What You Feel Is How You Compare: How Comparisons Influence the Social Induction of Affect

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Concordant and discordant affective reactions can occur after the mere perception of another person’s affective expression. Most previous theorizing has been concerned with the explanation of affective concordance, typically referred to as emotional contagion, although discordant affect has received little attention. The authors propose an integrative account for the explanation of both outcomes based on a social comparison framework. Studies 1 and 2 suggest that two distinct types of comparison processes can trigger concordant or discordant affective reactions. Study 3 extends these findings by demonstrating that the influence of comparison processes on affect in an established mood contagion paradigm. The authors attempt to integrate previous research into the present account.

Keywords: social comparison, socially induced affect, mood, emotional contagion

Oftentimes, interacting with others will impact not only one’s behavior and thoughts, but also one’s affective state. Imagine visiting your best friend on a Sunday afternoon. During your visit the phone rings, and your friend cheerfully talks to the person on the phone. It is pretty likely that her good mood will transfer to you. You start to feel better, too, just by watching her laugh.

In psychological terms you have just experienced a social induction of affect. Your friend serves as a model whose affective state is incidentally and unintentionally transferred to you (McIntosh, Druckman, & Zajonc, 1994). Psychological research has paid a lot of attention to this phenomenon, especially under the label of emotional contagion (see Hatfield, Cacioppo, & Rapson, 1992, 1994, for reviews) or mood contagion (Neumann & Strack, 2000). But how can such affective changes be explained? The common explanation assumes that people unconsciously start to imitate the facial expressions of the other person, which elicits the same affect in them. As a consequence, they converge affectively toward the model’s affective state. This mechanism is based on the ideomotor principle (James, 1890; Prinz, 1990) and can also be expressed in terms of a perception-behavior link (see Neumann & Strack, 2000). The mere perception of the model’s affective state leads to unconscious imitation of the model that in turn alters the observer’s affective state. Consistent with this notion, there have been various demonstrations of a link between facial or bodily expressions and an individual’s affective state (e.g., Stepper & Strack, 1993; Strack, Martin, & Stepper, 1988). In the context of mood contagion, for example, it has been shown that merely listening to a slightly happy or sad voice elicits the respective affective state in the perceiver (Neumann & Strack, 2000).

However, the picture might not be complete with the example and the findings described above. Imagine the situation with your least liked colleague on the phone. Imagine her talking and laughing while you are trying to finish writing an important paper. In this case, it is unlikely that you will feel happy and cheerful (as she does). Instead, you may be annoyed and angry. You observe a happy and cheerful model, but you do not feel cheerful yourself. As is apparent from this example, socially induced affect does not necessarily imply a concordant affective state between observer and target (McIntosh et al., 1994). The experience of discordant affect can result, too. Even classic work on emotional contagion has acknowledged that individuals might experience an affective state that is opposite to that of the model. To capture this phenomenon, the term countercontagion has been proposed (Hatfield et al., 1994). In fact, a large number of studies show that either concordant or discordant affective states can result after someone is exposed to another person’s displayed affect (see McIntosh et al., 1994, for a review).

How can these divergent outcomes be explained? Can they be integrated into one theoretical framework? What mechanisms predict one outcome or the other? In an effort to find answers to these questions, we begin by reviewing research reporting either concordant or discordant affective reactions.

Concordant and Discordant Affective Reactions

Heider (1958) proposed the distinction between two types of affective reactions to the emotional expressions of others. He
argued that we experience concordant affective reactions to persons who belong to “we-groups” (see also Dembo, Leviton, & Wright, 1956). Although the term we-group might suggest that this conception mainly holds for group contexts, Heider did not make this limitation. Generally speaking, he proposed that the we-group consists of persons we feel similar to. For the present purpose, it is particularly important to point out that Heider proposed that comparison processes between model and observer are an important determinant of the affective reaction to the emotion of another person. In addition, he suggested that these affective comparisons might be quite similar to nonaffective judgments. Using the balance theory framework, Heider proposed that there is a strong drive to feel equal to members of the we-group to maintain affective and cognitive balance. However, when we feel dissimilar to another person (i.e., a low degree of unity exists), this drive for equity does not exist anymore. With increasing dissimilarity, additional cognitive processes might arise that produce a discordant affective reaction (i.e., competition or conflict). Heider (1958) acknowledged that full-blown discordant emotions such as envy or “Schadenfreude” require higher mental processes. He also states that a very basic tendency to affectively contrast from another person can exist.

Classic illustrations of concordant affective reactions have been found in research on emotional or mood contagion. Here, it has repeatedly been shown that people unintentionally catch another person’s affective state (e.g., Hsee, Hatfield, Carlson, & Chemtob, 1990; Neumann & Strack, 2000). In one study, for example, participants watched a videotape of a target person describing the happiest or saddest events in her life. Afterward, participants’ affective states tended to be congruent with the one displayed by the target person in the videotape (Hsee et al., 1990). In addition, more recent findings indicate that even subliminally presented affective expressions tend to produce concordant facial reactions in the perceiver (Dimberg, Thunberg, & Elmehed, 2000). However, for our purposes, it is also relevant to see when this was not the case and the opposite consequence, namely, discordant affect, occurred. It has recently been shown that laughter by members of one’s group leads to more happiness in participants than does laughter by members of an “outgroup” (Platow et al., 2005). A more specific example of a discordant affective reaction is the experience of Schadenfreude or malicious pleasure. Seeing the German soccer team lose, for example, can elicit quite positive affect in a Dutch soccer fan (Leach, Spears, Branscombe, & Doosje, 2003). In much the same way, discordant affective reactions are also more likely to be expressed by people who are opponents rather than partners in a game (Englis, Vaughan, & Lanzetta, 1981). However, it is not only differential group membership that may lead to discordant affective reactions. Dislike may serve a similar function. In fact, disagreeing another person also makes one prone to a discordant affective reaction (McHugo, Lanzetta, Sullivan, Masters, & Englis, 1985).

On a more subtle level, concordant and discordant affective reactions have been shown in affective priming research. The default finding in this area is one of a concordant affective reaction (Murphy & Zajonc, 1993). However, adding gender-specific features to an affective prime can result in a contrastive evaluation of the target ( Stapel, Koomen, & Ruys, 2002). Some researchers have proposed a comparison process to explain this finding: Increasing the distinctiveness of a prime might elicit a comparison process between prime and target and therefore result in a contrastive outcome (Ruys, Spears, Gordijn, de Vries, 2006; Stapel et al., 2002).

Taken together, these findings suggest that people’s affective reactions sometimes seem to converge, although at other times they diverge. Seeing another person smile may make you feel better (Hsee et al., 1990) or worse (McHugo et al., 1985). Under what conditions does one or the other effect result? The above described research points to perceived similarity between the self and the model as one factor that appears to play a crucial role in the genesis of concordant versus discordant affect. This conclusion has already been proposed by Heider (1958). When similarities between oneself and another person are in the foreground, the likelihood of discordant affective reactions seems to increase. For instance, being partners in a game (Englis et al., 1981), belonging to the same group (Platow et al., 2005), or experiencing a similar situation (Sullins, 1991) all lead to discordant affective reactions. However, when differences between oneself and another person are in the foreground, discordant affective reactions are more likely. Thus, being opponents in a game (Englis et al., 1981), disliking or even hating the other (Zillmann & Cantor, 1977), or identifying with one of two rival groups (Leach et al., 2003; Ruys et al., 2008) all foster discordant affect.

This apparently central role of similarity resonates with the equally central role that similarity plays in social comparison research, which also concerns changes in the self vis-à-vis another person. Here, a long tradition of research has tried to answer the question of when individual’s self-evaluations are assimilated to or contrasted away from a given standard (e.g., Festinger, 1954; Mussweiler, 2003; Tesser, 1988). The fact that similarity appears to be a crucial factor in the literature on socially induced affect as well as social comparison suggests that both phenomena may be closely related. In both domains the self is changing, either in terms of self-evaluation or in terms of affective experience. This change is caused by the direct or indirect confrontation with another person. In addition, Heider (1958) already proposed that comparisons play an important role in the genesis of socially induced affect. In the next section we specify a model of socially induced affect that is based on social comparison processes and specifies mechanisms that lead to concordant and discordant affective reactions.

A Social Comparison Framework for Socially Induced Affect

Recent research on self-evaluations of abilities has shown that social comparisons constitute a major determinant of information accessibility (Mussweiler, 2003). This suggests that social comparisons may also influence evaluations of one’s own affective state. In principle, one might argue that comparisons are rather controlled and elaborated processes and are therefore unlikely to influence spontaneous self-evaluation. However, recent research suggests that comparisons are often spontaneous processes that require little cognitive capacity (Mussweiler & Epstude, in press; Mussweiler, Rütter, & Epstude, 2004a). For example, comparison standards were shown to influence participants’ self-evaluation of athletic abilities even if these standards were presented subliminally, outside of people’s awareness (Mussweiler et al., 2004a). This research suggests that self-evaluations may be influenced by
spontaneous comparisons with accessible standards. Evaluating one’s own affective state in a social situation (i.e., in the direct or indirect presence of another) may be shaped by spontaneous comparisons in much the same way.

In line with this notion, it has already been shown that social comparisons and affective experiences are intimately linked (Gump & Kulik, 1997; Kulik, Mahler, & Earnest, 1994; Kulik, Mahler, & Moore, 1996; Schachter, 1959; Schachter & Singer, 1962; Stapel et al., 2002). In fact, in most research on socially induced affect, a potential comparison standard is readily available, often in a video (e.g., Hsee et al., 1990) or audio format (e.g., Neumann & Strack, 2000). In light of the research supporting the spontaneity of standard use, it seems likely that such readily available standards will be used for self-evaluations of one’s own affective states. In this respect, socially induced affect may be influenced by spontaneous comparison processes.

How can such spontaneous comparisons shape socially induced affect? If socially induced affect is indeed influenced by comparisons—as the above reasoning implies—then the same psychological mechanisms that underlie comparisons in other domains (Mussweiler, 2003) may be transferred to the domain of socially induced affect (Heider, 1958). For instance, perceived similarity between a target and a comparison standard critically determines both how a comparison is carried out as well as what consequences it is likely to produce (Mussweiler, 2001, 2003; Mussweiler & Strack, 2000; Ruys et al., 2006; 2008). Similarities between a target and the judgmental standard have been shown to lead to (judgmental) assimilation in self-evaluation, whereas dissimilarities lead to contrast. These diverging comparison consequences are produced by a selective increase in the accessibility of different subsets of target knowledge. On the one hand, when a person is confronted with a relatively similar comparison standard (e.g., an ingroup member), knowledge indicating similarities between the self and the standard is rendered accessible (Mussweiler & Bodenhauen, 2002; Mussweiler & Strack, 2000). The activated knowledge serves as the basis for the self-evaluation that in turn leads to assimilation. On the other hand, when a person is confronted with a relatively dissimilar standard (e.g., an outgroup member), knowledge indicating dissimilarities between the self and the standard is activated, resulting in contrast. Whether judges focus primarily on similarities or dissimilarities can be manipulated by procedural priming techniques that induce judges to selectively search for information indicating either similarity or dissimilarity (Mussweiler, 2001; Mussweiler, Rüter, & Epstude, 2004b). Thus, our assumptions extend Heider’s original conception by proposing that different types of comparison processes lead to different affective outcomes. Most importantly, we suggest that the logic used to study self-evaluative social comparisons can be transferred to the domain of affect.

On the basis of these findings, we propose that perceived similarities between the observer and the model lead to concordant affective reactions in the perceiver, whereas perceived dissimilarities lead to discordant affective reactions. In this respect, seeing a happy ingroup member may lead to a better mood in the perceiver, whereas seeing a happy outgroup member may lead to a decrease in the perceiver’s mood. From this perspective, concordant and discordant affective reactions can be viewed as being influenced by social comparison processes. If this is indeed the case, the same mechanisms that elicit assimilative and contrastive judgments can also account for the occurrence of affective convergence and divergence. But does focusing on similarities or dissimilarities determine how one is influenced by another person’s affect? Can the processes that predict judgmental assimilation and contrast be applied to explain the occurrence of concordant and discordant affective reactions? These issues will be systematically examined in the present studies. Studies 1 and 2 further examine whether the occurrence of concordant and discordant affective reactions is influenced by specific features of comparison processes, namely, similarity versus dissimilarity focus. Finally, Study 3 examines whether our assumptions can be replicated in a paradigm that uses more subtle manipulations of affect.

Study 1

As was noted above, both concordant and discordant affective reactions can occur when observing other people’s affective reactions. Heider (1958) pointed out that similarity between model and observer plays a central role here. This is also consistent with recent social comparison work that similarity produced judgmental assimilation, whereas dissimilarity produced judgmental contrast (Mussweiler, 2003). Therefore, our first step is to examine how the focus on similarities or dissimilarities as a specific comparison process influences the social induction of affect.

In the domain of social judgment, the direction of the judgmental outcome is influenced by the kind of information activated by participants. For instance, assimilation is likely to result when a similarity focus is induced. However, contrast is likely to result from the activation of a dissimilarity focus. Searching for similar or dissimilar information can be seen as a cognitive procedure (Smith, 1994). Mussweiler (2001; see also Mussweiler & Damisch, in press) established a priming method to trigger either a similarity or dissimilarity focus, resulting in either judgmental assimilation or contrast. Participants were asked to compare two sketches. In one condition they had to write down all the similarities between the two pictures, and in the other condition all the differences. The practice of searching for similar or dissimilar information in that task carried over to an ostensibly unrelated subsequent comparison task. Participants who were procedurally primed to search for similarities assimilated to a standard, whereas participants primed to search for differences contrasted away from a standard.

This method was used here to show that the likelihood of concordant or discordant affective reactions can be influenced by the same mechanisms that lead to judgmental assimilation and contrast. It was hypothesized that participants primed to search for similarities would show an affective shift in the direction of the targets, whereas participants primed to search for differences would show an affective shift in the opposite direction. It is important for our reasoning to show that the experimental manipulation of the comparison focus does not produce a mere judgmental effect similar to the ones shown in subjective well-being research (e.g., Schwarz & Strack, 1991). Therefore we used an additional indirect measure of mood to support our assumptions. Showing an influence of comparison focus on an indirect mood measure would strongly suggest that we observe an actual change in mood, instead of a change in judgments of one’s own mood. We explored our hypothesis by using two different dependent vari-
ables, an explicit mood measure (Study 1a) and an implicit mood measure (Study 1b).

**Study 1a**

**Method**

**Participants.** Fifty-four students at the University of Würzburg (25 women and 29 men) took part in the experiment. Up to 3 persons participated at a time. They were approached in the cafeteria and asked whether they would like to take part in a short experiment. They received a chocolate bar as compensation for participation.

**Materials and procedure.** After agreeing to take part in the experiment, participants were led to a separate room. They were seated in front of a laptop computer and were unable to see each other. The experimenter explained to them that they were going to take part in a series of smaller, unrelated studies on perception. The first part of the experiment resembled the priming procedure developed by Mussweiler (2001). Participants received two sketches of copperplate prints by Albrecht Dürer. One sheet of paper had the two prints, another sheet the instructions and enough space to complete the task. Participants in the similarity condition were asked to compare the two prints and to write down all the similarities between them. In the difference condition, participants had to write down all the differences between the two pictures.

The next part of the experiment, allegedly unrelated to the first, was a computer-based experiment. Participants were told that they were going to see a number of pictures for 15 s each. Their task would be to judge the quality of each picture on two dimensions: sharpness and brightness.

The set consisted of 14 pictures (see the Appendix for details). All were taken from the International Affective Picture System (IAPS; Lang, Bradley, & Cuthbert, 2005). On each picture, there was at least one person (male or female). Seven of these pictures had been prerated as affectively neutral. The other seven pictures had an unequivocal affective quality. In one condition, these seven pictures were negative valenced. In the other condition, these pictures were positive valenced. Each picture was presented for 15 s on the whole screen. After 15 s, two bogus judgments for brightness and sharpness were made before the next picture appeared. After they had seen the 14 pictures, participants were told that this part of the experiment was over and that only some standard questions about themselves still needed to be answered. First, they were asked about their present mood state (“How do you feel right now?”). Participants had to indicate their answer for each adjective on a scale ranging from 1 (very good) to 10 (very bad). Next participants completed the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988; German version by Krohne, Egloff, Kohlmann, & Tausch, 1996). The PANAS consisted of 10 positive and 10 negative adjectives that participants used to evaluate their present affective state. Participants indicated their answer for each adjective on a scale ranging from 1 (not at all) to 10 (very much). At the end of the experiment, participants were thanked, fully debriefed, and given a chocolate bar as compensation for participation.

**Results**

If socially induced affect is indeed a comparison phenomenon, participants’ current mood state should depend on whether they have been put in a similarity focus or a dissimilarity focus and on whether they have been exposed to positively or negatively valenced pictures of individuals. The key dependent variable was participants’ self-reported general mood state.

As is apparent from the inspection of Figure 1, participants with an induced similarity focus reported a better mood after being exposed to positive stimuli (M = 2.62) than after being exposed to negative stimuli (M = 3.72), t(50) = 5.47, p < .05. The opposite pattern emerged for participants with an induced dissimilarity focus. Here, participants who had been exposed to positive stimuli reported a worse mood (M = 3.62) than did those who had been exposed to negative stimuli (M = 2.58). This difference reached significance, t(50) = 4.93, p < .05. This pattern of means produces a significant interaction effect in a 2 (focus: similarity vs. dissimilarity) × 2 (mood: positive vs. negative) analysis of variance (ANOVA) using the general mood measurement as a dependent variable, F(1, 50) = 10.39, p < .01, η² = .17. None of the main effects proved to be significant in this analysis (all Fs < 1).

Next, the second dependent measure was explored. To analyze the items of the PANAS scale, the means for the two subscales (positive and negative affect) had to be computed. Hence, two new variables were calculated, one indicating the amount of positive affect experienced by the participant and one indicating the amount of negative affect experienced by the participant. As can be seen in Table 1, there is no systematic pattern of affective response for these scores (all Fs < 1).

**Study 1b**

The present study aims to show that the results of Study 1a are not limited to explicit measures of mood but can also be found by using a more indirect measure.

**Method**

**Participants.** Fifty-eight students at the University of Cologne (42 women and 16 men) participated in the study. They were approached in or in front of the students’ cafeteria and received a chocolate bar as compensation.

![Figure 1](https://example.com/figure1.png)

**Figure 1.** Participants’ self-reported mood on a scale from 1 (good) to 10 (bad) as a result of the exposure to positive or negative facial expressions (Study 1a).
Table 1

<table>
<thead>
<tr>
<th>Mood condition</th>
<th>Priming</th>
<th>Positive subscale</th>
<th>Negative subscale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>Similarities</td>
<td>2.68 (.76)</td>
<td>1.45 (.27)</td>
</tr>
<tr>
<td>Positive</td>
<td>Differences</td>
<td>2.65 (.58)</td>
<td>1.40 (.19)</td>
</tr>
<tr>
<td>Negative</td>
<td>Similarities</td>
<td>2.81 (.45)</td>
<td>1.47 (.41)</td>
</tr>
<tr>
<td>Negative</td>
<td>Differences</td>
<td>2.59 (.67)</td>
<td>1.46 (.40)</td>
</tr>
</tbody>
</table>

Note. Standard deviations are in parentheses.

Materials and procedure. The first part of the study was identical to Study 1a. However, we used a different measure of mood. On the basis of a paradigm developed by Hass, Katz, Rizzo, Bailey, and Moore (1992), we constructed an indirect measure of positive and negative mood (see also DeMarree, Wheeler, & Petty, 2005, and Koole, Smeets, van Knippenberg, & Dijksterhuis, 1999). Participants were told they were taking part in a study on subconscious perception. It was explained that words would be flashed on the screen for a very short duration. Their task was to decide which word was presented. Each trial began by presenting a fixation cross for 5000 ms followed by a mask (XXXXX) for 500 ms. Next, the target word appeared for 17 ms, again followed by a mask (####) for 75 ms. In all trials this was actually a nonword (e.g., LUT) that was similar to the target word in appearance (e.g., GUT [good]). This was followed by another mask (XXXXX). Right after that, a set of four different words including the target appeared on the screen. Participants made their decision about which word was presented by clicking on the preferred option. A total of 25 trials were presented. These included the 20 target words of the German version of the PANAS (Krohne et al., 1996) and five nonaffective filler words.

Results

The dependent variables were the sums of correctly identified positive and negative target words calculated independently of each other. The idea was that participants are more likely to “recognize” words that are congruent with their current affective state (e.g., mood congruent judgments; Bower, 1981; Isen, Shalker, Clark, & Karp, 1978). Therefore, we expected that participants who were procedurally primed to focus on similarities would identify more words that were congruent with the affective state shown in the target pictures. Participants who were primed to focus on dissimilarities were expected to identify words that represent an incongruent affective state.

We first analyzed the recognition rate for positive words. Participants who were primed with a similarity focus chose more positive words after being exposed to positive stimuli ($M = 3.93, SD = 1.67$) than after being exposed to negative stimuli ($M = 2.27, SD = 1.44$), $t(54) = 2.77, p < .05$. For the dissimilarity focus the pattern reversed. Here, participants recognized more positive words after being exposed to negative stimuli ($M = 3.50, SD = 1.74$) than after being exposed to positive stimuli ($M = 4.67, SD = 1.59$), $t(54) = 1.94, p < .05$. This pattern of results produced a significant interaction effect in a 2 (mood: positive vs. negative) × 2 (word type: positive vs. negative) ANOVA with word type as a repeated measurement factor, $F(1, 54) = 27.11, p < .001$, $\eta^2_p = .34$.

Discussion

The main results of Studies 1a and 1b are consistent with the hypothesis that the direction of affect induction is crucially influenced by focusing on similarities or dissimilarities. As was expected, participants who were procedurally primed to search for similarities between a standard and a target reported a better mood after being exposed to positive stimuli than after being exposed to negative stimuli. Participants who were procedurally primed to search for dissimilarities between standard and target tended to report a better mood after being exposed to more negative stimuli than after being exposed to more positive stimuli. This was true for an explicit as well as an indirect measure of mood. It is important to note that Study 1b supports the assumption that the affective change is not a simple judgmental effect but can be shown on very subtle measures of mood.

In summary, Studies 1a and 1b demonstrate that similarity and dissimilarity foci can influence judgments of a person’s present mood state. The findings are consistent with the assumption that comparisons influence social affect induction. Furthermore, a focus on similarities seems to lead to a tendency to affectively converge with others, whereas searching for dissimilarities seems to lead to a tendency to affectively diverge from a possible standard.

Study 2

Are there cues in the daily environment leading to similarity or dissimilarity testing? An answer to this question would provide another piece of the puzzle explaining the experience of either concordant or discordant affect. One commonly found cue for behavioral or judgmental contrast is a person’s category membership. Since the classic findings of discrimination in the context of minimal groups (Tajfel, Turner, Billig, Bundy, & Flament, 1971), the effects of mere categorization into ingroup and outgroup have been studied extensively (Hewstone, Rubin, & Willis, 2002). In a
recent experiment, for example, Schubert and Häfner (2003) showed that young participants do not necessarily assimilate their behavior to elderly exemplars (i.e., by slowing down their responses). Instead, participants contrast away from these exemplars when the exemplars are classified as outgroup members. Similar results have been found on the judgmental level as well as the behavioral level (e.g., Mussweiler & Bodenhausen, 2002; Spears, Gordijn, Dijksterhuis, & Stapel, 2004; Wilder & Shapiro, 1984).

In light of these results, one could argue that group membership might also determine the direction of the social induction of affect. When perceiving an ingroup member in a salient intergroup context, people show a general tendency to assimilate (Brewer & Weber, 1994; Mussweiler & Bodenhausen, 2002). This should be true not only for behavioral and judgmental outcomes but also for affective measures. By contrast, the perception of outgroup members might lead to a general contrastive tendency (e.g., Schubert & Häfner, 2003), also on an affective level (Platow et al., 2005). The assumed processes leading to this affective assimilation or contrast are similar to the ones outlined before. On the one hand, perceiving outgroup exemplars in a salient intergroup context should lead the perceivers to focus on dissimilarities between the self and the targets. In the case of encounters with ingroup exemplars, on the other hand, perceivers are likely to focus on similarities. The following experiment is designed to test this idea and to show that congruent affective reactions are more likely to be produced by ingroup targets, whereas incongruent reactions are likely to be produced by outgroup targets.

**Method**

Participants. Forty-one students of the University of Würzburg (26 women and 15 men) participated in the main experiment. The experiment was the first part of a 1-hr experimental session. Participants received €6 (about $5 at the time) as compensation.

Materials and procedure. In Study 1, photographs of persons of both genders were used in the same set of pictures. In the present study, gender was used as the salient intergroup context. As a result, new picture sets had to be compiled. A small pretest was conducted to find suitable material. Forty-eight students were asked to rate a number of photographs depicting human faces in terms of the affective quality of the facial expression on a scale from 1 (negative) to 9 (positive). On the the of results of this pretest, the stimulus materials for the present experiment were chosen.

The experiment was the first study of a 1-hr experimental session. Upon arrival, participants were met by the experimenter and led to the lab room where they were seated in front of a computer. A maximum of 3 persons at a time participated in the experiment. Gender context was introduced to participants as a manipulation of intergroup context. This was done by giving participants the task of proofreading a short paragraph with respect to its comprehensibility. The paragraph was part of an article from a German newspaper that dealt with the growing rivalry between men and women in the German media world and in the labor market. Participants’ task was to rate the comprehensibility of the paragraph on a scale from 1 (very) to 9 (not at all). This was done to increase the salience of gender as an intergroup context (Oakes, 1987).

The stimulus pictures were embedded in what was introduced as an experiment on perception. The basic paradigm for this task was similar to that of Study 1a, with the exception that the pictures differed. The pictures for this experiment were chosen on the basis of the pretest. Every condition had the same six pictures depicting persons with a neutral facial expression. Three of the pictures depicted women and three depicted men. Furthermore, seven pictures had an affectively unequivocal facial expression. These pictures differed depending on the experimental condition: the ingroup/positive condition had ingroup members with an affectively positive facial expression; the ingroup/negative condition had ingroup members with an affectively negative facial expression. Analogously, the outgroup/positive condition had outgroup members with a positive facial expression; the outgroup/negative condition had outgroup members with a negative facial expression. As in the previous studies, each picture was presented for 15 s. Participants were asked to rate the brightness and sharpness of each picture. Subsequent to the presentation of the pictures, participants were asked to indicate their current general mood state, as was described in Study 1a. In addition, participants had to indicate their present affective state on six emotion adjectives on a 10-point scale ranging from 1 (not at all) to 10 (very much). The adjectives were: cheerful, happy, angry, anxious, sad, and bored (taken from Neumann & Strack, 2000). After having completed this questionnaire, participants were thanked and continued with the rest of the 1-hr experimental session. None of the remaining tasks were related to the present study. At the end of the session, participants were thanked and debriefed.

**Results**

The main dependent variable was participants’ general judgment of their own mood. It was hypothesized that participants’ mood would differ depending on the experimental condition. Participants in the ingroup/positive condition were expected to indicate a better mood than those in the ingroup/negative condition. Participants in the outgroup/positive condition were expected to indicate a worse mood than those in the outgroup/negative condition. In more general terms, mood was expected to be congruent when participants were exposed to ingroup members but to be incongruent when they were exposed to outgroup members.

As is apparent from Figure 2, participants who had been exposed to ingroup members with a positive facial expression indicated a better mood ($M = 2.55$) than those who had been exposed to ingroup members with a negative facial expression ($M = 4.50$). This difference reached significance, $t(37) = 2.51$, $p < .05$. Participants who had been exposed to outgroup members with a positive facial expression indicated a worse mood ($M = 4.43$) than those who had been presented with outgroup members with a negative facial expression ($M = 2.82$). This difference reached marginal significance, $t(37) = 1.78$, $p < .08$. This pattern of means produces a significant interaction effect in a 2 (stimuli: ingroup vs. outgroup members) $\times$ 2 (mood: positive vs. negative) ANOVA using the general mood measurement as a dependent variable, $F(1, 37) = 8.83$, $p < .01$, $\eta^2_p = .19$. None of the main effects in this
In addition, we analyzed the specific emotion items. As can be seen from Table 2, there is no systematic pattern of results, with one exception. There was a main effect of stimuli for item anxious, $F(1, 37) = 5.05, p < .05$ (all other $Fs < 1.5$).

**Discussion**

This experiment was conducted to find out whether the effects of the experimentally induced similarity and dissimilarity focus can be replicated by using more natural cues that are associated with similarity or dissimilarity to the perceiver. Observing ingroup members was expected to produce a congruent mood state in the perceiver. On the other hand, perceiving outgroup members was expected to induce an incongruent mood state in the perceiver.

The results of Study 2 are in line with this assumption. Participants who were presented with ingroup members showing a positive facial expression reported a better mood than those who perceived ingroup members with a negative facial expression. By contrast, participants who were exposed to outgroup exemplars with positive facial expressions reported a more negative mood than did participants who were exposed to outgroup exemplars with negative facial expressions. This finding shows that the assumption that similarity and dissimilarity foci are related to the social induction of affect is not only a theoretical one. Whereas in Study 1 the foci had been established through a procedural priming technique, in the present experiment we merely manipulated the type of target the participant was exposed to (and could therefore compare himself to). In line with previous studies (Mussweiler, Gabriel, & Bodenhausen, 2000), we assumed that this manipulation affected participants’ focus of comparison and therefore led to the respective findings. The comparison focus indeed followed this pattern of predictions, which provides strong support for our assumptions.

This result is partly in line with recent evidence on the affective consequences of laughter by ingroup or outgroup members (Platow et al., 2005). It has been shown that participants were only affected by canned laughter when they believed that it came from fellow ingroup members; in this situation, participants laughed and smiled more. The canned laughter had no effect when participants attributed it to members of the outgroup. However, the findings of the present experiment go one step further: Being exposed to outgroup members can produce a tendency toward affective contrast. Ruys and colleagues (2008) have recently found a related outgroup contrast effect. In their studies, subliminally presented faces of outgroup members had a contrastive effect on the evaluation of neutral stimuli. For example, after being subliminally presented with a picture of an angry outgroup member, participants evaluated a Chinese ideograph more positively than they did after being presented with a picture of a happy outgroup member.

It is important to note that the salience of social categorization has a profound influence on how individuals affectively respond to another person (e.g., Beaupré & Hess, 2003; Gordijn, Wigboldus, & Yzerbyt, 2001; Ray, Mackie, Rydell, & Smith, 2008). Making the competitive aspects of the gender categorization salient as we did is very likely to establish a typical intergroup situation. Recall that at the beginning of the experiment the context was introduced by asking participants to read a short paragraph that was intended to enhance the salience of the gender context. It may well be that this manipulation made the intergroup context somewhat more salient than it was in previous studies when the gender context did not produce contrast effects (e.g., Otten & Epstude, 2006). In the present study we cannot currently rule out that the competitive nature of the small paragraph participants read or the mere fact that gender was introduced as an intergroup context drives our effects. However, it is important to note, that in the context of the present study it is of secondary importance whether the obtained effects are driven by the mere group membership or by the competitive nature of the scenario. Instead, we believe that any salient cue for similarity/dissimilarity between model and observer results in the respective affective response. Previous research has found that gender categorization does indeed function like other intergroup contexts without specific procedures that activate this categorization (Taylor, Fiske, Etcoff, & Ruderman, 1978). However, in this type of study, gender stereotypes influenced participants’ evaluations of other persons. In the present study, the task was simply to view the pictures. In daily interactions of this type (simply observing others), gender might not readily be seen as an intergroup context. Therefore, highlighting some competitive aspects of the gender category for all participants seemed useful for our present question of examining whether group membership (and the related intergroup context) serves as a cue for similarity versus dissimilarity testing.

**Study 3**

After providing evidence suggesting that comparison processes contribute to socially induced affect, we aimed to test our assump-

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1 Given the absence of gender effects in previous studies on emotional contagion (Hsee et al., 1990; Neumann & Strack, 2000; Sullins, 1991), we did not expect a gender effect in the present study. However, due to the fact that gender played a role as an intergroup context, we explored the results for the two gender groups separately. The pattern of means was similar for the two gender groups. The interactions was significant for when computed for female participants only, $F(1, 22) = 10.07, p < .01, \eta^2 = .31$. However, the relatively small number of male participants did allow for a meaningful test of an interaction within this gender group. Adding gender as an additional factor to the overall analysis did not result in significant three-way interaction, nor did gender produce any other significant effect.
tions in a paradigm that examines affective contagion effects in more subtle ways. The paradigm developed by Neumann and Strack (2000) provided us with the opportunity to transfer the logic of our argument from visual stimuli to auditory material. In this paradigm, participants are presented with an audiotaped reading of a philosophical text. Unknown to them, the reader presents the text as if she were in a specific mood. Neumann and Strack (2000) have shown that participants unintentionally adopt the mood of the speaker. If our approach to the social induction of affect is valid, a manipulation of the focus of comparison should influence participants’ response to the speaker. A similarity focus should produce concordant affective reactions, whereas a dissimilarity focus should produce discordant affective reactions.

Method

Participants. Seventy-nine students of various majors at the University of Cologne participated in the study. They were approached in the students’ cafeteria and were asked to participate in a short psychological study. They received a chocolate bar as compensation.

Materials and procedure. Upon arrival in the lab, participants were greeted by the experimenter and seated in a separate cubicle. They were told that they would work on a small pretest (i.e., the priming manipulation) before starting the actual experiment. The priming manipulation was identical to the one used in Study 3. Thereby half of the participants were primed with a similarity focus, and the other half was primed with a dissimilarity focus. The main part of the experiment consisted of the procedure established by Neumann and Strack (2000). Participants listened to an audiotaped recording of a philosophical text. For half of the participants this text was spoken by an actress (for female participants) or actor (for male participants) in a slightly positive mood. The other half of participants listened to the same text spoken in a slightly negative mood. The length of the recording was about 4 min. Right after this, participants answered a number of questions concerning the recording. These question included evaluations of text comprehensibility and sympathy for the speaker. In addition, they received the same items for measuring unspecific mood and specific affective reactions as were used in Study 1a (which were already taken from Neumann & Strack, 2000). After the completion of the experiment, participants were fully debriefed and thanked.

Results

We expected participants who were in the similarity focus condition to show a concordant affective reaction after listening to the recording, whereas participants in the dissimilarity focus condition should show a discordant affective reaction. As is apparent from the inspection of Figure 3, participants with an induced similarity focus reported a better mood after being exposed to a text spoken in a slightly positive mood ($M = 5.37$) than that after being exposed to a text spoken in a slightly negative mood ($M = 6.57$), $t(75) = 2.15, p < .05$. The opposite pattern emerged for participants with an induced dissimilarity focus. Here, participants who had been exposed to a text spoken in a slightly positive mood reported a worse mood ($M = 6.37$) than did those who had been exposed to a text spoken in a slightly negative mood ($M = 5.40$). This difference reached marginal significance, $t(75) = 1.71, p = .09$. This pattern of means produces a significant interaction effect in a 2 (focus: similarity vs. dissimilarity) × 2 (mood: positive vs. negative) ANOVA using the general mood measurement as a dependent variable, $F(1, 75) = 7.42, p < .01$, $\eta^2_p = .09$. None of the main effects proved to be significant in this analysis (all $F s < 1$). Next, we analyzed the specific mood items. However, there was no systematic pattern of results (see Table 3). The same is true for participants’ evaluation of the text and the speaker (all $F s < 1$).

Discussion

The goal of the present experiment was to extend our findings to a paradigm that examines socially induced affect in a more subtle manner. Neumann and Strack (2000) had found concordant affective reactions after listening to a speaker who reads in a slightly positive

<table>
<thead>
<tr>
<th>Mood condition</th>
<th>Priming</th>
<th>Cheerful</th>
<th>Happy</th>
<th>Angry</th>
<th>Anxious</th>
<th>Sad</th>
<th>Bored</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>Ingroup</td>
<td>6.90 (2.77)</td>
<td>6.27 (2.68)</td>
<td>3.09 (2.02)</td>
<td>2.54 (2.07)</td>
<td>3.36 (2.11)</td>
<td>3.63 (2.94)</td>
</tr>
<tr>
<td>Positive</td>
<td>Outgroup</td>
<td>3.86 (2.52)</td>
<td>6.71 (2.06)</td>
<td>3.71 (2.29)</td>
<td>4.43 (2.99)</td>
<td>4.85 (2.73)</td>
<td>4.57 (3.51)</td>
</tr>
<tr>
<td>Negative</td>
<td>Ingroup</td>
<td>7.17 (1.95)</td>
<td>7.58 (1.88)</td>
<td>3.17 (2.17)</td>
<td>2.75 (1.86)</td>
<td>3.17 (2.08)</td>
<td>4.83 (2.72)</td>
</tr>
<tr>
<td>Negative</td>
<td>Outgroup</td>
<td>6.45 (2.29)</td>
<td>6.81 (2.23)</td>
<td>4.18 (3.03)</td>
<td>4.63 (3.47)</td>
<td>3.81 (2.96)</td>
<td>3.91 (2.39)</td>
</tr>
</tbody>
</table>

Note. Standard deviations are in parentheses.

Figure 3. Participants’ self-reported mood on a scale from 1 (good) to 10 (bad) as a result of listening to a speaker with a slightly happy versus sad tone of voice (Study 3).
happy or slightly sad tone of voice. We combined our manipulation of comparison focus with this paradigm and expected it to affect participants’ affective response. The results confirmed our prediction. A similarity focus led participants to show a concordant affective reaction toward the speaker, while a dissimilarity focus led to a discordant affective reaction. However, this effect was apparent only on an item measuring general mood and not on items measuring specific mood. This finding resembles the results of Studies 1a and 1b. The finding that similarity versus dissimilarity focus have an effect on the present paradigm supports our reasoning in three ways. First, we show that the effects extend beyond the experimental setting of Studies 1 and 2 to a somewhat different procedure. Second, we show that our previous findings are not limited to the perception of facial expressions but rather extend to more subtle manipulations of mood. The mechanisms we propose appear to be robust enough to influence a very subtle procedure such as the one developed by Neumann and Strack (2000) in ways that are consistent with our assumptions. So, the different foci of comparison indeed have a direct effect on participants’ experienced mood.

General Discussion

The goal of the present research was to examine whether comparison processes contribute to the social induction of affect. The approach outlined here tried to find an integrative mechanism that can explain both concordant and discordant affect. The core assumption is that socially induced affect is shaped by comparison processes. We assume that concordant and discordant affect results from different comparison foci. If participants focus on similarities, this results in a concordant affective state. If they focus on dissimilarities, the result is a discordant affective state.

The aim of Studies 1 and 2 was to explore conditions for the occurrence of either concordant or discordant affect. We expected that when individuals focus on similarities to a target person, they would show a similar affective reaction. When they focus on differences from the person, however, they are likely to show an opposite affective reaction. The results of Study 1 and 2 are consistent with this line of reasoning. Analogous to findings in the social judgment literature (e.g., Mussweiler et al., 2004a, 2000b; Mussweiler & Strack, 2000), participants in a similarity focus assimilated their mood to that of a given standard, whereas participants in a dissimilarity focus contrasted their mood away from a standard.

Having established that comparisons contribute to the direction of affect induction in a newly developed experimental setting, we aimed to extend our reasoning to a more established experimental procedure. One of the more recent paradigms used in this field was developed by Neumann and Strack (2000) and used audiotaped recordings of a slightly happy or a slightly sad speaker. After being primed with a similarity focus, participants in our study showed a concordant affective reaction. However, after being primed with dissimilarities, participants showed discordant affective reactions. This finding is crucial, because it connects our theorizing directly to research on mood or emotional contagion. In addition, we show that our reasoning is not specifically related to the presentation of facial stimuli but can be extended to auditory stimulus material. In summary, the results of the present studies suggest that comparison processes shape the direction of socially induced affect. Comparison processes influence the effect that a person’s displayed affect has on our own affective state. This effect can be found in response to pictorial and auditory stimulus material.

**Implications for Research on Socially Induced Affect**

The present studies provide support for a comparison view of socially induced affect. In line with previous research, we link socially induced affect to social–cognitive mechanisms (see also Neumann & Strack, 2000). However, going beyond previous work, the present framework makes it possible to account for both concordant and discordant affective reactions. As in many classic studies, we also found concordant affective reactions to be the default outcome (McIntosh et al., 1994). However, from our perspective, discordant affective reactions are also predictable. They are triggered by a focus on dissimilarities between the perceiver and the model. Whether participants focus on dissimilarities or similarities to the model can be manipulated by procedurally inducing these alternative processing styles. Exposure to the same model with the same emotional expression can thus lead to concordant or discordant affective reactions, depending on whether participants compare themselves to this model with a focus on similarities or dissimilarities. Relating this finding to previous research, the present perspective has the integrative potential to explain both concordant and discordant affective responses.

As we have pointed out before, several potential moderators of socially induced affect have been discussed in the literature to date. We discuss some of the proposed moderators of socially induced affect and outline how these moderators are related to the comparison mechanisms of similarity and dissimilarity testing. In so doing, we hope to demonstrate both the integrative and the generative potential of a comparison perspective on socially induced affect.

Individual differences in the extent to which individuals relate their self-concept to others have been discussed as a moderator for socially induced affect. On the one hand, individuals with interdependent self-construals are more susceptible to the affective

**Table 3**

*Mean Affective Response on Specific Emotion Items as a Function of Mood Condition and Priming (Study 3)*

<table>
<thead>
<tr>
<th>Mood condition</th>
<th>Priming</th>
<th>Cheerful</th>
<th>Happy</th>
<th>Angry</th>
<th>Anxious</th>
<th>Sad</th>
<th>Bored</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>Similarities</td>
<td>4.68 (1.70)</td>
<td>5.05 (1.92)</td>
<td>3.37 (2.36)</td>
<td>2.47 (2.04)</td>
<td>3.58 (2.17)</td>
<td>4.47 (2.29)</td>
</tr>
<tr>
<td>Positive</td>
<td>Differences</td>
<td>5.33 (2.46)</td>
<td>5.53 (1.54)</td>
<td>2.32 (1.67)</td>
<td>2.58 (1.61)</td>
<td>3.05 (2.31)</td>
<td>4.58 (2.01)</td>
</tr>
<tr>
<td>Negative</td>
<td>Similarities</td>
<td>5.37 (1.90)</td>
<td>5.71 (2.17)</td>
<td>3.33 (1.91)</td>
<td>2.67 (2.20)</td>
<td>3.48 (2.66)</td>
<td>4.67 (2.92)</td>
</tr>
<tr>
<td>Negative</td>
<td>Differences</td>
<td>4.55 (1.77)</td>
<td>5.75 (1.65)</td>
<td>3.90 (2.05)</td>
<td>1.80 (1.24)</td>
<td>2.70 (1.46)</td>
<td>5.60 (2.28)</td>
</tr>
</tbody>
</table>

*Note.* Standard deviations are in parentheses.
reactions of other persons (Hatfield et al., 1994) and to the experience of other-focused affective reactions (Markus & Kitayama, 1991). Individuals with independent self-construals, on the other hand, may be less susceptible to other people’s affective reactions. These speculations can be integrated well into the proposed comparison perspective on socially induced affect. This may be the case because an independent self-construal—which involves differentiating oneself from others—likely involves a general focus on differences between the self and others. An interdependent self-construal—which involves seeing relations between oneself and others—likely involves a general focus on similarities between the self and others. In this respect, independent versus interdependent self-construals may influence socially induced affect in much the same way as do our experimental manipulations of similarity versus dissimilarity testing. In line with this reasoning, people with a chronic interdependent self-construal may be more likely to show concordant affective reactions, whereas people with a chronic independent self-construal may be more likely to show discordant affective reactions. In this respect, the present framework promises to shed additional light on research demonstrating that people with independent self-construals share the emotions of others to a lesser degree than do people with interdependent self-construals (Markus & Kitayama, 1991; White, Lehmann, & Cohen, 2006). This difference may result from chronic differences in the extent to which both groups chronically focus on similarities to rather than differences from others. Initial evidence using a momentary activation of a specific type of self-construal provides support for these assumptions (Epstude & Mussweiler, 2008).

A second moderator of socially induced affect is the extent to which a perceiver likes the model exhibiting the critical emotional expression. In fact, the effect of liking between individuals on the social induction of affect seems fairly strong (Bush, McHugo, & Lanzetta, 1989). It has been found that viewing a disliked other (e.g., a politician from an opposing political party) clearly inhibits the process of affect induction (McHugo, Lanzetta, Sullivan, Masters, & Englis, 1985). While watching Republican presidential candidate Ronald Reagan on TV, Democratic Party voters did not adopt his mood, whereas Republicans showed concordant affective reactions. From the present perspective, this may be the case because Republicans were more likely to see themselves as similar to their fellow Republican; as a result, they engaged in the comparison process of similarity testing, which in turn yields concordant affective reactions. Democrats, on the other hand, were less likely to see themselves as similar to the Republican president, so that the comparison mechanism, which we hold responsible for concordant affect, was not engaged.

A third moderator of socially induced affect is shared versus unshared category membership. Research in developmental psychology indicates that first-grade children show a stronger tendency to share an affective reaction of a person of the same gender than of a person of the opposite gender (Feshbach & Roe, 1968). From the present perspective, this is likely to be the case because category memberships are one of the primary ways people determine similarity versus dissimilarity to others. In fact, research on self-evaluative consequences of social comparisons has demonstrated that people are more likely to focus on similarities, and consequently assimilate, to ingroup members (Mussweiler & Bodenhausen, 2002). However, people are also more likely to focus on differences, and consequently contrast, from outgroup members (Mussweiler & Bodenhausen, 2002). Extending these findings to the realm of socially induced affect suggests that people may be more likely to share the emotions of a fellow group member because they are more likely to focus on similarities with this person.

Clearly, the present state of research on the moderators of socially induced affect remains speculative to some extent. Nevertheless, the preceding discussion emphasizes that the moderators that have been merely proposed or experimentally established can be linked to the alternative comparison mechanisms of similarity and dissimilarity testing. In this respect, we hope to have demonstrated the integrative potential of a comparison perspective on socially induced affect.

Relationship to Previous Approaches

On a general level, the framework we propose attempts to explain affective reactions by invoking social comparison mechanisms as the underlying mechanism. Suggesting such a link between affective experiences and social comparisons is not unique to the present framework. Rather, previous research and theorizing in social comparison has frequently assumed and demonstrated that comparisons with others influence how we feel about ourselves (e.g., Heider, 1958; Schachter, 1959; Schachter & Singer, 1962). Much of the classic work on the relationship between social comparison and affect has been done with regard to threatening situations (for a review, see Kulik & Mahler, 2000). In line with the “emotional similarity hypothesis” (Schachter, 1959), it has been argued that novel threats produce the need for self-evaluation. Social comparisons, and more specifically emotional comparisons to others facing a similar threat, are used to fulfill this need (Kulik & Mahler, 2000). Within this line of research, comparisons are often seen as strategic processes to reduce uncertainty and gain cognitive clarity (Schachter, 1959). In line with this fundamental assumption, more recent accounts (Gump & Kulik, 1997; Kulik & Mahler, 2000) also emphasize the role of threat such that emotional comparisons are expected to be highly important in threatening situations, but less so in safer ones. Gump and Kulik (1997) found that the prospect of highly threatening situations leads only to affiliative behavior during dyadic interactions when participants are expecting the same threat. However, in this particular study the pattern of affective reactions (emotional contagion) was not influenced by the similarity of the threat. The present approach differs from this view in proposing a more general model of socially induced affect, which assumes neither that comparisons are strategically engaged nor that they are specifically linked to the experience of threat. In line with recent evidence attesting to the spontaneous nature of social comparison activities, the present studies show that people spontaneously compare themselves to others even if no comparison is asked for, and neither a strategic motivation to engage in comparison nor an eminent threat to the self exists. Keeping this in mind, one can also integrate the seemingly contradicting view of discordant affect held by Tesser (1988). He proposed that one can experience a discordant affective reaction to a similar (or close) other. This is the case when this other person outperforms oneself on a dimension of high personal relevance. We would propose that, in this case, similarity
should be considered in terms of performance and less in terms of personal relations to the other person. There is reason to believe that a dissimilarity focus is established when this interpersonal competition takes place. The same reasoning might account for situations in which individuals experience envy. Even though the actors are seemingly of similar fate, a strong experience of dissimilarity can be connected to a motivation to reestablish similarity (see also Heider, 1958).

The present framework, however, is not only related to classic and current theorizing in social comparison but is also connected to recent theoretical developments in embodied social cognition. Embodiment approaches assume that affective stimuli elicit matching mental and bodily representations (Niedenthal, Barsalou, Winkielman, Krauth-Gruber, & Ric, 2005). These representations (or simulations) can in turn elicit matching affective states and cognitions in the perceiver and thereby also increase the accessibility of related constructs (e.g., Förster & Strack, 1996; Niedenthal, Ric, & Krauth-Gruber, 2002). Transferred to the domain of socially induced affect, the confrontation with a smiling person leads to the mental simulation of the state of happiness, including the activation of the respective facial muscles. This type of explanation can account not only for the effects of actually seeing another person (Hsee et al., 1990; Niedenthal, Brauer, Halberstadt, & Innes-Ker, 2001) but also for the effects of listening to a slightly happy person (Neumann & Strack, 2000). In both cases, embodiment theorists would predict concordant affective experiences (see also Hatfield et al., 1994). But what about affective discordance? One possibility is that the default mechanism, namely, the creation of a corresponding simulation of the stimulus, is interrupted when a dissimilar stimulus is encountered. The approach by Niedenthal and colleagues (2005) assumes that there are limitations to embodied processing. We propose dissimilarity focus to be such a limitation. The processing of the stimuli in the present studies seems to depend largely on procedural priming mechanisms. These match embodiment assumptions in the case of similarity focus but contradict them in the case of dissimilarity focus.

Finally, our approach bears some similarities to the classic research on subjective well-being (e.g., Schwarzw & Strack, 1991; Strack, Schwarz, & Gschneidinger, 1985). In this domain, evaluations of once current subjective well-being and life-satisfaction are conceptualized in a judgmental model. Most important, these judgments can be made globally by just using the current affective state as informational input. If specific judgments are required, more deliberate cognitive processes (including social comparisons) take place. However, recent research suggests that comparison processes might be much less cognitively demanding than has been previously assumed (Musweiler et al., 2004a; Stapel & Blanton, 2004). In addition, Studies 1b and 3 show that our manipulation seems to be directly influencing participants’ experienced mood. Therefore, it is unlikely that the results of our research are simple judgmental effects.

Limitations and Future Directions

In the present study, mostly explicit self-reported measures of affect served as dependent variables. Even though Study 1b provided initial support that the mood effect goes beyond explicit self-report, it is certainly an important next step to investigate how other measures of affective response (especially electromyography) are related to the present affect. Recent research has demonstrated that emotional contagion effects and facial mimicry do not necessarily depend on each other (Hess & Blairy, 2001). Therefore it might be interesting to apply our comparison logic to explain variations in the extent of mimicry and its relation to contagion effects. In addition, studies showing that social cues influence the extent of mimicry effects (Bourgeois & Hess, 2008) demonstrate that our reasoning might be applicable not only to self-report measures but also to more subtle measures of affective response.

The lack of significant effects on the specific emotion items raises the question of when such effects would be expected. In Studies 1 and 2 we did not focus on one specific emotion that was depicted on our stimuli. Instead, we focused on positive versus negative valence of displayed emotions (as was determined by the IAPS norms; Lang et al., 2005). In addition, participants were unaware of the speaker’s displayed emotion in Study 3. Therefore, future studies might need to focus on the display of one specific emotion to find an effect on specific emotion items. As was noted above, Heider (1958) already assumed that the occurrence of a specific affective reaction through a contagion mechanism might require more elaborate cognitive processes.

In summary, in the present research we demonstrated the influence of comparison processes on socially induced affect. We propose an integrative model to explain concordant and discordant affective reactions. This model assumes that spontaneous comparisons with a target person who exhibits a positive or negative affective expression alter the affective state of the perceiver. The proposed framework has the potential to integrate much of the theoretical propositions and empirical findings in the field of socially induced affect. Furthermore, such a comparison perspective makes it possible to integrate this field of study with the burgeoning research on social comparison processes. This promises to provide novel insights into the conditions under which emotional expressions are and are not contagious.

References


(Appendix follows)
Appendix

*IAPS Stimuli Numbers Used in Study 1 With Their Respective Mean Ratings of Valence and Arousal*

<table>
<thead>
<tr>
<th>Stimulus</th>
<th>Valence</th>
<th>Arousal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>6.51 (1.83)</td>
<td>3.32 (2.07)</td>
</tr>
<tr>
<td>2010</td>
<td>6.25 (1.84)</td>
<td>3.32 (2.07)</td>
</tr>
<tr>
<td>2030</td>
<td>6.71 (1.73)</td>
<td>4.54 (2.37)</td>
</tr>
<tr>
<td>2370</td>
<td>7.14 (1.46)</td>
<td>2.90 (2.14)</td>
</tr>
<tr>
<td>2510</td>
<td>6.91 (1.91)</td>
<td>4.00 (2.10)</td>
</tr>
<tr>
<td>8320</td>
<td>6.24 (1.78)</td>
<td>4.27 (2.21)</td>
</tr>
<tr>
<td>8330</td>
<td>6.65 (1.39)</td>
<td>4.06 (2.28)</td>
</tr>
</tbody>
</table>

**Positive**

<table>
<thead>
<tr>
<th>Stimulus</th>
<th>Valence</th>
<th>Arousal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2100</td>
<td>3.85 (1.99)</td>
<td>4.53 (2.57)</td>
</tr>
<tr>
<td>2110</td>
<td>3.71 (1.82)</td>
<td>4.53 (2.25)</td>
</tr>
<tr>
<td>2190</td>
<td>4.83 (1.28)</td>
<td>2.41 (1.80)</td>
</tr>
<tr>
<td>2230</td>
<td>4.53 (1.22)</td>
<td>4.13 (1.68)</td>
</tr>
<tr>
<td>2490</td>
<td>3.32 (1.82)</td>
<td>3.95 (2.00)</td>
</tr>
<tr>
<td>2520</td>
<td>4.13 (1.90)</td>
<td>4.22 (1.69)</td>
</tr>
<tr>
<td>2702</td>
<td>5.21 (1.61)</td>
<td>3.92 (2.34)</td>
</tr>
</tbody>
</table>

**Negative**

<table>
<thead>
<tr>
<th>Stimulus</th>
<th>Valence</th>
<th>Arousal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2220</td>
<td>5.03 (1.39)</td>
<td>4.93 (1.65)</td>
</tr>
<tr>
<td>2381</td>
<td>5.25 (1.22)</td>
<td>3.04 (1.97)</td>
</tr>
<tr>
<td>2410</td>
<td>4.62 (1.72)</td>
<td>4.13 (2.29)</td>
</tr>
<tr>
<td>2440</td>
<td>4.49 (1.03)</td>
<td>2.63 (1.70)</td>
</tr>
<tr>
<td>2580</td>
<td>5.71 (1.41)</td>
<td>2.79 (1.78)</td>
</tr>
<tr>
<td>2890</td>
<td>4.95 (1.09)</td>
<td>2.95 (1.87)</td>
</tr>
<tr>
<td>7350</td>
<td>5.27 (1.40)</td>
<td>3.95 (1.91)</td>
</tr>
</tbody>
</table>

**Neutral**

*Note.* IAPS = International Affective Picture System. Means are taken from Lang, Bradley, and Cuthbert, 2005. Standard deviations are given in parentheses.