

I Know You Are, But What Am I? Self-Evaluative Consequences of Judging In-Group and Out-Group Members

Thomas Mussweiler
Universität Würzburg

Galen V. Bodenhausen
Northwestern University

When judging another person, people often spontaneously compare this person with themselves. Six studies examined the self-evaluative consequences of such spontaneous comparisons with in-group versus out-group members. They demonstrate that spontaneous comparisons with in-group members primarily involved the activation of specific individuating knowledge about the self. In particular, knowledge indicating that the self is similar to the judged target was rendered accessible. As a consequence, subsequent self-evaluations that were based on the implications of accessible self-knowledge were assimilated toward in-group targets. Spontaneous comparisons with out-group members, however, primarily involved the activation of more general category knowledge about the self. Specifically, knowledge about judges' membership in a group that distinguished them from the target was rendered accessible. Consequently, self-evaluations were contrasted away from out-group targets.

The tasks of daily life frequently necessitate the judgment or evaluation of other persons. Who can be trusted? Who might be helpful? Who would know how to solve my problem? We need to render judgments of others to address a plethora of mundane concerns. The task of sizing others up, however, can be fairly complex and precarious because in many cases, the information that we have available is too abundant, too scarce, or too hazy to allow for a clear judgment. One factor that renders social judgment even more complex is the fact that such judgments typically cannot be made in an absolute manner. Rather, social judgment is inherently relative in nature. That is, evaluations of others often have to be made in comparison with a salient norm or standard (e.g., Higgins & Lurie, 1983; Higgins & Stangor, 1988). Although in principle a host of different standards is available, abundant evidence suggests that the self constitutes a particularly pervasive standard in evaluations of others (Dunning & Hayes, 1996; Holyoak & Gordon, 1983; Karylowski, 1990; Sherif & Hovland, 1961; Srull & Gaelick, 1983). In fact, the self may constitute so pervasive a standard that the process of judging others routinely involves a spontaneous comparison with the self.

Self-Evaluative Consequences of Spontaneous Comparisons

Although the prevalence of such spontaneous self-comparisons has been clearly demonstrated (Dunning & Hayes, 1996), little is

known about their consequences for the self. Imagine, for example, that you were to judge how caring and affectionate a new acquaintance of yours is. Would this evaluation change your perceptions about your own caringness? And if so, what would be the direction of the influence? Would you assimilate your self-perceptions toward the judged person (e.g., see yourself as more caring after judging a caring person)? Or would you contrast your self-perceptions away from the target (e.g., see yourself as less caring after judging a caring person)? Moreover, would these consequences depend on specific characteristics of the target person? Would evaluating a member of your own group have similar consequences as would evaluating a member of an out-group? For example, would evaluating a woman in terms of how caring she is have the same consequences as evaluating a man? The present research is designed to examine these questions.

As a starting point for answering these questions, it may be helpful to look at the literature on the consequences of more deliberate social comparisons (Festinger, 1954; for a recent review, see Collins, 1996). To the extent that spontaneous self-comparisons with others involve processes similar to the ones involved in more deliberate comparisons, they are also likely to have similar self-evaluative consequences. In fact, social comparison research has repeatedly demonstrated that self-evaluations heavily depend on comparisons with others (e.g., Brewer & Weber, 1994; Brown, Novick, Lord, & Richards, 1992; Lockwood & Kunda, 1997; Morse & Gergen, 1970; Pelham & Wachsmuth, 1995; for overviews, see Collins, 1996; Wood, 1989). Thus, the fact that self-perceptions are often influenced by comparisons with others is well established. Less clarity exists, however, with respect to the direction of this influence: Some studies have demonstrated that self-evaluations are assimilated toward the comparison standard (e.g., Lockwood & Kunda, 1997), whereas others have shown that they are contrasted away from the standard (e.g., Morse & Gergen, 1970). In an effort to integrate these divergent findings into one conceptual framework, researchers have sug-

Thomas Mussweiler, Department of Psychology, Universität Würzburg, Würzburg, Germany; Galen V. Bodenhausen, Department of Psychology, Northwestern University.

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Correspondence concerning this article should be addressed to Thomas Mussweiler, Universität Würzburg, Psychologie II, Röntgenring 10, 97070 Würzburg, Germany. E-mail: mussweiler@psychologie.uni-wuerzburg.de

gested that to fully understand the self-evaluative effects of social comparisons, one has to examine their informational consequences (Mussweiler & Strack, 2000a, 2000b). Because—as with any judgment—self-evaluations are based on the implications of relevant (i.e., self-related) knowledge that is accessible at the time of the judgment (Higgins, 1996), identifying what self-knowledge is rendered accessible during a comparison is crucial for one to understand its self-evaluative consequences.

Category-Based Versus Person-Based Comparisons

What knowledge about the self is rendered accessible during a spontaneous self-comparison? Mussweiler and Strack (2000c) recently suggested that, as is true for social judgment (Brewer, 1988; Fiske & Neuberg, 1990), two principal types of knowledge can be used to compare a target with a given standard. In particular, a comparison may be based either on general category knowledge or on more specific individuating knowledge. Just as category-based social judgment requires less capacity than does exemplar-based judgment, category-based comparisons require less capacity than do exemplar-based comparisons. Thus, the former appear to have priority over the latter. That is, people are likely to rely primarily on category knowledge if it is sufficient to make the comparison at hand (Taylor, 1981).

One factor that is likely to influence whether category knowledge is sufficient to compare oneself with a target person is the perceiver's social category membership. If the self and the target belong to two social categories that are meaningfully differentiated with respect to the critical dimension, the spontaneous comparison can in principle be carried out on this category level. For example, a man who is asked to judge how caring and affectionate a specific woman is may spontaneously engage in a category-based comparison with her. Because men and women are stereotypically believed to differ with respect to how caring they are, activating knowledge about his own gender category membership may be sufficient for the male judge to compare himself with the female target. That is, the spontaneous comparison is likely to be carried out primarily on a group level, so that knowledge about the judge's gender is likely to become more accessible. However, if the self and the target belong to the same social category, then the comparison cannot be carried out on a category level. For example, a man who is asked to judge how caring another man is cannot compare himself with this target on the basis of his gender category membership, because both belong to the same group. In this case, he is likely to engage in a spontaneous person-based comparison with the other man.¹ That is, the spontaneous comparison is likely to be carried out primarily on the individual level, so that specific knowledge about the self is likely to become more accessible. Thus, the extent to which a spontaneous self-comparison increases the accessibility of category and individuating knowledge about the self is likely to depend on whether the self and the target belong to the same or to two contrasting social categories.

Selective Accessibility in Person-Based Comparisons

Recent evidence on the informational consequences of deliberate social comparisons (Mussweiler & Strack, 2000b) suggests that comparisons that are carried out on an individuating level increase the accessibility of a specific subset of knowledge about the self.

In many cases, comparing oneself with a given target person appears to selectively increase the accessibility of knowledge indicating that one's own standing on the judgmental dimension is similar to that of the target. This may be the case because people make the comparison by engaging in a selective hypothesis test (Sanbonmatsu, Posavac, Kardes, & Mantel, 1998) of the possibility that they are similar to the target. Consistent with a basic tendency to focus on hypothesis-consistent evidence (Snyder & Swann, 1978; Trope & Liberman, 1996), people may do so by generating evidence indicating that their standing on the judgmental dimension is, in fact, similar to the target. Doing so renders this evidence more accessible (for more detailed discussions, see Mussweiler & Strack, 2000a, 2000b). That is, a deliberate social comparison that is carried out on the individual level (i.e., a person-based comparison) appears to increase the accessibility of a specific, target-consistent subset of knowledge about the self.

At first glance, this selective accessibility effect appears to be at odds with much of the evidence on the self-evaluative consequences of social comparisons. The literature suggests that self-evaluations are often contrasted away from the comparison standard (e.g., Brown et al., 1992; Cash, Cash, & Butters, 1983; Morse & Gergen, 1970; Thornton & Moore, 1993; see Wood, 1989, for an overview). In one classic study (Morse & Gergen, 1970), for example, participants evaluated themselves to be less competent if they were exposed to a supercompetent other. The default self-evaluative consequence of the described selective accessibility mechanism, however, is assimilation rather than contrast. Self-evaluations are likely to be consistent with the implications of the standard-consistent self-knowledge that is rendered accessible during the comparison. How can this apparent inconsistency be resolved? Why does much of the social comparison literature demonstrate contrast effects, when comparisons appear to render assimilative self-knowledge more accessible?

The answer to this question appears to be partly methodological in nature (for a more detailed discussion, see Mussweiler & Strack, 2000b). Specifically, the consequences of social comparisons have often been assessed using subjective judgments along a given rating scale (e.g., "How caring are you on a scale from 1 to 9?"), which typically do not provide an unbiased assessment of target evaluations. As research by Biernat and her colleagues (Biernat & Manis, 1994; Biernat, Manis, & Nelson, 1991) has demonstrated, such subjective judgments are open to shifts in scale meaning that often conceal actual changes in target representation. In the case of social comparisons, for example, judges are likely to use the comparison standard as a scale anchor, which typically produces a contrast effect (Ostrom & Upshaw, 1968; Wyer & Srull, 1989). This effect, however, reflects a change in the response language rather than in the actual representation of the self. To impede such response language effects, one has to use objective judgments (e.g., "How often did you comfort a friend who was in trouble this month?") that are anchored in objective reality and thus preclude differential scale anchoring. This latter judgment type thus more accurately reflects changes in the representation of the self. Consistent with this assumption, Mussweiler and Strack (2000b) recently demonstrated that a social comparison that produces con-

¹ See Brewer and Weber (1994) for a related distinction between intergroup and interpersonal comparisons.

trast on a subjective judgment yields assimilation on an objective judgment. Significantly, it was the assimilative influence that reflected the implications of accessible self-knowledge and proved to be more robust. This suggests that in many situations, self-evaluative contrast may be more apparent than real. In line with this assumption, a recent review (Collins, 1996) suggested that assimilation is a more pervasive effect of social comparison than was initially assumed.

The Present Research

Taken together, the preceding reasoning holds several interesting implications for the potential self-evaluative consequences of judging others. First, previous research on spontaneous comparisons (e.g., Dunning & Hayes, 1996) suggests that a judgment about another person often involves a comparison with the self. Thus, social judgment appears to involve the activation of self-knowledge. Furthermore, this knowledge may primarily be either categorical or individuating in nature. Thus, evaluating another person may lead to either a category-based or a person-based spontaneous comparison of the self and the other. Significantly, category-based comparisons appear to have priority over person-based comparisons (Mussweiler & Strack, 2000c), so that a spontaneous comparison with an out-group member is more likely to be carried out on the category level. As a consequence of such a category-based comparison, knowledge about the category membership of the self is likely to become more accessible. A spontaneous comparison with an in-group member, however, cannot be carried out on the category level and is thus more likely to involve the activation of specific individuating information about the self. More specifically, knowledge is likely to be activated that indicates that the self is similar to the target with respect to the judgmental dimension. Thus, spontaneous comparisons with in-group versus out-group members are likely to influence the accessibility of self-knowledge in different ways. Whereas a spontaneous comparison with an out-group member activates category knowledge indicating that the self is different from the target (i.e., belongs to a different category), a spontaneous comparison with an in-group member activates individuating knowledge indicating that the self is similar to the target.

How do these divergent informational consequences influence subsequent self-evaluations? How does judging another person influence how one sees oneself? As with any judgment, self-evaluative judgments reflect the implications of the knowledge that is accessible at the time the judgment is made. Thus, self-evaluations are likely to be consistent with the implications of the self-knowledge that was rendered accessible during the spontaneous comparison. In the case of category-based comparison, self-evaluations are thus likely to be consistent with the implications of membership in the critical category. Stated differently, a category-based spontaneous comparison may lead to self-stereotyping (Hogg & Turner, 1987). To the extent that this category membership is informative with respect to the critical characteristic and implies that members of the judgmental target's category differ from those of the self's category, this should produce a contrast effect in self-evaluations. In the case of a person-based comparison, on the other hand, self-evaluations are likely to be in line with the implications of the target-consistent self-knowledge. As a consequence, self-evaluations are likely to be assimilated toward

the target. This reasoning suggests that the self-evaluative consequences of spontaneous comparisons with in-group versus out-group members may go in opposite directions.

We tested these predictions in six studies. Studies 1–5 focus on the informational consequences of spontaneous comparisons with in-group and out-group members. In particular, they examine whether a spontaneous comparison with an out-group member primarily involves an increase in the accessibility of category knowledge about the self, whereas a spontaneous comparison with an in-group member primarily involves an increase in the accessibility of more specific, target-consistent individuating knowledge about the self. Study 6 focuses more on the self-evaluative consequences of these hypothesized changes in the accessibility of self-related knowledge and examines whether these different types of spontaneous comparisons produce contrast and assimilation, respectively.

Study 1

In our first study we examined the consequences that spontaneous comparisons with out-group and in-group members have for the accessibility of category and individuating knowledge about the self. To do so, we assessed how quickly participants were able to answer self-evaluative questions subsequent to making a judgment about the target person. For example, male participants were given a brief description of a man (the in-group target) or a woman (the out-group target) who loves to read romance novels and were asked to judge how much this person likes romance novels. Subsequently, they evaluated their own liking for romance novels. Although category knowledge about one's gender is relevant for this self-evaluative judgment and is thus likely to contribute to its informational basis, it is unlikely to be the sole basis for the judgment. In evaluating themselves, people are likely to be highly motivated to be accurate and thus would typically be expected to consult individuating knowledge (Fiske & Neuberg, 1990), which is very readily and efficiently available in memory. In this respect, self-evaluative judgments require the use of at least some individuating knowledge about the self. Consequently, participants who already have such individuating self-knowledge easily accessible (because they had previously activated it when judging the target person) should be faster in evaluating themselves. Consistent with this assumption, previous research (Dunning & Hayes, 1996; Mussweiler & Strack, 1999; Strack & Mussweiler, 1997) has demonstrated that the more knowledge about the judgmental target participants were able to generate in a preceding task, the faster their judgments about this target were. For example, participants were faster in estimating the mean temperature in Antarctica if they previously had ample time to compare it with a numeric standard rather than having to make this comparison under time pressure (Mussweiler & Strack, 1999).

In light of these findings, the time participants need to make a self-evaluative judgment can be used as an indicator of how much judgment-relevant individuating knowledge they activated prior to the judgment. Thus, if our reasoning is correct and participants who judge an in-group target activate more individuating knowledge about themselves, they should be faster in reporting their self-evaluations than should participants who judged an out-group target. Moreover, self-evaluative judgments should be influenced by the implications of the knowledge that was primarily activated

during the assumed spontaneous comparison. Thus, the self-evaluations of participants who judged an out-group target should in part be based on the implications of their gender group membership, so that they evaluate themselves in a way that is consistent with the general gender stereotype. For example, participants who judged how much a woman likes romance novels should judge themselves to like romance novels less than should those who judged a man.

In addition to these self-evaluative judgments, which focus primarily on the accessibility of individuating knowledge and constitute our central dependent measure, we also included a self-description task as a measure of the relative accessibility of category knowledge about the self. In particular, we asked participants to describe themselves in 20 brief statements (Kuhn & McPartland, 1954) at the end of the study. If our reasoning is correct and category knowledge about the self is more accessible after a comparison with an out-group member than an in-group member, then male participants who judged female target persons should describe themselves in terms that are more consistent with the male stereotype than should participants who judged male target persons.

Method

Participants. Thirty-four male psychology undergraduates at Northwestern University participated in partial fulfillment of a course requirement. They were randomly assigned to one of two experimental conditions.

Materials. We selected the target descriptions on the basis of a pretest using a different sample of male Northwestern undergraduates ($N = 10$). These participants were given a total of 24 descriptions and were asked to indicate along 9-point rating scales (1 = *not at all likely*, 9 = *very likely*) how likely it was that the described person was male and how likely it was that this person was female. All descriptions were worded in a gender-neutral way (e.g., "In his/her high-school days, X usually helped his/her father with small repairs in the house or at the car. X would also mow the lawn to earn a little pocket money"). The five descriptions with the largest difference in likelihood estimates for male and female targets were selected as the critical target descriptions for the main study (see Appendix A). For all of them, the differences in likelihood estimates were larger than 3 scale points. Three of the selected descriptions (manual skills, liking football, and having laundry problems) were seen as more typical of men, and two (liking fashion magazines and liking romance novels) were seen as more typical of women.

To assess the extent to which participants thought of themselves in terms of their gender identity after exposure to descriptions of male versus female targets, we used a variation of the 20 statements task (Kuhn & McPartland, 1954). Previous research has demonstrated that this task is a valid measure of people's momentary self-conceptions (e.g., Gardner, Gabriel, & Lee, 1999). Our variation of this task included 20 self-descriptive statements ("I am ____") that participants were instructed to complete.

Procedure. On arrival in the lab, participants were greeted by the experimenter and led to individual rooms where they were seated in front of a personal computer. They were informed that the study would be computer administered and were asked to read instructions attentively. In the instructions, it was pointed out that the purpose of the study was to pretest materials that would be used in subsequent studies of person perception. Specifically, participants were presented with a number of brief descriptions of different people and instructed to read the descriptions carefully and to answer all of the subsequent questions as accurately as possible. They were then presented with a total of 13 target descriptions. The critical ones were presented in the same order in which they are listed in Appendix A and appeared in the 6th, 7th, 10th, 12th, and 13th positions.

For about half of the participants, all descriptions pertained to female target persons; for the other half, they all pertained to male target persons.

Each of the 13 descriptions was presented in the same way. First the target description itself appeared on the screen along with instructions to read it attentively and form an impression of the described person. The description remained on the screen until participants indicated that they had formed an impression by pressing the return key. On the subsequent screen, participants were instructed to put their fingers above the number keys of the keyboard. These instructions remained on the screen for 3 s. They were followed by the target judgment, in which participants judged the target person with respect to the core dimension that was implied in the description (e.g., "How manually skilled is Frank [Christine]?"). Judgments were made along a 9-point rating scale that ranged from 1 (e.g., *not at all manually skilled*) to 9 (e.g., *very manually skilled*). The target judgment was immediately followed by the self-judgment (e.g., "How manually skilled are you?"), which was made along the same scale. Subsequent to the self-judgment, a blank screen appeared for 2 s before the next target description was presented. This sequence was repeated for all 13 target descriptions. After answering the final self-judgment, participants were informed that they had completed the first part of the study and should now proceed by answering a final questionnaire that was provided in a folder next to the computer screen. This folder included a variation of the 20 statements task (Kuhn & McPartland, 1954). In the instructions, participants were asked to complete the 20 statements provided.

After completion of this questionnaire, participants were thoroughly debriefed, thanked for their participation, and dismissed.

Results

Response latencies. Our central prediction pertained to the response latencies for the self-evaluative judgments. As suggested by Fazio (1990), we conducted logarithmic transformations (\ln) of the response latencies prior to analysis to reduce the skewness of the response distribution. For ease of interpretation, however, we report the untransformed means. Of the total of 170 critical responses (i.e., responses of each of the 34 participants to the five critical self-judgments), the latency for 1 item (0.6% of the critical responses) deviated from the respective question mean by more than three standard deviations. This 1 latency was excluded from the analysis.

On the basis of the above reasoning, we expected that judging an in-group target would involve the activation of more specific individuating knowledge about the self than would judging an out-group target. Thus, more knowledge that is used to make the self-evaluative judgment should be readily accessible in the former case than in the latter case. As a consequence, response latencies for the self-evaluative judgments should be shorter if an in-group target rather than an out-group target has been judged. As the means given in Table 1 indicate, the obtained pattern of response

Table 1
Response Latencies for Self-Judgments by Target Gender and Dimension (Study 1)

Target	Dimension	
	Male	Female
Male	1,733	1,496
Female	2,058	1,824

Note. Response latencies are given in milliseconds. $n = 17$ in all cells.

latencies is clearly consistent with these predictions. Our male participants were faster in giving self-judgments when the target person was male ($M = 1,614$ ms) rather than female ($M = 1,941$ ms). This pattern produced a main effect of target gender in a 2 (male vs. female target) \times 2 (male vs. female dimension) mixed-model analysis of variance (ANOVA) using logarithmically transformed response latencies for the self-judgments as the dependent measure, $F(1, 32) = 4.12, p < .05$. In this analysis, the main effect of dimension approached significance, $F(1, 32) = 3.84, p < .06$, indicating that participants were faster in judging themselves with respect to the female dimensions ($M = 1,659$ ms) than with respect to the male ($M = 1,895$ ms) dimensions. The interaction of target gender and dimension did not approach significance ($F < 1$).

Self-judgments. Although our focus on response latencies for self-evaluations required the use of subjective judgments, which are not ideal for an assessment of the self-evaluative effects of spontaneous comparisons, the present data allow for an initial inspection of these consequences. Our reasoning suggests that judging a female target person rendered the gender category membership of our male participants more accessible, so that their subsequent self-evaluations should have been at least partially influenced by knowledge about the general characteristics of men. As a consequence, self-judgments should have been more consistent with the general stereotype of men after participants judged a female rather than a male target person. That is, for characteristics that are seen as less typical of men (e.g., liking romance novels), lower self-judgments should result if a female target has been judged. For characteristics that are seen as typical of men (e.g., liking football), however, the opposite should be the case.

Inspection of the means given in Table 2 reveals that participants' self-evaluative judgments were generally consistent with these predictions. Specifically, on the female dimensions (e.g., liking romance novels), lower self-ratings were given when the target persons were female rather than male. On the male dimensions (e.g., liking football), however, the reverse pattern occurred. In these instances, participants gave higher self-ratings when exposed to female rather than to male targets. This pattern produced a significant interaction effect in a 2 (male vs. female target) \times 2 (male vs. female dimension) mixed model ANOVA with the self-judgments as a dependent measure, $F(1, 32) = 6.70, p < .015$. In this analysis the main effect for dimension also proved to be significant, $F(1, 32) = 60.33, p < .001$, indicating that our male participants judged themselves higher on the male dimensions than on the female dimensions. Separate analyses for both dimensions further revealed that the differences between the male and female target conditions were significant for the female dimensions,

$t(32) = 2.11, p < .02$, as well as the male dimensions, $t(32) = 1.87, p < .04$.²

Self-descriptions. The self-description task was included to provide an initial demonstration that judging a female target person renders knowledge about participants' membership in the male gender category more accessible. If this were indeed the case, then participants should describe themselves in ways that are more consistent with membership in the male gender category after judging a female rather than a male target person.

To analyze the responses to the 20 statements task, we had two independent judges who were unaware of experimental conditions count the number of self-descriptive statements that referred to characteristics closely associated with being a man (e.g., "I am a man, brother, son"). The judges showed good agreement ($r = .68$), so their ratings were averaged into one single score. An analysis of this "maleness" score revealed that, as expected, participants who were exposed to female targets used more characteristics associated with maleness to describe themselves ($M = 2.18$) than did participants who were exposed to male targets ($M = 1.53$), $t(31) = 1.68, p < .05$.³

Discussion

The results of Study 1 confirm that judging an in-group member and judging an out-group member have differing consequences for the accessibility of specific individuating knowledge about the self. In particular, specific knowledge pertaining to the self's standing on the judgmental dimension appears to be more accessible after a person judges an in-group member than after he or she judges an out-group member. In the present data, this difference in knowledge accessibility is apparent in the fact that self-evaluative judgments, which are likely to involve the use of this knowledge, were made faster after participants judged an in-group member than after they judged an out-group member.

These data also provide initial support for the assumption that judging in-group versus out-group targets has differential effects on the accessibility of category knowledge about the self. Specifically, knowledge pertaining to the social category membership of the self appears to be more accessible after one judges an out-group member rather than an in-group member. This relative increase in the accessibility of category knowledge about the self is apparent in the fact that self-descriptions as well as self-judgments were more consistent with the male stereotype after participants judged an out-group member than after they judged an in-group member.

Table 2
Self-Judgments by Target Gender and Dimension (Study 1)

Target	Dimension	
	Male	Female
Male	4.51	2.88
Female	5.08	1.82

Note. Judgments were made on 9-point scales ranging from 1 (*not at all*) to 9 (*very*). $n = 17$ in all cells.

² Unless otherwise noted, all reported t tests involving hypothesized differences are one-tailed. Although we had clear directional predictions and many authorities recommend the use of one-tailed significance tests in such cases, this practice is controversial (e.g., Abelson, 1995). We adopted Abelson's recommended compromise between the two extreme positions in this debate, constructing a null-hypothesis rejection region of 5% in the theoretically expected tail and 0.5% in the unexpected tail. In addition, where appropriate we report meta-analytic summaries of our findings to confirm the overall reliability of the theorized effects.

³ One participant did not complete the 20 statements task, so this analysis is based on the responses of 33 participants.

Study 2

Study 2 was designed to further demonstrate that judging an in-group member renders specific individuating knowledge about the self more accessible than does judging an out-group member. To achieve this goal, we used a task that more unambiguously requires the use of individuating knowledge about the self. Although—as we have outlined before—the self-judgments used in Study 1 are likely to be based on individuating knowledge, they could in principle also be based on category knowledge. For example, our participants could evaluate their liking for romance novels on the basis of their membership in the male gender category rather than on the basis of individuating knowledge about themselves. To clarify this ambiguity, in Study 2 we used a task that necessarily requires the use of individuating self-knowledge and cannot be solved on a categorical basis. Specifically, after judging the target person, participants were asked to report an episode in which they behaved in a way that is related to the critical dimension. For example, after judging how caring and understanding the target person is, they were asked to report a specific episode in which they behaved in a caring and understanding way. To the extent that participants had spontaneously activated individuating self-knowledge and thought about such personal episodes while judging the target, it should be easy to report them. Thus, if our reasoning is correct, participants should be faster in reporting a personal episode that is related to the critical dimension if they previously judged an in-group target rather than an out-group target.

Method

Participants. We recruited 40 female undergraduates at the University of Würzburg as participants. They were contacted over the phone and offered a compensation of 25 German marks (about \$11 at the time). Participants were randomly assigned to one of two experimental conditions.

Materials and procedure. On arrival in the lab, participants were greeted by the experimenter and led to a personal computer. The experimenter then informed them that the present study consisted of several trials with three different tasks each. For each trial they would first be exposed to the description of a target person and would be asked to form an impression of this person. Once they had formed an impression, they would then be instructed to judge this person on a dimension that is related to the information provided. To do so, they should first form their judgment in their mind and press the space bar once they had done so. The judgment should then be reported on a separate piece of paper. Subsequent to this judgment, they would be asked to describe a concrete entity that is related to the target description. For example, they may first receive a description dealing with how the target person has adjusted to life in Würzburg, may then be asked to judge how well this person has adjusted, and may finally be asked to describe a concrete advantage of living in Würzburg. Again, they were instructed to first think of the critical entity (e.g., advantage of living in Würzburg) and press the space bar as soon as something had come to their mind (for a similar procedure, see Sherman, Klein, Laskey, & Wyer, 1998). They were further informed that for this last task, we would assess the time they needed to think of the critical entity and that to provide an answer as fast as possible, they should put their right index finger on the black space bar and keep this position throughout the experiment. The experimenter further specified that response latencies would only be assessed for the third task in each trial and that participants should take their time for the first two tasks of forming an impression and generating a judgment. Finally, participants were given the opportunity to clarify as-

pects of the experimental procedures. The remainder of the experiment was computer administered.

Participants worked on a total of seven trials that followed the described sequence of impression formation, target judgment, and description task. For each trial, participants were first exposed to a description of a target person and were asked to form an impression of this person. They were instructed to press the black space bar once they had done so. Subsequently, they were asked to judge the target person. Again, they were told to press the black space bar as soon as they had formed their judgment. After reporting this judgment on the answer sheet, they were reminded that for the next task we would assess their response latencies, so they should make sure to press the black space bar as soon as they had come up with a good answer. They were further instructed to put their right index finger on the black space bar. This exact sequence was repeated for all seven trials.

The first two trials served as practice trials that allowed participants to get used to the experimental procedure. We included the third through fifth trials to obtain a measure of participants' baseline speed of responding. For these trials the description task was unrelated to the self. For example, in one trial participants formed an impression of a person who had lunch at the university cafeteria every day, were asked to judge how health conscious this person was, and were finally asked to briefly describe an alternative to having lunch in the cafeteria. The sixth and the seventh trials were the critical ones for which the description tasks pertained to the self. The target descriptions referred to dimensions for which men and women are stereotypically considered to differ (see Appendix B). One of them was stereotypic of women (i.e., as being caring and understanding), the other was stereotypic of men (i.e., as having problems doing laundry). For example, participants were asked to form an impression of a person who was described as very caring and understanding, judge how caring and understanding the described person was, and finally describe a situation in which they behaved in a caring way themselves. For half of our participants, all seven descriptions pertained to a female target person (i.e., an in-group member); for the other half, all seven pertained to a male target person (i.e., an out-group member). Subsequent to the seventh trial participants were thanked, debriefed, and paid.

Results

As in Study 1, we conducted logarithmic transformations of the response latencies but report the untransformed means to facilitate interpretation. Of the total of 200 critical responses, 5 (2.5%) deviated from the respective item mean by more than three standard deviations. These 5 latencies were excluded from the analysis. Furthermore, to compensate for individual differences in the baseline speed of responding, we subtracted the mean response latency for the three baseline trials from the mean of the two critical trials. For the resulting measure, lower numbers indicate that participants were relatively faster in providing self-related episodic information.

Our reasoning implies that a spontaneous comparison with an in-group member is more likely to involve the activation of specific episodic information about the self than is a spontaneous comparison with an out-group member. If this is indeed the case, then for our female participants the episodic information they were asked to provide in the critical description tasks should have been more accessible after they judged another woman rather than a man. As a consequence, response latencies for self-descriptions should have been shorter if participants had judged the female rather than the male target person. Consistent with these predictions, our female participants were indeed faster in thinking of an episode in which they behaved in a way that was related to the

target dimension if they had previously judged a female target person ($M = 923$ ms) rather than a male target person ($M = 2,220$ ms), $t(38) = 1.92, p < .03$.

Discussion

Consistent with our interpretation of the response latency data of Study 1, these findings demonstrate that individuating self-knowledge was more accessible after participants judged an in-group member rather than an out-group member. This suggests that judging an in-group target does indeed involve a person-based, spontaneous comparison with the self. In the course of this comparison, judges appear to activate individuating knowledge about themselves and relate it to the target person.

Study 3

Studies 1 and 2 demonstrate that judging an in-group member versus an out-group member has differential consequences for the amount of individuating self-knowledge that is rendered accessible. In particular, more specific knowledge about the self appears to be activated in judging an in-group target than in judging an out-group target. However, our reasoning predicts differences not only in the amount of self-knowledge that is activated but also in the self-evaluative implications of this knowledge. In particular, we assumed that the activated individuating knowledge about the self is consistent with the assumption that the self's standing on the judgmental dimension is similar to that of the target person. For example, judging an in-group target who is described as very tidy should primarily activate self-knowledge indicating that one is also tidy. As a consequence, such target-consistent self-knowledge should be more accessible after a person judges an in-group target rather than an out-group target. Study 3 was designed to test this assumption.

To assess the accessibility of target-consistent self-knowledge, we used a lexical decision task similar to the one used by Mussweiler and Strack (2000b; see also Dijksterhuis et al., 1998). Specifically, after judging either an in-group or an out-group person who was described as very tidy, participants were given a lexical decision task including words that are associated with being tidy (e.g., *neat, orderly*) as well as words that are associated with being messy (e.g., *messy, chaos*). Borrowing from previous research that has demonstrated that the subliminal presentation of self-related words (e.g., *I, me*) prior to the lexical decision allows for an assessment of the specific accessibility of self-knowledge (Dijksterhuis et al., 1998), we structured the experiment so that half of our lexical decision trials were preceded by such a subliminal self-prime, whereas the other half were preceded by a control prime (e.g., *and, or*). We expected that target-consistent self-knowledge would be more accessible after a spontaneous comparison with an in-group target. Thus, lexical decisions for target-consistent words should be faster after participants judged an in-group target rather than an out-group target.

Method

Participants. Thirty-six male psychology undergraduates at Northwestern University participated in partial fulfillment of a course requirement. They were randomly assigned to one of two experimental conditions.

Materials. The target description pertained to a person who was characterized as very tidy (see Appendix C). For about half of the participants, the target person was male (i.e., Andrew); for the other half, the target was female (i.e., Andrea). This target description was pretested in a similar way as were the materials for Study 1. Specifically, a different group of male Northwestern undergraduates ($N = 10$) were asked to indicate how likely it was that the described person was male and how likely it was that this person was female. The described behavior was clearly seen as more typical of a woman ($M = 7.2$) than of a man ($M = 5.4$), $t(9) = 2.71, p < .02$.

In the lexical decision task, we used four sets of stimulus words as targets: 4 words that are associated with being neat (*neat, orderly, clean, housekeeper*), 4 words that are associated with being messy (*messy, litter, chaos, confusion*), 16 neutral words (e.g., *wheel, passion*), and 8 nonwords (e.g., *pavst, reparnate*). Moreover, we used two sets of primes: words that are closely associated with the self (*me, my, I*), and words that are not associated with the self (*and, or, but*).

From these primes and targets we constructed two lists of 32 prime–target combinations. In the first list, one half of each target category was preceded by a self prime, whereas the other half was preceded by a neutral prime. For the second list, this assignment was reversed, so that across the two lists each word was preceded once by a self prime and once by a neutral prime. Within the two prime categories, the individual primes were randomly assigned to the specific targets. Moreover, the order of the prime–target combinations was randomly determined for both lists. Thus, for each list, two of the words that are associated with being neat were preceded by a self prime and two were preceded by a neutral prime. Similarly, two of the words that are associated with being messy were preceded by a self prime, and two were preceded by a neutral prime.

Procedure. The procedure closely followed the one used by Mussweiler and Strack (2000b). Up to 4 participants were run at the same time. On arrival, they were greeted by the experimenter, led to separate rooms, and seated in front of a 70-Hz computer monitor at a predetermined distance. Then, instructions were presented on the computer screen. The instructions informed participants that the current study was concerned with the extent to which cognitive performance is influenced by the people one is thinking of while performing a specific task. To investigate this question, we would first present them with a description of a target person and would ask them to build an impression of this person, and then we would present them a number of letter strings for which they had to decide whether they constitute actual words. Half of the participants were told to press the A key, which was marked with a blue sticker, to indicate that the presented letter string was a word and the 6 key (on the number pad), which was marked with a yellow sticker, to indicate that it was not a word. For the other half of the participants, this assignment was reversed. To reduce variance in response latencies, we told participants to position their index fingers on the two keys and to keep this position throughout the lexical decision task. Moreover, participants were instructed to solve this task as quickly and as accurately as possible. Finally, it was pointed out that participants should concentrate on the fixation point that occurred in the center of the screen. The letter strings would be presented at the same position.

After reading the instructions, about half of the participants were asked to read the description of Andrew attentively and to form an impression of him. The other half were asked to form an impression of Andrea. Participants were then asked to indicate along a 5-point rating scale that ranged from 1 (*not at all tidy*) to 5 (*very tidy*) how tidy they judged the target person to be.

Subsequently, participants worked on the lexical decision task. A total of 42 trials were presented. The first 10 were practice trials, whereas Trials 11–42 were the critical ones that were included in the analysis. Each of the two lists of prime–target combinations described above was administered to about half of the participants. At the beginning of each individual trial, a fixation stimulus (XXXX) was presented at the center of the screen

for 1,000 ms. The prime was then presented at the same location for 15 ms and was immediately masked by a letter string (XXXX) that was presented for 500 ms. It has been demonstrated that words presented for such a brief period of time activate their representation in memory outside of conscious awareness (for a review, see Bargh & Chartrand, 2000). Then, the target word was presented overwriting the masking stimulus and remained on the screen until participants had made the lexical decision. After 2,000 ms, the same sequence was repeated with the next trial.

After completion of the lexical decision task, participants answered a final questionnaire that tested for awareness of the priming manipulation. First, they were asked whether they had recognized anything extraordinary in the experiment. Then they were informed that before the presentation of the target words, we had presented them with other words for very brief periods of time and instructed them to list any of the words they had recognized. None of the participants listed any of the presented prime words.

Results

As in the preceding studies, we used the logarithmic transformations (\ln) of the response latencies as the dependent measure for our analysis but report the untransformed means for ease of interpretation. Out of the total of 288 critical responses (i.e., responses of each of the 36 participants to the four neat and the four messy words), latencies for 6 (2.1%) deviated from the respective item mean by more than three standard deviations. These 6 latencies were excluded from the analysis. We used the difference in response latencies to the standard-consistent neat words and the standard-inconsistent messy words as our central dependent measure. We calculated these difference scores by subtracting the mean response latency to the neat words from the mean response latency to the messy words. Thus, the larger this difference score, the faster participants had been in responding to the neat words relative to the messy words.

On the basis of the above reasoning, we expected that target-consistent self-knowledge should be more accessible after participants judged an in-group target than after they judged an out-group target. Consistent with this assumption, participants were relatively faster in responding to the neat words when they had been exposed to a male rather than a female target person (see Table 3). This, however, was only the case if the lexical decisions were preceded by a self prime, $t(34) = 2.12, p < .02$. If the target words were preceded by a control prime, response latencies did not depend on the gender of the target, $t(34) = 0.64, ns$. This pattern of means produced a significant interaction effect in a 2 (male vs.

female standard) \times 2 (self vs. control prime) mixed model ANOVA using the difference between response latencies to the messy and the neat words as a dependent variable, $F(1, 34) = 6.20, p < .02$.

Discussion

These findings indicate that, consistent with our reasoning, judging an in-group versus an out-group target not only has differential effects on the amount of individuating self-knowledge that is rendered accessible, it also determines the specific implications of this knowledge. In particular, judging an in-group member renders more target-consistent self-knowledge easily accessible than does judging an out-group member.

The first three studies have focused primarily on the consequences that spontaneous comparisons have for the accessibility of individuating knowledge about the self. Our conceptualization, however, also predicts differences in the accessibility of category knowledge about the self as a consequence of spontaneous comparisons with in-group versus out-group members. Specifically, we assume that knowledge about one's category membership is rendered more accessible when one judges an out-group member rather than an in-group member. The results of Study 1 provide some initial support for this assumption. They demonstrate that participants judge and describe themselves in ways that are more consistent with their category membership after evaluating an out-group target. Thus, our male participants described themselves as more masculine after having judged a series of female targets. Although these data demonstrate that self-perceptions are rendered more consistent with one's category membership, they do not show directly that knowledge about one's category membership is itself easily accessible. Studies 4 and 5 were designed to provide direct support for this assumption.

To provide this direct support, we had male (Study 4) and female (Study 5) participants judge either a male or a female target person. Subsequently, we simply asked them to indicate their own gender. If our reasoning is correct and knowledge about participants' category membership is more accessible after they judge the out-group target, then participants should subsequently be faster in indicating their gender.

Study 4

Method

Participants. Thirty-eight male psychology undergraduates at Northwestern University participated in partial fulfillment of a course requirement. They were randomly assigned to one of two experimental conditions.

Materials and procedure. On arrival in the lab, participants were led to individual rooms and seated in front of a personal computer. They were informed that the experiment would be computer administered and were told to read instructions carefully. The instructions as well as the general procedure were similar to those of Study 1, with the exception that only one target description was presented. In particular, participants were instructed to form an impression of a person who was portrayed as being manually skilled (see Appendix A). For about half of the participants the target person was male (i.e., Frank), and for the other half the target was female (i.e., Kelly).

After having formed an impression of the target, participants rated how manually skilled he or she was along a 5-point rating scale ranging from 1 (*not at all manually skilled*) to 5 (*very manually skilled*). Subsequently,

Table 3
Response Latencies for Messy – Neat Words by Target and Prime (Study 3)

Target	Prime	
	Self	Control
Male	108.57	45.62
<i>n</i>	17	17
Female	22.14	86.25
<i>n</i>	19	19

Note. Difference scores (messy – neat) are reported in milliseconds. The higher the score, the faster participants identified a *neat*-word relative to a *messy*-word.

participants were instructed to put their left index finger on the 1 key, which was marked with a blue sticker, and their right index finger on the 2 key, which was marked with a yellow sticker. These instructions remained on the screen for 5 s and were immediately followed by the critical question assessing participants' gender (i.e., "Are you male or female?"). About half of the participants had to press the left key to indicate that they are male; for the other half this assignment was reversed. After having indicated their gender, participants were thanked for their participation and debriefed.

Results

As in the previous studies, we used the logarithmic transformations of the response latencies to the gender assessment question as a basis for our analysis but report the untransformed means. Two latencies deviated from the mean by more than three standard deviations, so they were excluded from the analysis.

On the basis of the assumption that judging an out-group target involves a spontaneous category-based comparison, we assumed that our male participants would have knowledge about their membership in the male gender category more accessible after judging a woman. This should have enabled them to indicate their gender faster than could those participants who judged a man and had thus not thought about their gender prior to being asked to indicate it. The response latencies for the critical gender question are consistent with our predictions: Our male participants were faster in indicating their gender if they had previously judged a female target person ($M = 2,098$ ms) rather than a male target person ($M = 2,379$ ms), $t(34) = 1.79$, $p < .04$.

Study 5

Method

Participants. Twenty-nine female undergraduates at the University of Würzburg were recruited as participants. They were randomly assigned to one of two experimental conditions.

Materials and procedure. With the exception of the content of the critical target description, the materials and procedures were identical to those of Study 4. The target description was a German adaptation of the "liking football" episode used in Study 1 (see Appendix A), in which all references to football were replaced by references to soccer. For about half of the participants the target of the description was male (i.e., Thomas), for the other half the target was female (i.e., Monika).

Results

Again, the analysis is based on the logarithmic transformations of the response latencies to the critical question, whereas the means we report are untransformed. The latency of 1 participant deviated from the question mean by more than three standard deviations, so this participant was excluded from the analysis.

The response latencies for the critical gender question confirm our hypothesis. Our female participants were faster in indicating their gender if they had previously judged a male target person ($M = 3,797$ ms) rather than a female target person ($M = 4,570$ ms), $t(26) = 2.01$, $p < .03$. Furthermore, meta-analysis (Rosenthal & Rosnow, 1984) indicated that the combined effect obtained in Studies 4 and 5 is clearly significant, $Z = 2.57$, $p < .01$.

Discussion

The results of Studies 4 and 5 are consistent with our predictions. Male and female participants alike were faster in indicating

their own gender if they had previously judged an out-group member rather than an in-group member. These findings provide direct support for our assumption that judging an out-group member renders knowledge about one's own category membership more accessible than does judging an in-group member.

Taken together, Studies 1–5 shed considerable light on the informational consequences of spontaneous self-comparisons with in-group and out-group members. In particular, they suggest that judging another person renders self-related knowledge more accessible. Furthermore, the specific type of knowledge that is activated while one judges another person appears to depend on the relative category membership of the self and the target. Judging another person who is a member of the same social category increases the accessibility of target-consistent individuating knowledge about the self to a larger extent than does judging a person who is not a member of one's category. The accessibility of category knowledge about the self, however, appears to be influenced in the opposite manner. That is, judging an out-group member appears to render knowledge about one's category membership more accessible than does judging an in-group member. Study 6 is designed to further investigate the self-evaluative effects of these diverging informational consequences of spontaneous self-comparisons.

Study 6

We have argued that the self-evaluative consequences of making a category-based versus a person-based spontaneous self-comparison are likely to go in opposite directions. Whatever knowledge is primarily rendered accessible, subsequent self-evaluations are likely to be at least partially based on this knowledge. As a consequence, self-evaluations are likely to be generally consistent with the implications this knowledge has with respect to the critical characteristic. Thus, if category knowledge is rendered accessible that indicates that one is a member of the social category opposite to that of the target, this knowledge is likely to influence subsequent self-evaluations in a contrastive way. That is, participants are likely to see themselves as more different from the target than they would have if they had not compared themselves with him or her (a contrast effect). However, if individuating knowledge is rendered accessible that indicates that one's standing on the critical dimension is similar to that of the target, this knowledge is likely to yield an assimilative effect on self-evaluations. In this case, participants are likely to see themselves as more similar to the target than they would have without making a spontaneous comparison.

Note that the judgmental effects we obtained in Study 1 are generally consistent with these predictions. However, because Study 1 did not include a control group, one cannot be sure whether comparisons with in-group targets as well as comparisons with out-group targets influence self-evaluations. Furthermore, the subjective judgments we used in Study 1 are open to changes in response language (Biernat et al., 1991) and thus do not assess self-evaluative consequences in a direct manner. To address these issues, in Study 6 we included a control group and used objective judgments that preclude response language effects. In addition, we tested for the generality of the assumed spontaneous comparison by eliminating instructions to judge the target person. Thus, participants in Study 6 were merely told to read the target description

and subsequently judge its linguistic qualities. Would such an incidental exposure to information about the target person be sufficient to spark a spontaneous comparison, resulting in the diverging self-evaluative consequence we outlined?

Method

Participants. We recruited 37 male undergraduates at Northwestern University as participants. They were randomly assigned to one of the three experimental conditions.

Materials. We constructed two different target descriptions (see Appendix D). In one, the target person (i.e., Bob) was portrayed as a very caring person. This portrayal constituted the target description for our experimental groups. For the control group, we constructed a description in which the target was characterized in neutral terms (i.e., neither particularly caring nor uncaring). These target descriptions were pretested using a different group of male Northwestern undergraduates ($n = 19$) as participants. Each of these participants received one of the two descriptions of Bob and rated him along 10 different dimensions. Among these was the critical dimension that assessed how caring participants judged Bob to be. Ratings were made along 9-point scales that ranged from 1 (e.g., *not at all caring*) to 9 (e.g., *very caring*). Judgments for the neutral target description of the moderately caring Bob were close to the midpoint of the scale ($M = 5.4$), whereas judgments about the highly caring Bob were close to the upper endpoint ($M = 7.9$), $t(17) = 3.44$, $p < .01$.

Procedure. Participants were approached while studying in individual cubicles in the library. They were asked to participate in a survey that would take about 10 min to complete. On agreeing to participate, they were handed the experimental materials and were told to read instructions attentively. In the instructions, it was pointed out that the current survey was a pretest that was designed to find adequate stimulus material for an upcoming study on person perception. To gather this information, we would provide them with a brief description of a target person and would then ask them to answer a few questions about this description as well as about themselves. Their answers would provide normative data for our future studies. It was further emphasized that participants should answer all of the questions asked.

About one third of our participants (the control group) received the neutral target description of the moderately caring man (i.e., Bob). A second group received the description of the highly caring man, and the final third received the description of the highly caring woman (i.e., Emily). Participants were instructed to read these paragraphs attentively and were then asked three questions pertaining to some of the paragraphs' linguistic qualities. Specifically, they were asked to indicate how comprehensive, how detailed, and how well written the episode was. These ratings were given along 9-point scales ranging from 1 (e.g., *not at all comprehensive*) to 9 (e.g., *very comprehensive*). Participants were then asked a set of four questions about themselves. Because previous research has repeatedly demonstrated that objective judgments (i.e., questions pertaining to absolute quantities) assess evaluations of others (e.g., Biernat, et al. 1991) and the self (Mussweiler & Strack, 2000b) more accurately than do subjective judgments along a rating scale, we used objective judgment scales to assess the self-evaluative consequences of exposure to the respective targets. The specific questions we used read as follows: (a) "What percentage of your friends come to you with their personal problems?" (b) "When was the last conversation you had that dealt with a friend's personal problems?" (c) "When did you last approach a person who appeared to need help?" and (d) "What percentage of the conversations you have with your friends deal with their personal problems?"

After completion of the questionnaire, participants were thanked for their participation, thoroughly debriefed, and offered candy as compensation for their participation.

Results

To allow for a comparison of the answers given to the four critical questions, we z -transformed them. Thus, the reported means represent deviations from the question mean in units of the pertinent standard deviation. Moreover, the responses to the second and third question were reverse scored, so that for all questions, higher values indicate higher levels of interpersonal caring. Responses to the four critical questions were combined into one score (Cronbach's $\alpha = .54$).

On the basis of the above reasoning as well as the findings of Study 1, we expected that relative to the control group, participants who were exposed to the female target would contrast their self-evaluations away from the target, whereas those who were exposed to the male target would assimilate toward the target. Consistent with these predictions, participants who were exposed to the highly caring man described themselves as most caring ($M = 0.39$), whereas participants who were exposed to the highly caring woman described themselves as least caring ($M = -0.46$). Moreover, the self-evaluations of our control participants who received the neutral target description were in between these two groups ($M = 0.02$). This pattern proved to be significant in a one-way ANOVA using the combined z transformed self-evaluations as the dependent measure, $F(2, 34) = 8.08$, $p < .001$. Moreover, an analysis of the individual contrasts revealed that all cell means differed reliably from one another, $t_s > 1.77$, $p_s < .04$, for all contrasts.

Discussion

These findings replicate and extend the judgmental data of Study 1. They demonstrate that participants who were exposed to an out-group member tended to judge themselves in a way that was consistent with the stereotypic characteristics of their group membership. As a consequence, their self-evaluations were contrasted away from the target person. Participants who were exposed to an in-group member, however, assimilated their self-evaluative judgments toward the target. Notably, these divergent self-evaluative consequences occurred even though participants were only incidentally exposed to the target descriptions. Thus, even under conditions in which no judgment of the target person was asked for, participants appear to have engaged in a spontaneous comparison with the target. This finding suggests that the kind of comparison processes we have investigated in the current set of studies constitute a rather ubiquitous phenomenon.

General Discussion

In judging others, people often engage in spontaneous comparisons with the self (e.g., Dunning & Hayes, 1996). We have examined the self-evaluative consequences of such spontaneous self-comparisons. To fully understand these consequences, one has to examine what knowledge about the self is rendered accessible during the comparison. The current findings demonstrate that a spontaneous comparison can be based on two principal types of self-knowledge: knowledge about one's social category membership and individuating knowledge about the self. Which of these two types of self-knowledge is primarily used depends on whether the target and the self belong to the same or to distinct social

groups. In particular, spontaneous comparisons with in-group members appear to be primarily based on individuating knowledge, whereas spontaneous comparisons with out-group members appear to be primarily based on category knowledge.

Knowledge about the self that is used during the comparison process is rendered easily accessible. As a consequence, categorical knowledge about the self is more accessible after one judges an out-group target rather than an in-group target (Studies 1, 4, and 5). For example, male judges who evaluated a female target in terms of how caring she was were more likely to think of themselves in terms of their gender than were male judges who evaluated a male target. Individuating knowledge about the self, however, is more accessible after one judges an in-group member (Studies 1 and 2). Moreover, spontaneous comparisons with an in-group member appear to increase the accessibility of a specific target-consistent subset of self-knowledge (i.e., knowledge that indicates that the self and the target are similar on the judgmental dimension; Study 3). Thus, a male judge is likely to have more accessible individuating knowledge indicating that he is fairly caring after judging a caring male target rather than a female target.

Subsequent self-evaluations are likely to be consistent with the implications of whatever knowledge was primarily rendered accessible during the spontaneous comparison. Using category knowledge that indicates that one belongs to the category opposite to the target (e.g., male vs. female) as part of the informational basis for self-evaluation produces a contrast effect. Using target-consistent individuating knowledge about the self, however, yields assimilation (Study 6). Thus, a male judge should evaluate himself to be more caring after having judged a caring man, and he should evaluate himself as less caring after having judged a female target.

Because our analysis builds on the general principles that guide the use of social knowledge, it is not bound to the specific category membership that was used in the present studies (i.e., gender). Instead, the same processes are likely to underlie spontaneous comparisons involving other social group memberships. They are also likely to generalize to comparisons with actually encountered standards. Consistent with this assumption, recent research (Blanton, Crocker, & Miller, 2000) has demonstrated that social comparisons with standards from the same versus a different ethnic group yield self-evaluative consequences that are similar to those obtained in Study 6.

These findings demonstrate that exposure to information about other people has powerful effects on the self. It influences how people think about themselves (i.e., what knowledge about themselves they have accessible) and consequently determines how they evaluate themselves. Moreover, the nature of these consequences depends on whether the target person belongs to the same social group as oneself.

Relation to Previous Research

The present findings are related to previous research that has examined the self-evaluative consequences of social comparisons with in-group members versus out-group members (e.g., Brewer & Weber, 1994; Brown et al., 1992). For example, Brown et al. (1992) have demonstrated that how evaluations of one's physical attractiveness are influenced by exposure to attractive or unattractive others depends on whether these targets are of the same or the

opposite gender. In contrast to our findings, however, these researchers demonstrated that although self-evaluations were influenced by exposure to in-group targets, they remained uninfluenced by out-group targets. For example, female participants' evaluations of their physical attractiveness were only influenced by exposure to another woman, not by exposure to a man. At first glance, this finding seems inconsistent with the contrast effect we have found for spontaneous comparisons with out-group targets. However, this may be the case because no clear gender stereotypes exist with respect to the dimension of physical attractiveness. In our studies we expected to find contrast, because gender has clear implications for one's standing on the judgmental dimension (e.g., men are less caring than women). For physical attractiveness, however, this is not the case. Because different standards of physical beauty exist for men and women, men are not seen as generally less or more pretty than women are. Thus, category knowledge about one's gender is not informative for judgments about physical attractiveness. As a consequence, a comparison with a member of the opposite sex that is likely to primarily influence the accessibility of such category knowledge is unlikely to have an effect on subsequent self-evaluations. Thus, in combination with the current results, the findings of Brown et al. (1992) demonstrate that comparisons with out-group members will only influence self-evaluations if group membership is informative with respect to the critical dimension.

Using a minimal group paradigm to manipulate relative group membership, Brewer and Weber (1994) also examined the self-evaluative consequences of social comparisons with in-group and out-group members. At least under very specific conditions (which do not characterize the current research; i.e., when one's own group was in the minority), they found self-evaluative effects that, on the surface, seem similar to ours. Specifically, self-evaluations were assimilated toward in-group targets and contrasted away from out-group targets. It is important to note, however, that these results are difficult to compare with the current findings. Whereas the psychological mechanisms that we examine necessarily require group membership to be informative for the critical judgment, the minimal group paradigm deliberately minimizes this informativeness. Thus, both lines of research examine paradigms that may well be mutually exclusive. In spite of these paradigmatic differences, however, on a more general level, the findings of Brewer and Weber (1994) are consistent with ours and those of Brown et al. (1992) in demonstrating that self-evaluations strongly depend on what information about others is available at the time the evaluation is made.

Spontaneous Comparisons and the Malleability of the Self

The present findings nicely tie into previous research attesting that self-concepts are strikingly context dependent and malleable (e.g., Fazio, Effrein, & Falender, 1981; Markus & Kunda, 1986; McGuire & McGuire, 1988; for an overview, see Baumeister, 1998). Because people possess an enormous quantity of knowledge about the self, they can only focus on a specific subset at any moment in time (McGuire & McGuire, 1988). Which subset of self-knowledge is accessible in a specific situation depends on a host of factors, such as the subset's distinctiveness (McGuire, McGuire, & Winton, 1979) and its prior use (e.g., Fazio et al., 1981). As a consequence, conceptions of the self are greatly

dynamic and malleable. How one primarily thinks of oneself in a given situation critically depends on what knowledge about the self is brought to mind in this situation. In fact, self-concepts appear to be so malleable that, depending on the situational requirements, people may even characterize themselves with opposing trait labels (e.g., extroverted and introverted; Fazio et al., 1981). That is, depending on situational influences, people may give dramatically diverging answers to the question “Who am I?”

The present findings suggest one factor that may constitute a potent contributor to the malleability of the self-concept. In particular, social comparisons appear to shape the self-concept by influencing what knowledge about themselves people have accessible and consequently use to evaluate themselves. Mussweiler and Strack (2000b) demonstrated that deliberate social comparisons increase the accessibility of standard-consistent knowledge about the self. Thus, subsequent to a social comparison, people describe themselves in ways that suggest that they are more similar to the standard than they would have described themselves as being without making the comparison. The present research extends these findings by demonstrating that to change the accessibility of self-knowledge, one does not have to engage in a deliberate social comparison. In fact, transient exposure to another person appears to be sufficient to change the accessibility of self-knowledge and, ultimately, one’s self-conceptions. Thus, judging another person or even simply being exposed to information about another person is sufficient to change the current focus of one’s self-concept.

Furthermore, the current findings suggest that spontaneous social comparisons are a fairly ubiquitous phenomenon. Specifically, our participants engaged in such comparisons even if the critical dimension did clearly not constitute a central dimension of the self (e.g., the degree to which one has problems doing laundry) and if the target person was not a member of their own group. Given that we are constantly exposed to information about others in our daily routines, this apparent ubiquity of spontaneous social comparisons suggests that we may constantly change our conceptions of who we are—potentially whenever we meet others or even simply hear about them.

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Appendix A

Target Descriptions (Study 1)

1. Being manually skilled: In his [her] high-school days, Frank [Kelly] usually helped his [her] father with small repairs in the house or at the car. Frank [Kelly] would also mow the lawn to earn a little pocket money.
2. Liking to read lifestyle and fashion-magazines: Melissa [Alan] loves to read lifestyle and fashion-magazines. Sometimes she [he] buys several at the same time and spends a whole evening reading them.
3. Liking football: Josh [Emily] never misses important football games on TV. Whenever he gets a chance, Josh [Emily] goes to the stadium to see the games live. He [she] gets really into these live games.

4. Liking romance novels: Florence [Todd] loves to read romance novels. Lying on her [his] sofa Florence [Todd] can read for hours, while nibbling at sweets.
5. Having problems doing laundry: Sometimes Steve [Amanda] makes mistakes in doing his [her] laundry (e.g., he [she] uses bleach inappropriately). In fact, Steven [Amanda] has already messed up quite a few of his [her] clothes like that.

Appendix B

Target Descriptions (Study 2)

1. Being caring and understanding: Thomas [Monika] is always there for his [her] friends if they are in trouble. Recently, one of his [her] best friends did very poorly on an exam and was very disappointed as a result. He [She] called Thomas [Monika] immediately and told him [her] about it. Thomas [Monika] listened attentively and took his [her] friend's frustration very seriously. After talking to Thomas [Monika], his [her] friend felt

much better. It is very important for Thomas [Monika] to be there for his [her] friends if they are in a tough spot.

2. Having problems doing laundry: Sometimes Klaus [Juliane] has problems doing his [her] laundry. It has often happened to him [her] that he [she] washed his [her] clothes too hot, so that they shrank as a result. He [She] has also dyed some of his [her] t-shirts by accident.

(Appendixes continue)

Appendix C

Target Description (Study 3)

Andrea [Andrew] makes a real effort to keep her [his] apartment tidy and clean. She [He] simply doesn't like to have stuff lying around and usually puts things back in their places right away. If some of his friends come over to visit, Andrea [Andrew] makes sure that her [his] apartment is in proper order. In fact, she [he] cleans her [his] place quite often.

Appendix D

Target Descriptions (Study 6)

1. **Highly caring target:** Bob [Emily] is very easy to talk to. All of his [her] friends go to him [her] with their problems. Recently, a friend did very poorly on an exam, and was extremely upset as a result. He [She] called Bob [Emily] and Bob [Emily] went over immediately to talk to him [her]. His [Her] friend was reassured and greatly appreciated Bob's [Emily's] concern. Bob [Emily] seems to be able to intuitively tell when others are down. He [She] makes a point of paying these people extra attention and ensuring that they are okay. It is not unusual to see Bob [Emily] seeking out the new student after class, or up late at night deep in conversation with a troubled friend.

2. **Moderately caring target:** Bob has quite a few friends on campus. What they appreciate about him is that he is a great guy to go out and have

lots of fun with. He does not like it when his friends are down, but he also finds it difficult to approach them to help. Recently, a friend did very poorly on an exam, and was extremely upset as a result. He called Bob who talked to him for a while and tried to make him feel a little better. However, his friend did not really feel better afterwards. It is not unusual to see Bob up late at night with his friends watching TV, discussing Saturday's football games and upcoming parties.

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