



## The dark side of ambiguous discrimination: How state self-esteem moderates emotional and behavioural responses to ambiguous and unambiguous discrimination

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Two experiments examine how experimentally induced differences in state self-esteem moderate emotional and behavioural responses to ambiguous and unambiguous discrimination. Study 1 ( $N = 108$ ) showed that participants who were exposed to ambiguous discrimination report more negative self-directed emotions when they have low compared to high self-esteem. These differences did not emerge when participants were exposed to unambiguous discrimination. Study 2 ( $N = 118$ ) additionally revealed that self-esteem moderated the effect of ambiguous discrimination on self-concern, task performance, and self-stereotyping. Results show that ambiguous discrimination caused participants with low self-esteem to report more negative self-directed emotions, more self-concern, an inferior task performance, and more self-stereotyping, compared to participants in the high self-esteem condition. Emotional and behavioural responses to unambiguous discrimination did not depend on the induced level of self-esteem in these studies.

The question of how targets of prejudice and discrimination respond to the way they are treated is receiving increasing attention in social psychology. Much of this work examines how perceiving that one is a victim of discrimination impacts on psychological well-being, and in particular on individual self-esteem (for reviews, see Major, McCoy, Kaiser, & Quinton, 2003; Schmitt & Branscombe, 2002). In this paper, we take a different perspective by examining self-esteem as a predictor rather than as an outcome in this process. Specifically, we examine how experimentally induced differences in self-esteem moderate the impact of discrimination on the emotions and task behaviour shown after exposure to discrimination. In doing this, we examine how self-esteem interacts with the ambiguity of discrimination encountered to determine these responses, and propose that low state self-esteem can function as a source of

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vulnerability to discrimination, but only when discrimination is ambiguous, and not when it is unambiguous.

### ***Moderators of the impact of discrimination on its targets***

Prior research has demonstrated that discrimination constitutes an important stressor that undermines the well-being of its targets (see Miller & Kaiser, 2001; Miller & Major, 2001; Schmitt & Branscombe, 2002, for reviews). However, results from prior studies have not painted an entirely consistent picture regarding the impact of discrimination on well-being. For example, while discrimination is often associated with negative scores on indices of well-being, at other times it does not appear to have such harmful effects, and ambiguous discrimination has even been found to have self-protective properties (for reviews, see Major, McCoy *et al.*, 2003; Schmitt & Branscombe, 2002). More recently, research in this area has moved from trying to establish whether or not discrimination has a negative impact on well-being, to specifying the factors that moderate the effects of discrimination. This research has revealed that factors such as group identification (Major, Quinton, & Schmader, 2003; Operario & Fiske, 2001), rejection sensitivity (Mendoza-Denton, Purdie, Downey, Davis, & Pietrzac, 2002), optimism (Kaiser, Major, & McCoy, 2004), and the endorsement of legitimizing ideologies (Major, Gramzow, McCoy, Levin, Schmader, & Sidanius, 2002) can all modify how targets perceive and respond to prejudice or discrimination.

One important way through which such factors can affect how targets deal with the prejudice they encounter is by providing psychological resources that reduce the negative emotional impact of discrimination and lead to an appropriate choice of behaviours that allow them to better cope with this negative event (Major, Quinton, & McCoy, 2002; Miller & Kaiser, 2001). For example, an optimistic outlook on life leads targets to appraise discrimination as less stressful and to feel more confident that they can cope with it (Kaiser *et al.*, 2004). For this reason, Kaiser *et al.* (2004) describe an optimistic outlook as a source of resilience to discrimination, and conversely a pessimistic outlook as a source of vulnerability to discrimination.

In the research reported in this paper, we examine the possibility that personal state self-esteem might also determine individual vulnerability to the effects of social discrimination. Personal self-esteem has long been regarded as a central variable in this field, but it has so far been approached either as an outcome of discrimination (see e.g. Crocker & Major, 1989, for a review), or as a more stable individual difference variable (trait self-esteem) that correlates with people's responses to discrimination (e.g. Burkley & Blanton, 2008; Moradi & Subich, 2004). As a consequence, although we know that exposure to discrimination affects self-esteem, we do not yet know how differences in state self-esteem will determine how targets approach a subsequent situation involving discrimination. Yet we know that self-esteem is affected by a whole range of situations (see e.g. Baumeister, 1998) that can precede exposure to discrimination. We propose that the state a target's self-esteem is in when encountering discrimination can constitute an important factor to determine how targets deal with discriminatory events.

### ***Trait self-esteem and responses to negative feedback***

Trait personal self-esteem can be defined as a person's evaluation of the self (Baumeister, 1998). It is possible to speak about global feelings of trait personal self-esteem

(Rosenberg, 1986), as well as of more specific trait self-esteem connected to particular domains (e.g. Heatherton & Polivy, 1991). Importantly, both global and specific trait self-esteem have been shown to shape reactions to negative feedback (Dutton & Brown, 1997). For example, people with high self-esteem expect to succeed, while people with low self-esteem have lower expectations of future success (Bandura, 1982; Taylor & Brown, 1988; see also Kaiser *et al.*, 2004; Mendoza-Denton *et al.*, 2002). Indeed, compared to people with low self-esteem, people with high trait self-esteem tend to hold a wide range of positive beliefs about themselves, which make them less vulnerable and more resourceful when they encounter a particular drawback (Baumeister, 1993; Greenberg *et al.*, 1992; Steele, Spencer, & Lynch, 1993; Taylor & Brown, 1988). As a result, individuals with high trait self-esteem for instance report less negative emotional and attributional reactions to failure (e.g. Baumeister & Tice, 1985; Brewin & Furnham, 1986; Campbell, 1990; Feather & Simon, 1971; Kernis, Brockner, & Frankel, 1989), and focus on improving their future performance (Perez, 1973; Shrauger & Sorman, 1977). By contrast, individuals with low trait self-esteem show shame or disappointment with the self, and focus on these negative feelings about the self instead of working at self-improvement (Brown & Dutton, 1995; Kuhl, 1994).

Even though these findings seem relevant to our present research question, trait self-esteem tends to be associated with other individual difference variables, and can only be considered as a covariate of other responses, not as a clear *cause* of how people respond to discrimination. Thus, it is as yet unclear whether similar effects are obtained when comparing individuals who differ in situational (state) self-esteem, independently of more chronic self-esteem differences. Nevertheless, it would be important to know whether this is the case, as this might offer scope for the development of interventions that may help people deal with negative feedback and the threat it implies to self. This is why the present research aims to experimentally induce different levels of (state) self-esteem, in order to examine whether and how this moderates individual's responses to ambiguous and unambiguous social discrimination.

### ***State personal self-esteem and responses to discrimination***

As has been demonstrated before, in addition to clear and unambiguous discrimination, in modern societies prejudice is also expressed in more ambiguous ways (e.g. Gaertner & Dovidio, 1986; McConahay, 1986; Swim, Aikin, Hall, & Hunter, 1995). Although, the distinction between these two types of discrimination is well documented in the literature, research on the targets' perspective has rarely taken this difference into account (see Barreto & Ellemers, 2005; Major, Quinton *et al.*, 2003, for exceptions). However, the experience of discrimination when it is ambiguous is likely to differ in important ways from when it is unambiguous. Unambiguous discrimination is easily identified as stemming from prejudicial views of the perpetrator, and tends to raise other-directed emotional and behavioural responses (e.g. Barreto & Ellemers, 2005). By contrast, in more ambiguous situations targets are by definition less certain about whether or not they have encountered discrimination. This ambiguity thus causes more insecurity about whether the cause of unfavourable outcomes should be located in prejudicial views of the other, or whether it is due to some lack of deservingness of the self (e.g. Barreto & Ellemers, 2005; Major, Quinton *et al.*, 2003). Additional factors can thus determine whether in such ambiguous situations targets focus on the prejudice of the perpetrator or on their own shortcomings. Thus, as also argued by Major, Quinton *et al.* (2003), when cues in the social context are very clear, such as when discrimination

is unambiguous, the appropriate emotional and behavioural response is also clear for all individuals who find themselves in this context (see also Hansen & Sassenberg, 2006; Snyder & Ickes, 1985). However, when discrimination is more ambiguous, there is more room for interpretation (see also Major, Quinton *et al.*, 2003), causing different types of individuals to display different responses. Although, Major and colleagues have found that ambiguous discrimination can be self-protective by providing a relatively external cause for failure (i.e. the prejudice of the perpetrator), we consider the possibility that it may actually be hurtful for those individuals who already doubt their self-worth (i.e. those with low self-esteem), in comparison to a situation where discrimination is unambiguous.

We argue that when the individual self is highly salient (as happens in many discriminatory contexts, such as job interviews or dating situations), ambiguous discrimination can promote self-focused responses, especially for those who are already predisposed to doubt their self-worth. Our central prediction thus is that whereas emotional and behavioural responses to unambiguous discrimination are likely to be the same for all individuals, differences in state personal self-esteem should moderate these self-focused responses to ambiguous discrimination. We argue that under ambiguous circumstances, self-esteem differences function as an additional cue to determine the likelihood that individuals report negative self-directed emotions, or behave in ways that (dis-)confirm stereotypical expectations.

### **The current research**

The research we report in this paper extends past work in two ways: (1) by providing a direct examination of how induced differences in state self-esteem interact with the ambiguity of discrimination to determine emotional responses to discrimination and (2) by extending this analysis to the examination of some of the behavioural strategies that targets of discrimination may engage in to deal with this situation.

With regard to emotional responses to discrimination, and in line with our argument outlined above, we predict that state self-esteem will moderate *self-directed* emotional responses to ambiguous discrimination, but that it will not moderate emotional responses to unambiguous discrimination (Hypothesis 1). This prediction builds on prior work showing that unambiguous discrimination mainly elicits other-directed emotions such as anger and hostility, whereas in comparison ambiguous discrimination is more likely to result in negative self-directed emotions such as self-anger and insecurity (Barreto & Ellemers, 2005; Hansen & Sassenberg, 2006). Furthermore, Brown and Dutton (1995) who examined differences in trait (not state) self-esteem, found that other-directed emotions after failure (which are primarily elicited by unambiguous discrimination) tend to emerge independently of personal self-esteem differences. In their research self-directed emotions (which are more likely to result from ambiguous discrimination) covaried with trait personal self-esteem. We will examine our prediction regarding the moderating effects of state self-esteem on self-directed emotional responses to discrimination more directly in the present research (Studies 1 and 2).

As for the predicted behavioural responses to discrimination, it is important to note that self-relevant behavioural responses have not been systematically addressed in research in this area. Prior studies to this effect have mainly examined how people behave towards others, for instance in intergroup interactions (see Shelton, Richeson, & Vorauer, 2006, for a review), when deciding whether or not to confront those who

make sexist remarks (Swim & Hyers, 1999), or when considering a collective protest against group disadvantage (Van Zomeren, Spears, Fischer, & Leach, 2004). What we know about responses that are more relevant to the self stems from previous work assessing self-reported use of different coping strategies (e.g. Foster, 2000; Noh & Kaspar, 2003), or self-reported coping ability (Kaiser *et al.*, 2004), not actual behaviour.

Our present aim (in Study 2) is to examine behaviours that targets of discrimination can engage in when, after being rejected due to discriminatory treatment, they are granted a new opportunity to demonstrate their individual qualities. In this context, we are particularly interested in individual task performance and stereotypical self-presentation, as both of these behaviours offer the individual an opportunity to (dis)confirm the appropriateness of the stereotypical treatment that has resulted in their rejection.

As indicated above, past research has demonstrated that trait self-esteem covaries with individual performance after negative feedback (Perez, 1973; Shrauger & Sorman, 1977). Past research has also demonstrated that the salience of negative stereotypes about one's group can negatively affect individual performance (Steele & Aronson, 1995; Steele, Spencer, & Aronson, 2002), and that this happens mainly when the stereotype is implicit, but not when it is explicit (Adams, Garcia, Purdie, Vaughns, & Steele, 2006; Kray, Thomson, & Galinsky, 2001; see also Barreto, Ellemers, & Palacios, 2004). Additionally, prior research has demonstrated that individuals can react against negative stereotypes about the in-group by decreasing the extent to which they indicate that the stereotype applies to the self (Spears, Doosje, & Ellemers, 1997), or by trying to show positive behaviour to counter a negative stereotype (Miller, Rothblum, Brand, & Felicio, 1995). However, researchers have not yet combined these insights to examine how state self-esteem interacts with ambiguity of discrimination to determine the likelihood that individuals behave in ways that help them profit from new opportunities to demonstrate their individual qualities after having been discriminated.

In line with our central argument, we predict that responses to unambiguous discrimination should be relatively independent of self-esteem differences, as unambiguous discrimination tends to elicit a focus on the other, not the self. By contrast, in the case of ambiguous discrimination, we predict that people with low state self-esteem are less likely to behave in ways that would help them profit from the new opportunity after discriminatory treatment, such as disconfirming the negative stereotype (i.e. to perform well and to present themselves in non-stereotypical ways) than people with high state self-esteem. Thus, state self-esteem should only moderate stereotype disconfirmation behaviour when discrimination is ambiguous, but not when it is unambiguous (Hypothesis 2).

After piloting whether the procedure, we developed to manipulate ambiguity of discrimination had the intended effect as compared to non-discriminatory rejection, we used this paradigm to test our predictions in two studies focusing on responses to ambiguous and unambiguous discrimination. In Study 1, we examined how experimentally induced differences in state self-esteem interact with the ambiguity of discrimination to determine self-directed and other-directed emotional reactions to discrimination. In Study 2, we test the prediction that ambiguous discrimination results in more negative self-directed emotions, more self-concern, poorer performance, and more self-stereotyping among targets with low state self-esteem than under conditions that induce high state self-esteem.

## STUDY I

Our main focus in this first study is to examine emotional reactions to ambiguous versus unambiguous discrimination as a function of experimentally induced differences in self-esteem. We examine two types of emotional reactions: *other-directed* and *self-directed emotions*. We expect that, when discrimination is ambiguous differences in state self-esteem will determine the extent to which self-directed negative emotions emerge, such that people with high self-esteem are less likely to report negative self-directed emotions when exposed to ambiguous discrimination than people with low self-esteem. We do not expect self-esteem to moderate other-directed emotions. Because unambiguous discrimination causes people to focus on the other (not the self) as the primary cause of their rejection, we do not expect differences in self-esteem to moderate emotions reported in the unambiguous condition.

## Method

### Participants

Participants were 108 female students at Leiden University with a mean age of 20. Each session of the experiment lasted approximately 45 min, after which all participants were fully debriefed and received 4.75 euros (approximately 6 USD) for their participation.

### Design and procedure

The study consisted of a 2 (ambiguity of discrimination: ambiguous vs. unambiguous)  $\times$  2 (self-esteem: low vs. high) between-participants factorial design.

All participants sat in separate cubicles, equipped with personal computers. The study was introduced as a part of a programme at the department of social and organizational psychology, intended to train people in conducting job-interviews through the internet. Participants read that they would be asked to apply for a management function at an organization by filling in a curriculum vitae (CV)-form and taking part in an on-line interview. To motivate participants to do their best and to increase their commitment to the task, they were told that participants who performed best would have a higher chance of winning a lottery prize of 20 euros. After the cover story was introduced, participants completed a short CV-form to be delivered to the interviewer. This CV-form asked participants to indicate their gender category membership, among others. Participants were informed that the interviewer would study the participant's CV and choose which questions to ask based on this information. After the computer made a (simulated) connection with the interviewer and prior to the interview, some information about the interviewer was provided to the participant, making explicit that the interviewer was male (name: Paul, 30 years old). During the interview, participants in both discrimination conditions were asked a set of 10 interview questions which indirectly referred to stereotypes about women (e.g. 'do you ever dress attractively in order to influence other people?', 'are you often emotional at work because of something you did not manage to do?', 'do you think it will be hard to combine your family life with your career?'). Participants indicated their answer to each question on a scale of one ('rarely') to seven ('very often'). Once the interview was finished, the interviewer indicated that he needed some time to decide whether or not he would select the participant in question, and the connection with the interviewer was terminated.

### ***Manipulation of self-esteem***

Self-esteem was manipulated after the interview was completed, to prevent this manipulation from affecting participants' responses to the interview questions. Since, our interest was in establishing how differences in state self-esteem affect responses to different forms of discrimination, self-esteem was manipulated before negative feedback was provided. The manipulation, we used was inspired by insights about self-perception (Bem, 1972), as we created a situation in which half of our participants would perform poorly and, therefore, feel bad about themselves, while another half would perform well, and therefore, feel good about themselves (see also McFarlin & Blascovich, 1984 for a similar procedure to manipulate state self-esteem). After completing the interview questions detailed above, we therefore, asked participants to participate in an ostensibly different study while waiting for the interviewer to make a decision. This separate study was introduced as a short knowledge test and asked participants to answer general knowledge questions selected from a Dutch internet website, that provides sample items of IQ-tests that people can use to help them prepare for such tests ([www.123test.nl](http://www.123test.nl)). Participants were given 10 min to complete the test. In the low self-esteem condition, the questions included in this test were very difficult and the test was virtually impossible to complete within the specified time. In the high self-esteem condition, the questions were easy and the test could be completed at leisure within the time provided. After the time allotted for the test had elapsed, the alleged connection with the interviewer was renewed and the manipulation of ambiguity of discrimination was introduced.

### ***Manipulation of ambiguity of discrimination***

Participants read that the interviewer had come to a decision in the meantime. The alleged connection with the interviewer was renewed and the participants saw the feedback of the interviewer on the computer screen, containing the manipulation of ambiguity of discrimination. Both in the unambiguous and ambiguous discrimination conditions, the interviewer said: 'I have made a decision. I must say that I do not find you appropriate for this job. I find that you did not provide the most appropriate response on crucial questions'. In the unambiguous (but not in the ambiguous) condition, the participants also read the next statement from the interviewer: 'By the way, women are generally not suitable candidates for these kinds of jobs. Since you are a woman, it would be very unlikely that you would be found to be a suitable candidate'. Thus, in the ambiguous condition the interviewer asked the same gender biased questions, but there was no explicit reference to the participant's gender in motivating this decision, so that it was more ambiguous whether or not gender discrimination had played a role.

A pilot study with a separate sample of 37 participants from the same population, demonstrated that the interview questions were perceived as equally inappropriate in the two discrimination conditions, but more inappropriate in the discrimination conditions than in a control condition (where the interview questions did not refer to gender stereotypes). Pilot participants also indicated that rejection was more likely to have been due to discrimination when it was unambiguous than when it was ambiguous, and more when it was ambiguous than in control conditions. Thus, participants consider discrimination as a possible cause of rejection in the ambiguous condition, but less so than when discrimination is unambiguous.

### *Dependent measures*

After ambiguity of discrimination was manipulated in this way, the connection with the interviewer was again terminated, and participants were asked to answer a set of questions about the selection procedure (dependent measures). These were introduced as a means to allegedly improve the selection procedure, and participants were urged to respond earnestly. All responses were indicated on seven-point rating scales ranging from (1) 'not at all' to (7) 'very much'. The effectiveness of the self-esteem manipulation was checked immediately after the manipulation of self-esteem and before the manipulation of ambiguity of discrimination with two items ('I think I did well on the test' and 'I am confident about the correctness of my answers',  $r = .79$ ,  $p < .001$ ). The effectiveness of the ambiguity of discrimination manipulation was assessed with two questions: 'it is not clear to me which criteria were crucial for being selected in this interview' and 'it is not clear to me what criteria were the basis on which the interviewer made his selection' ( $r = .78$ ;  $p < .001$ ). Other-directed emotions were assessed by asking participants to what extent they were angry, upset, irritated, hostile, and experienced feelings of revenge towards the interviewer ( $\alpha = .87$ ). Self-directed negative emotions were assessed by asking participants to indicate to what extent they felt angry with themselves, were annoyed with themselves, and were disappointed with themselves ( $\alpha = .78$ ). A principal components analysis confirmed that other-directed and self-directed emotions loaded on two separate factors which together explained 68% of the variance in the individual items.

## **Results and discussion**

All variables were analysed with 2 (ambiguity of discrimination: ambiguous vs. unambiguous)  $\times$  2 (self-esteem: low vs. high) between participants analyses of variance (ANOVA).

### **Manipulation checks**

The ANOVA performed on the self-esteem manipulation check only revealed that participants in the low self-esteem condition expressed less confidence in their own abilities ( $M = 3.07$ ,  $SD = 0.62$ ) than participants in the high self-esteem condition ( $M = 4.91$ ,  $SD = 0.71$ ),  $F(1, 104) = 201.33$ ;  $p < .001$ , partial  $\eta^2 = .66$ . Additionally, as intended, an ANOVA on perceived ambiguity only revealed a reliable main effect of ambiguity of discrimination, indicating that participants in the ambiguous discrimination condition perceived the selection procedure as more ambiguous ( $M = 5.44$ ,  $SD = 1.36$ ) than participants in the unambiguous discrimination condition ( $M = 4.86$ ,  $SD = 1.53$ ),  $F(1, 104) = 4.41$ ,  $p < .05$ , partial  $\eta^2 = .04$ . Because all checks revealed the intended effects, and no crossover effects or interactions were observed, we concluded that our experimental manipulations were successful.

### **Other-directed emotions**

An ANOVA on other-directed emotions only revealed the predicted main effect of ambiguity of discrimination. Overall, participants in the unambiguous discrimination condition ( $M = 3.94$ ,  $SD = 1.73$ ) reported more negative emotions directed at the interviewer than participants in the ambiguous discrimination condition ( $M = 2.48$ ,  $SD = 1.47$ ),  $F(1, 104) = 22.54$ ,  $p < .001$ , partial  $\eta^2 = .18$ .



### Self-directed emotions

An ANOVA revealed a reliable main effect of ambiguity of discrimination,  $F(1, 104) = 4.15$ ,  $p < .05$ , partial  $\eta^2 = .04$ , which was qualified by a reliable interaction between the two factors,  $F(1, 104) = 3.87$ ,  $p = .05$ , partial  $\eta^2 = .05$ . Inspection of means (see Table 1) and analysis of simple effects revealed, as predicted, that level of self-esteem did not reliably affect self-directed negative emotions in the unambiguous discrimination condition,  $F(1, 105) < 1$ , ns. However, also as predicted, in the ambiguous discrimination condition participants with low state self-esteem reported reliably more self-directed negative emotions than participants with high self-esteem,  $F(1, 105) = 6.23$ ,  $p < .05$ . This interaction also shows that the ambiguity of discrimination manipulation had a reliable effect on participants with low self-esteem. Participants with low self-esteem reported more self-directed negative emotions in response to ambiguous discrimination than in response to unambiguous discrimination,  $F(1, 105) = 7.90$ ,  $p < .01$ . These findings support our proposition that state self-esteem moderates the impact of ambiguous discrimination on self-directed negative emotions. As predicted, this result suggests that people with low state self-esteem are most vulnerable to the harmful emotional effects of ambiguous discrimination. This extends prior research by demonstrating that experimentally induced differences in state personal self-esteem can function as a source of vulnerability (low self-esteem) or resilience (high self-esteem) to the effects of social discrimination.

**Table 1.** Self-directed negative emotions in Study 1

Discrimination	Unambiguous		Ambiguous	
	low	High	Low	High
State self-esteem				
Self-directed negative emotions	1.73 <sup>b</sup> (0.77)	1.79 <sup>b</sup> (0.73)	2.43 <sup>a</sup> (1.18)	1.80 <sup>b</sup> (0.89)

<sup>a</sup> SD are reported between parentheses next to each mean.

<sup>b</sup> Means with different superscripts differ reliably from each other at  $p < .01$ .

It is important to note that our self-esteem manipulations did not moderate other-directed negative emotions or emotional reactions to unambiguous discrimination. Specifically, participants reported anger towards the source of unambiguous discrimination (see also Barreto & Ellemers, 2005; Hansen & Sassenberg, 2006), independently of their level of state personal self-esteem. This argues against a more general mood effect due to our self-esteem manipulations. It is also in line with our reasoning that unambiguous discrimination offers clear cues that focus targets' responses on the other, rather than the self (Major *et al.*, 2003; Major, Quinton *et al.*, 2003) and precludes that additional factors such as differential levels of state self-esteem moderate these responses.

The manipulation checks included in this study (including the pilot data) attest to the success of our manipulation of ambiguity of discrimination. We demonstrated that - whereas both discrimination conditions were seen as less appropriate than a control rejection - ambiguous discrimination was perceived to be more ambiguous than unambiguous discrimination. Importantly, perceived ambiguity was not affected by

self-esteem, demonstrating that we succeeded in orthogonally manipulating the two factors in our design, and allowing us to conclude that self-esteem moderates emotional responses to a situation that is perceived in a similar way by people with low and high self-esteem. With regard to the manipulation of self-esteem, we were also able to show that participants in the low self-esteem condition felt worse about their performance than participants in the high self-esteem condition (see also McFarlin & Blascovich, 1984). In hindsight, however, it would have been best to also show that this manipulation affected participants' self-esteem when measured more globally. We addressed this weakness in a second study. Study 2 will also expand on this first study by examining self-concern and behavioural responses (task performance) to our manipulations of ambiguity of discrimination and personal state self-esteem, in addition to assessing self-directed negative emotions.

## **STUDY 2**

Study 2 was carried out to replicate the findings of Study 1 with regard to negative self-directed emotions and to expand this analysis to the examination of self-concern, as well as behavioural responses to discrimination, such as performance and self-stereotyping. We examine self-concern because part of our argument is that low state-self-esteem causes targets of ambiguous discrimination to focus on their own negative emotional state and individual inadequacies, which is likely to impair appropriate coping (see also Baumeister, Vohs, DeWall, & Zhang, 2007; Campbell, 1990; Green & Sedikides, 1999; Kuhl, 1994).

The focus on performance and self-stereotyping corresponds to our expectation that low self-esteem is likely to impair the extent to which targets of ambiguous discrimination are able to behaviourally disconfirm the negative feedback they receive. We measure task performance as this provides participants with a chance to prove their competence. We also include another type of behaviour, which might be displayed by individuals to disconfirm negative stereotypes after being confronted with discrimination: namely the degree to which they emphasize having stereotypical group traits (self-stereotyping; see also Hogg & Brown, 1987). Potential objective limitations to the ability to perform well on specific tasks may render it difficult for targets of negative stereotypes to show a superior task performance as a way to disconfirm the appropriateness of their discriminatory rejection. It may be easier for them to provide evidence disconfirming the applicability of the group stereotype to the self, when describing themselves in terms of prototypical group traits. Nevertheless, in line with our general argument, we predict that after being confronted with ambiguous discrimination participants with low state self-esteem are less likely to use this strategy than those with high state self-esteem. This is because, we expect that low state-self-esteem causes targets of ambiguous discrimination to focus on their negative emotional state and individual inadequacies rather than attempting to disprove the appropriateness of the negative treatment they receive.

## **Method**

### ***Participants***

Participants were 118 female students at Leiden University with a mean age of 20. Each session of the experiment lasted approximately 1 h, after which all participants were

fully debriefed, thanked for their participation and paid 6 euros (approximately 7 USD) for their participation.

### **Design, procedure, and dependent variables**

The design and the procedure of this study were identical to those of the previous two studies. The manipulation check of ambiguity of discrimination was the same as in Study 1 ( $r = .78$ ,  $p < .001$ ). To offer more conclusive evidence for the success of our manipulations, the manipulation check of self-esteem was expanded in this study and consisted of the items used in Study 1 to which, we added five items from the Rosenberg global self-esteem scale, adapted to measure state self-esteem. The five additional items were: 'at the moment, I think I can do things as well as others', 'at the moment, I feel that I have a number of good qualities', 'at the moment, I do not think I have much to be proud of', 'at the moment I feel absolutely useless', 'at the moment, all in all, I have the feeling that I am a failure' (the last three items were recoded). The aggregate measure of these seven items formed a reliable scale ( $\alpha = .80$ ).

We also expanded our measure of self-directed negative emotions and added the following items to the three items used in Study 1: self-critical, ashamed of myself, helpless, hesitant, and insecure ( $\alpha = .81$ ). Self-concern was assessed with seven items (e.g. 'I am concerned about the things that are going to come', 'I am focused on myself',  $\alpha = .84$ ). A principal components analysis (PCA) on these items confirmed that items referring to self-directed emotions and self-concern represent separate factors.

### **Behavioural measures**

Subsequently, we informed participants that we were interested in ascertaining to what extent the interviewer had made a correct decision and asked participants to perform an additional task for that reason. Participants read that, if they were to perform well on this task, they stood a chance of being selected despite the interviewer's decision. In this way, the task was framed as a new chance and an opportunity to improve the individual's position. This task had two parts: one was the performance task and the other was the self-stereotyping measure.

The performance task consisted of a selection of items from existing IQ tests, which were derived from the same internet source as the general knowledge items, we used to develop our self-esteem manipulation. However, the format and content of the items in this task (used to measure performance) was clearly different from the first task (used to manipulate self-esteem), to allow participants to think that they might be able to perform well on this task, regardless of their experiences in the context of the self-esteem manipulation (which had been presented as part of a separate study). In this second task, the items specifically assessed verbal ability (six items), math ability (five items), and logical reasoning (five items). Although some of these items required more time and effort to be solved than others, all items of this performance task could be completed within the 10 min allotted to this task.

For the self-stereotyping measure, participants were asked to indicate to what extent each of 15 traits appropriately described them. These traits consisted of 15 traits consistent with the stereotype of women and were adapted from the Dutch version of the Bem sex role inventory (Bem, 1974; Dutch adaptation by Willemsen & Fischer, 1997). The traits were: dependent, attentive, understanding, modest, indecisive,

emotional, sensitive, warm hearted, over-sensitive, curious, romantic, sentimental, spontaneous, tactful, and care-giving ( $\alpha = .76$ ).

## Results and discussion

All analyses follow a 2 (ambiguity of discrimination: ambiguous vs. unambiguous)  $\times$  2 (self-esteem: low vs. high) between participants factorial design.

### Manipulation checks

Analysis of the check of the self-esteem manipulation revealed that participants in the low self-esteem condition reported lower self-esteem ( $M = 4.51$ ,  $SD = 0.69$ ) than participants in the high self-esteem condition ( $M = 5.31$ ,  $SD = 0.77$ ),  $F(1, 114) = 34.84$ ,  $p < .001$ , partial  $\eta^2 = .23$ , as intended. The same result is obtained if we examine the five items of the Rosenberg self-esteem scale separately. The analysis of perceived ambiguity only revealed a reliable main effect of ambiguity of discrimination. As expected, participants in the ambiguous discrimination condition perceived the cause of their rejection as more ambiguous ( $M = 5.56$ ,  $SD = 1.37$ ) than participants in the unambiguous discrimination condition ( $M = 4.77$ ,  $SD = 1.74$ ),  $F(1, 114) = 7.30$ ,  $p < .01$ , partial  $\eta^2 = .06$ . As in the previous study, there were no crossover or interaction effects on these manipulation checks.

### Self-directed emotions

A 2  $\times$  2 ANOVA only revealed a reliable two-way interaction,  $F(1, 114) = 4.98$ ,  $p < .05$ , partial  $\eta^2 = .04$ . Inspection of means and analysis of simple main effects (see Table 2) revealed that emotions reported in the unambiguous discrimination condition did not depend on state self-esteem,  $F(1, 115) < 1.47$ ,  $p = .23$ , ns. However, as predicted, in the ambiguous discrimination condition participants in the low self-esteem condition indicated reliably more self-directed negative emotions than participants in the high self-esteem condition,  $F(1, 115) = 3.84$ ,  $p = .05$ . No other contrasts were reliable. This replicates results obtained in Study 1 and is in line with our central prediction that differences in state self-esteem moderate self-directed emotions in response to ambiguous - not unambiguous - discrimination.

**Table 2.** Self-directed negative emotions. Self-concern, performance, and self-stereotyping in Study 2

Discrimination	Unambiguous		Ambiguous	
	Low	High	Low	High
State self-esteem				
Self-directed negative emotions	2.51 <sup>a</sup> (0.59)	2.77 <sup>a,b</sup> (0.93)	2.80 <sup>a</sup> (0.92)	2.39 <sup>b</sup> (0.76)
Self-concern	2.99 <sup>a</sup> (1.05)	3.16 <sup>a,b</sup> (0.93)	3.33 <sup>a</sup> (1.15)	2.72 <sup>b</sup> (0.98)
Performance	11.76 <sup>a</sup> (2.28)	11.17 <sup>a,b</sup> (3.02)	10.80 <sup>b</sup> (2.27)	12.14 (2.62)
Self-stereotyping	4.64 <sup>a</sup> (0.58)	4.83 <sup>a,b</sup> (0.48)	4.94 <sup>a</sup> (0.60)	4.60 <sup>b</sup> (0.48)

<sup>a</sup> SD are reported between parentheses next to each mean.

<sup>b</sup> Means with different superscripts within each row differ reliably from each other at  $p < .05$ .

**Self-concern**

A  $2 \times 2$  ANOVA revealed a reliable two-way interaction on this measure  $F(1, 114) = 4.18, p < .05$ , partial  $\eta^2 = .04$ . As anticipated, inspection of means and analysis of simple main effects (see Table 2) confirms that in the ambiguous discrimination condition, participants with low self-esteem indicated more self-concern than participants with high self-esteem,  $F(1, 115) = 5.22, p < .05$ . Self-esteem did not affect reported levels of self-concern in the unambiguous condition,  $F < 1$ , ns. No other contrasts were reliable. This further substantiates our reasoning that when confronted with ambiguous discrimination, those with low state self-esteem are more likely to focus on themselves and their potential inadequacies than those with high state self-esteem.

**Task performance**

An ANOVA using the number of correct answers on the performance task as the dependent variable only revealed the predicted two-way interaction,  $F(1, 114) = 4.18, p < .05$ , partial  $\eta^2 = .04$ . As hypothesized, in the ambiguous discrimination condition participants with high state self-esteem answered more questions correctly than participants in the low self-esteem condition,  $F(1, 115) = 4.05, p < .05$ . The performance of participants in the unambiguous discrimination condition did not differ as a function of level of self-esteem,  $F < 1$ , ns. No other contrasts were reliable (see Table 2).

**Self-stereotyping**

As predicted, an ANOVA on the degree of self-stereotyping only revealed a reliable two-way interaction,  $F(1, 114) = 7.27, p < .01$ , partial  $\eta^2 = .06$ , see Table 2. Participants in the low self-esteem condition defined themselves in more female stereotypical terms after being subjected to ambiguous discrimination than participants in the high self-esteem condition,  $F(1, 115) = 6.00, p < .05$ . The manipulation of self-esteem did not affect participants' self-descriptions when they had been subjected to unambiguous discrimination as predicted,  $F(1, 115) = 1.90, p = .17$ , ns. No other contrasts were reliable.

These results replicate and extend the findings of Study 1 by demonstrating that experimentally induced differences in self-esteem determine the likelihood that people show self-concern and moderate emotional and behavioural responses to ambiguous discrimination, while this is not the case in responding to unambiguous discrimination. This general pattern is consistently observed across measures and studies, and attests to the robustness of these findings.

**GENERAL DISCUSSION**

The studies reported in this paper complement prior research by demonstrating that experimentally induced differences in state self-esteem moderate self-directed emotions and stereotype confirming behaviour following exposure to ambiguous - but not to unambiguous - discrimination. Participants in the unambiguous condition expressed more negative other-directed emotions than participants in the ambiguous condition. In line with our predictions, this result was also not moderated by self-esteem. This is consistent with our argument that unambiguous discrimination involves a clear

other-focus that guides emotional responses, irrespective of individual levels of self-esteem.

By contrast, in both studies, we found that self-esteem moderated self-directed responses to ambiguous discrimination. Specifically, participants who encountered ambiguous discrimination expressed more negative self-directed emotions when they had low state self-esteem than when high self-esteem was induced. State self-esteem did not moderate negative self-directed emotions when discrimination was unambiguous, which speaks against a more generalized mood effect as a result of our self-esteem manipulations. We think these results indicate a self-fulfilling cycle that is set in motion when the situation is ambiguous. That is, those who enter the situation with a more negative view of the self (low state self-esteem) end up feeling the most negative self-directed emotions after being exposed to ambiguous discrimination. This pattern suggests that ambiguity may offer scope for self-protection among individuals with high state self-esteem (in line with the process suggested by Major, Quinton *et al.*, 2003), but exacerbates self-concerns and self-doubts when state self-esteem is already low, as is further evidenced by our findings with regard to self-concern in Study 2.

Even though these findings are consistent with prior research investigating how chronic differences in trait self-esteem covary with people's emotional reactions to negative feedback, the present research extends existing knowledge in important ways. We think that the fact that we obtained these differential responses due to experimentally induced differences in state self-esteem not only provides more conclusive evidence about the causal direction of this relation, but also offers scope for the development of interventions that may help people cope with discrimination. In fact, our results can be taken to show that when members of a stigmatized group are offered a boost to their state self-esteem, this may make them less vulnerable to the pernicious effects of discrimination on their emotions and behaviours, especially when this is ambiguous. Thus, due to the specific methodology that we used, the present findings not only contribute to the literature by showing the combined and interactive effects of different forms of discrimination and different levels of state self-esteem, but also have a clear applied value. This is important because (as argued in more detail elsewhere, e.g. Barreto & Ellemers, 2005) ambiguous rejection may actually be more harmful than unambiguous discrimination, even if it would seem less objectionable at first sight. That is, it is more difficult for targets of ambiguous discrimination – as well as for others observing them – to realize that prejudicial treatment may have played a role causing in their negative outcomes, or to note that their disadvantage may be due to factors outside their control. As a result, it is less likely that the behaviour of perpetrators of ambiguous discrimination is challenged, or that measures are taken to prevent ambiguous discrimination, making it all the more important that potential targets are helped to raise their resilience against the pernicious effects of ambiguous discrimination.

Our findings are also novel with regard to uncovering the behaviour people display in response to discrimination. Prior research has dedicated little attention to examining people's actual behavioural displays when they are confronted with different forms of discriminatory treatment. In Study 2, we predicted and found that self-esteem moderated behavioural responses when discrimination was ambiguous, but not when it was unambiguous. Specifically, when discrimination was ambiguous, targets with low state self-esteem performed less well than participants with high self-esteem on a task which was presented as a new opportunity for success, while self-esteem did not moderate task performance when discrimination was unambiguous. Study 2 also provided parallel evidence on an alternative measure of stereotype confirmation which

is arguably more subject to individual control, namely stereotypical self-presentation. In particular, after being confronted with ambiguous discrimination, participants in the low self-esteem condition described themselves more in line with the stereotype of the devalued group than those in the high self-esteem condition. Here too as predicted, differential levels of state self-esteem did not moderate self-stereotyping when discrimination was unambiguous. Taken together, these results reveal that when confronted with ambiguous discrimination, individuals with low state self-esteem actually were less likely to disprove the negative feedback they received (as revealed by their weaker task performance and greater tendency to self-stereotype) compared to those with high state self-esteem. In this context, it is important to note that, we do not argue that self-stereotyping is necessarily something to avoid, as it may be an important source of belonging and self-worth, even with regard to in-groups that are negatively evaluated by others (see for instance, Branscombe, Schmitt, & Harvey, 1999; Mlicki & Ellemers, 1996). Nevertheless, in a context where the group is devalued, and group membership is a source of individual rejection, successfully presenting the self as being different from the negative stereotype can be seen as an individual level self-protective coping response that may help secure the achievement of outcomes that are in line with one's individual characteristics and abilities.

In addition, these results extend existing knowledge of the effects of salient stereotypes both by replicating the impairing effect of salient stereotypes on task performance in an entirely different context (i.e. when participants are given a new opportunity for success, after having been targets of discriminatory treatment), and by demonstrating that differences in state self-esteem can either induce individual vulnerability or enhance resilience to this process.

While our results show parallel effects on different measures, exactly how these different responses relate to each other, and whether these are all connected to a single underlying process or occur relatively independently of each other should be further examined in future research. Our argument would be that the greater self-focus elicited when exposed to ambiguous discrimination and suffering low state self-esteem is likely to play an important role in this process. The main goals of the present research were to experimentally investigate joint effects of ambiguity of discrimination and state self-esteem on self-relevant emotional and behavioural responses, and to develop experimental procedures and measures suitable to achieve these goals. Now that these effects have been documented, future research may further address the exact nature of the processes connecting these different effects, as this is beyond the scope of the present investigation.

It is worth stressing that the paradigm we used, allowed us to examine the role of state self-esteem in determining emotional and behavioural responses to discrimination, while controlling for any effects that self-esteem might have in the extent to which targets see the situation as ambiguous. It is also important to acknowledge that differences in self-esteem may still moderate responses to unambiguous discrimination when other (e.g. more other-directed) types of outcome measures are considered, such as the participation in collective action (see also Klandermans, 1997). Our argument is not that self-esteem is not relevant when people are exposed to unambiguous discrimination, but that in these conditions self-esteem differences are less likely to influence the self-focused variables, we examine in this paper. In a similar vein, it is also important to point out that we do not claim that the effects of unambiguous discrimination are never moderated by other variables. Indeed, prior research has already shown that factors such as perceived pervasiveness of discrimination affected

the impact of discrimination that was relatively unambiguous (Schmitt, Branscombe, & Postmes, 2003). However, in line with our argument, in that case, state self-esteem does not appear to be a moderating factor, at least not when considering the self-relevant outcomes that were the focus of this research.

In the present research, we found consistent support for our prediction that people with high versus low self-esteem deal differently with ambiguous discrimination. These results are all the more significant in view of the research methodology that we used, which relied on an experimental induction of different levels of self-esteem in our participants. In this important sense, our research differs from and extends previous studies which were unable to examine this causal relation, either because pre-existing differences in global (trait) self-esteem were taken into account, instead of using experimental manipulations, or because state self-esteem was examined as a *consequence* of people's experiences with discrimination (see Major, Quinton *et al.*, 2002, for a review), instead of as a potential cause of their responses. As noted above, this experimental technique also has interesting practical implications. The very fact that we succeeded in manipulating self-esteem and thereby in modifying the effect of ambiguous discrimination on its targets, suggests that environments that promote people's self-esteem can help shield them from the negative effects of ambiguous discrimination that is so difficult to sanction with more formal measures.

That being said, it is important to acknowledge some limitations of the present research. One limitation of these studies is that, we did not compare participants' responses to ambiguous and unambiguous discrimination to their responses to rejection under control conditions. This poses the question of whether the findings, we obtained when discrimination was ambiguous would also be found when the cause is ambiguous but there is no cue to discrimination. However, the comparison between responses to ambiguous discrimination and responses to non-discriminatory rejection has already been the focus of a relatively large body of research (see Major, McCoy *et al.*, 2003, for a review). This work has convincingly established that ambiguous discrimination can have self-protective effects, when it is compared to rejection in contexts where there are no cues to discrimination. Our focus in these studies was on situations where (ambiguous or unambiguous) cues to discrimination are present – and our pilot study confirms that participants pick up on these cues in both discrimination contexts, even though more strongly in the unambiguous situation than in the ambiguous context. Our aim was to show that in these contexts, the self-protective effects of ambiguous discrimination may not be revealed when we compare with conditions of unambiguous discrimination, and when we focus on people who are particularly vulnerable, such as people who currently have low self-esteem. We thus think that even though future research might address all of these processes simultaneously, the findings, we report here are significant even without the comparison with a non-discriminatory condition.

Future research can also extend these findings by examining other types of responses that would further illuminate the effects of self-esteem. For example, physiological measures may identify differential (threat vs. challenge) responses to negative feedback (Mendes, Blascovich, Lickel, & Hunter, 2002), in particular if associated with ambiguous discrimination. One possibility is that these reactions covary with different levels of state self-esteem, so that negative feedback associated with ambiguous discrimination may elicit a threat response among people with low self-esteem but is seen as a challenge by those with high self-esteem. Additionally, this type of research can reveal whether unambiguous discrimination is regarded as a challenge



irrespective of self-esteem, given that it more clearly points to ways through which individuals may contest the negative outcome. This possibility requires further examination. Our sole focus on gender discrimination and its effects on (white) female participants in one national context with a specific history of gender relations also does not allow us to establish the generalizability of our findings. Future research should examine whether similar effects are obtained in other national contexts, when focusing on other discriminated groups (e.g. ethnic minorities), or when using other paradigms and procedures to manipulate ambiguity.

By combining insights from separate research strands the present findings allow us to specify the conditions under which targets of discrimination are most vulnerable to its pernicious effects on self-relevant emotions and behaviours. An important challenge for the future would be to identify the strategies that targets can use to break the self-fulfilling cycle identified in this research and reduce the negative impact of discrimination.

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