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The path of most resistance

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Document Version
Publisher's PDF, also known as Version of record

Publication date:
2017

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):
van Breen, J. A. (2017). *The path of most resistance: How groups cope with implicit social identity threat*. [Thesis fully internal (DIV), University of Groningen]. Rijksuniversiteit Groningen.

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Implicit resistance to implicit gender identity threat: Who, why, how?



Note: This chapter is based on van Breen, J.A., Spears, R., Kuppens, T., & de Lemus, S. (2017). Implicit resistance to implicit gender identity threat: Who, why, how?

Abstract

In this chapter, we examine whether women can resist implicit threat to social identity. Implicit identity threat was manipulated by exposing women to implicit gender stereotypes. Results from three studies showed that exposure to implicit stereotypes lead non-feminist identifiers to implicitly associate their in-group with more stereotypical attributes. In contrast, high feminist identifiers experience threat following exposure to implicit stereotypes. A subgroup of these feminist identifiers - those who identified with feminists but not with women (“distinctive feminists”) - was able to resist implicit stereotype exposure through implicit in-group bias. More specifically, after exposure to implicit stereotypes, they were faster to implicitly associate their in-group with positive words. Moreover, distinctive feminists resisted implicit gender identity threat through persistence in a stereotypically male performance domain. In sum, our findings amongst distinctive feminists suggest that implicit identity threat can be resisted, and that when it comes to protecting a valued social identity, people are more resilient than previously thought.

Social and political movements campaigning for the emancipation of women and civil rights have reduced the social acceptability of prejudice and discrimination in Western society since the beginning of the 20th Century. Although explicit stereotypes and prejudice are increasingly rejected, at a more subtle level they continue to exist, and shape social interactions (Barreto et al., 2009; Pearson et al., 2009; Swim et al., 1995). Importantly, research has shown that such subtle stereotypes are more difficult to recognize and their effects are harder to combat than those of explicit stereotypes (e.g. Major et al., 2003). The current studies examine whether victims might nevertheless be able to *resist* stereotypes that are present outside of conscious awareness.

A considerable literature has investigated how people deal with stereotypes from the perspective of the *perpetrator*. For instance, perspective taking can decrease stereotypic biases (Galinsky & Moskowitz, 2000). Additionally, the activation of stereotypes can be prevented by automatic negation of stereotypes through directed retraining (Kawakami et al., 2000). Likewise, those who are chronic egalitarians can avoid automatic prejudice and stereotypes (Moskowitz et al., 2000), even when explicit compensation is not possible (Moss-Racusin et al., 2010). Thus, *perpetrators* of stereotypes are able to use explicit and implicit strategies to avoid stereotyping. For *victims*, exposure to stereotypes can create social identity threat, that is, the realization that a social group to which one belongs is devalued (Steele et al., 2002; Tajfel & Turner, 1979). People are motivated to defend themselves against such threats (Barreto et al., 2010; Steele et al., 2002), and here we examine the possibility of resistance against identity threat that occurs at the implicit level.

Resistance to identity threat. In this chapter we define “resistance” as a motivational process that leads to responses that *counteract* social identity threat. This definition is in line with the common definition of resistance as “the struggle against” or “refusal to comply with” a certain notion. Though such a definition may have connotations of political struggle and activism (e.g. Simon & Klandermans, 2001), we believe that more subtle strategies can also fit this description. For instance, threat to in-group identity may be resisted through responses that reaffirm group worth, such as in-group bias (Voci, 2006), or by emphasizing counter-stereotypical competences (de Lemus et al., 2013). That is, we conceive of resistance as responses aimed at disproving or counteracting identity threat.

In the current studies, we examine resistance to identity threat arising from exposure to stereotypes. Research has identified several processes that

might be deployed to challenge stereotypes, but not all of these fit the definition of resistance described above. It may be useful to contrast some influential examples of such processes with the concept of resistance. In the Just-Say-No paradigm, Kawakami et al. (2000) showed that repeated negation of stereotypes reduced their subsequent automatic activation. This mechanism of activating and deactivating associative links is cognitive, and imposed by the experimenter, rather than being internally motivated. A key difference, therefore, is that in the Just-Say-No paradigm participants are required to *go along* with instructions to reject stereotypes, whereas in the case of resistance victims spontaneously *react against* stereotypes. This motivational basis also distinguishes the effects of resistance from contrast effects, which may be produced by exclusively cognitive or perceptual processes such as anchoring (Bless & Schwarz, 2010) or comparison (e.g. Mussweiler, 2003). Resistance does not imply automatic contrast to just any stimulus, but targeted contrast to those stimuli that are threatening to social identity. Similarly, resistance differs from compensation-related processes (Glaser & Kihlstrom, 2005; Moss-Racusin et al., 2010), in that it occurs in response to self-relevant social threat, while compensation may occur following any negative event. The concept of resistance can also be distinguished from related concepts like reactance (Brehm & Brehm, 1981) because it can be elicited by threats in domains other than individual freedom, and can involve group-level concerns, as is the case in the work presented here.

However, research has also uncovered a number of strategies that *do* fit the bill of resistance, ranging from very direct to very subtle. For instance, the experience of being stereotyped has been shown to lead to feelings of anger and willingness to protest (Barreto et al., 2010). Moreover, exposure to stereotypes leads to in-group bias (Mullen, Brown, & Smith, 1992), which serves to re-establish group worth (Spears et al., 2001). In terms of behavior, exposure to gender stereotypes leads to behavioural reactance (Kray et al., 2001), whereby women perform better in counter-stereotypical domains after they have been stereotyped. Bry, Follenfant and Meyer (2008), for instance, showed that stereotype exposure improved performance amongst those who perceived incongruence between themselves and the stereotype. Similarly, exposure to stereotypes can elicit task *persistence*. Nussbaum and Steele (2007) show that African American students showed increased persistence when they were told that a certain task was diagnostic of academic ability (a domain where African American students are stereotyped). Likewise, de

Lemus et al. (2017) found that to stereotypical gender roles lead women to persist in a counter-stereotypical domain (a spatial reasoning task).

As has been shown to occur for other motivational processes such as goal activation (Bargh et al., 2001; Glaser & Kihlstrom, 2005), we argue that resistance can also occur through implicit strategies. Implicit resistance to stereotypes might be conceived of as functioning like resistance in the physical immune system (vanDellen et al., 2011), fighting disease without the individual's awareness or control. Several recent studies have documented implicit resistance effects. For instance, women who are exposed to stereotypical gender roles (e.g., women in the kitchen, men in the office) implicitly associate their in-group with counter-stereotypical attributes (de Lemus et al., 2013). Likewise, women who observed sexist interactions between men and women showed activation of counter-stereotypical in an implicit association test (IAT, Ramos et al., 2015). Note that these associations are the outcome of a motivated process, rather than a mechanism whereby stereotypes are unlearned (cf. Kawakami et al., 2000). Additionally, there is evidence for implicit evaluative in-group bias following exposure to implicit stereotypes, whereby participants associate their own in-group more readily with positive attributes after exposure to stereotypical role divisions (de Lemus et al., 2017). Thus, implicit resistance responses can be evident from responses such as implicit in-group bias, or the activation of counter-stereotypical traits.

In sum, stereotype exposure may be resisted through both implicit and explicit strategies. However, it is unclear whether resistance is also possible when the threat *itself* is implicit, that is, when the threat is not consciously perceived. This question is the focus of the present research.

Implicit identity threat. Implicit identity threat is a form of threat of which the victim is not consciously aware. For instance, when a woman is told by her superiors at work that she has failed to secure a promotion, and praised by a neighbour for her efforts in the home, neither one of these instances are explicitly sexist. However, when such experiences build up over time, on an implicit level, they may convey cues about gender roles. That is, though an individual may not be consciously aware of the link between their group membership and their experiences, they may implicitly learn the association. Although some individuals may not be responsive to these experiences, others (such as, in the context of gender, feminist identifiers) may experience social identity threat, and build up vigilance and resilience towards such threats, even if they occur at an implicit level. In this chapter we investigate

whether women can resist implicit identity threat resulting from exposure to implicit gender stereotypes.

Research suggests that implicit stereotypes may be more difficult to resist than explicit stereotypes. Compared to explicit stereotyping, subtle stereotypes lead to more stereotypical self-descriptions and self-handicapping (Barreto et al., 2009), as well as lower self-esteem. Similarly, while explicit stereotyping leads to anger and willingness to protest, implicit stereotyping leads people to experience anxiety (Barreto et al., 2010). Major, Quinton and Schmader (2003) found that women had lower self-esteem after exposure to subtle stereotypes, due to the fact that, compared to overt stereotyping, subtle stereotypes were less easily recognized as such and created “attributional ambiguity” about the reason for the negative outcomes. In terms of behavior, when stereotypes are implicit women are more likely to behave in line with the stereotypes (Kray et al., 2001) and show poorer performance (Barreto et al., 2009) than when stereotypes are explicit. When discrimination is subtle rather than overt, women also adopt more submissive body postures (de Lemus et al., 2012), and are more likely to request dependency-oriented help (Shnabel et al., 2015).

Such findings suggest that implicit stereotypes cannot be resisted, and are more harmful than explicit stereotypes (Barreto et al., 2010; Kray et al., 2001). However, studies of implicit stereotyping have typically used explicit outcome measures (Barreto et al., 2010; Kray et al., 2001; Major et al., 2003) so this conclusion may be premature. The current research therefore examines whether people can resist *implicit* stereotypes through *implicit* strategies. If implicit resistance to implicit stereotypes is possible, this would suggest that people are more resilient in protecting valued social identities than previously thought.

Who resists implicit stereotypes? In the case of women, it is likely that the interpretation of gender stereotypes will vary between individuals. For instance, those who identify with feminism may be more likely to experience stereotypes as threatening to their social identity, as feminist identification is known to be related to perceptions of gender inequality, sexism and disadvantage for women (Brown & Pinel, 2003; Henderson-King & Stewart, 1994). In fact, it is likely that the relationship between experiences of identity threat and feminist identification is bidirectional, such that experiences of gender identity threat increase feminist identification (Moradi & Subich, 2002), and feminist identification in turn makes the individual more sensitive to gender

identity threat (Henderson-King & Stewart, 1994). In such a circumstance of repeated confrontation with gender identity threat, resistance can function as a strategy to cope with these experiences. That is, aside from the fact that identification with feminists may lead women to experience identity threat following exposure to stereotypes, feminist identification may also foster *resistance* to gender identity threat. Indeed, feminist identification is a politicized identity, and predicts willingness to engage in collective action on behalf of women (Simon & Klandermans, 2001, see also Chapter 2). That is, those who identify strongly with feminism can be expected to have the goal of confronting stereotypes of women. Importantly for the current study, frequent goal pursuit can make a goal chronically accessible (e.g. Bargh et al., 2001), which increases sensitivity to implicit cues that threaten this goal (Kaiser et al., 2006). As such, we argue that feminist identification should predict both threat experience following exposure to implicit stereotypes, and motivate resistance against this threat.

However, there is evidence that not all feminist identifiers may object equally strongly to stereotypes. Previous work has shown that there is a second identification dimension that affects attitudes to gender stereotypes: identification with women as a broader social group (Henderson-King & Stewart, 1994). In Chapter 2, we found that women's identification interacts with feminist identification, such that the effect of feminist identification on attitudes towards stereotypes is stronger amongst those who score *low* on women's identification. More specifically, those who identify strongly with feminists, but *not* the broader group of women, are more likely to object to gender stereotypes than other groups of women. One reason for this may be that women's identification is related to satisfaction with being a woman, perceived femininity of the self, and importantly, *self-stereotyping* (Haslam, Oakes, Reynolds, & Turner, 1999; Leach et al., 2008). In the context of the current study, then, it stands to reason that resistance to stereotypes is likely to be stronger amongst those for whom self-stereotyping is less important (or even aversive) to their self-concept. These considerations, based on Chapter 2, led us to refine our predictions, and expect that those who are highly identified with feminists, *but not women*, will be particularly likely to show resistance to implicit identity threat that is based on gender stereotypes.

Given that research has further shown that identification with women and feminists are only weakly correlated (Roy et al., 2007, see also Chapter 2), we treat them as separate dimensions of gender identity, and thus identify

four theoretical “types” of gender identifiers that are characterized by different combinations of women’s and feminist identification (see also Becker & Wagner, 2009; Condor, 1986). The first group score low on women’s and feminist identification, a group we call “non-identifiers”. At the opposite end of the spectrum, there are those who identify highly with women, but are also strong feminist identifiers: the “dual identifiers” (see Leicht et al., 2017). The group who identify strongly with women, but not feminists are referred to as “traditional identifiers” (cf. Condor, 1986), and finally the group who score low on women’s identification, but highly on feminist identification we refer to as distinctive feminist identifiers or “distinctive feminists” for short. Note that, even though this last group do not identify highly with women, this does not mean that they are “anti-women”. Radical members of social groups may come to experience a degree of dis-identification with their wider group, realizing that their attitudes are not supported by other in-group members. Therefore, such groups may experience lower levels of group identification, while at the same time being strongly committed to the group’s interests (see Becker et al., 2011). Moreover, it is this group, who are highly identified with feminists but not women, who are most likely to object to gender stereotypes (see Chapter 2)

Hypotheses. We expect that amongst distinctive feminists, exposure to implicit stereotypes will lead to (1) increased experiences of social identity threat, and (2) resistance, in the form of (2a) implicit in-group bias and (2b) counter-stereotypical associations, as well as (2c) increased performance and persistence in threatened domains (see Sommer and Baumeister, 2002, for evidence that implicit manipulations can elicit such effects). However, we expect that (3) implicit stereotypes will not lead to *explicit* resistance (such as anger or explicit in-group bias), because the implicit threat is likely too subtle to be consciously perceived and attributed to a certain cause (Major et al., 2003). Accordingly, previous studies did not find evidence for explicit resistance in response to implicit stereotyping (Barreto et al., 2010; Rudman, Dohn, & Fairchild, 2007). Therefore, we measure explicit in-group bias and anger as explicit resistance responses. We also measure explicit self-esteem, threat experiences, and general mood as indicators of possible harmful effects of implicit stereotypes (Barreto et al., 2010; de Lemus et al., 2017; Rudman et al., 2007).

Overview of the studies. The data presented here was collected in 3 studies that had similar designs, allowing us to analyse part of the data in a pooled analysis. In this type of analysis, data from the same measure is

pooled across studies. This has a number of advantages, including increased statistical power, and reductions in vulnerability to methodological and statistical artefacts (Curran & Hussong, 2009). For measures that were unique to one particular study or different between studies, results are based on data from those studies.

Study 3.1. In Study 3.1 we aim to examine if, and how, implicit social identity threat can be resisted. In Study 3.1 we distinguished between evaluative and stereotypical dimensions of social identity threat in the manipulation as well as in the outcome measures, as social identity threat based on stereotypical associations or (negative) evaluative associations has been shown to lead to different outcomes (Amodio & Devine, 2006). In terms of the outcome measures, this meant that implicit associations were assessed with two tasks: one examining evaluative gender associations, and the other examining stereotypical gender associations.

Study 3.2. Study 3.2 simplified the design of Study 3.1, and examined whether those who resist also report being more threatened by the manipulation. We use an approach-avoidance task to measure implicit threat experience.

Study 3.3. In Study 3.3, alongside our implicit measures, we examine whether implicit stereotypes affect behavior, and distinguish between performance and persistence. As described above, previous studies have found that exposure to stereotypes may lead to improved performance and increased persistence. We predict increased performance and persistence in response to an implicit manipulation. That is, we examine whether implicit stereotype exposure can lead to improved performance and persistence, as indicators of behavioural resistance.

Method

Participants. Exclusion criteria were 1) awareness of the prime, 2) failure to comply with instructions, and 3) lack of proficiency in Dutch.

Pooled analysis. All participants in these studies were women, recruited from the University of Groningen. For the implicit measures, which are analysed in a multilevel design, we used the method suggested by Westfall, Kenny and Judd (2014) to calculate power.

For measures present in Studies 1 and 2, the final sample included 147 participants. For the measures analysed with ANCOVA, this sample can detect medium effect sizes ($d=0.25$) at a power of $1-\beta=0.80$. For the implicit mea-

asures, this sample can detect small effect sizes¹ ($d \approx 0.1$) at a power of $1-\beta = 0.85$ (Faul, Erdfelder, Lang, & Buchner, 2007).

Pooling data from Studies 2 and 3 resulted in a sample including 336 participants. For the measures analysed with ANCOVA, this sample can detect small-to-medium effect sizes ($d \approx 0.15$) at a power of $1-\beta = 0.80$. For the implicit measures, this sample can detect small effect sizes ($d \approx 0.1$) at a power of $1-\beta = 0.90$ (Faul, Erdfelder, Lang, & Buchner, 2007).

For measures that were included in all three studies, the pooled dataset included 387 participants. For the measures analysed with ANCOVA, this sample can detect small-to-medium effect sizes ($d \approx 0.15$) at a power of $1-\beta = 0.80$. For the implicit measures, this sample can detect small effect sizes ($d \approx 0.1$) at a power of $1-\beta = 0.95$ (Faul, Erdfelder, Lang, & Buchner, 2007).

The sample information per study can be found in Table 3a.

Between-subjects predictors.

Implicit stereotypes. Implicit stereotype exposure was manipulated in 120 trials. Each trial included a picture, preceded by the prime “Woman” or “Man”. The prime was presented for 42 ms, with forward and backward masks (random letter strings) presented for 100 ms. Picture stimuli represented stereotypically male and female activities, such as shopping, watching sports, and fishing. These were piloted and 20 activities (5 female-typical leisure activities; 5 female-typical chores; 5 male-typical leisure activities; 5 male-typical chores) were chosen for being rated as stereotypically male or female, but similar in valence. Where people appeared in the pictures, their gender was not visible (e.g. seen from a great distance). In the stereotypical condition female primes were paired with female stereotypical activities, and male primes with male stereotypical activities in 95% of trials. In the counter-stereotype condition, female primes were associated with male-typical activities and male primes associated with female-typical activities². Participants’ task was to answer a question unrelated to the stereotype that was primed (i.e., “Does this pictures show a leisure activity or a chore?”). The picture remained on the screen until a response was given. In this manipulation

¹As there is currently no established method for the calculation of effect sizes for simple effects in multilevel models, several different procedures were considered. We considered it most important to provide an effect size that can be compared to those of measures that do not have a multilevel structure. Therefore, we report Cohen’s d , but for effects derived from multilevel models this does not take into account within-subject residual variance in the calculation of the error estimates (see Dunlap et al., 1996).

²In Study 3.1, there were 2 additional conditions that were not present in the other studies; these conditions are described in the supplementary materials.

the repeated combination of certain primes with certain target words created stereotypical associations that were expected to create social identity threat amongst distinctive feminists. This paradigm is an adaptation of the one developed by de Lemus et al. (2017) in which stereotypical (vs. counter-stereotypical) social roles were presented as a form of indirect identity threat.

Women's and feminist identification. The threat manipulation was based on exposure to (counter)stereotypical associations, but because these may not be threatening to every participant, we included measures of identification with feminists and women. Participants reported their identification with women on four items ($\alpha=0.85$), adapted from Doosje, Ellemers, and Spears (1995). These four items were "I identify with women", "In general, being a woman is an important part of my identity", "I feel a strong connection with (other) women", and "Being a woman is an important part of how I see myself". Participants rated their agreement with each item using a 7-point Likert scale; scores on the four items were averaged. Identification with feminists was measured with in the same way as women's identification, except that the word "women" was replaced by "feminists".

The identification variables are continuous variables, and are used as such in all analyses. When the identification variables interact, simple effects are examined at 1 standard deviation above and below the mean. The terminology from the gender taxonomy (non-identifiers; traditional women; distinctive feminists; dual identifiers) is used when describing the interaction between feminist identification and women's identification, as well as in graphs and tables for ease of presentation.

Outcome measures. In this study we include implicit, indirect, and explicit outcome measures. By explicit measures, we mean measures that assess responses that are conscious and considered, the most straightforward example being self-report measures. In contrast, indirect measures are those that assess conscious responses, in which the participant is *not* aware of which element of the response is of interest to the study. As such deliberative processes are unlikely to affect the outcomes of these measures. Finally, implicit measures are those that assess an automatic response that is not under conscious control. Another way of illustrating the difference between these types of outcome measures is through the insight participants have in their own responses. In the case of explicit measures, participants are aware of their score on the construct of interest. In the case of indirect measures, participants do not know what construct is being measured, but if the exper-

imeter were to tell them (e.g. after completing the experiment), they might be able to estimate their response. In the case of implicit measures, even if participants were informed of the construct of interest after completing the study, they could *not* estimate their performance, because they were not consciously aware of it at the time.

Threat experience task. Implicit threat experience was assessed using an approach-avoidance task (De Houwer, Crombez, Baeyens, & Hermans, 2001). Participants direct a little stick-person to approach or avoid neutral (e.g. pocket, candle) and threatening word stimuli (e.g. problem, conflict), and analyses focused on the speed with which this was done. The task consisted of 120 trials: 30 threat-approach trials, 30 threat-avoidance trials, 30 neutral-approach trials and 30 neutral-avoidance trials. The target words were selected to be unrelated to stereotypes. If avoidance of threatening stimuli is facilitated compared to approach of threatening stimuli, this indicates an implicit threat experience. This measure was present in Studies 2 and 3, and analysed with a pooled analysis.

Implicit stereotypes. We assessed *stereotypical* gender associations through a lexical decision task. The task consisted of 240 trials, asking participants to classify a target as a word (N=120) or non-word (N=120). Analyses focused on the speed with which this decision was made. The targets were words representing warmth (N=20) and competence (N=20) (Fiske, Cuddy, & Glick, 2007), and an equal number of non-words. To ensure that all words were similar in valence, only positive words were selected. Non-word targets were letter strings of comparable length and vowel/consonant ratios. The target words were preceded by a forward and backward masked prime (42 ms), which was either a female name or a male name (e.g., “Mary” vs. “John”). As women are stereotypically associated with warmth and men with competence, the classification of warmth traits may be facilitated following a female prime, compared to a male prime. Resistance may manifest itself through a reversal of this pattern (de Lemus et al., 2013). This measure was present in Studies 3.1 and 3.2 and was analysed with a pooled analysis.

Implicit in-group bias. All three studies included an evaluative decision task (Fazio, Jackson, Dunton, & Williams, 1995), which examined responses to positive and negative targets associated with the genders. The task consisted of 120 trials. Each trial presented a subliminal gender prime (a male or female name presented for 42 ms) with forward and backward masks (100 ms), followed by a supraliminal target. Targets were positive (N=20) or nega-

tive (N=20) words without stereotypical connotations, such as ‘corpse’ or ‘vacation’ (adapted from Roefs et al., 2005). Participants were asked to classify targets as positive or negative, and analyses focused on the speed with which this decision was made. In this task, the facilitation of female-positive pairs, relative to male-positive pairs (in-group bias), following implicit stereotype exposure (de Lemus et al., 2017) would be indicative of resistance, as it reaffirms group value in the face of implicit stereotypes. This measure was analysed with a pooled analysis.

Behavioural resistance: Math and Anagram tasks. Study 3.3 included two measures of behavioural resistance tendencies. We distinguish competencies that are considered stereotypically feminine, such as language skills, and those that are stereotypically masculine, such as mathematics and spatial abilities (Brandell & Staberg, 2008; Deaux, 1985). Thus, a math task was used to reflect performance and persistence in a male-typical domain, while an anagram task taps a more stereotypical performance domain for women. The two tasks consisted of 10 questions each. If the participant did not know the answer to the question, they could skip the item. The difficulty of the items increased throughout the task, and the final item (unbeknownst to participants) was unsolvable. These measures yielded 1) a performance measure: number of items answered correctly, and 2) a persistence measure: time spent on the unsolvable item. Increased performance and/or persistence in the masculine task after exposure to implicit stereotypes are considered indicative of resistance, as they establish counter-stereotypical ability in the face of stereotypes, thereby disproving these stereotypes. The order of presentation of the math and the anagram tasks was counter-balanced.

Explicit in-group bias. In Study 3.1, participants completed a Decomposed Games measure consisting of 6 items (Bornstein et al., 1983), in which they were given various options for the distribution of hypothetical money between an unknown man and woman. A tendency to allocate more money to women represents in-group bias. Study 3.2 examined explicit in-group bias through a hiring paradigm. In the hiring paradigm participants were asked to evaluate a male and a female job candidate with equivalent CVs on their characteristics and suitability for the job offered (on a 7-point Likert scale). Additionally, participants evaluated the job candidates in terms of general valence: “How positively or negatively do you feel about [Female candidate/Male candidate]”. After the hiring decision, participants rated “men/women in general” on the same items. More positive ratings of the female candidate

and/or women in general indicate in-group bias. The CVs used in the task were pilot-tested to establish that they were perceived as equivalent in terms of competence and warmth. Additionally, the CVs were counterbalanced across target gender, so that half of the participants saw the female candidate paired with the first CV and the male candidate paired with the second CV, and the other half saw the female candidate paired with the second CV and the male candidate paired with the first. This task was considered to provide better structural fit with the implicit measure than the Decomposed Games measure used in Study 3.1, as the bias component in this task is less blatant than in the Decomposed Games measure. In this way, we attempted to rule out the possibility that differences between implicit and explicit outcome measures are due to lack of structural fit (Payne, Burkley, & Stokes, 2008).

Mood. All three studies included a mood scale, which was created from a combination of the dejection/agitation scale (Higgins, 2001), and the PANAS (Watson, Clark, & Tellegen, 1988), resulting in a 28-item scale asking about mood ($\alpha=0.84$). Participants indicated their response on 7-point Likert scale. This measure was present in all three studies and was analysed with a pooled analysis. Anger will be evaluated separately, as it has been identified as an indicator of resistance (Barreto et al., 2010).

Self-esteem. All three studies included the Rosenberg measure of self-esteem ($\alpha=0.786$, Heatherton & Polivy, 1991). Participants indicated their responses using a 7-point Likert scale. This measure was analysed with a pooled analysis. Studies 3.2 and 3.3 included the Rosenberg questionnaire as a pre-measure of self-esteem (Rosenberg, 1965), but since Study 3.1 did not include this it is not part of the pooled analysis.

Sexism. At the end of Study 3.2, participants completed the Modern Sexism scale ($\alpha=0.795$, Swim et al., 1995) and the Ambivalent Sexism scale ($\alpha=0.846$, Glick & Fiske, 1996) using 7-point Likert scales, to assess perceptions of sexism in society, and endorsement of sexism.

There were some additional outcome measures in individual studies that are described in the supplementary materials, for instance because of methodological problems.

Procedure. Across studies, the general procedure meant that upon arrival to the lab, participants read an information brochure and provided informed consent. After answering some demographic questions, participants were randomly assigned to one of the exposure conditions. Participants completed implicit outcome measures first, followed by the explicit measures. Measures

that directly referred to identity (feminist identification and women's identification) were always completed last. At the end of the study, participants completed a funnelled debriefing. None of the participants guessed the hypotheses. For the procedure per study, please refer to Figure 3a. An overview of which measures were included in which study can be found in Table 3b.

Analytical procedure. The simple effect of central interest is how (counter-) stereotype exposure and the identification variables, affect evaluations of women *relative to men*. Theoretically speaking, we consider this the most relevant comparison, as several of our measures concern in-group bias, as indicated by more favourable ratings of the in-group *compared to an out-group*. Moreover, this allows us to start the breakdown of interactions with the between-participants variables (exposure condition, and identification) before moving on to the within-participants variables (target valence, and gender of the prime). Following this strategy means that the gender of the prime is the simple effect of central interest in the analyses presented below.

The reaction time data were filtered according to a pre-determined cutoff. Responses below 300 ms and above 1500 ms were excluded (Ratcliff, 1993). Subsequently, responses that fell more than 3SD above the mean were also excluded. The data was analysed using a linear mixed model with crossed random effects (Baayen, Davidson, & Bates, 2008). Random factors were subject and target type. Moreover, in the pooled analysis we controlled for the influence of different studies.

Preliminary analyses. Though feminist identification and women's identification are used as predictors in this study, they were measured after the manipulation, so as not to alert participants to the nature of the experiment. Therefore, we examined whether feminist identification and women's identification were affected by the manipulation, but this was not the case ($F_s < 1$). Further, feminist identification ($M=3.01$, $SD=1.33$) and women's identification ($M=5.10$, $SD=1.02$) were found to correlate weakly ($r=0.17$), confirming that they measure different aspects of gender identity, in line with findings of Chapter 2. Feminist identification and women's identification are used as continuous variables in all analyses described below. When they interact, these interactions are described with reference to the gender taxonomy described above (i.e. those who identify strongly with feminists, but not women, are referred to as "distinctive feminists"). However, we did not create subgroups for the analysis; the taxonomy is theoretical, arising from the interaction between the continuous identification measures.

Table 3a.

Sample information per Study

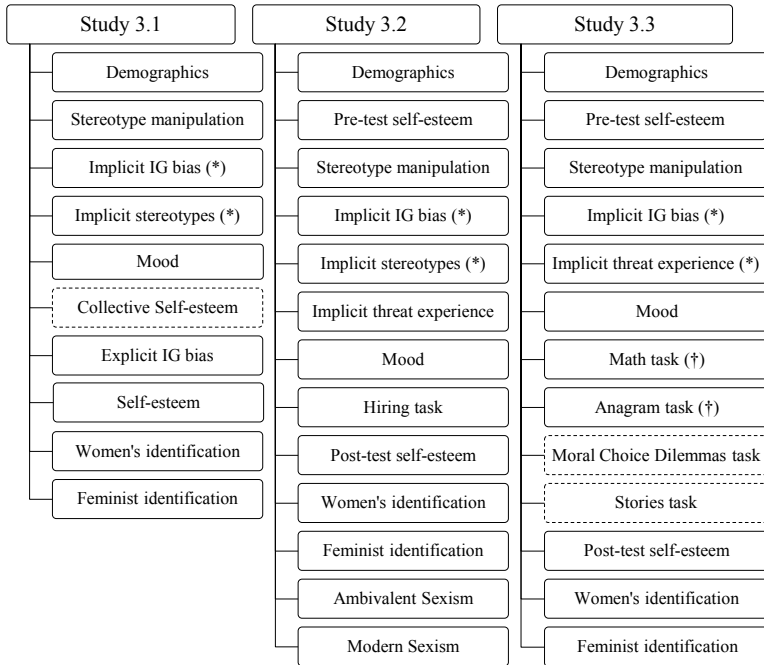
Study	Total N	Average age	Age range
Study 3.1	46	19.2 years old	17-29 years old
Study 3.2	101	21.3 years old	17-47 years old
Study 3.3	243	22 years old	18-43 years old

Table 3b.

Outcome measures per study.

		Study 3.1	Study 3.2	Study 3.3	Pooled analysis
Implicit measures	Implicit in-group bias	x	x	x	x
	Implicit stereotypes	x	x		x
	Implicit threat experience		x	x	x
Indirect measures	Persistence – Math task			x	
	Persistence- Anagram task			x	
Explicit measures	Self-esteem	x	x	x	x
	Mood	x	x	x	x
	Explicit in-group bias	x	x		
	Modern Sexism		x		
	Ambivalent sexism		x		

Figure 3a: Procedure per study.



NB: Measures with an asterisk (*) or obelisk (†) were counterbalanced. Dashed measures are described in the supplementary materials.

Results & Discussion

The results are organized by task rather than by study, because the pooled analyses include data from several studies. We report all measures, manipulations, and exclusions in these studies, either in this section or the supplementary materials.

Implicit threat experience. As a first step, we examined whether the manipulation produced threat, through an approach-avoidance task (De Houwer et al., 2001). We expected that distinctive feminists would experience threat after exposure to implicit stereotypes, as indicated by faster avoidance of threat targets. This should result in a 5-way interaction between (counter-)stereotype exposure, feminist identification, women's identification, direction of the response (approach/avoid) and target category (threat/neutral).

Pooled analysis. Instead of the 5-way interaction, results showed a 4-way interaction between exposure condition, feminist identification, direction of response, and target category ($F(1,37564)=13.52, p<0.001$). This interaction is represented in Figure 3b. Breakdown of the interaction showed that responses to threat targets were affected by an interaction between exposure condition, feminist identification, and direction of response, $F(1,37579)=9.58, p=0.002$. Further breakdown showed that in the stereotype condition there was an interaction between direction of response and feminist identification, ($F(1,37564)=10.30, p=0.001$), such that compared to low feminists, exposure to stereotypes leads high feminists to approach threat more slowly ($M_{diff}=10.71$ ms, $F(1,37564)=4.94, p=0.026, d=0.22$), and avoid threat more quickly ($M_{diff}=-14.87$ ms, $F(1,37564)=9.59, p=0.002, d=0.31$). This finding indicates that, relative to the experience of low feminist identifiers, exposure to implicit stereotypes leads high feminist identifiers to experience threat. However, our hypothesis was that this will be particularly true for distinctive feminists. Although the 5-way interaction including women's identification was not significant, we examined the hypothesized simple effect reflecting the difference between distinctive feminists and dual identifiers. This difference did not reach significance ($F<1.18, p>0.28$), showing that distinctive feminists and dual identifiers experience similar levels of threat following implicit stereotype exposure.

A further interaction with the term Study ($F(3,37572)=2.74, p=0.008$) showed that, though the patterns were similar across studies, the strength of the simple effects we focus on differed somewhat across studies. More details can be found in Table 3c.

Implicit stereotyping. We subsequently examine how implicit (counter-)stereotype exposure affects (counter-)stereotypical associations. We expected that, following implicit stereotype exposure, distinctive feminists would associate women with counter-stereotypical traits (de Lemus et al., 2013), as a form of resistance. This should result in a 5-way interaction between (counter-)stereotype exposure, feminist identification, women's identification, gender of the prime and target category (warmth/competence).

Pooled analysis. Instead of the 5-way interaction, results showed a 4-way interaction between exposure condition, feminist identification, gender of the prime, and target ($F(1,15597)=4.25, p=0.039$). This interaction is represented in Figure 3c. Breakdown of the interaction showed that, in the stereotype condition, there was an interaction between feminist identifica-

tion, target category, and the gender of the prime ($F(1,15598)=4.57, p=0.033$). Further examination of this interaction showed that in the stereotype condition, low feminists' responses were affected by an interaction between target category and the gender of the prime, $F(1,15597)=13.43, p<0.001$. More specifically, after stereotype exposure, low feminist identifiers responded faster to warmth targets when they were preceded by a *female* rather than a male prime ($M_{\text{diff}} = 17.16$ ms, $F(1,15597)=9.15, p=0.002, d = 0.36$). The reverse was true for competence targets: after stereotype exposure low feminists responded faster to competence targets when they were preceded by *male* rather than female primes, $M_{\text{diff}}=12.29$ ms, $F(1,15597) = 4.66, p=0.031, d = 0.26$. A summary of the simple effects is shown in Table 3d. In sum, there was no evidence for resistance. Instead, implicit stereotype exposure led to *more* stereotypical in-group associations amongst low feminist identifiers.

There was no evidence for a further interaction with the term Study ($F<1$), indicating that the simple effects described above were similar in both studies.

The results discussed so far show that implicit stereotype exposure leads low feminist identifiers to show more stereotypical gender associations, and leads *high* feminist identifiers to experience threat. We now examine how implicit stereotype exposure affects implicit in-group bias, performance, and persistence.

Implicit in-group bias. We expected that distinctive feminists who are exposed to implicit stereotypes will show implicit in-group bias as a form of resistance. That is, we expect distinctive feminists to associate positive targets with their in-group more than the out-group. This should result in a 5-way interaction between (counter-)stereotype exposure, feminist identification, women's identification, gender of the prime and target valence (positive/negative).

Pooled Analysis. The results showed that the implicit in-group bias measure produced the predicted 5-way interaction between exposure condition, feminist identification, women's identification, gender of the prime, and target valence, $F(1,43899)=4.33, p=0.037$. This interaction is represented in Figure 3d. The breakdown of the interaction showed that, in the stereotype condition, there was an interaction between target valence, feminist identification, women's identification and the gender of the prime ($F(1,43899)=9.19, p=0.002$). This interaction was not present in the counter-stereotype condition ($F<1$). Further examination interaction present in the stereotype con-

dition showed that responses to positive targets were affected by an interaction between feminist identification, women's identification and the gender of the prime ($F(1,43900)=16.74, p<0.001$). Further breakdown meant that amongst high feminists, women's identification interacted with the gender of the prime ($F(1,43901)=18.27, p<0.001$). Specifically (and as predicted): distinctive feminists responded faster to positive targets when preceded by a female rather than male prime ($M_{\text{diff}}=12.254$ ms, $F(1,43901)=5.20, p=0.023, d = 0.23$). This pattern is reversed amongst dual identifiers ($M_{\text{diff}}=-18.45$ ms, $F(1,43901)=19.20, p<0.001, d = 0.34$). The finding that dual identifiers show out-group bias on positive targets is perhaps surprising, and we return to this issue in the General Discussion. Similar to the dual identifiers, non-identifiers who were exposed to implicit stereotypes also responded faster to positive targets when preceded by a male prime compared to a female prime ($M_{\text{diff}}=9.24$ ms, $F(1,43899)=5.11, p=0.024, d = 0.23$). The responses of the distinctive feminists differs significantly from the dual identifiers ($F(1,43901)=18.27, p<0.001$), and non-identifiers ($F(1,43899)=6.01, p=0.014$). An overview of the simple effects can be found in Table 3e.

There was no evidence for a further interaction with the term Study ($F<1$), indicating that the simple effects described above were similar across studies.

Taken together, the results showed that the responses of the distinctive feminists are significantly different from those of the dual and non-identifiers. While the distinctive feminists show implicit in-group bias after exposure to implicit stereotypes, dual and non-identifiers show implicit *out-group* bias after exposure to stereotypes. Thus, distinctive feminists resist implicit stereotype exposure through implicit in-group bias.

Behavioural resistance: Math task. We expected that, after exposure to implicit stereotypes, distinctive feminists perform better and persist longer in a counter-stereotypical domain. This should result in a 3-way interaction between feminist identification, women's identification and exposure condition. The math task included 9 solvable items, of which participants correctly completed 5.78 on average ($SD=1.87$). For the unsolvable item, participants persisted for an average of 17.30 s ($SD=16.33$).

Performance on the math task was not affected by exposure condition, women's identification or feminist identification (F-values below $F<1.34, p>0.24$). That is, there was no evidence that implicit identity threat lead to a stereotype threat effect, or resistance.

However, *persistence* on the unsolvable item was affected by a 3-way in-

teraction between exposure condition, feminist identification and women's identification $F(1,226)=6.45$, $p=0.012$, as shown in Figure 3e. Simple slopes analysis showed that distinctive feminists persist longer in the stereotype than the counter-stereotype condition, $M_{\text{diff}}=12.90$ s, $F(1,226)=5.78$, $p=0.017$, $d=0.19$, and persisted longer than did the other groups of women, $F(1,226)=7.07$, $p=0.008$, $d=0.31$. No other terms reached significance.

In sum, the hypothesis that distinctive feminists would persist after exposure to implicit stereotypes was confirmed, but the hypothesis regarding improved performance was not. The reason why persistence showed the expected result, while performance did not, may simply be due to reality constraints: if one does not know the solution to a problem, motivation alone is not sufficient for increased performance, as is the case for persistence. These findings are in line with findings by de Lemus et al. (2016) who used a paradigm similar to the one used here to expose women to stereotypical gender roles, and found that this led women to persist on a visual-spatial task, which, like mathematics, is stereotypic for men and a counter-stereotypical domain for women.

Behavioural resistance: Anagram task. As for the math task, we examine whether performance and persistence on the anagram task are affected by exposure to implicit stereotypes, feminist identification and women's identification. This should result in a 3-way interaction between feminist identification, women's identification and exposure condition. Of the 9 solvable anagrams, participants correctly completed 6 on average ($SD=2.14$). For the unsolvable item, participants persisted for an average of 44.87s ($SD=36.81$). Neither performance nor persistence on the anagram task were affected by exposure condition, or its interactions with women's identification or feminist identification ($F_s < 1.94$, $p_s > 0.16$).

The finding that distinctive feminists show persistence on the math task, but not on the anagram task can be seen as an additional indicator that the persistence we see on the math task is the product of a motivational process aimed at counteracting stereotypes. As noted above, mathematics is generally considered a stereotypically male ability (Brandell & Staberg, 2008; Deaux, 1985; Nosek, Banaji, & Greenwald, 2002), suggesting that exposure to implicit stereotypes motivates distinctive feminists to perform well in a stereotypical male domain as a way of disproving gender stereotypes.

Explicit measures. We included a number of explicit measures for comparison purposes, to examine whether implicit stereotypes lead to explicit

resistance, or perhaps have detrimental effects on perceived sexism, mood or self-esteem (Barrett et al., 2010; Rudman et al., 2007). Results showed no evidence for resistance, but also no evidence for detrimental effects on explicit measures. Significant effects that are unrelated to the manipulation (e.g. main effects of identification) are described in the supplementary materials.

Explicit in-group bias. A measure of explicit in-group bias was included in both Study 3.1 and 3.2, but these were different measures (Decomposed Games and hiring task), and therefore they are analysed separately.

Study 3.1. Study 3.1 found no evidence for explicit in-group bias in the Decomposed Games: implicit stereotype exposure, feminist identification, women's identification and their interactions did not affect resources allocated to women versus men ($F_s < 1.57, p_s > 0.21$).

Study 3.2. Likewise, in Study 3.2, there was no evidence for explicit in-group bias in the hiring task: implicit stereotype exposure, feminist identification, women's identification and their interactions did not affect ratings of the female versus male candidate (all $F_s < 2.24, p > 0.13$), or ratings of women and men "in general" (all $F_s < 2.37, p > 0.12$).

Taken together, these findings show that the in-group bias found on the implicit measures is not present on explicit measures.

Self-esteem. Results from the pooled analysis showed no effect of implicit stereotype exposure on self-esteem, either as a main effect or in interaction with women's and feminist identification ($F_s < 1.52, p_s > 0.21$).

Mood. Results from the pooled analysis showed that implicit stereotype exposure led to higher mood ratings (both positive and negative; $F(1,389)=5.95, p=0.015, d=0.12$). No other terms reached significance ($F_s < 3.087, p_s > 0.08$). As previous research has identified anger as a particularly relevant indicator of explicit resistance (Barreto et al., 2010), it was analysed separately from the other mood items. Results showed no evidence that participants report more anger after exposure to implicit stereotypes ($F_s < 2.76, p_s > 0.1$).

Modern Sexism. Results showed no effect of implicit stereotype exposure on Modern Sexism, either as a main effect or in interaction with women's and feminist identification ($F_s < 2.75, p > 0.1$).

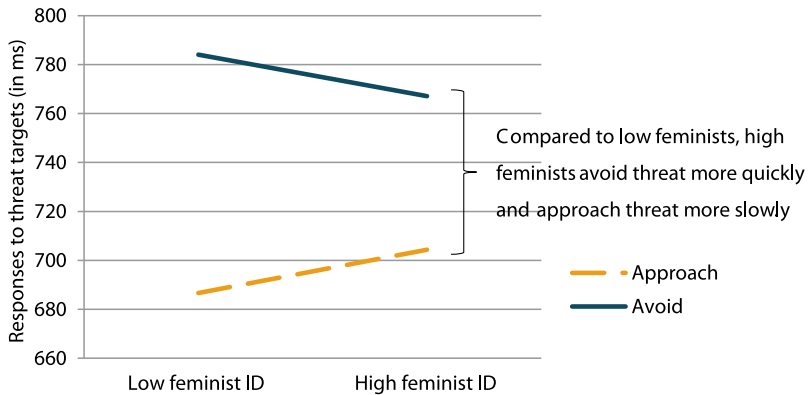
Ambivalent Sexism. Exposure to implicit stereotypes did affect endorsed sexism: there was a marginal interaction between exposure and feminist identification on both hostile ($F(1,101)=3.64, p=0.060$), and benevolent sexism ($F(1,101)=3.19, p=0.077$). Feminist identifiers endorsed less sexism after exposure to counter-stereotypes compared to stereotypes (Hostile: $F(1,101)=5.06$,

$p=0.027$, $d=0.22$; Benevolent: $F(1,101)=7.41$, $p=0.011$, $d=0.26$). That is, exposure to implicit counter-stereotypes reduces endorsement of sexism amongst high feminist identifiers.

Summary and Conclusions. Taken together, data presented in this chapter show that exposure to implicit stereotypes leads low feminist identifiers to think more stereotypically about their group. Moreover, exposure to implicit stereotypes leads high feminist identifiers to experience threat. Although distinctive feminists and dual identifiers show the same threat response, only distinctive feminists - those who are highly identified with feminism but not women - subsequently resist this threat, through implicit in-group bias and persistence in a counter-stereotypical performance domain. Thus, our hypothesis that distinctive feminists can resist implicit identity threat is confirmed.



Figure 3b. Responses to threat targets following stereotype exposure (pooled analysis).

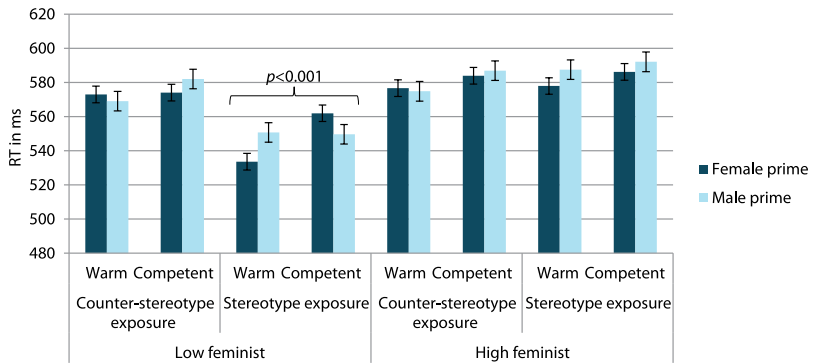


NB: Low and high identification with feminists is plotted at ± 1 standard deviation from the mean.

Table 3c.

Information on simple effects in the threat experience task per study. Are the simple effects that were significant in the pooled analysis significant in the individual studies?

Study	Condition	Target	Direction	Simple effect:		
				β -estimate for feminist ID	F-value	p-value
2	Stereotype	Threat	Avoid	$\beta = -30.19$	36.48	$p < 0.001$
			Approach	$\beta = 1.31$	$F < 1$	$p = 0.794$
3	Stereotype	Threat	Avoid	$\beta = -1.94$	$F < 1$	$p = 0.536$
			Approach	$\beta = 9.06$	4.23	$p = 0.040$

Figure 3c. Responses in the lexical decision task (pooled analysis).

NB: Faster responses indicate greater accessibility of the association. Error bars represent 1 standard error. The identity subgroups are created by plotting low and high identification with women and feminists at ± 1 standard deviation from the mean.

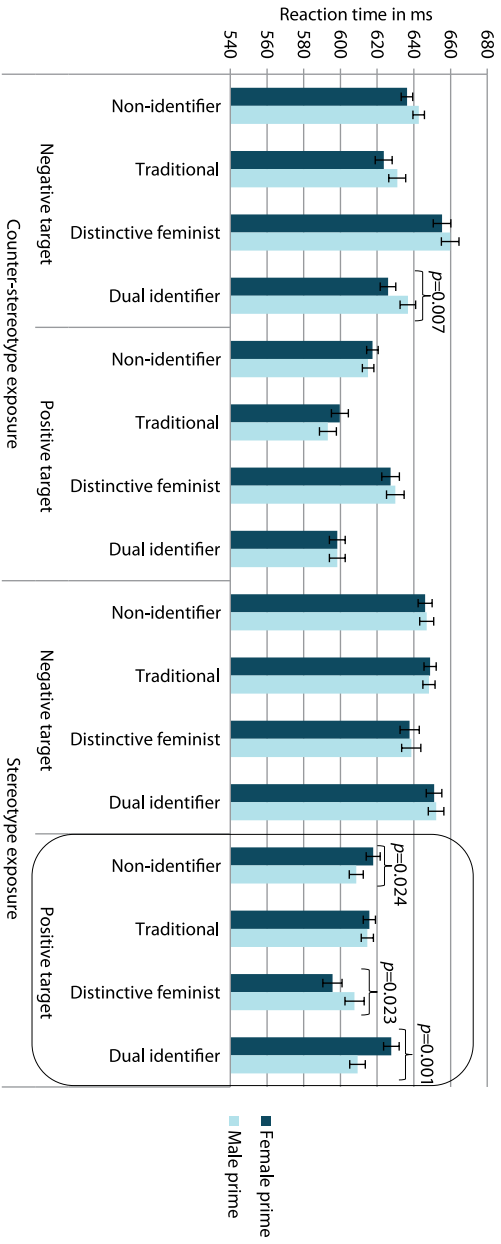
Table 3d.
Simple effects in the implicit stereotyping task (pooled analysis).

Exposure	Target	Feminist ID	RT		M _{diff}	F-value	p-value	CI 95%		Effect size
			Female prime	Male prime				Lower	Upper	
Counter-Stereotype	Warm	Low	572.95	569.04	3.91	0.51	0.473	-6.77	14.59	0.09
		High	576.70	574.83	1.87	0.13	0.718	-8.28	12.02	0.04
	Competent	Low	574.01	581.98	-7.97	2.14	0.144	-18.66	2.72	0.17
		High	583.92	586.85	-2.93	0.31	0.575	-13.17	7.31	0.07
Stereotype	Warm	Low	533.60	550.75	-17.15	9.14	0.003	-28.27	-6.03	0.36
		High	577.91	587.49	-9.59	2.69	0.101	-21.05	1.88	0.19
	Competent	Low	561.96	549.65	12.30	4.67	0.031	1.15	23.46	0.26
		High	586.17	592.07	-5.91	1.03	0.309	-17.29	5.48	0.12

NB: The identity subgroups are created by plotting low and high identification with women and feminists at ± 1 standard deviation from the mean.

Implicit resistance to Implicit threat

Figure 3d. The results of the implicit-in-group bias measure (pooled analysis).



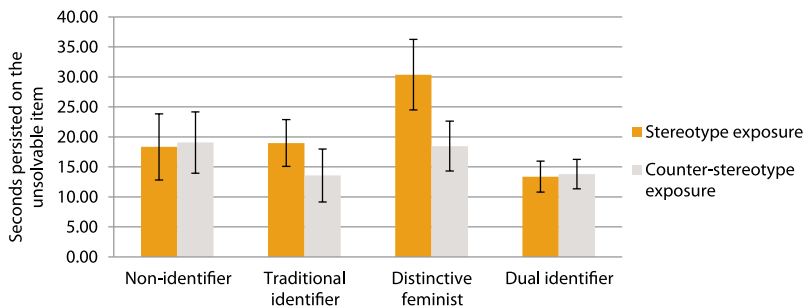
NB. Faster responses indicate greater accessibility of the association. Error bars represent 1 standard error. The identity subgroups are created by plotting low and high identification with women and feminists at ± 1 standard deviation from the mean.

Table 3e. Simple effects in the in-group bias task (pooled analysis).

Exposure	Target	Identification	RT			M _{diff}	F-value	p-value	CI 95%		Effect size
			Female prime	Male prime	Male prime				Lower	Upper	
Counter- Stereotype	Negative	Non-identifier	635.08	641.44	641.44	-6.37	3.53	0.060	-13.01	0.27	0.19
		Traditional identifier	623.94	631.34	631.34	-7.40	2.73	0.098	-16.18	1.38	0.17
		Distinctive feminist	655.54	659.64	659.64	-4.10	0.77	0.381	-13.28	-5.07	0.09
	Positive	Dual identifier	626.18	636.99	636.99	-10.81	7.19	0.007	-18.71	-2.91	0.27
		Non-identifier	616.74	614.29	614.29	2.45	0.52	0.469	-9.09	4.19	0.07
		Traditional identifier	599.12	592.58	592.58	6.54	2.15	0.143	-2.21	15.30	0.15
Stereotype	Negative	Distinctive feminist	627.39	629.85	629.85	-2.47	0.28	0.594	-11.53	6.60	0.05
		Dual identifier	598.97	598.99	598.99	-0.20	0.01	0.996	-7.88	7.84	0.00
		Non-identifier	648.18	649.06	649.06	-0.89	0.05	0.828	-8.90	7.13	0.02
Positive	Negative	Traditional identifier	650.64	650.01	650.01	0.63	0.02	0.887	-8.07	9.33	0.01
		Distinctive feminist	642.35	643.02	643.02	-0.67	0.02	0.903	-11.34	10.01	0.01
		Dual identifier	654.90	656.08	656.08	-1.18	0.08	0.781	-9.53	7.16	0.03
	Positive	Non-identifier	619.47	610.23	610.23	9.24	5.11	0.024	1.23	17.25	0.23
		Traditional identifier	616.95	615.82	615.82	1.13	0.07	0.798	-7.52	9.78	0.03
		Distinctive feminist	600.43	612.68	612.68	-12.25	5.20	0.023	-22.79	-1.72	0.23
Dual identifier	Dual identifier	631.94	613.48	613.48	18.45	19.20	0.001	10.20	26.71	0.34	

NB: Aside from the simple effects described in the main text, this table also shows some significant differences in the counter-stereotype condition: dual identifiers respond quicker to female-negative pairs than to male-negative pairs. However, the interaction between the gender of the prime and the identification variables is not significant in this condition ($F < 1$). That is, the other groups of women show the same effect as dual identifiers, though these do not reach significance. The identity subgroups are created by plotting low and high identification with women and feminists at ± 1 standard deviation from the mean.

Figure 3e. Persistence in the Math task.



NB: Error bars represent 1 standard error. The identity subgroups are created by plotting low and high identification with women and feminists at ± 1 standard deviation from the mean.

General Discussion

Previous studies suggested that implicit stereotypes cannot be resisted but instead lead to stereotype consistent behavior (Barreto et al., 2010; Kray et al., 2001). Indeed, results from this study confirm that low feminist identifiers do make more stereotypical associations with women after exposure to implicit stereotypes. Importantly, however, the current studies suggest that resistance to implicit stereotypes can still occur, albeit through implicit strategies. More specifically, “distinctive feminists”, who are strongly identified with feminists but not the broader group of women, were found to resist implicit stereotypes of their gender in-group through implicit in-group bias, and increased persistence in a stereotypically male domain.

We defined “resistance” as a motivational process that leads to responses that ostensibly *counteract* social identity threat. We observed that exposure to implicit stereotypes elicited implicit in-group bias and persistence amongst distinctive feminists, and we believe that both these responses *counteract* identity threat. Implicit in-group bias counteracts identity threat by re-asserting group value. Likewise, persistence in counter-stereotypical performance domains reflects a motivation to disprove stereotypes. Importantly, these responses do not assimilate to the threat, but instead go against the direction of priming. That is, we believe that both implicit in-group bias and persistence may be used to disprove or assuage identity threat, and as such these different measures provide converging evidence for resistance to implicit identity threat.

The finding that only distinctive feminists resist exposure to stereotypes raises the question of why this is the case. Distinctive feminists are known to be sensitive to gender stereotypes, rating them as more problematic than do other groups of women (including dual identifiers, see Chapter 2). As a consequence, given that gender stereotypes are pervasive in society, feminist identifiers might often be confronted with identity threat. When they see advertisements or hear jokes invoking stereotypes of women, these likely contribute to an experience of (sometimes implicit) social identity threat in their daily lives. In line with this reasoning, research has shown that repeated exposure to threat may lead an individual to become increasingly sensitive to subtle threat cues (Kaiser et al., 2006), which may in turn lead them to develop more sophisticated and diverse resistance responses (Miller & Kaiser, 2001). The diversity of distinctive feminists' resistance responses is underlined by recent work from our lab' showing that, aside from persistence and implicit in-group bias reported here, resistance can also take the form of out-group derogation. In a line of studies examining out-group focused resistance responses, we showed that exposure to implicit stereotypes increased distinctive feminists' (greater) willingness to sacrifice men in a Moral Choice Dilemma paradigm (see Chapter 4). These findings show that resistance to implicit identity threat is not only possible, but can be expressed in different ways. Specifically, distinctive feminists' sensitivity to gender stereotypes may translate to increased experience of and ability to cope with social identity threat, even when it occurs at an implicit level.

The responses of the dual identifiers, those who are highly identified with both feminists and women, may seem somewhat surprising. Although we did not expect them to react to the stereotypes in the same way as distinctive feminists, there was evidence that they experienced implicit social identity threat following exposure to implicit stereotypes. However, instead of resisting, they show implicit *out-group bias* following exposure to implicit stereotypes. That is, exposure to implicit stereotypes makes positive associations with women less accessible for them than positive associations with men, which is more than simply the absence of resistance. In explaining this finding it is worth noting that Chapter 2 showed that high women's identification is related to a perception of being personally quite feminine. That is, dual identifiers may have internalized certain components of gender stereotypes and view them as positive, unlike distinctive feminists. If it becomes evident that these self-aspects are part of a system of social roles in which the in-group is dis-

advantaged (stereotype condition), this may not only lead to experiences of threat, but also disrupt the processing of in-group positive associations. Thus, confrontation with the negative aspects of stereotypes is more compromising for women that embrace them as part of the self. Though speculative, this line of reasoning could explain dual identifiers' relatively longer latencies for female-positive associations after exposure to implicit stereotypes.

Given the complexities of gender identity, it is worthwhile considering the external validity of these findings. The specifics of what constitutes threat differ between groups, and as a result it stands to reason that a manipulation that produces resistance in one group will not necessarily do so amongst other groups. Nevertheless, there is evidence that the underlying principles of resistance as a way of counter-acting implicit threat do apply beyond the gender context. Recent research from our lab' showed evidence for resistance to implicit stereotypes in the context of national identity in Spain (see Chapter 5). Spanish participants who were exposed to implicit in-group stereotypes used to legitimise the economic crisis, responded with implicit in-group bias. These findings indicate that, despite differences in the precise circumstances, the principle of resistance to implicit identity threat applies outside the gender context.

The motivational, rather than cognitive, basis for the effects reported in these studies is evidenced by the fact that resistance is found only amongst the distinctive feminists, who were expected to be most motivated to resist stereotypical gender associations. Additionally, the findings on implicit in-group bias were supported by findings on a behavioural persistence measure, which has been described as a 'hallmark' of motivational processes such as goal pursuit (Bargh et al., 2001; Gollwitzer & Schaal, 2001). Internally motivated goals and goals that serve psychological functions have more behavioural consequences than externally imposed or instrumental goals (Gollwitzer & Bargh, 1996). Thus, the fact that the effects of implicit threat are also evident on behavioural measures supports the notion that implicit resistance is a motivational process with the goal of contesting stereotypes. Moreover, as motivational effects are less susceptible to rapid decay than cognitive effects (Förster, Liberman, & Friedman, 2007; Kuhl, 1987), the occurrence of behavioural persistence following stereotype exposure further suggests that this is part of a motivational process. For these reasons, cognitive salience or related explanations cannot readily account for the findings of these studies. Instead, we believe that motivated resistance provides the most fitting expla-

nation.

Implicit identity threat based on stereotype exposure affected in-group bias even though the stereotypes were selected to be neutral in valence. This underscores the notion that the negative experience of stereotypes is produced by the *stereotypic* content, rather than the inherent negativity often associated with stereotypes. These findings are in line with research on benevolent sexism (e.g. Moya et al., 2007) showing that even when the evaluation implied by a stereotype is positive, this can still have negative implications, for example for agency (de Lemus, Spears, van Breen, & Telga, 2016).

A further issue worth noting is that previous research has found implicit resistance on both evaluative and stereotypical dimensions (de Lemus et al., 2013; de Lemus et al., 2017; Ramos et al., 2015). In our study, however, we found that distinctive feminists resist implicit stereotypes through *evaluative* in-group bias, but there was no evidence that people resist implicit stereotypes by associating the in-group with counter-*stereotypical* attributes (see de Lemus et al., 2013). This may be because the threat occurs on the stereotype dimension, and therefore resistance on this dimension is subject to the reality constraint that participants have just “seen the proof” of the truth of stereotypes on this dimension and (although unconscious), this may make it more difficult to contest (see Spears et al. 2001; 2010 for a discussion of social reality constraints). Therefore, participants may require an alternative dimension on which to resist, akin to identity affirmation (Sherman & Cohen, 2002). Alternatively, the finding may be due to the fact that the manipulation was implicit. There is evidence that evaluative judgments are more primary than content-based judgments (T. S. Saunders & Buehner, 2013; Zajonc, 1980). Therefore, something as subtle as implicit identity threat may be more likely to trigger evaluative judgments than more complex content-based (counter-stereotypical) judgments.

Regarding the explicit measures, none of the effects found revealed explicit resistance. There are several possible explanations for this. Firstly, the effects of the manipulation may have worn off by the time the explicit measures were completed, as explicit measures were administered towards the end of the study. However, there are no indications that effects on later measures are weaker overall, as there were some effects on measures that were presented towards the end of each study. Alternatively, it may be the case that implicit threat is simply too subtle to elicit explicit resistance. The fact that implicit threat cannot be consciously evaluated or attributed to any source

(Major et al., 2003) makes explicit resistance strategies such as anger, protesting and explicit in-group bias less viable. The finding implicit nature of the stereotype exposure may also be the reason why identification is such an important factor in this study. While previous research (de Lemus et al., 2013; de Lemus et al., 2017) has found main effects of identity threat, in this study the effects of identity threat are moderated by women's and feminist identification. As the threat manipulation is very subtle, this may mean that only those participants who are specifically attuned to these particular threats are able and willing to resist.

One remaining question is whether resistance is functional in reducing threat. The notion that resistance could reduce the subsequent experience of threat is theoretically compatible with the idea of resistance. However, we do not believe that resistance should *necessarily* reduce threat directly. Instead, resistance may protect against detrimental effects of threat (for instance on self-esteem or negative emotion; Barreto et al., 2010), without reducing the experience of threat itself. For instance, the beneficial effects of resistance can lie in the feeling of "having done something", increasing feelings of empowerment and efficacy (e.g. Cocking & Drury, 2004; Drury & Reicher, 2005 for examples in the context of collective action) without necessarily making the threat itself less acute. Indeed, it may be important to remain vigilant to the threat. Alternatively, rather than reducing the threat in a particular instance, resistance may serve to build up resilience and efficacy to confront *future* instances of threat. As the current study could not address this issue directly, we believe that examining the beneficial effects of implicit resistance in an important avenue for future research.

In conclusion, these studies suggest that implicit social identity threat can be resisted through implicit strategies. While there is much evidence that stereotyping may occur implicitly (see for instance Blair, 2002; Gaertner & McLaughlin, 1983; Pearson et al., 2009), the current paper provides the first evidence that *resistance* to implicit stereotyping may also occur implicitly. Just as a healthy physical immune system might resist a pathogen automatically, some people (i.e. distinctive feminists in this case) may develop subtle psychological resistance mechanisms that function outside of conscious awareness. Analogous to a healthy diet boosting the immune system, those who are attuned to potential identity threat may have more developed automatic defences than others. More broadly, the studies presented here add to the literature on breaking down stereotypes (e.g. Kawakami et al., 2000),

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by showing motivated resistance on the part of the *victims* of stereotypes. In sum, it seems that when it comes to protecting a valued social identity, people may be more resilient than previously thought.

