [0.05, 0.63]. This effect was not present amongst non-feminists, t<1, ns. In sum, although the 3-way interaction did not reach significance, the planned contrasts did reach significance in line with expectations, and as such suggest support for hypothesis 3. As in Study 1, we explored whether the anger gap observed amongst feminists in the stereotype-confirm condition was due to reductions in expressions of anger, or increases in

experiences of anger, or both. Relative to the stereotype-disconfirm condition, the stereotype confirmation condition led feminist identifiers to show an *increase* in anger experience at trend level (while controlling for expression), (M_{diff}= 0.26, *SD* = 1.22), $F(1,331)= 3.81$, $p=.052$, 95% CI [0.002, 0.52], and a significant *decrease* in anger expression (while controlling for experience), (M_{diff}= -0.33, *SD* = 1.33), $F(1,331)= 5.14$, $p=.024$, 95% CI [-0.61, -0.04]. That is, the stereotype conditions were mostly differentiated by the fact that they produced different effects on feminists' *expressions* of anger: women who identified as feminists were less likely to express anger when it confirmed stereotypes of women than when it disconfirmed stereotypes of women, and also (somewhat) more likely to experience anger.

Finally, Hypothesis 4 was that those who experience a large anger gap, seek to vent their anger through other strategies, notably by claiming counter-stereotypical skills (masculine) skills. Our female participants ranked the counter-stereotypical skills quite far down the list of their abilities (*M*=5.20, *SD*=0.93, scale max= 6.50). However, there was no evidence that the size of the Anger Gap predicted participants' tendencies to claim masculine skills, $t < 1.21$, $p = .227$. That is, there was no evidence for Hypothesis 4.

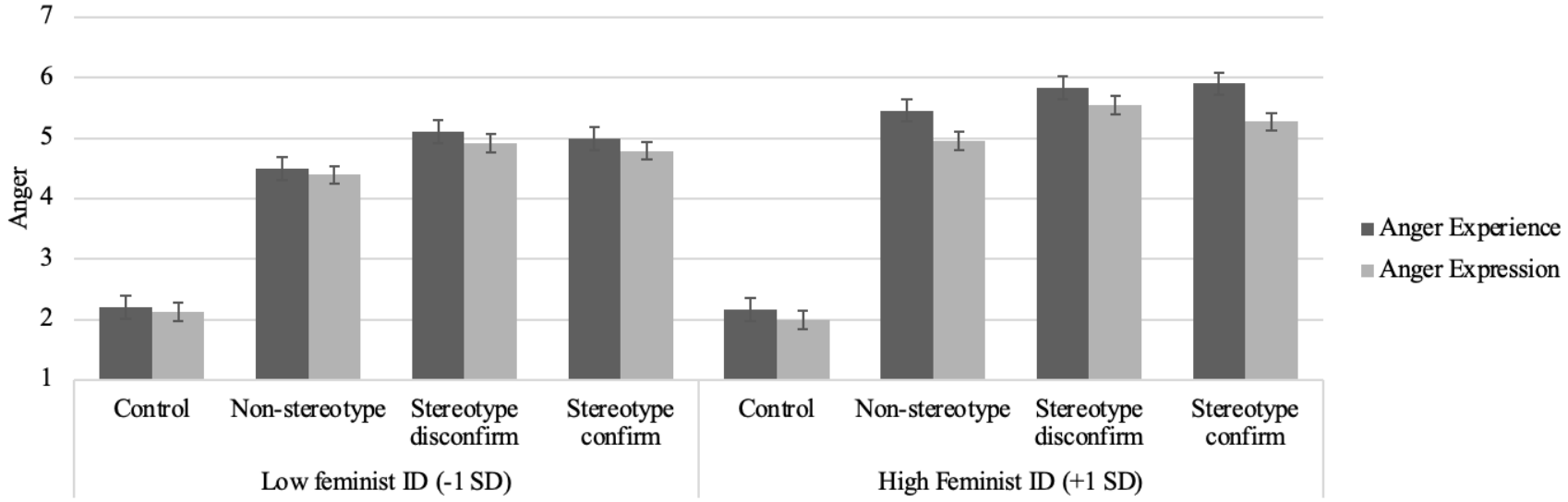
Exploratory analyses.

We included two possible mediators, to explore why the stereotype-confirm condition produces a particularly large anger gap amongst feminists. Is it because they are worried about stereotype implications (Stereotype concerns), or is it because they are worried about their anger being dismissed (Efficacy concerns)? Results showed that the anger gap was impacted by both efficacy concerns β=0.19, $t(334)=3.60$, $p<.001$, 95% CI [0.09, 0.31], and concerns surrounding stereotypes, β=0.07, $t(332)=2.05$, $p=.041$, 95% CI [0.002, 0.13]. However, there was limited

evidence that these variables mediated of the effects described above (Hayes' PROCESS model 8: indirect were effects non-significant, $ts<1.27$, $ps>.185$).

Figure 2

Anger experience and Anger expression per condition. Error bars reflect standard errors.



Discussion

Results from this study showed support for our hypotheses regarding the anger gap, and the impact of gender stereotype exposure on that gap. First, in line with Hypothesis 1, reminders of gender inequality led women to experience anger. However, when it came to expressing that anger women showed evidence for an Anger Gap, whereby self-reported intention to express anger was lower than experience of anger, in line with Hypothesis 2a. That is, there was evidence for an anger gap across conditions. Results further showed that women who identify with feminists showed a larger anger gap when anger confirmed stereotypes, replicating the finding of Study 1 and providing evidence for Hypothesis 3. Our final hypothesis - that those who show a large anger gap will then express their disapproval through other strategies (e.g. by claiming counter-stereotypical skills) - was not supported.

Study 2 further explored why these effects arise, by including two possible mediators of the effects outlined above – efficacy concerns and stereotype concerns. However, there was limited evidence that these variables function as mediators of the central effects. Part of the reason for this may be issues of power – moderated mediation analyses require very high-power designs. Second, the measure of stereotype concerns included an item reflecting concerns about *confirming* stereotypes ("The discussion forum made me think that expressing anger would confirm stereotypes of women"), as well as a more general item reflecting concern for women as a group 'The discussion forum made me think that… if I expressed anger, that would reflect badly on women as a group.' These items were highly correlated (r=.83) and as such they were taken together. However, conceptually they are quite different. Indeed, the item that asks specifically about concerns about *confirming stereotypes* functions as a manipulation check for

the stereotype confirmation condition. In light of this, it is worth noting that this condition did produce higher scores on this item relative to the other conditions, as shown in Table 2 above.

Taken together, then, the findings of Study 2 provide a pre-registered replication of the findings of Study 1; showing that women take into account the stereotype implications of their emotional expressions. Feminist identifiers are particularly reluctant to express their anger when doing so would confirm gender stereotypes.

Study 3

Study 3 aimed to offer a replication of the central effects described above in a final pre-registered study using a simplified design. Specifically, we dropped the exploratory measures, and simplified the manipulation by removing one of the control conditions. Second, we aimed to adapt the manipulation in such a way that it creates a somewhat more realistic, higher-stakes environment for participants (relative to Studies 1 and 2). Specifically, the manipulation and cover story were adapted to create the impression that the comments in the forum were being written 'live' by other study participants, and that participants' own comment might be seen by future participants. Further details are given below. The study was pre-registered on the Open Science Framework at https://osf.io/cbhgq (see van Breen & Barreto, 2021).

As part of the pre-registration, we raised two hypotheses. First, we expected that women's intention to express anger is lower than their anger experience ("Anger gap"; **H1a**), especially when reference is made to stereotypes (**H1b).** This would translate to a main effect of the within-participants factor "Gap", as well as a 2-way interaction between Condition*Gap. Second, we expected that feminist identifiers are particularly reluctant to confirm gender stereotypes with their anger. More specifically, this effect would be evident from the finding that - amongst feminist identifiers - the anger gap is greater in the condition where anger confirms stereotypes

(of women as overly emotional) relative to the condition where anger disconfirms stereotypes (of women as kind and caring; **H2**).

Method

Design

As before, the dependent variables are Anger Experience and Anger Expression. The difference between these represents the first independent variable – that is, a within-participants factor with two levels: Anger Experience vs Anger Expression, representing the Anger Gap. The second independent variable is a between-participants manipulation with three levels (see below). Finally, feminist identification is included as a third independent variable. Our hypotheses are assessed using (RM) ANCOVA models.

Statistical Power and Participants

In Studies 1 and 2, the size of the effect of central interest was estimated at $\beta = 0.08 - 0.09$, with a lower bound of around $\beta = 0.03$. In the current study, we simplify the design, so there are now three conditions instead of four (in Studies 1 and 2). A-priori power analysis using G*Power showed that, to detect an effect of $\beta = 0.03$ with a power of 80% and an alpha level of 0.05, a sample of at least 432 participants is required. Therefore, we decided to aim for a total sample size of N=500 participants to provide a buffer for unforeseen circumstances. Of the 500 women who completed the study, 12 were excluded because they failed the manipulation check[4]. The final sample, then, included 488 participants. Given N=488 and $\alpha = 0.05$, the current study can detect effects of $\beta = 0.02$ with 80% power.

Independent variables

Manipulation

[4] These exclusions did not substantially change the results reported below, please see the supplement for details.

The manipulation consisted of three conditions designed to manipulate the Anger Gap. In this study we dropped the control condition from Studies 1 and 2. All participants read an article reminding them of the gender pay gap in the UK. Subsequently, they saw a comment being written in a comment forum. The stereotype content of the message was kept the same as in Studies 1 and 2. In all conditions, the commenter was responding to this gender pay gap article, and across conditions, dismissed concerns about the gender pay gap. In the *non-stereotype condition*, the commenter suggests that women should not express anger about the gender pay gap, but does not make reference to gender stereotypes. In the *stereotype disconfirmation* condition, the commenter again dismissed anger about the gender pay gap, but also made reference to stereotypes. Specifically, the commenter suggested that anger would **disconfirm** stereotypes of women as kind and caring. Finally, in the *stereotype confirmation* condition, the commenter suggested that anger would **confirm** stereotypes of women as overly emotional.

Edits were made to the framing of the manipulation, and the cover story, to create a more realistic experience for participants in this study, relative to Studies 1 and 2. The instructions stated that "*In this study, we are interested in how discussions are conducted online. We will ask you to read an article on a topic that has been in the news, and to write a short comment for a discussion forum*." That is, we created the impression that participants would be required to respond to the commenter. During the manipulation phase, the commenter's message was introduced as "a comment on the article written by another participant." Before the comment appeared, participants saw a line of text "A participant is writing a comment**…**" The ellipsis was animated, as they are on many social media platforms, to suggest a person is writing live. When the comment then appeared, the first sentence read "It looks like I am the first to comment here!" before moving on the message content. A change was also made to the message content, to make

the message more self-relevant for participants. Instead of the comment referring to women in general, the commenter now referred to 'the women who write on this forum', making the comment more directly relevant to our female participants. Participants were then asked to write their own comment for the forum, and asked to provide a "screen name" with the instruction "*please do not use your own name, to preserve your anonymity*", to further suggest that the comment would be seen by others. In sum, then, the set-up of the manipulation and the cover story were edited to create a more self-relevant and realistic experience for our participants.

Identification with Feminists

Identification with feminists was measured in the same way as in Studies 1 and 2 - using four items (α=0.96) taken from van Breen et al (2017). Items included "Being a feminist is an important part of how I see myself". Participants were asked to rate their agreement with these statements on a 7-point Likert-type scale.

Dependent variables

Anger: Experience vs Expression

After reading the manipulation text, participants were asked to report the anger they felt and the anger they would express in response to the forum comment. This measure was the same as in Studies 1 and 2. Three items (anger, irritation, and annoyance) made up the scale (Experience α=0.93, Expression α=0.89), the other 5 items (happiness, pride, frustration, worry, sadness) were used as fillers.

Checks

To ensure participants paid attention to the article they were asked two multiple choice questions about the topic of the article, and what it conveyed about women's position relative to men (disadvantaged; advantaged; equal). Additionally, to obtain insight into the interpretation of

the forum comment, participants were asked to rate whether they perceived the commenter as prejudiced, friendly, reasonable and selfish, on a scale from 1 (strongly disagree) to 7 (strongly agree), adapted from Swim and Hyers (1999).

Procedure

The procedure was the same as for Studies 1 and 2. The study was administered in the form of an online questionnaire, using Qualtrics software. Participants were recruited through Prolific.co and paid 1.25 pounds for their participation.

Preliminary analyses

As before, we examined participants' impression of the commenter. Relative to the non-stereotype condition, participants in the stereotype conditions (disconfirm; confirm) found the male commenter less friendly, (M_{diff} = -1.76), $F(1,487) = 179.16$, $p < .001$, less reasonable, (M_{diff} = - 1.52), $F(1, 487) = 110.37$, $p < .001$, more prejudiced, (M_{diff} = 1.18), $F(1,487) = 70.62$, $p < .001$, and also more selfish, (M_{diff} = 1.01), $F(1,487) = 47.18$, $p < .001$. Additionally, it is relevant to note the comparison between the two stereotype conditions (confirm; disconfirm). In the condition where anger confirms stereotypes participants found the commenter marginally less friendly than in the condition where anger disconfirms stereotypes, (M_{diff} = -0.30), $F(1,331) = 4.09$, $p = .044$, and marginally more selfish, (M_{diff} = 0.32), $F(1,331) = 4.13$, $p = .054$, but there was no difference between conditions in his perceived prejudice, $F < 1.10$, $p = .297$ or reasonable-ness, $F < 1.11$, $p = .295$. Taken together, these findings indicate that participants interpreted the manipulation as intended.

Results

Results showed that, overall, the intention to express anger (M=4.00, SD = 1.68) was significantly lower than anger experience (M=5.41, SD = 1.44), $F(1,488)=566.84$, 95% CI [1.28,

1.51], $p < .001$, in line with hypothesis 1a. Further, in line with hypothesis 1b, there was a significant interaction between the size of the gap and the manipulation, $F(2,488)=19.94$, $p < .001$. Planned Helmert contrasts showed that the anger gap was larger in the stereotype conditions (M=1.66, SD = 1.39) than in the non-stereotype condition (M=0.87, SD = 1.08), $t(488)=6.24$, 95% CI [-1.03, -0.54], $p < .001$. Relative to the non-stereotype condition, the stereotype conditions trigger greater anger experience (M_{diff} = 0.95), t (488) = 9.48, 95% CI [0.75, 1.14], $p < .001$ but also *reduced* anger expression, (M_{diff} = - 0.56), t (488) = 4.27, 95% CI [- 0.83, - 0.30], $p < .001$, suggesting that both anger experience and anger expression contribute to the difference in the magnitude of the anger gap between the non-stereotype and stereotype conditions.

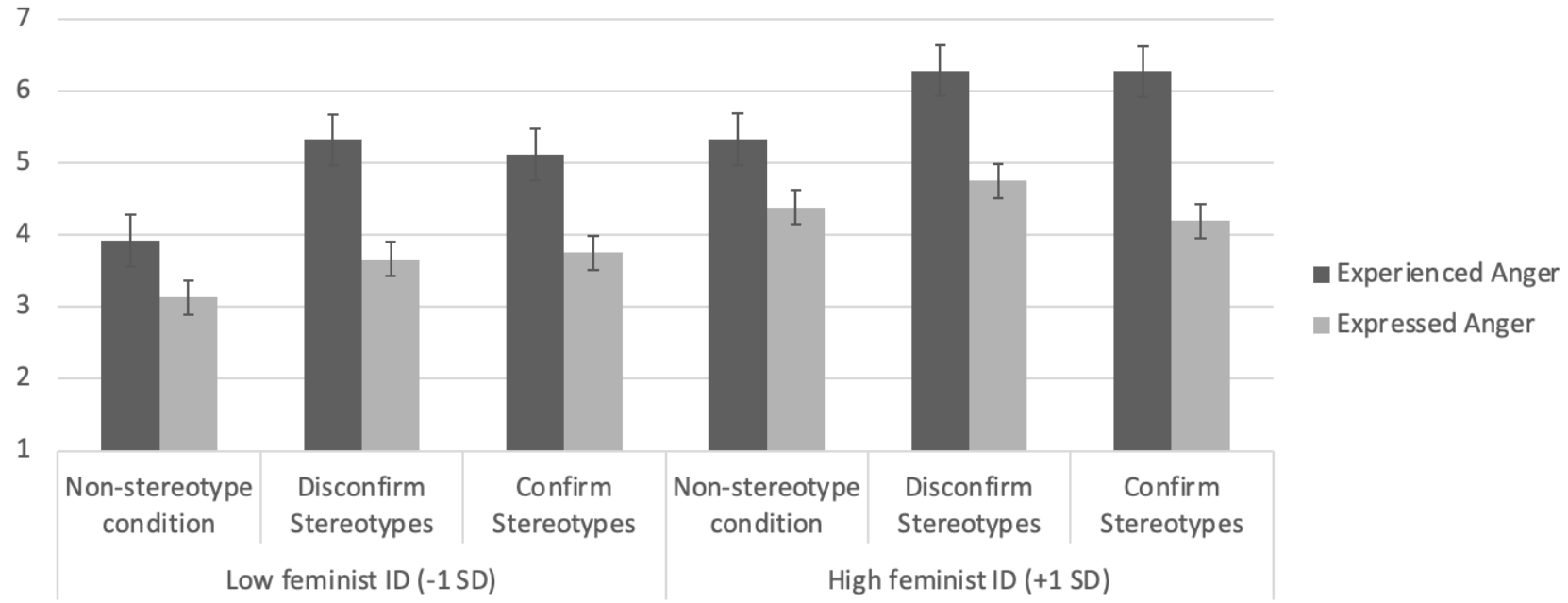
Our second hypothesis was that feminist identifiers are particularly sensitive to the suggestion that their behaviour might *confirm* stereotypes. Therefore, we now introduce feminist identification into the model described above. Results showed that the 3-way interaction between the size of the Anger Gap, the manipulation, and feminist identification reached significance, $F(2,488) = 4.45$, $p = .012$. The 3-way interaction is represented in Figure 3. Breakdown of the 3-way interaction showed support for the hypothesized effect: Amongst feminist identifiers, the gap was greater for those in the confirm-stereotype condition (M_{gap}= 2.08) than for those in the disconfirm-stereotype condition (M_{gap}= 1.52), $t(333) = 2.81$, 95% CI [0.08, 1.04], p=.015. This effect was not present amongst non-feminists $F<1$, p=.429.

As before, we explored whether this gap was due to reduced intention to express anger, increases in experiences of anger, or both. Relative to the stereotype-disconfirm condition, the stereotype confirmation condition led feminist identifiers to show a decreased intention to express anger (while controlling for experience), (M_{diff} = -0.56), $F(1,329) = 7.14$, 95% CI [-0.97,

-0.14], p=.009. Differences in anger experience did not make a significant contribution to the gap, F<2.08, p=.100. That is, the stereotype conditions were mostly differentiated by the fact that they produced different effects on feminists' intention to *express* anger: women who identified as feminists reported being less willing to express anger when it confirmed stereotypes of women than when it disconfirmed stereotypes of women.

Figure 3.

Anger experience and Anger expression per condition in Study 3. Error bars reflect standard errors.



Discussion

Results from this study provided further evidence for the pre-registered hypotheses. When reminded of gender inequality women feel angry, but they were reluctant to express that anger. In other words, there was evidence for an anger gap across conditions. The two stereotype conditions – which suggested that expressions of anger would reflect negatively on women – amplified this gap; our female participants were reluctant to engage in behaviour that might reflect negatively on women. Finally, amongst women who identify as feminists, these concerns were further compounded by the idea that their behaviour might confirm stereotypes. In the condition where intention to express angers *confirmed* gender stereotypes, stronger feminist identification was associated with a larger anger gap.

Relative to Studies 1 and 2, Study 3 used a higher-stakes context. In light of this, it is worth noting that the gap was larger in Study 3 than in the earlier studies. This suggests, first, that the manipulation had the desired effect, and – relatedly – that our experimental set-up is likely to underestimate the size of the anger gap in real life.

General Discussion

Across three pre-registered studies, we showed that women are reluctant to express the anger they feel, as evidenced by the presence of an Anger Gap. Additionally, we identify two different ways that gender stereotypes might exacerbate this gap. First, as highlighted by previous work (Swim et al., 2010; Hyers, 2007; Brody, 1997), gender stereotypes suggest that anger disconfirms stereotypes of women as kind and caring. Second, gender stereotypes suggest that anger *confirms* stereotypes of women as overly emotional. In both cases, stereotypes suggest that anger reflect will reflect negatively on women as a group, representing them either as

unfeminine or overly emotional. That is, both routes are associated with social costs. However, the two conditions differ in whether these effects arise as a consequence of disconfirming a stereotype or confirming a stereotype. We demonstrate that feminists in particular are sensitive to this issue - they show a particularly large Anger Gap when it is suggested that expressions of anger will confirm stereotypes.

This work makes several key contributions to the literature. First, it demonstrates how the stereotype confirmation route contributes to the Anger Gap, in addition to stereotype disconfirmation described in previous literature (Swim et al, 2010; Hyers, 2007). Second, it demonstrates that women need not endorse gender stereotypes to be silenced by them. In fact, the current work highlights that - under some circumstances - women who do not endorse gender stereotypes (i.e. feminists) are *especially* affected. The restrictions associated with gender stereotypes are difficult to escape and feminists are by no means 'immune' to their effects. Further, the findings from this study contribute to our understanding of strategic emotion expression. We identify concerns surrounding stereotypes as one of the strategic factors people must take into account in emotion expression. Moreover, the term 'strategic emotion expression' might create an impression of inauthentic and manipulative expressions of emotion, whereby a person may actively try to upregulate their expressions of certain emotions to elicit particular responses from others. However, this work demonstrates that strategic emotion expression need not be a 'choice' by the individual to purposefully hide their emotions, but can also be 'enforced' by the demands of the situation. Relatedly, previous work in the domain of strategic emotion expression has often focused on the *upregulation* of emotion expression (e.g. upregulating fear or sadness as a way of eliciting support, Sasse et al. 2018), while in the current work we show

that strategic concerns can similarly lead people to *downregulate* the expression of certain emotions.

At a broad level, the work reported here suggests that the content of gender stereotypes can impact the coping options women have available to address experiences of gender inequality. Expressions of anger can elicit desirable behaviour from the other party (Sasse et al., 2018; Van Kleef, 2009) and motivate the other party to make amends (Van Kleef & Côté, 2007). As such, expressions of anger may represent a particularly productive coping response when confronting inequality. However, in the current studies, exposure to gender stereotypes 'cut women off' from this option. Based on this reasoning, it is interesting to consider whether the 'silencing' effect of stereotypes is functional in some way, from the perspective of hierarchy maintenance. The possible hierarchy maintenance functions of prescriptions and stereotypes surrounding anger are supported, first, by the fact that stereotypes are known to play a role in legitimising social hierarchies (Brandt & Reyna, 2011; Cuddy et al., 2015). Second, this reasoning is supported by evidence that restrictions on expressions of anger not only affect women, but also other socially disadvantaged groups, such as ethnic minorities (Wingfield, 2007). In sum, it seems that the potentially disruptive effect of anger for social hierarchies triggers processes designed to discourage low status groups from expressing anger (Miller, 1983). This reasoning underscores the close link between emotion expression and socio-cultural structures (e.g. Bastian et al., 2012; Mesquita & Leu, 2007). Although this study focuses on the context of gender, it offers insight into the experiences of disadvantaged groups more generally, through its demonstration of how group-based prescriptions are maintained and reinforced.

It is worth noting here that emotional expression rules are known to vary considerably over cultures (Matsumoto, 1990; Matsumoto et al., 2008). For instance, expressions of emotion

tend to more permissible in Southern European cultures than in Northern European cultures (Pennebaker et al., 1996). The large majority of our samples were British by nationality (90%), and there is some evidence that cultural norms in Britain encourage emotional restraint rather than expressiveness, especially when it comes to anger (e.g. Mann, 2007). That is, perhaps the findings of the current study could be explained by the fact that for British people, an Anger Gap is the default. However, cultural norms cannot explain the differences between the stereotype and non-stereotype conditions or the role of feminist identification in these findings. Finally, the fact that British cultural norms constrain *how* anger is expressed does not mean that British people do not express anger. Rather, it means that they perhaps express anger *in different ways,* which are perhaps difficult to recognise as anger inter-culturally speaking, but represent anger nonetheless. In sum, although cultural differences undoubtedly have the power to influence the effects demonstrated here, we argue that the principle of the Anger Gap (and the impact of the manipulation and feminist identification upon it) are applicable across cultural contexts.

Note that we do not argue that strategic expression of emotion, such as the Anger Gap, is unique to women, or indeed unique to the emotion of anger. For instance, there is evidence that in the context of romantic relationships, women are encouraged to self-silence with respect to negative emotions generally (Jack & Dill, 1992). Similarly, it may be of interest for future work to consider experiences of men. Stereotypes suggest that anger is permissible for men, while sadness and fear are proscribed (Kelly & Hutson-Comeaux, 1999; Plant et al., 2000). As such, research amongst men might produce evidence of a 'Sadness Gap'. As is the case for women, such a Sadness Gap amongst men would reinforce existing social hierarchies in which men are perceived as high-status by preventing men from expressing a low-status emotion like sadness. However, it seems that the distinction between the stereotype confirmation route and stereotype

disconfirmation route, which forms the core of the current work, would not apply to sadness in men. Certainly, sadness can be argued to disconfirm stereotypes of men as 'in control' and dominant, but it is more difficult to imagine the complementary stereotype-confirmation route whereby expressions of sadness would confirm stereotypes of men. Nevertheless, the suppression of negative emotion due to outward pressures comes at a cost to mental health (e.g. Brownhill et al., 2002; Soto et al., 2011), and as such, studying a possible Sadness Gap in men would be a highly relevant avenue for future research.

Limitations. In these studies, we differentiate the anger women experience and the extent to which they are willing to express this anger. However, the measure of anger experience was a self-report measure. As such, there is an element of expression in this measure as well, as participants indicate their feelings of anger to the researchers. Therefore, future research might choose to use alternative measures of emotional experience that do not rely on self-report. A related limitation of this work is that it did not include a behavioural measure of anger expression, which would represent an important methodological improvement going forward. Finally, it is worth noting that more than 80% of our samples described their ethnic backgrounds as White, and as such it is possible that our findings are specific to White women. With regards to women of non-White ethnicities, gender stereotypes surrounding anger expressions interact with ethnicity stereotypes surrounding anger, especially in contexts where a that ethnicity is in the minority. Black women in Europe or the US, for instance, are subject to ethnicity stereotypes that suggest that Black people are especially violent and threatening (Wingfield, 2007), as well as intersectional stereotypes that apply uniquely to Black women. Interestingly for the current context, stereotypes of Black women incorporate an element of anger or assertiveness. Black women are stereotypically represented as 'sassy', which can serve to downplay the seriousness

of any expressions of anger (e.g. Spates et al., 2019). In other words, anger expressions by Black women can confirm stereotypes in the domain of gender, the domain of ethnicity, and the intersection of gender and ethnicity. We believe this underscores the importance of understanding the silencing power of the stereotype *confirmation* route, and represents an interesting context for future research.

Conclusions. This work brings together literature on strategic emotion expression and gender stereotypes. We demonstrated how women's expressions of anger are constrained by the idea that anger *confirms* gender stereotypes of women as overly emotional. Feminists in particular are sensitive to the idea that their anger might confirm stereotypes, and avoided expressions of anger as a result. Crucially, this work demonstrates that stereotypes constrain emotion expression, even amongst those who do not endorse those stereotypes. Taken together, this work highlights – once again - the extent to which emotion expression is shaped by the social environment in which it occurs.

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