

THE ROLE OF AWARENESS: DIVERGENT AUTOMATIC STEREOTYPE ACTIVATION AND IMPLICIT JUDGMENT CORRECTION

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Two experiments investigated automatic stereotype activation and its correction. In Experiment 1 ($n = 57$) the category "Blacks" was primed using a lexical decision task. People high and low in prejudice subsequently formed divergent impressions of the target person. Replicating previous findings (Lepore & Brown, 1997), high-prejudice participants' judgments were more negative and low-prejudice people's ratings more positive. Awareness of a connection between priming and impression formation reversed this pattern. Experiment 2 ($n = 40$) revealed that awareness of a connection, irrespective of priming recall, promoted a correction of the judgment. *Unaware* high- and low-prejudice participants again showed divergent automatic stereotype activation, but *aware* respondents corrected their judgments in opposite directions. Thus, when automatic stereotype activation is differentiated, implicit correction processes act upon different accessible knowledge, resulting in divergent judgment corrections. Implications for stereotyping and models of contrast effects are discussed.

Research on the automaticity of stereotype activation has grown rapidly in recent years. At the basis of this line of investigation lie questions rele-

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vant to everyday social encounters: What are the consequences of categorization? What are people's automatic responses to members of stereotyped groups? Theories of modern (McConahay, 1986), aversive (Gaertner & Dovidio, 1986) and subtle racism (Pettigrew & Meertens, 1995) all state that prejudice lingers, despite its reduction in expressed attitudes and stereotype content arising from changed norms of social interaction. Based on these conceptualizations, it is often surmised that explicit responses to category members will appear to be nonprejudiced, whereas the implicit and automatically accessed responses will still be prejudiced. Such incongruity between implicit and explicit attitudes is implied, for example, in Devine's (1989) seminal work. According to her model, negative stereotypes are activated automatically upon categorization regardless of people's prejudice level. Their use, however, can be consciously controlled if motivation and cognitive capacity allow for the suppression of the automatic prejudiced response. Other studies support the incongruity of implicit and explicit attitudes. Banaji and Greenwald (1995), for example, found that implicit gender bias in judgments of fame and explicit gender measures were not correlated (see also Banaji & Hardin, 1996; for a review, see Blair, 2001). Such findings suggest that stereotypes are activated automatically in an all-or-none manner and regardless of people's beliefs about the target group. Deriving from the premise that stereotypes are activated automatically upon categorization (Allport, 1954; Bargh, 1999; Devine, 1989; Greenwald & Banaji, 1995) is research investigating the effects of stereotype suppression (e.g., Monteith, 1993; Wyer, Sherman & Stroessner, 2000). The conscious suppression of prejudiced responses elicited by the automatic and seemingly inevitable activation of negative stereotypes should curb unwanted stereotyping in judgments and behaviors (but cf. Macrae, Bodenhausen, Milne & Jetten, 1994) in a process of self-regulation eventually leading to the automatization of such suppression itself (see Monteith, Sherman & Devine, 1998 and Monteith & Voils, 2001 for reviews).

At present, evidence regarding the congruency or incongruency of implicit and explicit attitudes is contradictory and not yet reconciled (see Blair, 2001). In contrast with the findings reported above, several studies have observed automatic facilitation effects to be correlated with scores on a prejudice measure (Lepore & Brown, 1997; Locke, MacLeod & Walker, 1994; Wittenbrink, Judd & Park, 1997. See also Fazio, Jackson, Dunton & Williams, 1995; Kawakami, Dion & Dovidio, 1998). Investigating the relation between categorization and stereotyping, Lepore and

Brown (1997) found that automatic stereotype activation is consistent with beliefs about the group and happens differentially for high- and low-prejudice people: negative stereotypes were activated automatically only by highly prejudiced individuals.

The present experiments center on this interplay of automatic and controlled processes. Their purpose was twofold: to assess the replicability of the differentiated automatic activation of stereotypes observed in people high and low in prejudice, and to examine whether it obtains when responses to the prime are relatively more controlled.

GROUP REPRESENTATIONS: STEREOTYPE ENDORSEMENT AND STEREOTYPE ACTIVATION

Lepore and Brown (1997) proposed a model of representations of social groups according to which people's beliefs about the group affect how easily specific associations come to mind. The authors argued that within the complex knowledge base about a group in memory the stereotypical content is similarly available to people who are or are not prejudiced against that group. However, as a result of repeated activation and use of endorsed stereotypic characteristics, high- and low-prejudice people may hold group representations in which different aspects of the same stereotype are more strongly associated with the group node and thus more easily activated. The findings supported this model. Despite their common stereotype knowledge, high- and low-prejudice participants formed divergent impressions of a target person as a consequence of category activation (Lepore & Brown, 1997). Specifically, high-prejudice participants activated negative stereotypic aspects and low-prejudice respondents showed activation of the positive characteristics after subliminal priming of the category "Blacks," reflecting a different pattern of stereotype endorsement. Thus, stereotype activation as a consequence of categorization does not happen in an all-or-none fashion, but differentially, with low-prejudice people demonstrating no activation of the negative stereotype.¹

1. In a vein consistent with our model, Carlston (1992) hypothesized that for high-prejudice people both the categorization process and the subsequent attribution of [negative] stereotypic traits are automatic, whereas for low-prejudice individuals only categorization happens automatically. As automaticity develops through frequency of use, the activation of knowledge repeatedly accessed can become automatic (e.g., Bargh, 1996; Carlston, 1992).

CONSCIOUS PRIMES AND CONTRAST EFFECTS

Outside the laboratory we are usually aware of the presence of others. The use of a conscious prime in the present experiments allows to replicate the findings obtained with a subliminal priming procedure by Lepore and Brown (1997) while mimicking more realistically the initial reaction to encountering a member of a stereotyped group. According to Bargh (1996), the automatic processes instigated with either a sub- or supraliminal prime can be considered preconscious because they require neither an intention that the process occurs nor an awareness of the process occurring.

It is widely accepted that the effects of supra- and subliminal primes are the same and automatic. However, such effects are not always identical (see Bornstein & D'Agostino, 1992). Most importantly for the current purpose, when the prime is conscious there is a possibility that controlled processes take over, that is, that people become aware of the potential *influence* of the stimuli on their judgment (e.g., Bargh, 1992, 1994). The attempt to counteract such influence could give rise to contrast effects.² People may try to control and correct their judgments when in the presence of a group member or, in a laboratory context, when they are aware of the categorical prime. The outcome of a sub- or supraliminal prime may then differ.

However, awareness of the prime should not lead to judgment correction when it simply means that the stimuli can be consciously perceived. If people are aware of the stimuli, but unaware of their *consequences*, the process is still automatic (Bargh, 1992; Strack, 1992). Indeed, some models proposed to account for contrast effects are based on the idea that awareness of the influence of the stimulus, rather than awareness of the stimulus itself, is necessary to instigate judgment corrections (see Martin & Achee, 1992; Strack, 1992; Wegener & Petty, 1997; Wilson & Brekke, 1994).

ASSIMILATIVE AND CONTRASTIVE JUDGMENTS

Judgment of a person can be influenced by the context in which the impression is formed. Knowledge that is accessible and applicable can be

2. Contrast effects are more likely to occur when the prime can be consciously perceived, but the subliminal presentation of exemplars can also trigger them (Winkielman & Schwarz, 1996).

used to interpret the target person's behavior (assimilation effects), particularly if its influence is subtle. Alternatively, if accessible knowledge is deemed unrepresentative, inappropriate or biasing the impression is moved away from it (contrast effects) (Higgins, 1996; Strack, 1992; Wegener & Petty, 1997). The use of priming procedures to investigate accessibility effects in person perception typically involves activating a construct (or category exemplar) in the first task which directly affects the impression subsequently formed (e.g., Higgins, Rholes & Jones, 1977). For example, participants apply the primed construct (e.g., "kind") to categorize the ambiguous behavior of a target person (e.g., Lombardi, Higgins & Bargh, 1987; Srull & Wyer, 1979, 1980). Such assimilative effects of the context on person perception can be reduced or reversed if, for example, participants are motivated to be accurate (e.g., Ford & Kruglanski, 1995; Thompson, Roman, Moskowitz, Chaiken & Bargh, 1994), are reminded of, or recall, the priming events (e.g., Lombardi et al., 1987; Newman & Uleman, 1990; Strack, Schwarz, Bless, Kübler & Wänke, 1993), if primes are blatant (e.g., Martin, 1986; Skowronski, Carlston & Isham, 1993), or if the primed exemplars are extreme (e.g., Herr, 1986).

Contrast effects may be grouped in two main categories, comparison and correction (see Stapel, Koomen & Zeelenberg, 1998). *Comparison* contrast effects arise when exemplars (e.g., Herr, 1986) or personalized trait-implying sentences (e.g., Stapel, Koomen & van der Pligt, 1996) constitute a comparison standard against which the target is perceived. The accessible information in such cases can be more extreme or distinctive than the usually ambiguous target information. The comparison between prime and target does not necessarily require awareness (Moskowitz & Skurnik, 1999; Stapel et al., 1996). However, *correction* contrast effects arise when people become aware that the primed and accessible information could influence their judgment (e.g., Ford & Thompson, 2000; Stapel et al., 1998). Such information is then discounted as unrepresentative or deemed inappropriate and subtracted from the reaction to the target person (Martin, 1986; Martin & Achee, 1992; Schwarz & Bless, 1992; Strack, 1992). In sum, accessible information functions as a comparison standard in comparison contrasts and as an unwanted and contaminating influence in correction contrasts (see Stapel et al., 1998, p. 880). Awareness of stimulus influence appears to be a key element to distinguish the two kinds of contrast effects. The extent and meaning of such awareness, however, varies considerably in cur-

rent correction models, as will be discussed later. Furthermore, some evidence suggests that correction, and not just comparison contrast effects, can be obtained through automatic processes (e.g., Glaser & Banaji, 1999).

ASSIMILATION AND CONTRAST EFFECTS IN THIS RESEARCH

The present experiments depart from procedures often employed to investigate assimilation and contrast effects. These usually involve a direct link between what is being primed (e.g., friendly) and the person judgment subsequently made (how friendly the target person will be perceived to be). In the present case, however, the connection between priming and impression formation is not direct. The category (i.e., the social group) is activated in the priming phase by means of category labels and neutral associates (e.g., blacks, dreadlocks). Stereotypical associates (e.g., aggressive, athletic) should become activated through spreading activation (e.g., Collins & Loftus, 1975) as a consequence of categorization. These, in turn, should affect ratings of the target person in the impression formation phase. Awareness of the prime *per se*, then, should not trigger judgment corrections, unless participants perceive a connection between the priming and the impression formation phase. As long as people are not aware of the effects that previously presented stimuli can have on subsequent judgments, they will not try to control such effects and the processing will go on automatically, as if the stimuli had been presented subliminally (Bargh, 1992; see also Jacoby & Kelley, 1987).

Because of the unusual priming procedure used here (which does not involve exemplars or traits), both assimilation and contrast effects have to be defined. According to Lepore and Brown's (1997) model, people high and low in prejudice hold different group representations, and thus priming of the category Blacks may trigger a different pattern of stereotype activation. The resulting negative (in high-prejudice people) or positive (in low-prejudice people) impression of the target person is an assimilation effect of sorts: divergent impressions are formed because different content is rendered accessible by the category prime. "Contrast" effects are defined in relation to such differentiated stereotype activation: high-prejudice people could correct for the activated and accessible negative content and low-prejudice people could correct for the activated and accessible positive content. Divergent judgment cor-

rections would result from this process. However, if stereotype suppression takes place simply as a result of heightened prime awareness, both high- and low-prejudice people should be more positive in their judgments of the target.

EXPERIMENT 1: PRIMING WITH A LEXICAL DECISION TASK

Experiment 1 was designed primarily to replicate previous findings of differentiated stereotype activation (Lepore & Brown, 1997). The same stimulus words previously presented by means of a parafoveal subliminal priming procedure (see Lepore & Brown, 1997) were embedded in a lexical decision task (Meyer & Schvanevelt, 1971) together with neutral words and nonwords. Primed with category labels and neutral associates of the category, high-prejudice participants were expected to evaluate the target person more negatively and low-prejudice participants more positively. Because of the conscious nature of the prime, however, contrast effects were also possible.

METHOD

Participants and Design

Fifty-seven university students, white British nationals, agreed to participate when approached by the experimenter on campus. They were paid £2. The design was 2 (high vs. low Prejudice) \times 2 (prime vs. no prime Condition) between participants. Participants were randomly allocated to the experimental or control conditions.

Materials and Procedure

The experiment was run entirely on two Macintosh Quadra 650 computers placed in separate cubicles. Participants were informed that they would take part in two unrelated experiments and that the second experiment was being conducted for another researcher. Both the experimenter and the instructions on the screen explained the lexical decision task. Participants had to judge whether the briefly appearing stimulus was a word or not. Speed and accuracy were emphasized and participants were told that reaction times would be recorded.

Lexical Decision Task. The priming phase consisted of 52 trials. In the prime condition 13 words evocative of the category "Black people" were used ("Blacks," "West-Indians," "Afro-Caribbean," "rastafarjan," "culture," "rap," "afro," "Notting Hill," "Brixton," "colored," "reggae,"

"ethnic," "dreadlocks"; see Lepore & Brown, 1997). Thirteen words were neutral, concrete and matched in length to the target words: "availability," "tree," "success," "gap," "orange," "exceptions," "reorganisation," "things," "information," "number," "accommodation," "example," "sentence". Twenty-six stimuli were pronounceable nonwords, matched in length with the real words. In the no prime condition there were 13 neutral concrete words (the same ones used in the experimental condition), 13 neutral abstract words matched in length to the concrete ones ("always," "however," "nothing else," "in fact," "during," "everything else," "but," "whatever," "furthermore," "completely," "then," "nevertheless," "called"), and 26 nonwords, the same ones used in the prime condition.

Each word appeared on the screen for 250 ms. Three neutral words unrelated to the category "blacks" ("fireplace," "methodology" and "danger") and three nonwords were used for the 6 practice trials. A "ready" signal, a central dot, appeared on the screen for 700 ms immediately preceding each trial.

Impression Formation Task. The dependent measures were identical to the ones previously used (see Lepore & Brown, 1997). In the context of a supposedly unrelated experiment on person perception, the target person, whose ethnicity was not specified, was presented by means of eight behavioral sentences (e.g., "He plays football regularly"). These were descriptive of two positive and two negative stereotypic constructs (*athletic* and *fun loving*; *aggressive* and *unreliable*). Each construct was represented by two sentences. Then participants rated the person on twenty-one rating scales, descriptive of the four stereotypic constructs. All scales ranged from 1 (not at all), to 9 (extremely).

A computer-based administration of the Lepore and Brown's (1997) prejudice scale concluded the study. This 15-item scale was developed for use in a British context. It comprises new statements as well as statements adapted from preexisting modern and subtle racism scales (e.g., Jacobson, 1985; McConahay, 1986; Pettigrew & Meertens, 1995). The scale has good internal reliability (Cronbach's $\alpha = .85$). In the extensive individual debriefing the experimenter asked if participants thought the tasks were related and, if so, how. Any comments, particularly any suspicions of a link between the parts of the experiment, were noted.

RESULTS

Participants were defined as high- and low-prejudice on the basis of a median split of their scores on the prejudice scale (median = 69, $SD = 12.37$. $M_{\text{high}} = 61$, $SD = 7.3$, $n = 29$; $M_{\text{low}} = 82$, $SD = 6.7$, $n = 28$). Since the scale is coded in the nonprejudiced direction, higher scores indicate more tolerant attitudes.

Eleven participants reported being suspicious of a connection between the lexical decision and the impression formation tasks. These reports emerged during the funneled debriefing procedure (Bargh & Chartrand, 2000). Participants were asked what they thought the study was about, whether they thought that the two "separate experiments" (priming and impression formation) were related (if so, how), and whether they thought they had been influenced by the primes. Participants who thought that the tasks were related were classified as "suspicious". Naturally, these were all in the prime condition, i.e. had been exposed to the category and category-related primes.³ A preliminary analysis revealed that suspicious participants responded to the impression formation task quite differently from their nonsuspicious counterparts. Analyses were therefore conducted separately for these two groups of participants. As "suspicion" here refers to the perception of a connection between priming and impression formation—and thus to awareness of a potential influence of the prime on target judgment—suspicious participants are labeled "aware" and nonsuspicious participants "unaware" henceforth.

Unaware and Control Participants

A 2 (prime vs. no prime Condition) \times 2 (high- vs. low- Prejudice) \times 2 (positive / negative Valence) mixed ANOVA was used to analyze the impression formation data from the 46 participants. The analysis revealed the predicted Prejudice \times Condition \times Valence interaction ($F(1, 42) = 4.10$, $p < .05$). As can be seen from Figure 1, low-prejudice participants rated the target more positively on the positive scales when ex-

3. A few of the "suspicious" participants raised the possibility that the person portrayed in the judgment task might be "black". Participants at this stage had answered the prejudice scale. It is difficult to know when they became aware of a relation between priming and judgment and how clearly. Consistent with observations often made in previous research (e.g., Martin et al., 1990; Moskowitz & Skurnik, 1999), participants did not think that the primes had influenced their judgment.

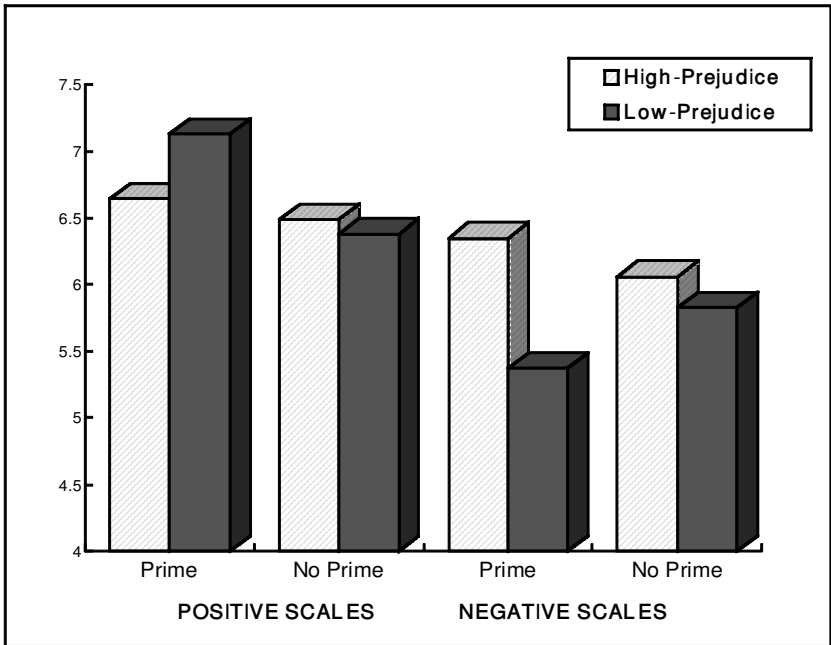


FIGURE 1. Impression of the target person as a function of Prime and Valence of rating dimensions.

posed to the categorical primes, but less negatively on the negative scales. The high-prejudice participants showed a less consistent tendency in the opposite direction.

Analysis of the simple effects revealed that the Prejudice \times Valence interaction was significant in the prime ($F(1, 43) = 9.10, p < .005$), but not in the no prime Condition ($F(1, 43) = .19, n.s.$). Thus, high- and low-prejudice people only differed when the category was primed. In particular, low-prejudice participants tended to higher positive ratings than high-prejudice respondents (M_s on positive scales = 6.65 vs. 7.13, $t(42) = 1.43, p < .1$). In contrast, high-prejudice participants evaluated the target person more negatively than did low-prejudice participants (M_s on negative scales = 6.36 vs. 5.37, $t(42) = 2.91, p < .005$). These results replicate previous findings (Lepore & Brown, 1997).

Aware vs. Unaware Participants

To test whether suspecting a relation between the prime and the impression formation phase affected the judgment, a 2 (high vs. low Prejudice) \times

2(Aware vs. Unaware) \times 2(positive / negative Valence) ANOVA was conducted on the prime condition participants. The analysis yielded a significant 3-way Prejudice \times Awareness \times Valence interaction ($F(1, 29)=14.39, p<.001$) which showed that "aware" low-prejudice participants tended to evaluate the target person less favorably than "unaware" low-prejudice participants (i.e., they gave higher ratings on the negative scales and lower ratings on the positive scales). Among high-prejudice participants awareness only reduced the negative ratings (see Figure 2).

Simple effects analysis revealed that the Prejudice \times Valence interaction was significant for both the aware and unaware participants ($F(1, 30)=7.95, p<.01; F(1, 30)=9.36, p<.01$ respectively).⁴ Thus, the pattern obtained for the unaware participants in the previous analysis reversed when the respondents perceived a link between priming and impression formation. Pairwise comparisons within prejudice level were performed to investigate whether high- and low-prejudice people reacted similarly when aware of a connection. High-prejudice participants significantly decreased their negative ratings when aware (as compared to unaware) ($M_s = 5.48$ vs. $6.36, t(29) = 1.93, p < .05$), although they were not affected by awareness on the positive ratings ($M_s = 6.78$ vs. $6.65, t(29) = .3, n.s.$). In contrast, aware, compared to unaware, low-prejudice participants significantly decreased their ratings on the positive scales ($M_s = 5.97$ vs. $7.13, t(29) = 3.06, p < .005$) and increased the ratings on the negative scales ($M_s = 6.39$ vs. $5.37, t(29) = 2.69, p < .01$). A one-way ANOVA was conducted on the prejudice scores to check whether awareness was related to answers on the prejudice measure. Results show that suspecting a connection between priming and impression formation was not associated with prejudice level: Aware and unaware participants did not differ in their average prejudice score ($M_{unaware}=71, M_{aware}=76; F(1, 31)=1.05, p<.4$).

DISCUSSION

Experiment 1 showed that high- and low-prejudice people were differentially affected by a supraliminal activation of the category. This repli-

4. As in Experiment 1 suspicion emerged only at debriefing (after participants had answered the prejudice scale) and the number of participants aware of a connection between tasks was small, the results are not completely overlapping those of Experiment 2, which was directly aimed at investigating awareness.

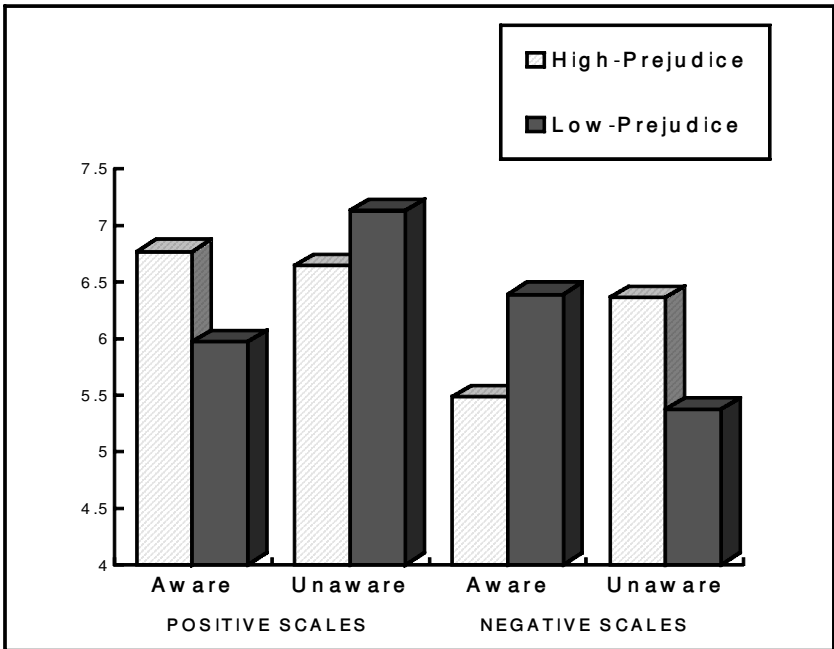


FIGURE 2. Impression of the target person as a function of Awareness and Valence of rating dimensions.

cates previous findings with subliminal category activation (Lepore & Brown, 1997). Provided that participants are not aware of a relation between prime and impression formation, the sub- or supraliminal activation of the category seems immaterial (see Bargh, 1992, 1996). As in other studies which used conscious primes (e.g., Higgins et al., 1977; Srull & Wyer, 1979, 1980), assimilation effects were obtained, but of a special kind. High- and low-prejudice people responded differently and according to their representation of the group, that is, the stronger associates to the group node were activated. Specifically, high-prejudice people formed a more negative impression of the target person than did low-prejudice people. This is consistent with the model of automatic activation proposed by Lepore and Brown (1997). The links between category labels and stereotypical associates are stronger and more easily activated when the characteristics are endorsed. The findings in this and earlier research (Lepore & Brown, 1997) are inconsistent with a view of stereotype activation as inevitable and all-or-none (e.g., Bargh, 1999; Devine, 1989; Greenwald & Banaji, 1995; Monteith & Voils, 2001).

Awareness of a connection between priming and impression formation generated a reversal of the judgments, however: The secondary analysis revealed that *aware* high-prejudice participants formed a less negative impression, but low-prejudice respondents reacted to the prime by downgrading the target person. Although the number of *aware* participants was small and some caution must be exercised at this stage, such a pattern, too, appears to be problematic for models of automatic all-or-none stereotype activation. Based on this idea, and related research (see Monteith & Voils, 2001, for a review), when stereotypes are activated and people become aware that their judgment may be biased by them, low-prejudice people should see stereotype use as inappropriate whereas high-prejudice individuals might not regard such use as inappropriate. Only low-prejudice people would then be expected to correct their judgment. This was not the case here. Alternatively, the salience of norms against stereotyping and social desirability concerns may prompt even high-prejudice people to avoid stereotyping (e.g., Monteith, Spicer & Tooman, 1998, Exp.1). In such cases, both high- and low-prejudice individuals should correct in the same direction, i.e., they should curb the negative ratings and form a more positive and less negative impression of the target. Instead, in the current experiment, suspecting a relation between priming and impression formation resulted in contrast effects that were different for high- and low-prejudice people. This constitutes preliminary support for the notion that the relative ease with which people high and low in prejudice activate positive and negative stereotypic features could result not only in divergent automatic stereotype activation, but also in divergent judgment correction: People may correct relative to their (different) activated knowledge.

EXPERIMENT 2: THE ROLE OF AWARENESS

As Experiment 1 left open the question of why awareness of a connection between priming and impression formation promoted these contrast effects, Experiment 2 was designed to investigate the role of awareness more systematically. It has been argued that, for judgment corrections to occur, people should be aware of the potential contaminating influence of the context on the judgment, know the direction of stimulus influence, know how to correct and have the motivation to correct (Strack, 1992; Strack, & Hannover, 1996; Tesser & Martin, 1996; Wegener & Petty, 1997). However, such full conscious awareness of the potential contami-

nating influence of the context on the judgment may not be necessary. There is consensus that correction processes may not be open to introspection (Martin & Achee, 1992; Martin et al., 1990; Newman, Duff, Hedberg & Blitstein, 1996; Wegener & Petty, 1997; Wilson & Brekke, 1994). Current models incorporate, in different ways, implicit processes in judgment correction.

According to the Flexible Correction Model (Wegener & Petty, 1995, 1997), correction processes arise when people become aware of a potential bias, that is, they are set in motion by perceived bias. Naïve theories (which can be verbalized) of how the context can affect the judgment drive corrections and determine their direction. Full conscious awareness of stimulus influence is not always necessary, as repeated experiences with a biasing factor may decrease the amount of conscious awareness necessary to initiate judgment correction (Wegener, Petty & Dunn, 1998). Besides, the correction process itself may not be fully conscious. People can report a perception of bias, but are not necessarily aware of using a certain theory or able to say how they used it (Wegener, Dunn & Tokusato, 2001). However, even when operating implicitly, naïve theories in this model act on the assumed *direction* of stimulus influence—they carry assumptions about how the judgment is influenced that go beyond a mere feeling of bias (see also Moskowitz & Skurnik, 1999).

The Set–Reset model of contrast effects (Martin, 1986; Martin & Achee, 1992; see also Martin & Stapel, 1998) also posits that correction attempts arise when people perceive that the context (e.g., the primes) may contaminate the judgment. But cues in the judgment situation (e.g., blatant primes, lack of fit), which people may not be able to verbalize, can directly prompt a correction process if they render the default use of accessible information inappropriate to interpret the target's behavior. If people have the goal of forming an impression (which involves assessing one's reaction to the target person), an implicit filtering process automatically triggers a correction through "resetting" when it detects irrelevant aspects in the reaction to the target (e.g., not target related, not judgment related): the irrelevant response is deleted and a more relevant one is accessed (Martin & Achee, 1992, p. 205; Martin & Stapel, 1998, p. 234). In subtracting the reaction to the context from the reaction to the target, people may also subtract some of their true reactions to the target, resulting in contrast effects. Correction through resetting involves some cognitive effort to be performed (Martin et al., 1990; Moskowitz & Skurnik, 1999), but activation of

the resetting process and its effect on the judgment lie outside of awareness (Martin & Achee, 1992, p. 205). Thus, corrections in this model can be implicit, not open to introspection and not possible to verbalize. The outcome of corrections, however, are conscious thoughts and feelings from which people construct explanations for the presumed influence of the stimuli upon judgment (Martin & Stapel, 1998). Contrast effects through correction processes were recently obtained in automatic evaluation with parameters that rule out the possibility of deliberate responses (Glaser & Banaji, 1999). Not just comparison, then, but also correction contrast effects can be obtained automatically.

A clear distinction has been made between awareness of the stimulus and awareness of stimulus influence (e.g., Bargh, 1992; Strack, 1992), and it is the latter that, according to many authors, instigates judgment correction (e.g., Martin & Achee, 1992; Strack, 1992; Wegener & Petty, 1995, 1997; Wilson & Brekke, 1994). However, the distinction is blurred when recall of the priming stimuli is used as a measure of stimulus influence or to facilitate such awareness. In fact, the evidence that recall of the priming episodes affects the judgment by promoting contrast effects is contradictory. Priming recall affected impression of the target in some studies (e.g., Lombardi et al., 1987; Newman & Uleman, 1990; Thompson et al., 1994, low-accuracy participants), whereas it was unrelated to the person judgment in others (e.g., Banaji, Hardin & Rothman, 1993, Experiment 2; Ford, Stangor & Duan, 1994; Martin, 1986; Martin, Seta & Crelia, 1990; Stapel et al., 1996, 1997). Besides, recall of the priming events (i.e., awareness of the stimulus) may not necessarily imply awareness of stimulus influence. Lombardi, Higgins and Bargh (1987) found that even remembering a single prime prompted contrast effects: This suggests that participants were not aware of how the prime could affect their judgment (awareness of stimulus influence) (see also Wegner & Bargh, 1998, p. 476). Strack, Schwarz, Bless, Kübler and Wänke (1993) had no direct measure of recall. Participants subtly reminded of the prime rendered contrastive judgments, but were probably not clearly aware of stimulus influence. According to the set–reset model, awareness of the priming episode per se does not lead to contrastive judgments (e.g., Martin & Achee, 1992). If participants recall the primes—and thus are aware of the priming events—but do not attribute to those events the increased accessibility of the concepts in mind, they will use the primed concepts in their judgments, because those concepts will feel like their true reactions to the target. The judgment will then be assimilative, not contrastive.

Experiment 2 was designed to test directly the impact of awareness (of a relation between prime and impression formation) and recall (of the priming words) on the judgment of the target person. On the basis of Lepore and Brown's (1997) model and findings, activation of stereotypes following priming of the category was expected to be different for people high or low in prejudice. When unaware of a connection between priming and impression formation, and thus unaware of stimulus influence, high- and low-prejudice people were expected to render divergent assimilative judgments to the category prime, as in Experiment 1. Suspecting or perceiving a connection between priming and impression formation should trigger a correction process, as it did in Experiment 1. This process could be initiated and carried out implicitly, and result in partialling out of the target judgment content that is accessible, but deemed irrelevant to the target person and the judgment at hand (e.g., Martin & Achee, 1992; Martin & Stapel, 1998). According to Lepore and Brown's (1997) model, knowledge that becomes accessible after category activation is different for high- and low-prejudice people. The correction process should then impact different activated content in these two groups, who should subtract different features from their person judgments. Recall of the priming stimuli is not expected to make a difference if a connection between priming and judgment is not perceived, consistent with the set-reset model (Martin et al., 1990; Martin & Achee, 1992).

METHOD

Participants and Design

Forty university students, white British nationals, agreed to participate. They were paid £2. The design was a 2 (high- / low- Prejudice) \times 2 (Aware / Unaware) between participants.

Procedure

Apparatus and materials were the same used for Experiment 1. Participants were run individually. In one condition participants were told that they would take part in two different experiments, the second one being run for another researcher. In the other condition participants were told that the experiment consisted of two parts which looked different, but were in fact related. To make the instructions more credible, after the lexical decision task the computer stopped and the experimenter used a code to make it continue. The screen instructions then informed the respondent either that the other experiment or that the other part of the ex-

periment would soon start. Participants completed the impression formation task and ratings.

To measure awareness, a double step procedure was used. A question appeared on the screen, asking participants if they thought the two parts / experiments were related. They could press a key from 1 to 5 to indicate how much they thought the tasks were related, from 1 (not at all related) to 5 (very much related). If participants pressed 4 or 5 the computer went on asking them to write down how they thought the tasks were related. A surprise recall task followed: participants were asked to write down all the words they could remember from the lexical decision task. The prejudice scale was then completed. In the extensive individual debriefing the experimenter further probed participants for suspicion and recorded any explanations they gave for task relatedness.

RESULTS

As usual, participants were divided into high- and low-prejudice groups at the median ($= 73$; $SD = 14.48$. $M_{\text{high}} = 60$, $SD = 8.6$, $n = 19$; $M_{\text{low}} = 83$, $SD = 8.4$, $n = 21$). The sets of instructions did not produce reliable differences: participants were or were not aware of a connection between priming and impression formation regardless of the instructions they had been given. Participants were therefore classified as "aware" ($n = 26$) or "unaware" ($n = 14$) on the basis of the double step check of awareness. Classification on this measured variable was used in the analyses reported below. In addition, "aware" participants were further classified as "right" ($n = 12$) or "wrong" ($n = 14$) on the basis of the judged correctness of their answers.⁵ Two judges, unaware of participants' prejudice level, coded respondents' explanations of the link they saw (if they perceived any connection between prime and impression formation) as accurate or not. Agreement was 100%.

5. Answers were considered right when participants mentioned the possibility of being influenced by the words in the lexical decision task or when they mentioned that stereotypes might have been involved (e.g., "The first part seemed to suggest different people and places. I was still thinking about these during the second part. I attached meanings to some of the words and thought about them in relation to the person described." "Stereotype black person in second exercise to some people. First exercise contained many words connected to black people in Britain."). Wrong explanations of the relation between priming and impression formation included those asserting that both tasks were fast, or had to do with memory, etc. (e.g., "Both parts of the experiment test a reaction to a visual stimulus, and how you form a judgment based on that stimulus." "Testing memory and how fast one can transfer thoughts (i.e., in brain) to actions, i.e., writing on computer.").

The number of "hits" on the target and neutral words was calculated from the recall data. Participants were then divided into high or low recall on the basis of a median split of their target words "hit" score. To assess the effects of recall and awareness of stimulus influence on the impression formation task, two separate sets of analyses were conducted.

Effects of Awareness. A 2 (high / low Prejudice) \times 2 (Aware yes / no) \times 2 (positive / negative Valence) mixed ANOVA with repeated measures on the last factor was conducted. The analysis revealed the usual main effect for Valence ($F(1, 36) = 5.19, p < .03$) and the predicted Awareness \times Prejudice \times Valence interaction ($F(1, 36) = 8.34, p < .01$) (see Figure 3).

Analysis of the simple effects revealed that the Prejudice \times Valence interaction was significant only when participants were unaware of a connection between prime and judgment ($F(1, 37) = 8.35, p < .01$), and not when a connection was suspected ($F(1, 37) = .74, n.s.$). Replicating the pattern obtained for unaware participants in Experiment 1, high-prejudice respondents rated the target person more negatively ($M = 6.4$) than low-prejudice participants ($M = 5.1; t(36) = 2.37, p < .025$). High-prejudice individuals also rated the target person less positively ($M = 5.62$) than low-prejudice participants ($M = 6.62; t(36) = -1.81, p < .05$). In addition, high-prejudice participants rated the target person less positively when they were not aware of a connection ($M = 5.62$) than when they were ($M = 6.63; t(36) = -1.96, p < .05$). Low-prejudice respondents rated less negatively when they were not aware of a connection ($M = 5.1$) than when they were ($M = 6.21; t(36) = 2.57, p < .01$). Thus, these comparisons, too, replicate the findings of Experiment 1.

To explore further how awareness affected participants' responses, the analysis was repeated splitting participants who had seen a connection between lexical decision and impression formation into two groups, those who had correctly identified the link and those who had furnished the wrong explanation. The only significant effect was the main effect for Valence ($F(1, 22) = 7.47, p < .02$). Therefore, it appears that it did not matter whether participants accurately perceived how the stimuli could influence their judgments. What seemed to be important in producing assimilation or contrast effects was participants' mere suspicion of a connection.

Once again, a one-way ANOVA conducted on the prejudice scores confirmed that aware and unaware participants did not differ in their re-

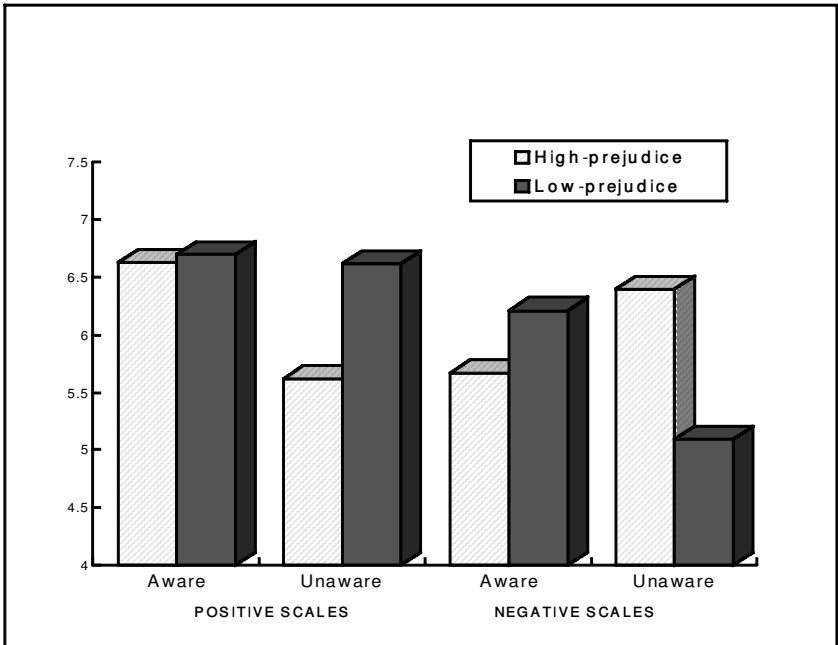


FIGURE 3. Rating of the target person as a function of Awareness and Valence of rating dimensions

sponses on the prejudice measure ($M_{\text{aware}} = 71$, $M_{\text{unaware}} = 75$; $F(1, 38) = .69$, $p < .5$).

Effects of Recall. To investigate the effect of recall of the priming words on judgments of the target person, a 2 (high / low Prejudice) \times 2 (Recall high / low) \times 2 (positive / negative Valence) mixed ANOVA with repeated measures on the last factor was conducted.⁶ A marginally significant Recall \times Prejudice interaction ($F(1, 36) = 3.88$, $p < .06$), indicated that, regardless of valence, high-prejudice participants tended to rate the target person less extremely when they recalled less ($M_{\text{low recall}} = 5.9$, $M_{\text{high recall}} = 6.4$), and low-prejudice participants tended to lower their ratings when they recalled more ($M_{\text{low recall}} = 6.4$, $M_{\text{high recall}} = 6.0$). Because the interaction did not involve Valence, this indicates that recall did not alter systematically the positivity of participants' social judgments in the impression formation task. In fact, the two interactions involving Recall and Valence were both nonsignificant (Recall \times Valence, $F(1, 36) = 1.64$, p

6. Only 2 participants did not recall any priming words at all. Thus, we could not divide participants into "recall" and "not recall" groups as Lombardi et al. (1987) did.

$< .3$; Recall \times Valence \times Prejudice, $F(1, 36) = .00$, n.s.). One would expect that if participants correctly perceived the connection they would recall more priming stimuli but, in fact, these participants did not recall significantly more words. The ANOVA on recall scores by prejudice and 3 levels of awareness (unaware, guessed "wrong," guessed "right") yielded no main effects or interactions (all F s < 1). Participants' mean overall recall was 5.1 words ($SD = 2.4$). Treatment means were: aware "right" 5.7, aware "wrong" 4.9, unaware 4.7. Thus, the effects of recall of priming stimuli and awareness of stimulus influence were independent.

DISCUSSION

Prompted by the pattern reversal due to suspicion of a connection between priming and judgment in Experiment 1, Experiment 2 explicitly tested the role of awareness on impression formation. Consistent with previous research and the set–reset model (e.g., Banaji et al., 1993; Martin et al., 1990; Martin & Achee, 1992; Ford et al., 1994; Stapel et al., 1996), priming recall did not affect the impression formed. In addition, it proved to be unrelated to perception of bias. Although in the present experiment the priming stimuli were conscious and recall of them was to be expected, the connection between priming the category and measuring stereotypic judgments was not direct. The procedure did not imply priming a construct and relying on that same construct for the impression formation task. Thus, recalling the primes did not, in itself, facilitate the perception of a relation between primes and judgment, and hence, perception of a possible bias. All but two participants remembered at least some of the priming words, further proof that priming recall is unrelated to perception of bias. If this were otherwise, only two of our participants should have been *unaware*.

In this experiment, as expected, judgment corrections were promoted by the perception of a connection between priming and impression formation.⁷ We have postulated that high- and low-prejudice people spon-

7. The experimental manipulation of "awareness," perhaps too subtle, was not effective, and thus the findings rest on the measured variable, a double step check of awareness. However, procedures similar to the ones adopted in the current experiments have been used in implicit memory research to classify participants as "aware" or "unaware" (e.g., Bowers & Schacter, 1990; Schacter, Bowers & Booker, 1989). This, coupled with the consistent role of awareness in producing judgment correction in both experiments increases confidence in the measures and findings.

taneously activate different knowledge in response to a category prime. This, again, was confirmed by the lack of negative stereotype activation in unaware low-prejudice participants. Because accessible knowledge is different, judgment corrections triggered by perception of a relation between prime and judgment were divergent in high- and low-prejudice people. Previous research has shown that resetting correction processes involve lowering ratings on dimensions rendered accessible by the prime and increasing ratings on "prime inconsistent" dimensions (Stapel et al., 1998, Experiment 4). Similarly, here high-prejudice participants lowered negative ratings and increased positive ratings of the target when partialling out activation of negative content, and low-prejudice participants did just the opposite.

Priming procedures are designed not to arouse suspicion of the relation between prime and judgment, and people are usually unaware that the priming stimuli can affect their judgment (see also Martin & Stapel, 1998). Thus, it is not surprising that *aware* participants' reports of the connection between the tasks were mostly vague and often wrong. Yet, accessible knowledge in this study was subtracted from the judgment when participants perceived a relation between prime and judgment, no matter how distant from the actual one. This finding is consistent with the set-reset model (Martin, 1986; Martin & Stapel, 1998) that allows for corrections to be initiated automatically and for the process to be beyond introspection. In this model corrections are performed on the content activated by the prime. It follows that, within prejudice level, such corrections would be unaffected by the accuracy of the explanations articulated. Accessible knowledge can be perceived as biasing even implicitly (e.g., Carlston & Smith, 1996, p. 199; Higgins, 1996; Wegener & Petty, 1997, p. 183). Both the absence of difference in judgments rendered by "right" and "wrong" participants and the fact that even "right" low-prejudice people corrected becoming more negative seem to indicate that participants were unaware of the direction and magnitude of stimulus influence.⁸ The corrective contrast effects observed here appear to have been the result of implicit processes.

8. The measure used here may only indirectly reflect participants' perception of bias (e.g., participants could have perceived a stereotypical relation between tasks even when giving the "wrong" explanation). As the question was about the relation between tasks and not about admitting to be influenced (which participants usually deny, see footnote 3), it seems reasonable to assume that what participants reported was what they were able, rather than willing, to verbalize. Besides, the perception at the actual time of judgment may have been even less clear than when thinking about it afterwards. It seems likely that the perception of bias could have been subtle and unspecified here.

GENERAL DISCUSSION

The experiments reported in this paper were concerned primarily with spontaneous and relatively more controlled responses to members of social groups, that is, with the consequences of categorization. The findings confirm the differentiated automatic activation of stereotypes (Lepore & Brown, 1997) and provide the first evidence of divergent judgment correction. In both Experiment 1 and 2 the pattern obtained by Lepore and Brown (1997) with a subliminal prime was replicated using a supraliminal priming procedure. Following activation of the category "black people," negative stereotypic associates were activated only in *unaware* high-prejudice people; positive stereotypic characteristics were activated in *unaware* low-prejudice people. However, in both experiments this pattern reversed if participants had become *aware* of a possible connection between priming and judgment. High-prejudice respondents formed a more positive impression and low-prejudice participants a more negative impression, thus generating contrast effects in their attempts to correct for the perceived influence of the category prime. Recall of the priming words, employed in Experiment 2 as another measure of awareness of stimulus influence, did not affect participants' judgments.

According to Lepore and Brown's (1997) model, categorization does not result in automatic, all-or-none stereotype activation, but in the activation of the endorsed aspects. Divergent assimilative judgments here resulted from an automatic and effortless process of spreading activation (e.g., Collins & Loftus, 1975) because the stronger and more easily activated stereotypical associates differ for high- and low-prejudice people (Lepore & Brown, 1997). Contrast effects emerged when high- and low-prejudice people amended their impressions of the target away from their differentiated spontaneous reactions, resulting in divergent "controlled" judgments. This is consistent with the Lepore and Brown (1997)'s model. Group representations, diversified by the varying endorsement of stereotypic characteristics, seem to determine not only the direction of automatic stereotype activation, but also the direction of its correction.

STEREOTYPE ACTIVATION AND USE

The activation of stereotypes has long been considered automatic and inevitable upon categorization (e.g., Allport, 1954; Bargh, 1999; Devine,

1989; Greenwald & Banaji, 1995). The evidence, however, is not univocal on this point. Specifically, some research has uncovered factors that can prevent or facilitate stereotype activation. Evidence that cognitive busyness (Gilbert & Hixon, 1991), prejudice level (Lepore & Brown, 1997), temporary goals (Macrae et al., 1997; Sinclair & Kunda, 1999), and chronic goals (Moskowitz, Gollwitzer, Wasel, & Schaal, 1999) can impede automatic stereotyping implies that stereotype activation is conditional, rather than unconditional (Macrae & Bodenhausen, 2000). Nevertheless, a view of stereotype activation as uncontrollable is still prevalent (see, for example, Bargh, 1999; Blair, 2001; Monteith & Voils, 2001).

Whilst both assimilation and contrast effects in the present studies are consistent with—and predictable by—Lepore and Brown's (1997) model, both patterns are difficult to predict if the activation of stereotypes is considered to be inevitable and all-or-none: both high- and low-prejudice people should have spontaneously activated the negative stereotype and there should have been no difference between them in automatic processes. But there is no evidence of activation of negative stereotypes in low-prejudice people when *unaware*.

As argued (see discussion of Experiment 1), if stereotypes were inevitably activated and conscious control was needed to respond in a nonprejudiced way, one would expect only low-prejudice people to suppress or correct their response, as they see stereotype use as inappropriate (see Devine & Monteith, 1999). This is not what happened in the present studies. But this inconsistency could be due to the fact that research investigating suppression, discrepancy and self-regulation processes typically employs procedures that invite processes more controlled than the ones seemingly at work here. In research where self-regulation was triggered by a less deliberate process (e.g., using a mirror to elicit self-focus and in turn making self-relevant standards salient), Macrae, Bodenhausen and Milne (1998, Study 5) found that people who deemed stereotype use as appropriate stereotyped more, and people who saw stereotype use as inappropriate stereotyped less. Thus, if self-regulation had been subtly instigated here we would have expected a comparable pattern: high-prejudice people should have evidenced even more negative stereotyping and low-prejudice people should have used negative stereotypes even less when *aware*. The opposite, in fact, occurred in the present studies. Suppression or self-regula-

tion processes are then unlikely to explain the divergent corrections obtained.

What better explains the pattern found here is an implicit correction process based on different spontaneously activated knowledge and resulting in divergent corrections.

AWARENESS AND CONTRAST EFFECTS

It is assumed that comparison contrasts can be obtained through automatic processes and there is mounting evidence to this effect (e.g., Moskowitz & Skurnik, 1999; Stapel et al., 1996; Weary, Tobin & Reich, 2001). Correction processes, instead, are thought to require awareness of bias, knowledge of direction and magnitude of stimulus influence, knowledge of how to correct and motivation to correct (Strack, 1992; Strack, & Hannover, 1996; Tesser & Martin, 1996; Wegener & Petty, 1997). However, awareness based correction models actually allow for the operation of implicit processes (see Martin & Achee, 1992; Martin & Stapel, 1998; Wegener et al., 2001). And implicit corrections seem to explain the current findings best.

Perceiving a connection triggers a correction process as envisaged in the set–reset model (Martin, 1986; Martin & Achee, 1992). The resetting process can start automatically and be beyond the perceiver's introspective capabilities. In this case, the mere feeling that there was a connection between prime and judgment may have promoted corrections which did not differ on account of the explanations articulated. Because high–prejudice people automatically activate negative stereotypic aspects and low–prejudice people may activate the positive features in response to a category prime, different knowledge was accessible and subtracted from the judgment when correcting the initial reaction. In discussing the contrast effects obtained here the meaning and role of awareness has to be addressed.

Firstly, awareness of the primes' influence cannot simply be equated to an ability to recall the priming stimuli. As in other studies (e.g., Banaji et al., 1993; Martin et al., 1990; Ford et al., 1994; Stapel et al., 1996, 1997), in Experiment 2 there was no systematic relationship between a measure of recall and target judgment in the impression formation task. Priming recall was also unrelated to feeling of a relation between prime and judgment, that is, to perception of bias. This suggests that awareness of

stimulus influence and recall of priming stimuli should be considered as conceptually independent.

Secondly, suspicion that there might be a relation between the tasks, whether or not that suspicion was well-founded, proved to have a decisive effect in both experiments. To correct, participants needed to be aware that the prime could influence their judgment, but seemingly they did not need to know *how* it could, (i.e., the direction of stimulus influence). Besides, *aware* participants' corrections were opposite their divergent spontaneous judgments even when their perception of the relation between priming and impression formation, and thus of possible bias, was accurate. This is difficult to explain assuming that the correction process at work rests on full conscious awareness. Fully aware high- and low-prejudice people who had correctly understood the relation between priming and judgment would have assumed that the direction in which the category could influence their judgment was stereotypically negative, and thus both groups would have corrected in the same direction, becoming more positive. It seems less than likely that low-prejudice people would have deliberately corrected the judgment rendering it more stereotypical and negative. The correction processes at work in this case must be more implicit.

According to the FCM, theories can also operate implicitly (e.g., Wegener et al., 2001). This, then, could account for the fact that there was no difference in the kind of corrections obtained when participants perceived the relation between priming and judgment rightly or wrongly. Opposite corrections have been found when people had different theories of bias (Wegener & Petty, 1995, Experiment 4). Different corrections could be predicted in the present case if high- and low-prejudice people had different theories of how the stimuli could affect the judgment. However, this would imply that low-prejudice people assume that the influence of stereotypes on their judgment is positive and therefore correct in the negative direction. Such a possibility, open in principle because theories of bias were not assessed directly, at present appears to be unlikely. The stereotype used here is mainly negative and low-prejudice people know it as well as high-prejudice people do (Lepore & Brown, 1997, Study 1). In addition, about 80% of low-prejudice people in US-based research report being prone to responses more prejudiced than they deem appropriate (Devine & Monteith, 1999). It seems improbable that low-prejudice people would hold such a theory of a posi-

tive stereotypical influence leading them, either implicitly or explicitly, to correct by rendering more stereotypically negative judgments.

Although possible, an interpretation of the present findings in terms of comparison contrasts seems less parsimonious. The negative (for high-prejudice participants) or positive (for low-prejudice participants) stereotypic aspects activated by the category prime could have acted as comparison standards against which the target person was contrasted, but this intermediate step is purely speculative. Crucially, comparison contrasts, observed when exemplars, personalized trait-implying sentences or expectancies are the priming stimuli, suit less well the priming procedure adopted here, and it has been shown that different procedures instigate correction or comparison processes (see Moskowitz & Skurnik, 1999).

The current discussion implies a broad meaning of "awareness" in judgment correction. Admittedly, the measures used in these studies were indirect and further evidence, non correlational in nature and perhaps including an assessment of theories of bias, may be necessary to confirm these conclusions, but the present findings suggest that the mere feeling of a contextual influence may trigger a correction process. Similarly implicit are corrections instigated by mood (see Ottati & Isbell, 1996; Lambert, Khan, Lickel & Fricke, 1997). However, direct empirical evidence of automatic corrections is scarce. Glaser and Banaji (1999) have documented automatic correction contrasts, but in the context of an automatic evaluation paradigm. Stapel, Martin and Schwarz (1998) found that corrections triggered by blatant warnings do not require insight into the source of bias. To our knowledge, the present studies offer the first evidence of implicit corrections in a person perception paradigm, and the first evidence of divergent corrections in stereotyping.

ON BEING (UN)PREJUDICED

When considering the divergent corrections obtained in these studies, at first the attention is caught by low-prejudice people, whose judgment becomes more negative when implicit correction processes act upon their positive activated knowledge. In fact, that corrections have the positive side-effect of reducing negative stereotyping in high-prejudice people may be more unusual and have, potentially, much more important implications. After all, low-prejudice people's judgments only become as negative as the *corrected* high-prejudice people's judgments.

And research has unveiled low-prejudice people's potential for egalitarian responses.

Low-prejudice people have been found capable of nonprejudiced and belief-congruent responses at both the automatic and the controlled level of processing: they do not automatically activate negative stereotypes (Kawakami et al., 1998; Lepore & Brown, 1997), and their responses can be nonprejudiced even on the most uncontrollable type of measure, a physiological one (Vanman, Paul, Ito & Miller, 1997). Low-prejudice people have also been found not to be vulnerable to rebound effects after instructions to suppress stereotypes (Monteith et al., 1998), to be capable of successful self-regulation (Macrae et al., 1998; Monteith, 1993), to feel a moral obligation to respond without prejudice or else experience guilt (Devine et al., 1991; Monteith & Walters, 1998), and to be internally motivated to avoid prejudiced responses (Plant & Devine, 1998). High-prejudice people's reactions are also consistent with their beliefs, and thus their responses tend to be stereotypical and prejudiced at the automatic and controlled level of processing: they activate negative stereotypes (Kawakami et al., 1998; Lepore & Brown, 1997; Wittenbrink et al., 1997), and generally use them, as they do not experience guilt for prejudiced responses (Devine et al., 1991; Monteith & Walters, 1998). They are, however, externally motivated to avoid stereotyping (Plant & Devine, 1998), and thus will avoid prejudiced responses if a social norm is salient, or under outcome dependency (Monteith & Voils, 2001).

To be sure, the judgment situation that the present studies might mirror is not one where full conscious control is possible as, for example, when evaluating job applicants. Full awareness that a bias may taint the judgment would lead to correction and even overcorrection for the perceived bias (Wegener & Petty, 1997; Wilson & Brekke, 1994). According to Wegener and Petty (1997), low-prejudice people, having the motivation to correct, would be more likely to do so. High-prejudice people could correct too if a norm against discrimination was salient. But situations are not always so clear-cut. Devine and Monteith (1999) have argued, for example, that in some cases it may not be clear what response is egalitarian. The present data suggest that in more ambiguous judgment situations and in the absence of external motivation implicit corrections may lead to less stereotyping on the part of high-prejudice people, acting as an internal trigger for people who, usually, are only motivated externally. Research has concentrated more on low-prejudice people than on

high-prejudice people in regard to stereotype activation and use (Monteith & Voils, 2001). But how high-prejudice people react in different situations should be considered thoroughly, as these may be the people for whom effective prejudice reduction strategies are more necessary. The present research provides the first evidence that implicit corrections can reduce prejudiced responses in *prejudiced* individuals. Although further research is surely needed to elucidate this point and fully draw its implications, the first glimpses of such spontaneous reductions of stereotyping in prejudiced people could be a promising beginning.

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