Mood and the Correction of Positive Versus Negative Stereotypes

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The present research examined the effects of sadness on the correction of social stereotypes. Participants who either were or were not induced to feel sad were asked to form an impression of a single individual who belonged to a group that had either stereotypically positive or negative implications. Experiments 1 and 2 showed that sad people corrected for their negative, but not for their positive stereotypes. Experiment 3 demonstrated that this asymmetry was not due to stereotype valence per se but to whether the stereotype was perceived as an inappropriate basis for judgment. A model is presented that suggests that sad people do not simply ignore category-based information, but rather correct for their stereotypes only when they are perceived as inappropriate, which tends to be more often the case if the stereotype is negative than if it is positive. The implications of the present results for 4 extant models of mood and information processing are discussed.

Psychological research on stereotyping has recently undergone an important shift in focus. Throughout much of the 1980s and 1990s, researchers devoted a great deal of attention to the factors that increase people’s reliance on stereotypes as a basis for judgment. Stimulated by the seminal writings of Allport (1954), researchers have, for example, emphasized the functional role of stereotypes in simplifying a complex environment (Bodenhausen & Wyer, 1985; Gilbert & Hixon, 1991; Macrae, Milne, & Bodenhausen, 1994; Rothbart, Fulero, Jensen, Howard, & Birrell, 1978). Still other researchers have conceptualized the benefits of stereotype use in more motivational terms, such as self-enhancement (Tajfel & Turner, 1986) or other types of goal-directed processing (e.g., Kunda, 1990). Very recently, however, psychologists have turned their attention toward the process by which people avoid using their stereotypes by means of a class of processes variously termed stereotype suppression, inhibition, correction, or adjustment (Wegner, 1994; Wilson & Brekke, 1994; see also Martin & Achee, 1992; Wegener & Petty, 1995). These processes have been examined in a number of different paradigms, including conditions in which participants are explicitly asked to avoid stereotypic bias (Erber, Wegner, & Bowman, 1996; Macrae, Bodenhausen, Milne, & Jetten, 1994), anticipated public settings (Lambert, 1996; see also Lambert, Cronen, Chasteen, & Lickel, 1996), or experimental inductions of self-awareness (Bodenhausen & Macrae, 1996).

The focus of the present article is on how these sorts of stereotype-correction effects might be moderated by mood. On the one hand, the interface between mood and social judgment has recently attracted a great deal of attention (e.g., Forgas, 1992; Mackie & Hamilton, 1993; Sinclair & Mark, 1992), and there is little doubt that mood can have a powerful effect on people’s judgments of, and behavior toward, individual group members. Nevertheless, the majority of empirical work in this area has examined the processes by which mood increases the extent to which people rely on stereotypes (Bodenhausen, Kramer, & Susser, 1994; Bodenhausen, Sheppard, & Kramer, 1994; Esses, Haddock, & Zanna, 1993; Hamilton, Stroessner, & Mackie, 1993; Stroessner, Hamilton, & Mackie, 1992). However, less is known about the kinds of moods that might lead to stereotype correction and the processes that mediate these effects.

The present research was designed with two goals in mind. First, we wished to understand the process by which mood plays a role in stereotype correction. A secondary goal was to tease apart the viability of several models of mood and information processing (cognitive capacity, mood as information, mood maintenance, hedonic contingency). In carrying out these objectives, we focused on both positive and negative stereotypes. This feature not only enabled us to more effectively test the viability of these models, but it also allowed us to address the different ways that people might correct for their positive versus negative stereotypic beliefs. As will be made more clear later, positive and negative stereotypes differ in the extent to which they are seen as an appropriate basis for judgment, a fact that looms large when considering when and why people might correct for their stereotypes.

It is important to note that two recent investigations also have explored the effects of mood in stereotype correction (Bless, Schwarz, & Wieland, 1996; Bodenhausen, Sheppard, & Kramer, 1994). However, neither of these investigations considered the moderating effects of perceived appropriateness in stereotype correction, nor did they consider the full range of theoretical
models that were examined in this article. We shall consider the implications of our findings for these investigations after the present results have been reported.

Four Theoretical Perspectives on Mood and Stereotyping

Before considering the more specific role of mood in stereotype correction, it is first necessary to consider four general models of mood and social judgment. Although the hypotheses reviewed below do not represent an exhaustive survey of all extant theoretical models, they represent those that are most relevant to the present experimental paradigm.

Cognitive Capacity Hypothesis

A number of researchers have suggested that moods can lead to diminished processing capacity due to the distracting effects of the mood itself, the thoughts associated with it, or both. This notion has been suggested for positive moods (Mackie & Worth, 1989) as well as negative moods (Ellis & Ashbrook, 1988; Ellis, Thomas, & Rodriguez, 1984; Leight & Ellis, 1981; Watts & Cooper, 1989). To this extent, people placed in a particular mood (e.g., happiness) should, relative to people in neutral moods, be more likely to engage in "labor-saving," heuristic-based processing, including increased reliance on stereotypes.

Mood-as-Information/Input Hypothesis

According to Schwarz (1990; see also Martin, Ward, Achee, & Wyer, 1993), moods act as informational input, alerting the perceiver to the necessity of engaging in either heuristic or systematic thought. Depending on perceivers' goals at the time of judgment, happiness can serve as a signal that there are no pressing problems to be solved in the environment, leading people to engage in heuristic processing. On the other hand, sadness should alert the perceiver that there is a problem to be solved in the environment, thus leading to more systematic, careful thought.

Mood Maintenance Hypothesis

This perspective is based on a simple assumption, namely, that people are generally motivated to maintain their positive moods and repair their negative moods (Isen, 1987). Although this assumption has been studied extensively in the helping literature (Schaller & Cialdini, 1990), it is potentially relevant to the stereotyping domain as well. However, because the primary motivation for stereotype use within the constraints of this model is to maintain good mood (and repair negative mood), the extent to which mood plays a role in stereotyping depends critically on the evaluative implications of the judgment to be made and its likely effect on the perceiver’s mood state. We return to this point presently.

Hedonic Contingency Hypothesis

The hedonic contingency hypothesis (Wegener, Petty, & Smith, 1995; see also Wegener & Petty, 1994) makes predictions for happiness that are similar to the mood repair hypothesis, namely, that people who are happy should strategically focus on tasks and information that preserve their good mood. In contrast to the assumptions typically held by mood repair theorists, however, Wegener et al. (1995) explicitly argued that people in sad and neutral moods should not differ in their choice of processing strategies. This assertion is based on the line of reasoning that when people are sad, almost any task (regardless of its nature) could presumably improve their moods, and thus sad people should be less "choosy" about the sorts of information and tasks on which they focus. In particular, Wegener et al. argued that "because hedonic rewards are relatively non-contingent in sad moods, and current feelings (as well as motives to manage the feelings) might not be salient in neutral moods, there might be little difference in the level of mood management found in neutral vs. sad moods" (Wegener et al., 1995, pp. 6–7).

Empirical Support in the Stereotyping Domain

Although all four hypotheses discussed above are potentially applicable to the stereotyping domain, the mood repair and hedonic contingency hypotheses have received limited attention in the stereotyping literature, and thus their viability in the stereotyping domain is not yet clear. As for the cognitive capacity and the mood-as-information hypotheses, the evidence is mixed, with some studies clearly providing more support for the mood-as-information hypothesis (e.g., Bodenhausen, Kramer, & Susser, 1994; Bless et al., 1996) but other studies showing more support for the cognitive capacity hypothesis (Hamilton et al., 1993; Mackie & Worth, 1989; for a review, see Clore, Schwarz, & Conway, 1994).

Implications for Sadness

One interesting similarity of the four hypotheses noted above is that they often predict greater use of heuristics (e.g., stereotypes) if people are happy than if they are not (cf. Schwarz, Bless, & Boerner, 1991; but see Bodenhausen, Kramer, & Susser, 1994). For example, the mood-as-information and cognitive capacity hypotheses both predict that people should be more likely to use their stereotypes if they are happy than if they are not. In contrast, sadness represents a mood for which all four theoretical models offer distinct predictions. To show these implications more clearly, Table 1 summarizes the predictions that arise out of each of the preceding hypotheses for sadness. (These predictions are framed in comparison to people in neutral moods.)

Turn first to the cognitive capacity hypothesis. Although there are some reasons to surmise that happiness might be somewhat more distracting than sadness (cf. Isen, 1987), it seems reasonable to suppose that being in a moderately sad mood would be more distracting than being in a neutral mood (see especially Ellis & Ashbrook, 1988). To this extent, the cognitive capacity hypothesis predicts increased use of stereotypes, because of the diminished capacity to process information carefully. In contrast, the mood-as-information hypothesis makes the diametrically opposite prediction, namely, that sad people will show decreased use of stereotypes, because of the motivation to process information carefully.

The mood repair hypothesis makes yet a different prediction.
Sad people should be motivated to carefully attend to certain information and tasks, but only to the extent that they anticipate that this will improve their mood. Several theorists (e.g., Tajfel & Turner, 1986) have argued that people often bolster their sense of self-esteem by focusing on their membership in valued social categories (in-groups) and their nonmembership in categories that they dislike (out-groups). To this extent, it seems plausible that sadness might increase the extent to which people rely on stereotypes (as manifested by increased favoritism to categories that they dislike). To this extent, it seems plausible that sadness might increase the extent to which people rely on stereotypes (as manifested by increased favoritism toward in-group members, derogation of out-group members, or both). An additional prediction offered by this hypothesis is that this will improve their mood. Several theorists (e.g., Tajfel & Turner, 1986) have argued that people often bolster their sense of self-esteem by focusing on their membership in valued social categories (in-groups) and their nonmembership in categories that they dislike (out-groups). To this extent, it seems plausible that sadness might increase the extent to which people rely on stereotypes (as manifested by increased favoritism toward in-group members, derogation of out-group members, or both).

An additional prediction offered by this hypothesis is that people in sad moods are not likely to process information any differently from people in neutral moods. To this extent, people should use their stereotypes in essentially similar ways, regardless of whether they are in a sad or neutral mood.

Table 1
Predictions of Four Hypotheses for the Effects of Sad Mood on the Use or Disuse of Stereotypes Relative to People in Neutral Moods

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Prediction</th>
<th>Mediating mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive capacity</td>
<td>Increased stereotype use</td>
<td>Diminished cognitive capacity</td>
</tr>
<tr>
<td>Mood as information/input</td>
<td>Decreased stereotype use</td>
<td>Motivation to process information carefully</td>
</tr>
<tr>
<td>Mood maintenance</td>
<td>Depends on category/task valence</td>
<td>Motivation to improve mood</td>
</tr>
<tr>
<td>Hedonic contingency</td>
<td>No difference</td>
<td>None</td>
</tr>
</tbody>
</table>

Overview of Experiments

Three experiments are reported. In each, our primary goals were to understand how experimental inductions of mood would influence stereotype use and to gain greater insight into the theoretical mechanisms responsible for these effects. Because our interest was in drawing general implications about stereotype correction (rather than the possibly idiosyncratic mechanisms that might be specific to any given stereotype), each of the three experiments focused on a different stereotyped group. As will be seen, one of the strengths of the present research is that we were able to show converging evidence for these effects.

Participants and Design

A total of 125 participants (43 male and 82 female) participated in return for course credit. The experiment included three between-subject factors, including participants' group attitudes (favorable vs. unfavorable), target's group membership (member vs. nonmember), and mood (happy, neutral, sad). None of the effects reported below were contingent on participant gender, and thus the analyses reported below are collapsed over this factor.

Procedure and Materials

Initial attitude assessment. Prior to the main study, participants completed a 25-page personality battery, part of which assessed participants' attitudes toward a wide variety of groups, including sorority members. These ratings were made along a scale ranging from -5 (very very unfavorable) to +5 (very very favorable). Participants whose scores fell above or below the median (0) were classified as pro-sorority or anti-sorority participants, respectively.

Mood induction. Approximately 2 months after completing the personality inventory, participants were called back to participate in an ostensibly unrelated set of studies. The first task was described as a "social memory" study but was, in fact, a mood manipulation similar to the one used by Strack, Schwarz, and Gschneidinger (1988), which has been used successfully by a number of researchers in the stereotyping domain (e.g., Bodenhausen, Kramer, & Susser, 1994; Bodenhausen, Sheppard, & Kramer, 1994). Participants in the sad mood condition were instructed to "recall an episode in your life that made you feel very sad and continues to make you sad whenever you think about it, even today." For participants in the happy condition, these instructions were identical, except that the term happy was substituted for sad. The remaining third of the participants were asked to recall the mundane events in their daily routines. All participants were given 8 min to com-
complete this task. To verify the effectiveness of this manipulation, participants were, after the completion of this task, presented with a number of mood-state adjectives and were asked to rate how well each term described them along a scale ranging from 1 (not at all) to 7 (extremely).

Impression formation task. After the mood induction task, participants were told that the second study was designed to "examine how people form impressions of others on the basis of social information they receive about others" and were told to form the most accurate impression they could on the basis of the information provided. Following this, participants were provided with a biographical sketch about the target that indicated her name, age, place of birth, major, and campus activities. In the group member condition, this information indicated that the target belonged to three organizations: sorority, film board, and Student Life. In the nonmember condition, this information included only the latter two groups.

Behavioral description. The individualizing information about the target was evaluatively ambiguous and was conveyed in a three-paragraph description of her social behavior. The description, which was adapted from a similar passage used successfully by Lambert and Wyer (1990), was carefully designed to be relevant to both the positive and negative stereotype about sorority members. Specifically, aspects of her behavior were relevant to, and could be interpreted in terms of, the positive stereotype of sorority members as warm, kind, and sociable. However, certain elements of the passage were relevant to the negative stereotype of sorority members as socially insecure, snobbish, and materialistic.

Assessment of Dependent Variables

After the target descriptions were collected, participants were asked to rate the target with respect to a series of trait dimensions along a scale ranging from 0 (not at all) to 10 (extremely). On a priori grounds, our main interest was ratings of the target with respect to three traits that were relevant to the positive stereotype about sorority members (sociable, warm, and kind) and three traits that were part of the negative stereotype (materialistic, snobbish, and insecure). For purposes of the analyses reported below, we formed one positive and one negative stereotypic composite on the basis of averaging across these two sets of traits, respectively.

After making the trait ratings of the target, participants in the group member condition were provided with a surprise free-recall task in which they were asked to recall the "background information" that had been provided about the target at the top of the page.

Results

Manipulation Checks

Mood. Participants in the happy condition rated themselves as most happy (M = 3.18), followed by participants in the neutral (M = 2.56) and those in the sad condition (M = 1.97). F(2, 122) = 16.45, p < .001. Similarly, participants in the sad condition rated themselves as most sad (M = 2.69), followed by participants in the neutral condition (M = 1.58) and those in the happy condition (M = 1.42), F(2, 122) = 21.59, p < .001. Thus, the manipulation of mood was successful.

Recall of target membership. Out of the 62 participants who had been assigned to the group membership condition, only 9 failed to spontaneously recall that the target was a sorority member. The results reported below exclude these participants from analyses.

Effects of Mood on Judgments of the Target

We analyzed judgments of the target with a mixed model, repeated measures analysis of variance (ANOVA) in which participant attitude (pro-sorority vs. anti-sorority), group membership (member vs. nonmember), and mood (happy, neutral, sad) were treated as between-subject factors and judgment type (stereotypically positive vs. negative) was treated as a within-subject factor. Preliminary analyses revealed a near-significant four-way interaction involving all four relevant variables in the design, F(2, 104) = 2.65, p = .076. The pattern of means relevant to this interaction is shown in Table 2. In interpreting these data, our main interest was in examining how activation of participants' stereotypes about sorority members would influence judgments of the target compared to when the group stereotype was not activated and how such effects might vary as a function of mood. To make these implications more clear, Table 2 also shows the pattern of difference scores, which represents the relative difference in how participants judged the target across the three mood conditions when their group stereotype either was or was not activated.

Because of the complexity of the design, it is useful to focus first on the conceptual "cell" that has been explored most often by previous researchers in the mood and stereotyping area. This would correspond to the lower right-hand corner of Table 2, in which participants with stereotypical negative attitudes made judgments that were relevant to their negative stereotype about the group. It is worth noting that we replicated previous findings by Bodenhausen, Kramer, and Sussler (1994), showing greater use of the negative stereotype when participants are happy than when they are not (Mdiff = −1.70 vs. −0.68). This pattern was completely reversed in the sad condition, such that the target was rated more favorably if she was identified as belonging to this disliked group than if she was not (Mdiff = 1.15). In contrast, when anti-sorority participants rated the target with respect to stereotypically positive traits, mood had no effect whatsoever. This asymmetry was confirmed statistically by the fact that when we conducted analyses on just the anti-sorority participants, a highly significant three-way Mood × Group Membership × Judgment Type interaction emerged, F(2, 60) = 5.85, p < .01, which reflected the fact that mood moderated judgments when participants made judgments with respect to stereotypic negative traits, F(2, 60) = 8.77, p = .057, but not positive traits (F < 1.0).

The null effect for positive traits noted above could be explained by the fact that these traits are not actually part of anti-sorority participants' personal (i.e., negative) stereotypes about the group. For example, it could be that mood influences judgments only when they are included in participants' personal beliefs about the category. Note, however, that the positive traits are part of pro-sorority participants' stereotypic beliefs. Turning toward these participants, mood had no reliable effects at all, and this was true not only for the positive traits but also for the negative traits (both Fs < 1.0).

Discussion

Implications for Previous Investigations

The results from Experiment 1 show that mood moderated the way that people used their stereotypes, but only under one limited condition, namely, when participants with "anti" group attitudes judged the target with respect to traits that were part...
of their negative group stereotype. This condition is notable for the fact that it represents precisely the type of condition that Bodenhausen, Kramer, and Susser (1994) investigated in their research. Indeed, we nicely replicated their findings, showing greater reliance on negative stereotypes among happy compared to neutral participants. In addition to this finding, however, we showed that participants who were sad showed precisely the opposite pattern. Here, sad participants appeared to be correcting (or, more accurately, "overcorrecting") for their negative group attitudes, such that they actually judged the target group more favorably if she belonged to a disliked group than if she did not.

These findings are not consistent with either the cognitive capacity or the hedonic contingency hypotheses. The cognitive capacity hypothesis predicts greater use of stereotypes when one is in a happy and sad mood, but this clearly did not happen. Second, the hedonic contingency hypothesis predicts no difference at all between participants in neutral versus sad moods. The null effects that arose for the “pro” participants were consistent with this prediction but, on the other hand, this model cannot explain the effects that arose for the “anti” participants. These results are also somewhat problematic for the mood maintenance hypothesis. In particular, it is unclear why inductions of happiness and sadness would lead to differential use of stereotypes for participants with negative, but not positive, attitudes.

This leaves the mood-as-information hypothesis. It is worth noting that, in its present form, this model cannot account for these data. This is because there is nothing in this perspective (as articulated by Schwarz, 1990) that would lead one to expect asymmetries of the sort we found in this work with respect to positive versus negative stereotypes. Nevertheless, we believe that, with an important set of modifications and additional theoretical assumptions, a new framework based on certain aspects of the mood-as-information account can offer an intriguing, although speculative, account of our results. We present here a brief outline of a working framework that we subjected to further empirical scrutiny in Experiments 2 and 3.

### A Working Framework

Several current models of stereotyping assume that judgments of single group members are often guided by a two-stage “activation and then correct if able/motivated” process (e.g., Bodenhausen, Kramer, & Susser, 1994; Devine, 1989). That is, assuming that the group stereotype has been activated, perceivers correct for its biasing influence, but only to the extent that they are motivated or able to do so. It is important to keep in mind that our participants were given the goal to form an accurate impression of the target. Under this goal, it seems likely that anti-sorority participants would view their negative attitudes as inappropriate to the judgment at hand. Hence, to the extent that they are motivated to correct for these attitudes, participants should presumably shift their judgments in a more favorable direction. Recall that the mood-as-information hypothesis suggests that people in happy moods should be less motivated to process information carefully than people in sad moods. Thus, to the extent that happiness decreases the motivation to correct for one’s stereotypes (and sadness increases this motivation), this would explain why our participants used their stereotypes when they were happy but (over) corrected for it when they were sad. These sorts of overcorrection effects are consistent with research in other domains showing that people sometimes “overadjust” when they are attempting to correct for a known bias (cf. Wegener & Petty, 1995; Wilson & Brekke, 1994).

But what of positive stereotypes? We suspect that, in many cases, positive stereotypes are less likely to be considered inappropriate sources of information compared to negative stereotypes. In many social contexts, for example, it is considered perfectly appropriate, and even expected, that people will express favorable feelings about groups they like or are affiliated with. For example, it would not be considered rude or inappro-

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**Table 2**

<table>
<thead>
<tr>
<th>Target group membership</th>
<th>Happy mood</th>
<th>Neutral mood</th>
<th>Sad mood</th>
<th>Happy mood</th>
<th>Neutral mood</th>
<th>Sad mood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pro-sorority</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Member</td>
<td>7.73</td>
<td>8.00</td>
<td>7.67</td>
<td>6.92</td>
<td>7.09</td>
<td>7.50</td>
</tr>
<tr>
<td>Nonmember</td>
<td>7.70</td>
<td>7.17</td>
<td>8.22</td>
<td>7.19</td>
<td>7.45</td>
<td>8.19</td>
</tr>
<tr>
<td>Difference</td>
<td>0.03</td>
<td>0.83</td>
<td>-0.55</td>
<td>-0.27</td>
<td>-0.36</td>
<td>-0.69</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stereotypically positive traits</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Stereotypically negative traits</td>
<td></td>
<td></td>
<td></td>
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</table>

Note. In all cases, higher numbers indicate more favorable impressions of the target.
appropriate to convey that one likes Parisians, that New Englanders are a hardy lot, or that the members of a campus group are friendly and nice. Note that in almost every way, these belief systems are stereotypes (e.g., they are overgeneralizations, are often wrong, are resistant to change, etc.). Yet it is not considered inappropriate to think or even express these sentiments openly.

To the extent that this line of reasoning has merit, the second, "correction" stage may often become moot for positive stereotypes. In other words, once a positive stereotype has become activated, then people may simply use the activated information in the course of forming an impression, integrating the implications of this information with other relevant information known about the target. More important, the question of whether people are, or are not, motivated to correct for the stereotype—and, hence, the role of mood in increasing or decreasing this motivation—becomes largely irrelevant in this case. A somewhat different way of looking at this idea is that mood plays a role in a stage of processing (correction) that may be less pronounced, or absent, in the case of positive stereotypes. This could explain why mood failed to moderate judgments of the target when participants' stereotypic expectations were positive.

Experiment 2

Although the working framework presented above provides an adequate account of our data, the fact that Experiment 1 relied on participants' self-selection into attitudinal condition raises the alternative possibility that only a certain kind of people correct for their stereotypes. We eliminated this ambiguity in Experiment 2 by randomly assigning participants to conditions in which they had favorable or unfavorable stereotypic expectations about the target. As in Experiment 1, we varied the valence of these stereotypic expectations in combination with participants' mood. If the working framework noted above is correct, then a straightforward prediction follows. When participants are sad, they should correct for their stereotypical expectations by shifting their judgments of the target away from the evaluative implications of the stereotype. However, this correction effect should occur only when these expectations are negative. When these expectations are positive, placing participants in a sad mood should have no effect at all. This should result in a Stereotype Valence × Mood interaction.

In this experiment, we relied on the fact that college students have well-defined expectations in terms of what sorts of individuals are likely to be sympathetic toward the plight of street people (panhandlers). We found through informal pilot testing that our undergraduates generally believe that conservative persons would be less sympathetic toward these persons than would liberals. Naturally, this does not mean that participants generally believe that liberals are more likable than conservatives, and we do not make this claim. Rather, we argue that when considering how liberals versus conservatives might act toward street people, the former class of individuals would be expected to behave more favorably than the latter. Hence, when we use the terms positive stereotype and negative stereotype we refer to the set of stereotypical assumptions that participants make about the behaviors expected to be performed by these two classes of individuals in this domain.

In addition to varying the evaluative implications of the category, we manipulated the implications of the target's individuating behaviors (sympathetic vs. unsympathetic). Although we had no specific predictions for this variable, manipulating the target's individuating behaviors allowed us to test some important assumptions that we had about the typical behaviors that are associated with each of the two categorical conditions and also allowed us to explore the generalizability of our results.

Method

Participants and Design

A total of 118 participants (57 male, 61 female) participated in return for course credit. The experiment included three between-subject factors: stereotype valence (favorable vs. unfavorable), behavior type (favorable vs. unfavorable), and mood (sad vs. neutral). None of the effects reported below were contingent on participant gender and thus are collapsed over this factor.

Procedure and Materials

Mood manipulation. Induction of mood was identical to the manipulation used in Experiment 1, except that half of the participants were assigned to the sad condition and half were assigned to a neutral condition.

Impression task. After the mood manipulation, participants were told that the next study was concerned with the processes by which people formed impressions of others and that, on the basis of the information they would be provided about another person, they should form the most accurate impression of the target that they could.

At the top of the page, participants were provided with information

1 An assumption of our model is that people generally perceive that it is more appropriate to rely on or "voice" their positive stereotypes rather than their negative stereotypes. We assumed this to be true on the basis of the strong norms in our society to not prejudge others negatively coupled with the relative absence of such norms for prejudging others positively. To show this effect empirically, we conducted a small pilot study (N = 17) in which we provided participants with several examples of stereotypic beliefs about a number of categories (e.g., liberals, conservatives, people that live in New England, sorority members) that varied within participants as to whether they were positive or negative in their implications (e.g., beliefs that people that live in New England are friendly or unfriendly). For each stereotypic belief, participants rated the extent to which it would be appropriate to rely on this information as a basis of judgment, on a scale ranging from 0 (not at all appropriate) to 10 (extremely appropriate). Collapsed over the particular stereotype that was measured, participants generally considered positive stereotypes to be more appropriate (M = 6.57) than negative stereotypes (M = 3.68, p < .01).

2 Some support for the notion that people are more likely to correct for negative than for positive information about others is derived from work in the "disregard" paradigm (e.g., Wyer & Budesheim, 1987), which has shown that when participants are told to disregard some aspects of the target before rendering their final judgments, adjustment is often larger when the information has unfavorable, rather than favorable, implications.

3 We also measured participants' own political ideology, to test whether the behaviors associated with liberals versus conservatives vary with participants' own ideological beliefs. However, we found no effects of participants' own ideology, and thus the reported results are collapsed over this factor.
about the target's gender (male in all cases), name, year in school, age, place of birth, major, and the student organizations to which he belonged. For half of the participants, the target was identified as a business major and the participants were told that he belonged to the following student organizations: Student Reporter, Student Coalition for Conservative Values, Film Board, and Student Union. The other participants were given the identical background information but were told that the target was a fine arts major and belonged to the Coalition for Liberal Action. 

Individuating behaviors. In the space beneath the background information, participants were provided with a short description of the sequence of events in one day of the target's life. In one critical passage, the target person went downtown to do some shopping and on the way encountered some street people who were panhandling in front of some shops. In the favorable condition, the target was described in rather sympathetic terms. The following is a short excerpt from this version:

Paul sometimes felt sorry for homeless persons, and in the past had wondered why the city couldn't do more to help them get back on their feet. Last year he signed a petition which supported the development of a municipal shelter that would offer support for the homeless, but unfortunately it seemed like things hadn't changed much.

In the unfavorable condition, the target's behaviors were much less sympathetic:

Paul sometimes felt irritated with homeless persons who stood in front of stores, and in the past had wondered why the city couldn't do more to keep them from bothering other people. Last year Paul signed a petition which supported an ordinance that would prohibit homeless persons from congregating in front of businesses, but unfortunately it seemed like things hadn't changed much.

Assessment of Dependent Variables

Personality ratings. After reading the target description, participants rendered their overall evaluation of the target on a scale ranging from -5 (very unfavorable) to +5 (very favorable). Following this, participants were provided with 24 trait terms that pertained either to the general dimension of sympathy (e.g., sympathetic, compassionate) or to other positive or negative traits unrelated to the target paragraph. These traits were rated along a scale ranging from 0 (not at all) to 10 (extremely).

Free recall. After providing their ratings of the target, participants were presented with a surprise recall task in which they were asked to recall as much about the background information as they could.

Typicality ratings. Participants were then asked to indicate the extent to which the target's behaviors were consistent with the implications of the background information. These ratings were made on a scale that ranged from 0 (not at all typical) to 10 (extremely typical).

Scoring. When we submitted participants' evaluative and trait ratings to a principal-components factor analysis with varimax rotation, the primary factor to emerge from this analysis appeared to represent a general evaluative-sympathy factor and included the following items, all of which loaded higher than .50 on this factor: the overall evaluation of the target and the trait ratings of likable, kind, warm, sympathetic, compassionate, tolerant, and insensitive. We formed an average of these items, henceforth referred to as the sympathy composite.

Results

Manipulation Checks

Mood check. Participants in the sad mood condition rated themselves as more sad than participants in the neutral condition ($M_s = 2.58$ vs. 1.41), $F(1, 116) = 35.28, p < .001.$

Category membership. Nearly all participants recalled either (or both) the target's membership or his academic major. The 15 participants who did not recall either of these pieces of information were excluded from further analyses. (These persons were distributed equally across the manipulation of mood, expectancies, and behavior type [$p$s for all relevant chi-squares $> .20].)

Typicality ratings. We assumed that participants assigned to the liberal condition would have more favorable expectations about the target than would participants in the conservative condition. This suggests that participants should judge the liberal target as more typical when his behaviors were favorable than when they were unfavorable, whereas the reverse should be true for the conservative target. This was in fact the case. The liberal target was rated as more typical when his behaviors had favorable implications (i.e., strongly implied sympathy and compassion) than when they did not ($M_s = 6.43$ vs. 3.24), whereas the reverse was true for the conservative target ($M_s = 4.50$ vs. 6.21), $F(1, 95) = 29.66, p < .001.$ These effects were not contingent on mood $F < 1.0.$

Judgments of the Target

We submitted the sympathy judgments to a Mood $\times$ Stereotype $\times$ Behavior ANOVA. The pattern of means corresponding to these analyses is shown in Table 3. The implications of these data are seen much more clearly if one focuses first on the neutral mood condition. As one can see in Table 3, the stereotypic expectations about the target, and his individuating behaviors, had strong additive effects on judgments when people were in neutral moods. Collapsing over the kinds of behaviors he performed, the target was judged more favorably if participants' expectations were favorable than if they were not ($M_s = 5.46$ vs. 4.35, $p < .01$). In addition, the target was judged more favorably if his behaviors exemplified sympathy than if they did not ($M_s = 6.32$ vs. 3.29, $p < .01$). Although not surprising, these data show clearly that under "baseline" (i.e., nonmanipulated) mood conditions, manipulation of participants' expectations about the target as well as his actions had their intended effect on participants' judgments.

Of more interest was how these effects were influenced by the induction of sad mood. Our framework suggests that participants should correct for their stereotypic expectations about the target but that these correction effects should be more pronounced when these expectations are negative than when they are positive. This should result in a Mood $\times$ Expectancy Type interaction. The predicted interaction was, in fact, obtained, $F(1, 95) = 4.17, p < .05.$ Consider first the pattern of means when participants' expectations about the target were favorable (left side of Table 3). Manipulation of sad versus neutral mood had no reliable effects at all in this case, either on its own ($F = \ldots$)

5 This manipulation obviously confounds academic major and political affiliation. In this study, however, we were less concerned with teasing apart the implications of these two pieces of information than with providing a strong manipulation consisting of two (rather than one) aspects of the target, both of which were part of a more global prototype of the kind of student who is either Fickly, or not likely, to be sympathetic toward street people.
Table 3
Sympathy Judgments of the Target as a Function of Expectations About Target, Target Behaviors, and Mood: Experiment 2

<table>
<thead>
<tr>
<th>Stereotypic expectation</th>
<th>Favorable (liberal target)</th>
<th>Unfavorable (conservative target)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of behavior/mood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral mood</td>
<td>7.34</td>
<td>5.70</td>
<td>+1.64</td>
</tr>
<tr>
<td>Sad mood</td>
<td>6.99</td>
<td>7.17</td>
<td>-0.18</td>
</tr>
<tr>
<td>Difference</td>
<td>+.35</td>
<td>-1.47</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neutral mood</td>
<td>3.58</td>
<td>2.99</td>
<td>+.59</td>
</tr>
<tr>
<td>Sad mood</td>
<td>3.67</td>
<td>3.62</td>
<td>.05</td>
</tr>
<tr>
<td>Difference</td>
<td>-.09</td>
<td>-.63</td>
<td></td>
</tr>
</tbody>
</table>

Note. Values shown are composite sympathy judgments; the scale ranged from 0 (not at all sympathetic) to 10 (extremely sympathetic).

0.10) or in combination with behavior type (F = 0.31). In contrast, our framework suggests that sad participants should strongly correct for their negative stereotypes, which should result in more positive judgments of the target compared to the neutral mood condition. As seen on the right side of Table 3, this is exactly what happened, F(1, 48) = 6.30, p < .05, for the main effect of mood. This effect appeared to be bigger when the behaviors were positive than when they were negative, but the two-way interaction implied by this pattern was not reliable (F < 1.0).

Discussion

Experiment 2 replicated Experiment 1 while at the same time resolving some important ambiguities arising from that earlier study. We again found that sadness led to stereotype correction for negative, but not for positive, stereotypes. When considering either Experiment 1 or Experiment 2 in isolation, the results from each are open to alternative interpretations regarding participants’ motivation to correct for their expectations about liberals or conservatives or, alternatively, their attitudes toward sororities. However, this alternative would imply that there is something similar about people’s beliefs about conservatives, and also about people with anti-sorority attitudes, that is different from people’s beliefs about liberals and about people with pro-sorority attitudes, which we see as highly unlikely. On the other hand, a more parsimonious account of Experiment 1 and 2 is that sad people appear to correct only for their negative, but not for their positive, stereotypes.

Experiment 3

One critical question remains. Thus far we have shown that sadness leads people to correct for their negative, but not for their positive, stereotypes. Why should this be the case? Two logical possibilities present themselves. According to our framework, this asymmetry may arise because people generally regard positive stereotypes as appropriate to use in social discourse. Hence, the whole notion of whether people are motivated to correct for stereotypic information—and, hence, the moderating effects of mood in this regard—is moot in this case. There is an alternative explanation, however. It could be that such effects have nothing to do with perceived appropriateness per se but reflect something about the congruency of valence between sad moods and negative stereotypes (cf. Hamilton et al., 1993). Therefore, according to this alternative, perceived appropriateness is irrelevant.

We tested these two alternatives in the following way. It is important to note, first of all, the kinds of positive stereotypes we have investigated so far. In Experiment 1, the positive stereotype was that a social group is kind and sociable, and in Experiment 2 it pertained to the expectation that certain people are compassionate toward others. It seemed to us that these category-based expectations don’t appear to be inappropriate in the sense that it would be improper to admit using them when forming impressions of others. In Experiment 3, we focused on a different sort of positive stereotype, namely, the “what is beautiful is good” stereotype (e.g., Dion, Berscheid, & Walster, 1972). It seemed to us that this positive stereotype might be regarded as particularly inappropriate in the hiring domain. In particular, the fact that someone is attractive would often be recognized as an inappropriate basis on which to make a hiring decision. (After all, one would not readily admit to another colleague that “I hired him [her] because he [she] is incredibly good looking.”) On the basis of these considerations, we randomly assigned participants to a sad versus neutral mood induction and, following this, had them role play as a job interviewer in which they would be making a hiring decision on the basis of a person’s professional vitae. In the condition most critical to this experiment, some participants were assigned to consider a hypothetical candidate for a job opening for which attractiveness was clearly an inappropriate basis for making their decision.

After reading this description of the job opening, participants then received relevant information about a specific job candidate (e.g., her vita, previous job history, etc.), this information was accompanied by a photograph of the target, attached to the job application. In all conditions, this photograph was of an extremely attractive person. The relatively large size and prominent placement of the photograph (coupled with the fact that we purposely made the other information about her relatively bland and undiagnostic) made it a visually striking and salient feature of the candidate’s portfolio. Given the ample evidence in the literature showing the effects of attractiveness on person perception, this led us to assume that the photograph would trigger the “what is beautiful is good” stereotype. We predicted that sad participants should show more correction for this (positive) stereotypic information than neutral participants, leading sad participants to adjust their judgments of the target downward, away from the favorable implications of the stereotype.

Although the condition described above is clearly most critical for our purposes, simply showing that sad participants make more negative judgments of someone could always be criticized on the grounds that it simply shows that people judge certain kinds of stimuli (such as photographs) less favorably when they are sad than when they are not. We addressed this possibility...
by assigning the other half of the participants to conditions in which the job opening was one for which physical attractiveness could represent an appropriate piece of information on which to base a decision. We predicted that participants who were placed in a sad mood should not correct for the positive implications of the photograph in this case (because it is not inappropriate). In fact, there was some reason to believe that, compared to people in the neutral condition, sad participants in this condition would actually base their hiring decisions even more on the merits of the photograph. In other words, sad participants may be especially sensitive to the fact that the person's attractiveness is indeed an appropriate piece of information on which to base a decision in this case. This could lead participants to use physical attractiveness even more when they are sad than when they are not.

Summary of Design and Predictions

Participants were randomly assigned to conditions in which they were or were not placed in a sad mood. After this, participants were asked to play the role of a job interviewer. For half of the participants, the job opening was one for which a woman's physical attractiveness constituted an inappropriate basis for making a hiring decision, but for the other participants this information was more appropriate. We predicted that sad participants should correct for the perceived impact of the target's attractiveness, but only when it is perceived as inappropriate for the judgment at hand. When attractiveness is appropriate, this tendency should be reduced, or even reversed. This should result in a mood $\times$ Job Type interaction.

Method

Participants and Design

At total of 61 undergraduates (28 male, 33 female) participated in return for course credit. These persons were randomly assigned to one of four cells arising out of a 2 (mood: sad vs. neutral) $\times$ 2 (job type: attractiveness appropriate vs. inappropriate) factorial design. Participant gender failed to have any significant effects either on its own or in combination with other variables, and thus the analyses reported below are collapsed over this factor.

Procedure and Materials

Mood manipulation. The first stage of the experiment was identical to the mood manipulation used in Experiment 2; half of the participants were assigned to the sad condition, whereas the other half were assigned to a neutral mood condition.

Impression task. After the mood induction, participants were told that they would be participating in a "role playing study" and were informed further that their goal was to "form a preliminary evaluation of the suitability of an individual for a particular job position." The next page described the job opening. In all cases, the position was for a flight attendant. For half of the participants the description was worded in a way that implied that physical appearance would be an inappropriate piece of information (attractiveness inappropriate condition):

Surveys of passenger satisfaction have consistently shown that these satisfaction ratings often depend, in part, on the ability of the crew to make the flying experience an efficient and orderly one. As such, it is important for flight attendants to solve and analyze problems in a rational and analytic fashion. Candidates possessing these sorts of skills are strongly encouraged to apply.

The other half of the participants received a job description for which physical attractiveness could, in fact, be considered an appropriate (legitimate) piece of information (attractiveness appropriate condition).

Surveys of passenger satisfaction have consistently shown that these satisfaction ratings often depend, in part, on the ability of the crew to make the flight a pleasant and enjoyable experience for their passengers. As such, it is important that flight attendants possess strong interpersonal skills, have a neat personal appearance, possess genuine warmth and personal charisma, and generally are able to make passengers at ease. Candidates possessing these sorts of skills are strongly encouraged to apply.

Vitee. After reading the job description, participants received a sheet that had been carefully designed to resemble an actual vita and contained information about the candidate's name, address, education, work experience, and so on. The other piece of information was a 2.5 $\times$ 3.5-inch (6.4 x 8.9 cm) black-and-white photograph that was attached prominently to the upper left-hand corner of the vita. In all cases the photograph was of an attractive woman in her early twenties.6

Assessment of Dependent Variables

Intentions to hire. The critical dependent variables concerned five questions that were meant to measure participants’ intention to hire the candidate (e.g., "On the basis of the information you received about Jennifer, what is the probability that you would invite her for a formal interview?"). These questions were highly correlated with one another, and thus we averaged them to form a composite measure of participants’ feelings about hiring the candidate for the job opening.

Inferences of personality traits. Although participants’ hiring intentions were of main interest, we also asked them to rate the target with respect to more general personality traits along a scale ranging from 0 (not at all) to 10 (extremely). Of particular note were two traits—socially popular and sociable—that intuitively seemed to be part of people’s favorable (stereotypic) assumptions about attractive women. These judgments were of interest because we expected they would give us further leverage in determining whether participants were trying to avoid using the target’s attractiveness as a basis for judgment.

Auxiliary Measures

We assumed that participants would consider the target’s attractiveness as less appropriate to the job when the position called for analytic skills than when it did not. To verify this assumption empirically, we asked participants (after they had rendered their hiring and trait judgments) to indicate the extent to which they had “relied on the photograph for their hiring decisions.” These ratings were made along a scale ranging from 0 (not at all) to 10 (extremely). After this, participants were posed the following query:

6 Two additional aspects of this photograph are worth noting. First, to increase the generalizability of our results, half of the participants received a photograph of an attractive blonde woman, whereas the other half received a photograph of a brunette woman. However, none of the effects reported below were contingent on this counterbalancing. Second, because we were predicting an interactive effect of mood and job type, this meant that having a control (i.e., no-photograph) condition was not critical for our purposes.
Sometimes we may deliberately use a piece of information as a basis for judgment, but other times we may try to avoid using this information. In general, to what extent did you end up using, or avoid using, her photograph while forming an impression of Jennifer?

This question was accompanied by a scale that ranged from 0 (I tried to avoid using this information when forming my impression of her) to 10 (I ended up using this information a great deal when forming my impression of her).

Results and Discussion

Manipulation Checks

Mood. Participants assigned to the sad condition rated themselves as significantly more sad than participants in the control condition (Ms = 2.60 vs. 1.35), F(1, 57) = 22.68, p < .001.

Self-reported use of physical appearance for hiring decision across job type. Our design rests on the assumption that participants would (independent of the effects of mood) view Jennifer's physical attractiveness as significantly less appropriate when the job stressed the importance of analytic skills than if it did not. This was in fact the case. First, participants reported that they relied less on the target's photograph in making their hiring decisions if the job description stressed the importance of analytic skills (attractiveness inappropriate condition) than if it called for personal charisma (attractiveness appropriate condition); Ms = 4.31 vs. 5.90, F(1, 57) = 5.52, p < .05. Moreover, when participants were asked the extent to which they avoided using the photograph (in which lower numbers indicate greater avoidance), they reported that they indeed tried to avoid using the photograph more in the attractiveness inappropriate condition than in the attractiveness appropriate condition (Ms = 4.94 vs. 6.55), F(1, 57) = 5.17, p < .05. (The effects of mood on these judgments will be considered presently.)

Intention to Hire

Analyses of participants' intentions to hire the target revealed only one significant effect, the predicted Mood × Job Type interaction, F(1, 57) = 11.46, p < .001. Data relevant to this interaction are displayed in Figure 1. When the job description called for analytic skills (a position for which attractiveness is an inappropriate basis for a decision), sad participants showed evidence of the same sorts of correction effects that had been demonstrated in Experiments 1 and 2, except that the direction of the correction is reversed. Because the target's appearance represents a positive "bias" on judgments, participants adjusted their judgments downward, away from the favorable implications of the photograph. This finding is important, because it shows that there is not something intrinsic to positive stereotypes that prevents people from correcting for such kinds of beliefs.

We now turn to the attractiveness appropriate condition. As seen in Figure 1, we find the opposite trend, such that participants indicated greater intention to hire the target when they were sad than when they were not. This finding also is important, for two reasons. First, it rules out the trivializing explanation that sad people simply are more harsh in their ratings of job candidates. Second, it shows that the effects of sadness on correction depend critically on perceived appropriateness. As suggested earlier, the fact that sad people are carefully analyzing information suggests that they may have been in a better position to realize that the target's attractiveness is actually quite relevant and, to this extent, gave it greater weight in their final decision. It should be noted that simple effects tests revealed that the effect of mood on judgment was somewhat greater when the target's attractiveness was appropriate for the job (p < .01) than when it was not (p = .14). Although this asymmetry was unexpected, the point to emphasize is that the effects of sadness on judgments of the target were reversed across the manipulation of appropriateness, which supported our main prediction in this study.

Ruling Out an Alternative Explanation

The observant reader may have noticed that there is an alternative explanation of the hiring data. Specifically, one might argue that when the job description stressed the importance of analytic skills, sad participants actually relied a great deal on the target's photograph when trying to assess whether she was suitable for the job. In particular, they may have more carefully ascertained that attractive women are—by the sheer fact that they are attractive—likely to be socially popular and highly sociable individuals. To this extent, participants might reason that the target might not be particularly happy in (or good at) a job that emphasizes analytic skills. If this is so, then one should presumably find that although sad participants should be less likely to hire her for the job requiring analytic skills, they should be likely to rate her highly with respect to traits that are central to the stereotype of attractive women (e.g., as socially popular and sociable). In contrast, our framework makes the diametrically opposite prediction. Specifically, we assume that because sad participants are more generally trying to avoid being biased by the implications of the photograph in this condition, such avoidance effects should extend not only to their hiring decisions but also to stereotypical inferences about her personality.

The pattern of data was more consistent with the latter interpretation. Preliminary analyses revealed that inferences of social popularity and sociability were highly correlated (r = .64, p < .01), and thus we averaged them to form a composite measure of social popularity/sociability (hereinafter referred to as social popularity). Analyses revealed a two-way Mood × Job Type interaction that generally paralleled the hiring data shown in Figure 1. When participants were asked to evaluate the target for the analytic position, sad participants rated her as less socially popular than did neutral mood participants (Ms = 6.79 vs. 7.32), but this pattern was strongly reversed for the personal charisma position (Ms = 7.27 vs. 5.82), F(1, 57) = 8.90, p < .01. Clearly, compared to a baseline (neutral) condition, sad participants would (independent of the effects of mood) view Jenni-

7 Figure 1 shows that participants in the neutral condition gave higher ratings to the target when the job called for analytic skills than when it called for personal charisma. Although this effect was unexpected and difficult to explain, it does not at all compromise the conclusions drawn from our data. For our purposes, the critical issue was how induction of sadness would—compared to conditions in which sadness was not induced—influence participants’ intentions to hire in diametrically opposite ways across the two types of job descriptions.
Inappropriate Framing of target's attractiveness

Figure 1. Judgments of the physically attractive job candidate as a function of framing of attractiveness (inappropriate vs. appropriate) and manipulated mood (sad vs. neutral). Experiment 3. Higher numbers indicate a greater likelihood of hiring the target for the job.

participants used the target's physical beauty in different ways. When the job called for analytic skills (a position for which a person's high level of physical attractiveness is an inappropriate basis for a decision), sad participants not only rendered lower intentions to hire her but also rated her as less socially popular. In combination, this pattern of results is precisely what one would expect if sad people were trying to avoid using the person's attractiveness as a basis for judgment.

Supplemental Analyses

One of the implications of Figure 1 is that participants in the attractiveness inappropriate condition were trying harder to avoid using the target's photograph when they were sad than when they were not, whereas the reverse was true for participants in the personal attractiveness appropriate condition. Additional analyses revealed findings that were consistent with this assumption, although the magnitude of the effect was weak. When participants were asked to indicate the extent to which they avoided using the target's photograph (wherein lower numbers indicate greater avoidance), participants in the attractiveness inappropriate condition reported greater avoidance if they were sad than if they were not (Ms = 4.80 vs. 5.06), whereas this trend was reversed for the attractiveness appropriate condition (Ms = 7.00 vs. 6.07). However, this interaction was not significant (p > .25).  

Summary of Theoretical Implications

Although the preceding data are supportive of our framework, they are far less compatible with the other competing models of mood and social judgment considered in this article. Particularly troublesome for the other models is the fact that the effects of sadness were not constant across job description but rather were strongly moderated by a manipulation of whether the target's appearance was appropriate for the job. These moderator effects cannot easily be explained in terms of the cognitive capacity, mood maintenance, or hedonic contingency hypotheses.  

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8 Toward the end of the questionnaire, we also asked participants to rate the attractiveness of the target along a scale ranging from 0 (not at all attractive) to 10 (extremely attractive). We included this question to ensure that the effects of mood on hiring judgments were not mediated by differences in the perceived attractiveness of the target. The only significant effect involving this variable was that participants rated the target as more attractive when they were sad than when they were not (Ms = 8.07 vs. 7.39), F(1, 53) = 3.95, p < .05. Although it is unclear why this main effect arose, it cannot explain the interactive effects of mood and job type shown in Figure 1. In addition, when we statistically controlled for rated attractiveness (within each of the two job conditions), the implications of the hiring data were not changed in any manner whatsoever.

* As with many mood manipulations, this induction is likely to activate not only the desired mood but also cognitions that are related to the mood itself. This raises the question of whether our results are due to mood per se or to the cognitions that accompany it. One effective way of addressing this issue is to compare effects obtained with cognition-laden manipulations (such as those used here) with manipulations that are less likely to act as cognitive primes (e.g., facial feedback manipulations; see Strack, Martin, & Stepper, 1988). In fact, Bodenhausen, Kramer, and Susser (1994) performed just this sort of comparison in the domain of happiness, and they found support for the mood-as-information framework regardless of whether the induction was likely to act as a cognitive prime. Although the results reported by Bodenhausen, Kramer, and Susser (1994) cannot categorically rule out the possibility that effects of mood manipulations (such as those reported in this article) can sometimes be due to cognitive priming effects, their findings make this alternative explanation somewhat less likely than would otherwise be the case.
General Discussion

The experiments reported in this article provide several new insights into the effects of mood on the stereotyping process. By virtue of manipulating sadness in combination with the exploration of both positive and negative stereotypes, we were able to clarify the processes by which people correct for their stereotypes and to establish some important boundary conditions concerning when these effects are likely to occur. All three experiments showed that sadness plays a central role in stereotype correction, such that people show a greater tendency to adjust for their stereotypes when they are in a sad mood than when they are not. Nevertheless, such effects clearly depend on the type of stereotype under consideration, such that these correction processes occur only when the stereotype is perceived to be inappropriate for the judgment at hand.

The conclusions reached in this article appear to be fairly generalizable. For example, we arrived at similar conclusions regardless of whether participants self-selected themselves into positive versus negative stereotypes (Experiment 1) or were randomly assigned to these conditions (Experiment 2). Moreover, these conclusions held across three different types of stereotype-based expectations, including sororities (Experiment 1), liberals and conservatives (Experiment 2), and physical attractiveness (Experiment 3). Finally, we showed stereotype correction in favorable directions, away from the implications of negative stereotypes (Experiments 1 and 2), as well as in unfavorable directions, away from the implications of positive stereotypes (Experiment 3).

An Integrative Motivational Framework

We found it heuristically useful to conceptually unite our results in terms of a model that combines certain elements of the set/reset model by Martin and Achee (1992), the flexible correction framework by Wegener and Petty (1995), and the mood-as-information model by Schwarz (1990). This framework is depicted in Figure 2. It assumes that people make an initial determination of whether the activated information constitutes an inappropriate bias. We assume that people are readily able to make such determinations, regardless of whether they are sad. This assumption is taken directly from research on the set/reset model, which has generated ample evidence that people—even when they are in neutral moods—are quite sensitive to situations in which certain information is inappropriate to use as a basis for judgment. As Martin and Achee (1992) were careful to note, this does not mean that people are continually ruminating about each and every judgment they make. Rather, “the model assumes that people assess inappropriateness, not appropriateness” (Martin & Achee, 1992, pp. 204–205).

Suppose that the activated stereotype is considered to be an appropriate piece of information (i.e., is not considered to be a bias). In this case, then, perceivers will integrate the information into a final judgment. Suppose, however, that some aspect of the information is considered to be inappropriate to use. If so, then the final integration stage is preceded by a step in which perceivers correct for its influence. We assume that the exact nature of this correction process depends on perceivers’ naive theories as to the likely “biasing” effects of the information in question (Wegener & Petty, 1995). In the case of stereotypes, past research led us to assume that our participants would believe that their stereotypes would bias their judgments in an assimilative fashion (e.g., make them rate a highly attractive target too favorably). Hence, correction would involve an adjustment away from the implications of the stereotype (contrast). This assumption about perceivers’ naive theories about bias is more consistent with Wegener and Petty’s (1995) model than with the framework offered by Martin and Achee (1992) and reflects the fact that people can often correct in different ways depending on their assumptions about the likely effects of the information they are attempting to correct. (For further discussion of the similarities among, and differences between, the set/reset model and the flexible correction model, see Wegener & Petty, 1995.)

According to this model, mood potentially plays a role in two stages. The first stage is the extent to which people are motivated to correct for the biasing effects of their stereotype. In line with the mood-as-information framework, sadness increases motivation for correction, but happiness decreases this motivation (Schwarz, 1990). Note, however, that mood plays a role in this stage only to the extent that the stereotype is, in fact, perceived as inappropriate. It seems reasonable to suppose that the effects of mood do not simply halt at this point but, rather, would
continue to influence the judgmental process as people attempt to integrate their assessment of the relevant information into a final linguistic or (in the case of the present experiment) numerical response. We assume that mood also plays a role here, such that sad people are more careful and diligent at this final integration stage than people who are not sad. This could explain why, in Experiment 3, participants in the attractiveness appropriate condition apparently relied on the target’s photograph (which constitutes a relevant piece of information) even more when they were sad than when they were not.

Implications for Previous Examinations of the Effects of Sadness on Stereotype Use

Aside from the present set of studies, we are aware of only two other investigations that have examined the effects of manipulating sadness on stereotype use. In a recent investigation, Bodenhausen, Sheppard, and Kramer (1994) failed to find any significant differences between sad and neutral mood participants in the way that they used their negative stereotypes when forming judgments of a single group member. However, their study did show a small but consistent tendency for sad participants to overcorrect for their stereotypes in a manner similar to that found in this article. It should be noted, however, that Bodenhausen et al. focused only on negative, not positive, stereotypes and thus were not able to assess the differential impact of sadness on these types of knowledge structures and the role of appropriateness in these judgments.

In an even more recent investigation, Bless et al. (1996) examined the effects of sadness versus happiness on the way that people used their stereotypes as a basis for judging a single group member. In one study, they varied in combination the mood of the participants (happy, sad, neutral), the evaluative implications of the stereotype (positive vs. negative), and the implications of the target’s behavior (positive vs. negative). Among participants in sad moods, manipulation of the target’s behavior had a strong effect on judgments, suggesting that participants took individuating information into account. On the other hand, manipulation of the stereotype had no significant effect on these participants’ impressions. Bless et al. argued on the basis of these findings that sad people are more likely to engage in “bottom up” processing in that they use individuating, but not categorical, information in judging others.

Because of the similarity between Bless et al.’s (1996) study and the present research (and the somewhat different implications arising out of each), additional consideration of the Bless et al. study is useful. First, it is important to keep in mind that their results, like ours, are generally consistent with the tenets of Schwarz’s (1990) model and are less compatible with other models (e.g., cognitive capacity). Nevertheless, the two sets of findings paint a somewhat different picture of how, exactly, sad participants process information about stereotypes. On the one hand, Bless et al. argued that sad people essentially ignore their stereotypes, electing instead to form more data-driven judgments that reflect the information that is known about the target person (see also Edwards & Weary, 1993). In contrast, we argue that sad people aren’t ignoring their stereotypes at all, but rather are highly motivated to correct for stereotypes, provided that they are perceived as inappropriate for the judgment at hand.

This raises the obvious question of whether the “bottom up” framework offered by Bless et al. (1996) or the “overcorrection” model we offer here will ultimately provide a more viable account of how sad people process information about stereotypes. Although this line of reasoning should be regarded as speculative, we believe that “bottom up” processing and “overcorrection” are actually more similar than would appear at first blush and may even be part of the same process. In particular, to the extent that perceivers engaging in “bottom up” mode are attempting to pay attention to the target’s individuating behaviors, it seems reasonable to suppose that they would, at the same time, also realize that their judgments could be contaminated by the group stereotype (Wilson & Brekke, 1994; see also Fiske & Neuberg, 1990). To this extent, attempts to correct for the biasing influence of the stereotype may often be part of what it means to engage in bottom-up processing.

As for why people might sometimes overcorrect for their stereotypes, one possible answer is that people may simply not know when to stop correcting. That is, the navigators of social judgments have no external gauge of objective reality to tell us how much correction is “just enough” and how much correction is “too much.” Whereas moderate stereotype correction may mean (in essence) nullifying the effects of the stereotype (cf. Bless et al., 1996), extreme amounts of correction may end up going “too far,” thus yielding the kinds of overcorrection effects found in this article. Note that this view suggests that studies showing “no effect” of the stereotype may actually reflect an active part of the perceiver to suppress the stereotype, which should result in a stereotype rebound effect of the sort identified by Wegner (1994) and Macrae, Bodenhausen, Milne, and Jetten (1994). We are currently exploring this and other related issues.

Additional Theoretical Implications

The implications of our findings for two additional models not listed in Table 1 are worth noting here. First, previous research has suggested that people use categories more broadly if they are happy than if they are not (Isen & Daubman, 1984). As Schwarz and Bless (1992) recently noted, such effects could, in turn, lead happy people to judge single category members as more typical, producing assimilation effects. Conversely, to the extent that sadness leads to more narrow categorization, this could lead people to judge single group members as more atypical, leading to contrast. Although overcorrection can often resemble contrast, and vice versa (see Schwarz & Bless, 1992),

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10 This still leaves open the question of why, unlike in the present research, Bless et al. (1996) did not observe any asymmetries in the way that sad participants processed information about positive versus negative stereotypes. One possible answer lies in the fact that, as Experiment 3 clearly shows, the critical variable in our model is not stereotype valence per se but perceived inappropriateness. Indeed, Experiment 3 shows that sad people can sometimes correct quite strongly for positive stereotypes, depending on the type of judgment to be made. Thus, it is possible that the type of positive stereotypes Bless et al. investigated may have been perceived as relatively inappropriate. However, because Bless et al. did not collect ratings of appropriateness, this account is purely speculative.
our findings were not supportive of the category breadth hypothesis for at least two reasons. First, the interactive effects of mood and appropriateness (Experiment 3) cannot be accounted for by this perspective. Second, when we measured typicality of the target person directly (e.g., Experiment 2), we found that perceived typicality does not mediate any of the correction effects we have obtained, which is not consistent with this alternative account.

It also is worth noting that the present results are also not consistent with mood congruency models, which suggest that mood can increase the cognitive accessibility of information that is consistent with the valence of the mood in question (e.g., Bower, 1991). In principle, such processes could lead perceivers to judge single group members in ways that are biased in the direction of the mood at the time of judgment. Note, however, that this would imply that, all else being equal, sad people should judge single group members more negatively than should people in neutral moods, a prediction that was not supported by the present results. Nevertheless, as Bodenhausen, Sheppard, and Kramer (1994) have recently noted, mood congruency effects may be more likely for tasks that rely more on free-association processes (e.g., Esses, Haddock, & Zanna, 1993; Forgas, 1992) compared to the present paradigm.

A Final Note

Although we failed to find evidence in support of several hypotheses that bear on mood and information processing, this obviously does not mean that these models are incorrect. It simply means that the results we obtained in this particular paradigm can be explained with assumptions that are different from those stipulated by these other models. For example, although we found very little evidence for the hedonic contingency model in this research, it would obviously be foolish to conclude on the basis of our results that this model is "wrong." Indeed, there is evidence in the persuasion domain that is more supportive of the hedonic contingency than the mood-as-information model (e.g., Wegener et al., 1995). Hence, it seems likely that all of these models are "right" but that each is applicable under different boundary conditions (e.g., McGuire, 1983).

Our results also point to the usefulness of considering different types of stereotypes to show the different kinds of processes (and theoretical models) that may apply to each. For example, much of the experimental work on stereotyping has been conducted on negative stereotypes (typically, out-groups) rather than on positive stereotypes. As our results show, the processes that guide the way that people rely on these two types of stereotypes may sometimes be quite different. (See Lambert, 1995, for a related discussion.) By embracing a greater range of different kinds of social categories in our research, we should be able to develop theoretical models that are better able to predict when, how, and why people use, or avoid using, their stereotypes.

References


MOOD AND CORRECTION 1015


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