

DEFENSIVE SOCIAL COMPARISONS AND THE CONSTRAINTS OF REALITY

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We argue that defensive interpretations (accept positive effects, discard negative effects) of social comparisons are constrained by reality, that is by perceived other-self similarity. Whereas moderately similar others may yield defensive contrast effects on self-evaluations, non-defensive contrast effects occur when other-self similarity is high and the relevance of the social comparisons is thus undisputed. Furthermore, we demonstrate that, whereas the self-evaluative impact of moderately dissimilar others is null, extremely dissimilar others yield assimilation. The findings support the interpretation-comparison perspective on social comparison processes and effects.

DEFENSIVE SOCIAL COMPARISONS AND THE CONSTRAINTS OF REALITY

For most people, the goal is to maintain a positive self-image. They want to feel good about themselves and see themselves in a positive light. Unfortunately, however, events that damage self-esteem are a regular and unavoidable part of everyday life. People do not always get what they want: they fail tests, lose competitions, are denied jobs, and are left by loved ones. In innumerable ways, people are confronted with events that reveal to them they are not who they wish to be. Given the unpleasantness of such self-damaging events, it is not surprising that most people who encounter threats to their self-image tend to quickly jump to work repairing the wreckage and minimizing the damage. In fact, most

The research and writing was supported by a grant from the Dutch Science Foundation (Nederlandse Organisatie voor Wetenschappelijk Onderzoek) and a research grant of the Heymans Institute of the University of Groningen.

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people have well-developed tactics and strategies to guard themselves against self-damaging information.

There is abundant evidence for the defensive gathering, memorizing, and interpretation of information to maintain self-esteem (Kunda, 1990; Sedikides & Green, 2004; Wentura & Greve, 2004). By defensiveness we then refer to the tendency to avoid incorporating personally threatening information. For example, individuals who adjust their self-evaluations when they are just outperformed act less defensively than individuals who do not change their self-views on the relevant dimension (Koole, 2004). The present paper is concerned with the extent to which this defensiveness influences people's use of self-inflating versus self-deprecating social comparison information. Are there types of social comparisons that, when made salient, lead one to be more or less defensive? What determines whether social comparison effects show a defensive or non-defensive pattern?

AVOIDING NEGATIVE SOCIAL COMPARISONS

Social comparison research investigates the ways in which people's views of themselves are affected by the performance and behavior of others. Exposure to worse-off others is typically associated with higher self-evaluations than exposure to others who are better-off, a contrast effect (Blanton, 2001). The past few decades, a large number of studies have documented tactics and strategies people use to avoid negative consequences of such contrastive social comparisons. Wills (1981), for example, postulated the downward comparison principle. This principle postulates that, given that people's self-esteem is affected by where they stand relative to others, they typically protect their self-esteem by choosing comparison targets who did worse on the relevant dimension. That is, people often select downward (rather than upward or lateral) comparison targets when evaluating their own performance. This idea that people have personal control in their choice of social comparison targets, that there are few constraints on comparison motives has been—both before and after Wills's article—the major theme behind many social comparison studies. Most social comparison research focuses on the determinants of the selection and choice of comparison motives. We think that personal control in choice of comparison targets has been overrated. By emphasizing people's ability to select comparisons, the relevant literature has largely reflected the view that the person (the selector) is in the foreground and that the environment (the selected) is in the background. The message has always been that social comparison is a choice rather than a reaction (Gilbert et al., 1995; Wood, 1989). Because of this preoccupation with comparison choice, theorizing on the mechanisms underlying reactions to social comparison has been rather

scarce, especially when it concerns the question of what determines whether these reactions will be defensive or not.

Tesser (1988) has shown that people are not only defensive in the type of others they *choose* to compare themselves with, but also in the way they *react* to unpleasant social comparisons that arrive unbidden. Specifically, in several tests of Tesser's (1988) Self-Evaluation Maintenance (SEM) model, it has been demonstrated that when one is exposed to threatening social comparison information (e.g., a fellow student scores much higher on an important math test), one typically uses self-defense tactics to avoid incorporating its consequences for the self. Thus, after a self-depreciating social comparison one may question the relevance of the performance dimension ("This was not a diagnostic test") or point to differences between oneself and the comparison other ("She studied much longer than I did. That is why she performed better").

THE CONSTRAINTS OF REALITY

Wills' (1981) downward comparison principle and Tesser's (1988) SEM model suggest that the choice for as well as the consequence of social comparisons will typically show a defensive pattern. And indeed, there is now quite some evidence that social comparisons are *often* driven by self-enhancement concerns (see Blanton, 2001; Wood, 1989). It is unlikely, however, that social comparisons will *always* show a defensive pattern. After all, although self-enhancement is a strong motive—perhaps the strongest motive (Sedikides & Strube, 1997), it is not the only motive. As several reviews of how self-strivings affect judgment illustrate, people are often not at liberty to conclude whatever they want to conclude (Dunning, 1999; Kunda, 1990). Even when they are motivated to see themselves in the most favorable light, people are also motivated to be rational and to construct solid justifications for their desired self-images. That is, individuals will draw the desired conclusion that they are beautiful, intelligent, moral, and fun to be with, *only* if they can construe enough evidence to support it. When the evidence is opposite of what people desire, but clear and strong, they simply have to face the facts. Research by Dunning, Meyerowitz, and Holzberg (1989) on the importance of trait ambiguity for the occurrence of the "I am above average" effect clearly illustrates this. Dunning and his colleagues demonstrated that people are more likely to see themselves as above average when they rate themselves on ambiguous traits as *sensitive* or *idealistic* (which are easily defined in self-appreciating ways) than when they rate themselves on clearly defined traits as *well-read* or *punctual*. Thus, people are less likely to view themselves as above average when the latitude to define a trait idiosyncratically is constrained (see further Dunning, 1999; Kunda, 1990).

People's ability to draw desired conclusions is thus constrained by their understanding of reality and feasibility. This suggests that social comparison information may not *always* be processed in a defensive manner. Non-defensive ways of social comparison effects seem more likely when reality does not justify defensive processing of comparison information. Put in more specific terms, it is hard to keep up the appearance that you are very smart when you scored a 40 out of 100 on that clearly important and diagnostic math test whereas a relevant comparison target scored 90 out of 100. When reality imposes important constraints on the extent to which one can defend oneself against unpleasant social comparisons, these comparisons should be more likely to be incorporated into one's self-image ("I am not as smart as I thought I was") than when there is enough elbowroom to discount that comparison's consequences ("That was a silly test").

In the present research, we test the hypothesis that social comparisons are likely to result in defensive self-evaluations when the positive consequences are easily incorporated and the negative consequences are easily dismissed. A non-defensive pattern of results should occur, however, when the negative consequences of such comparisons are difficult to dismiss. We thus suggest that when the self-relevance of social comparisons is *ambiguous*, people can incorporate the effects of such comparisons when they are positive ("I am smarter than she is") and dismiss their effects when they are negative ("Her performance is irrelevant for me"). When the self-relevance of social comparisons is *clear* and undisputed, such defensive interpretations are constrained by reality. In this case it is difficult *not* to incorporate the self-evaluative consequences of these comparisons, be they positive ("I am smart") or negative ("I am dumb").

OTHER-SELF SIMILARITY

What determines the relevance of social comparison? When is it clear and undisputed that a social comparison is self-relevant and when is this unclear and open to—idiosyncratic or defensive—interpretations? In the present experiments, we address this question by manipulating other-self similarity. We predict that whether social comparison effects are inescapable or not is determined by the extent to which the comparison target is perceived to be similar to oneself. As previous social comparison research has demonstrated, other-self similarity is an important precondition for classic social comparison effects to occur (Festinger, 1954; Goethals & Darley 1977; Turner, 1987). Thus, a professor may feel relatively deprived when hearing that a colleague (a similar other) earns much more, whereas such a comparative contrast effect is less likely

when the comparison target is a famous movie star (a dissimilar other) (Cash, Cash, & Butters, 1983; Gilbert, Giesler, & Morris, 1995; Lockwood & Kunda, 1997).

Thus, previous research suggests that when other-self similarity is high (we are both university professors), the other is likely to yield self-evaluative effects. When other-self similarity is low, however (you are a movie star, I am a psychologist), such effects are less likely to occur. In the present experiments, we extend this *similarity breeds impact, dissimilarity breeds indifference* logic by treating similarity as a tetrachotomous rather than a dichotomous variable. Specifically, we investigate the impact of other-self similarity on the pattern of social comparison effects by exposing psychology students to a description of an upward or a downward comparison target who is introduced as—ordered from highly similar to highly dissimilar—a psychology student, a sociology student, a law student, or an animal (literally).

We predict that when *other-self similarity is high* and thus clear and inescapable contrastive social comparison effects should occur that show a *non-defensive* pattern. Thus, when a psychology student is given upward or downward comparison information about a fellow psychology student (high similarity), downward comparison should result in positive self-evaluations, whereas upward comparison should result in negative self-evaluations.

When *other-self similarity is moderate* and thus ambiguous and discountable, contrastive social comparison effects should occur that show a *defensive* pattern. Thus, when a psychology student is given upward or downward comparison information about a sociology student (moderate similarity), self-evaluations are most likely to be affected when the impact of this information is positive. The ambiguity of the level of other-self similarity allows room for strategic construal of its relevance. Thus, whether one feels the comparison information is self-relevant or not depends on its consequences. When the consequences are negative, the comparison could be easily dismissed as irrelevant (“she is different, irrelevant, she is in sociology”). However, when the consequences are positive, the information could be readily interpreted as relevant (“she is similar, relevant, she is also a social scientist”).

OTHER-SELF DISSIMILARITY

What to predict when other-self similarity is low, when there is relatively little categorical overlap between the comparison target and the way one defines oneself, when there is no ambiguity as to whether the other is a relevant comparison other, or when *other-self dissimilarity* is high? There are at least two rival hypotheses.

The *similarity breeds impact, dissimilarity breeds indifference* logic of previous social comparison research suggest that when the comparison other and the self belong to different social categories, self-evaluations remain unaffected (Blanton, 2001; Wood, 1989). Brown, Novick, Lord, and Richards (1992), for example, showed that self-attractiveness ratings of women were affected by pictures of attractive women but not by pictures of attractive men. Similarly, Lockwood and Kunda (1997) demonstrated that the self-esteem of accounting students changed after reading about the achievements of a fellow accounting student, whereas self-esteem remained unchanged when these students read about education students.

We would like to challenge this classic view and propose that extreme other-self dissimilarity may yield effects that—to date—have gone unnoticed by social comparison researchers. Specifically, recent research on the impact of priming on person judgments suggests that dissimilar comparison information may very well affect self-evaluations, albeit via a different route than that of classic social comparison research (Stapel & Koomen, 2000; 2001). That is, when the target other is not a *person* but an *animal*, and thus completely different, it is unlikely that any comparison process will be instigated. However, when the target other activates information that could be included in one's self-view, automatic and assimilative encoding processes may occur. Specifically, Stapel, Koomen, and Van der Pligt (1997) have shown in several experiments that whereas "priming persons" yields contrastive comparison effects (akin to what is typically found in the social comparison literature), "priming animals" yields assimilative interpretation effects. In one of these experiments (i.e., Experiment 2), respondents were asked to form an impression of person whose behavior could be interpreted as friendly as well as aggressive. Before they were exposed to this behavioral description, half of the participants were primed with either hostile or friendly *persons* ("Dracula" versus "Ghandi"). The other half were primed with hostile or friendly *animals* ("Shark" versus "Puppy"). As predicted, whereas respondents' impressions showed contrast in the person priming conditions, assimilation was found in the animal priming conditions.

Thus, on the one hand some social comparison research suggests that, when other-self dissimilarity is high, no social comparison effects will occur (see Blanton, 2001; Wood, 1989). On the other hand, some priming research suggests that, although information about a dissimilar other is unlikely to instigate comparison processes, such information may be used as an encoding frame and thus result in assimilative interpretation effects (Stapel et al., 1997). How can these opposing views be reconciled?

We posit that an important determinant of whether the self-evaluation effect of (information about) a dissimilar other is null or assimilation, is the *size* of the dissimilarity. The reasoning behind this prediction is relatively straightforward. It is based on Stapel and Koomen's (2000, 2001) *interpretation-comparison* model of knowledge accessibility effects. This perspective posits that primed or accessible information may serve two roles during the impression formation process: such information may be used as an interpretation frame (which would make other-self inclusion and thus assimilation more likely) and as a comparison standard (which would make other-self comparison and thus contrast more likely). Recent tests of this interpretation-comparison model have identified several determinants of whether the interpretation or the comparison effect is stronger. One of these factors is the *apples and oranges* principle, which states that the pull towards comparison (and contrast) is strongest when similarity is high and the pull towards interpretation (and assimilation) is strongest when dissimilarity is high. When similarity and/or dissimilarity is moderate, the pulls towards interpretation and comparison are equally strong and no effect is likely to occur (Stapel et al., 1997; Stapel & Winkielman, 1998).

In summary, we predict that, when other-self dissimilarity is *moderate*, for example when a psychology student is given upward or downward comparison information about a law student (moderate dissimilarity), self-evaluations will show no effects. However, when other-self dissimilarity is extreme, for example when a psychology student is given upward or downward comparison information about an animal (high dissimilarity), self-evaluations will show assimilative priming effects. Upward comparisons should then result in positive self-evaluations and downward comparisons will result in negative self-evaluations. Thus, by integrating social comparison research with a novel perspective on knowledge accessibility effects, we can offer intriguing predictions about the defensiveness as well as the direction of social comparison effects.

We test our hypotheses concerning the impact of extreme and moderate types of other-self similarity and other-self dissimilarity on self-evaluations. Specifically, in Experiment 1 we test the hypotheses that (1) extremely similar comparison others yield non-defensive or contrastive comparison effects on relevant self-evaluations, (2) moderately similar comparison others yield defensive contrast effects, (3) moderately dissimilar comparison others yield null effects, and (4) extremely dissimilar comparison others yield assimilation effects. In Experiment 2, we test the hypothesis that exposure to moderately similar comparison others yields defensive contrast effects when the comparison refers to an important than unimportant dimension.

EXPERIMENT 1

METHOD

Participants and Design

One hundred seventy-two female psychology students were randomly assigned to the conditions of a 2 (valence other: positive, negative) \times 4 (identity other: psychologist, sociologist, lawyer, fox) between-subjects design or to a control condition in which participants were asked to give self-evaluations but were not exposed to social comparison information. Participants completed the experiment for partial course credit.

Procedure and Materials

Participants were told they would complete a series of studies. First they would participate in a study of journalistic styles, and then they would fill out a self-evaluation questionnaire. They were also told that the experimenter would time them through each of these studies. Furthermore, participants were told that they were asked to participate in these studies because they were psychology students: "You are here because you are a *psychology* student. We are especially interested in how psychology students perform these tasks. Later this year other groups of people will participate in these studies." In this way, participants should be more likely to categorize themselves as psychology students.

Social Comparison Information. This task was modeled after Lockwood and Kunda (1997) and Stapel and Winkielman (1998). Participants read a bogus one-page-long newspaper article describing an upward or downward comparison other, named Chris. Their task was to guess in which daily newspaper or weekly magazine the article was published. Other-self similarity was manipulated by introducing the protagonist in the story as a psychology student, a sociology student, a lawyer, or a fox. The valence of the comparison other was manipulated by describing this other as very intelligent, well-liked, and friendly (positive other) or as unintelligent, not liked, and unfriendly (negative other). Pretest participants indicated that the description of the comparison others were such that they could indeed apply to persons as well as to foxes (see also Stapel & Winkielman, 1998).

Self-Evaluation. After having read the newspaper article and having written down their answers to the media source question, participants answered some questions about themselves ostensibly to determine whether their personality had any impact on their perceptions of the article. All participants rated themselves on the following adjectives: *kind,*

happy, bright, friendly, ambitious, dumb, amicable, sincere, lucky, incompetent. These items were rated on 7-point scales ranging from 1 (*not at all*) to 7 (*very*). After this task, to check whether participants' psychology identity was indeed relatively salient, we asked participants to indicate on a 7-point scale ranging from 1 (*not at all*) to 7 (*very*) to what extent they categorized themselves as being members of the following groups: human beings, animals, students, psychologists, social scientists, sociologists, lawyers.

Comparison Other Ratings. Next, participants rated the comparison other (Chris) on the following adjectives: *intelligent, likable, unfriendly*. These items were also rated on 7-point scales ranging from 1 (*not at all*) to 7 (*very*). After this task, we asked participants how similar the comparison other was to them on a 7-point scale ranging from 1 (*very different*) to 7 (*very similar*). We then asked participants to indicate to what extent they thought the comparison information may have influenced their self-evaluations on a 7-point scale ranging from 1 (*not at all*) to 7 (*very*).

Debriefing. On completion of the questionnaire, participants were carefully debriefed. None of the participants spontaneously indicated suspicion of the actual goal of the experiment. Furthermore, when explicitly asked, none of the participants thought that the journalist style task influenced their self-evaluation ratings. After debriefing, participants were thanked and dismissed.

RESULTS AND DISCUSSION

Manipulation Checks

First, we checked whether participants reported if their psychology identity was salient during the experiment. This was indeed the case. Participants' average ratings of the extent to which they categorized themselves as members of different groups were as follows, ranging from high to low: human beings ($M = 6.62$), psychologists ($M = 4.67$), students ($M = 4.59$), social scientists ($M = 4.04$), sociologists ($M = 2.32$), lawyers (2.13), animals ($M = 2.01$). The independent variables had no effects on these ratings ($F_s < 1$).

Next, we checked whether participants judged the positive comparison more positively than the negative target. After reverse scoring the negative item (unfriendly), we averaged the three items into a single index ($\alpha = .82$). A Valence Other \times Identity Other analysis of variance (ANOVA) revealed the predicted main effect of valence other, $F(1, 144) = 194.32, p < .01$ (Other $F_s < 1$). Participants judged the positive target more as such ($M = 6.08$) than the negative target ($M = 3.37$).

We also checked the success of our manipulation of other-self similarity. A Valence Other \times Identity Other ANOVA on participants' similarity-to-other ratings revealed a main effect of valence other, $F(1, 144) = 10.88, p < .01$. Participants judged the positive comparison other as more similar to themselves ($M = 2.92$) than the negative other ($M = 2.53$), which suggests that people more readily see similarities between themselves and positive rather than negative others. As predicted, we also obtained a main effect of identity other, $F(3, 144) = 35.61, p < .01$ (Other F s < 1). Other-self similarity ratings were in line with the manipulation of the identity of the comparison other, ranked from high to low: Psychologist ($M = 3.82$), Sociologist ($M = 3.03$), Lawyer ($M = 2.07$), Fox ($M = 1.86$) (all single comparisons, p s $< .05$).

Self-Evaluation

We averaged the self-evaluation items into a single index after reverse scoring the negative items ($\alpha = .83$). Table 1 presents the mean self-evaluations for each of the experimental conditions.

Because the design incorporated a full factorial with control, analyses were not straightforward. To test all relevant hypotheses, analyses were conducted in two steps. We first tested for interactions and simple main effects in the 2 (Valence) \times 4 (Other) Factorial analysis of variance (ANOVA) to determine if the four comparison others evoked contrast or assimilation effects. Then, following the advice of Jaccard (1998), we conducted single degree of freedom contrasts comparing means in the factorial to the control condition, to test if observed contrast and assimilation effects were consistent with defensive or non-defensive processing. In the first step, the ANOVA revealed only the predicted interaction between Valence and Other, $F(3, 144) = 14.74, p < .01$ (Other effects p s $> .15$). Simple main effects analysis revealed a pattern of means consistent with predictions. In the Psychologist condition, evaluations were lower following upward comparison ($M = 3.93, SD = 0.91$) than downward comparison ($M = 5.17, SD = 0.77$), $t(144) = 4.42, p < .01$. This result suggests that the most similar other evoked a contrast effect, as predicted. A significant contrast effect was also observed in the Sociologist condition, $t(144) = 2.75, p < .01$, with lower evaluations again observed following upward comparison ($M = 4.52, SD = 0.79$) than downward comparison ($M = 5.32, SD = 0.74$). In the Lawyer condition, evaluations in the upward comparison condition ($M = 4.61, SD = 0.69$) did not differ significantly from those in the downward comparison condition ($M = 4.50, SD = 1.06$), $t(144) < 1.00$. A standard interpretation of this finding would be that dissimilar others do not exert strong influence on one's self-evaluations (e.g., Blanton, 2001). Results in the fox condition suggest a different interpretation, however. Self-evaluations in this condition indicated an

TABLE 1. Mean Self-Evaluations as a Function of Identity Other (Psychologist, Sociologist, Lawyer, Fox) and Valence Other (Positive, Negative)

| | Identity | | | |
|-----------------|--------------|-------------|--------|--------|
| | Psychologist | Sociologist | Lawyer | Fox |
| Self-Evaluation | | | | |
| Valence Other | | | | |
| Positive | 3.93* | 4.43 | 4.61 | 5.11** |
| Negative | 5.17** | 5.32** | 4.50 | 3.88** |

Note. Scale range is from 1 (*negative*) to 7 (*positive*). Higher numbers indicate more positive self-evaluations. Mean self-evaluations were in the control condition were 4.48. *indicates different from the control at $p < .06$, whereas **indicates different from the control at $p < .05$.

assimilation effect, $t(144) 4.31, p < .01$, replicating Stapel et al. (1997). Participants in the fox condition rated themselves higher following upward ($M = 5.11, SD = 0.98$) than downward ($M = 3.88, SD = 0.89$) comparison.

To determine if the observed assimilation and contrast effects were defensive or not, comparisons were made between the eight experimental conditions and the control condition. This was done by first conducting a one-way ANOVA on the nine conditions. This yielded a significant effect of Condition, $F(8, 163) = 6.68, p < .01$. The pooled estimate of error was then used to conduct a series of eight planned comparisons testing for differences between the experimental conditions and the control. Results from these analyses are shown in Table 1, where the subscripts reveal which conditions differed significantly from the control condition. The patterning of differences is consistent with the hypothesized model. In the extreme similarity condition (Psychologist) and the extreme dissimilarity condition (Fox), all means differed from the control. The only qualification to this is that the mean in the Upward Comparison condition for the Psychologists was marginal, $t(163) = 1.88, p < .06$. These results suggest that participants were not constrained by reality in the extreme similarity and dissimilarity conditions, which is consistent with our prediction that defensive processing would not be operating under these conditions. In contrast, results in the Sociologist condition do suggest defensive responding. In this case, downward comparison information led to more positive self-evaluations than in the control condition, $t(163) = 3.17, p < .03$, whereas upward comparison had no effect relative to the control, $t(163) < 1.00$. When the comparison other was a lawyer (moderate other-self dissimilarity), self-evaluations showed a null effect of social comparison effects (both $ts < 1.00$). These findings nicely fit our predictions and thus provide initial support for the

hypothesis that the extent to which comparison others are perceived as similar to oneself is an important determinant of the self-evaluative consequences of the social comparison process.

As predicted, contrast occurred when comparison others were perceived as highly or moderately similar to the self. When other-self similarity was high and the relevance of social comparisons was thus clear and undisputed, non-defensive contrast effects occurred. Upward others yielded negative self-evaluations to the same degree as downward others yielded positive self-evaluations. When the self-relevance of social comparisons was moderate and the relevance of social comparisons was thus relatively ambiguous and open for defensive interpretations ("I am similar, I am different"), the contrast showed a defensive pattern. That is, participants incorporated the positive social effects of downward comparison others, but dismissed the negative effects of positive comparison others. These differences between the impact of highly versus moderately similar comparison others clearly support the notion that reality imposes important constraints on the extent to which one can defend oneself against unpleasant social comparisons. It is more difficult to avoid facing the facts and incorporating the self-evaluative consequences of comparisons with extremely rather than moderately similar others. In the former case, there is less elbowroom to discount these self-evaluative consequences.

When comparison others were perceived as highly or moderately dissimilar to the self, null or assimilation effects occurred, respectively. These findings are in line with the interpretation-comparison perspective on social comparison effects (Stapel & Koomen, 2001), which states that assimilative interpretation effects rather than contrastive comparison effects occur when other-self dissimilarity is very high. When other-self dissimilarity is moderate, interpretation and comparison forces are equally strong and cancel each other out (Stapel et al., 1997; Stapel & Winkielman, 1998).

EXPERIMENT 2

In the second experiment, we further address the issue of defensive social comparison effects in situations of moderate other-self similarity. In Experiment 1, we found that when other-self similarity is moderate and the relevance of the comparison information thus somewhat ambiguous, contrast occurs when the effect on self-evaluation is positive, but not when this effect is negative. The notion that this effect is indeed explained best in terms of defensive strategies would be strengthened if we could show that this defensive pattern only occurs when the focal dimension is high in personal importance. There is less reason to protect the self against negative evaluations when these evaluations are unim-

portant. Comparing yourself with someone who has performed extremely well on an unimportant dimension is less frustrating than when the comparison dimension is important (Sedikides & Strube, 1997; Stapel & Koomen, 2000, 2001; Wood, 1989). Thus, in the present experiment our hypothesis is as follows: Social comparison with a moderately similar other will result in contrast. When the focal dimension is important this effect will show a defensive pattern. However, when the focal dimension is unimportant this effect will show a symmetric, non-defensive pattern.

METHOD

Participants and Design

Seventy-two female Psychology students were randomly assigned to the conditions of a 2 (valence other: positive, negative) \times 2 (importance: high, low) between-subjects design or to a control condition in which participants were asked to give self-evaluations but were not exposed to social comparison information. Participants received partial course credit for their participation.

Procedure and Materials

Participants were informed that they would participate in a series of tasks. First, they would participate in a reading comprehension task, then they would perform the Remote Associates Task. The experimenter timed them through each of these studies. As in Experiment 1, the psychology identity of the participants was made explicitly salient.

Social Comparison Information. After some filler questionnaires (unscrambling fruit names, listing capitals of European countries), participants were given six items from a "Remote Associates Task" (RAT). A RAT item consists of three words that have something in common. Participants' task is to figure out the one thing these three words have in common. For example, the remote associate of the words *car*, *swimming*, *cue* is *pool* (see further Stapel & Koomen, 2000; 2001).

In the *important* conditions, the RAT was described as an important instrument in selection batteries, useful for predicting important abilities, one of the best predictors of managerial success that exists, and as a test that correlates surprisingly well with interpersonal skills. In the *unimportant* conditions, the RAT was described as an interesting yet rather useless test that had met with very limited success in the testing indus-

try. Participants were told that the RAT does not correlate with managerial success and interpersonal skills.

On the next page, participants were given 5 min to complete the six RAT items. When these 5 min were over, they were instructed to turn to the next page in the booklet on which the answers to the six items were given. They were instructed to rate their own performance and write down the number of correct answers (0-6) in a small box on the page. Then they could turn the page to the next phase of the task, called impression formation. On this page, they were given some brief information about another student who had recently completed the RAT. This student was introduced as Chris, a *sociology student*. Chris was thus moderately similar to our psychology students and thus ambiguously relevant. Furthermore, Chris's RAT score was provided in the midst of otherwise neutral information. In the *positive* conditions, Chris's RAT score was very high (5). Because the six RAT items that participants were given before they were exposed to the comparison information were practically impossible to solve (in fact, most participants scored 1 or 2), Chris was an upward comparison other. In the *negative* conditions, Chris's RAT score was very low (2). Because the six RAT items that participants were given were very easy to solve, participants' scores were likely to be high (in fact, all participants scored 5 or 6). In this way, Chris was a downward comparison other.

Self-Evaluation. After the comparison information, participants were given the self-evaluation task that we also used in Experiment 1. This task was introduced as measuring background characteristics. All participants rated themselves on the following adjectives: *kind, happy, bright, friendly, ambitious, dumb, amicable, sincere, lucky, incompetent*. These items were rated on 7-point scales ranging from 1 (*not at all*) to 7 (*very*).

Comparison Other Ratings. Next, participants rated the comparison other (Chris) on the following adjectives: *intelligent, likable, unfriendly*. These items were also rated on 7-point scales ranging from 1 (*not at all*) to 7 (*very*).

Importance. Next, participants rated the importance of the RAT task on a dimension that was anchored at 1 (*not measuring an important ability*) and 7 (*measuring an important ability*).

Debriefing. On completion of the questionnaire, participants were carefully debriefed about the goal and purpose of the experiment. None of the participants spontaneously indicated suspicion of the actual goal of the experiment or indicated that their self-evaluations might have been influenced by either the word search task or the comparison target. After debriefing, participants were thanked, paid, and dismissed.

RESULTS AND DISCUSSION

Manipulation Check

We checked whether participants judged more favorably the positive than negative comparison target. After reverse scoring the negative item (unfriendly), we averaged the three items into a single index ($\alpha = .82$). A Valence Other \times Importance ANOVA revealed the predicted main effect of valence other, $F(1, 71) = 198.04, p < .01$ (Other $F_s < 1$). Participants judged the positive target more as such ($M = 6.37$) than the negative target ($M = 3.38$). For a check on the importance manipulation, see below.

Self-Evaluation

We averaged the self-evaluation items into a single index after reverse scoring the negative items ($\alpha = .78$). Because the design included a control condition, our data-analytic strategy followed the same two-step procedure as in Experiment 1. First, an ANOVA on the self-evaluation index revealed the predicted Valence \times Importance interaction, $F(1,71) = 4.09, p < .05$, as well as a main effect of valence other, $F(1, 71) = 27.08, p < .01$ (importance main effect, $p > .28$). Table 2 presents the mean self-evaluations for each of the conditions. Contrast occurred in the important conditions. In those conditions, downward comparison information ($M = 5.16, SD = 0.85$) led to more favorable self-evaluations than upward comparison information ($M = 4.56, SD = 0.81$). This pattern was predicted, though the planned comparison yielded a marginal effect, $t(71) = 2.52, p < .06^1$. Contrast also occurred in the unimportant conditions. In those conditions, downward comparison information ($M = 5.37, SD = 1.26$) led to more favorable self-evaluations than upward comparison information ($M = 3.87, SD = 0.86$), $t(71) = 4.27, p < .01$. In the second step, the single-factor ANOVA yielded a significant effect of condition, $F(1, 89) = 7.52, p < .02$, and planned comparisons with the control yielded results consistent with predictions. Subscripts in Table 2 reveal the means that differed from the control condition ($M = 4.49, SD = 0.78$). These show that, in the unimportant condition, self-evaluations differed from the control condition in both the upward social comparison, $t(89) = 2.03, p < .05$, and the downward social comparison, $t(89) = 2.91, p < .01$, conditions. This pattern suggests non-defensive contrast when the domain is

1. When the control condition was included and the experimental design and the pooled error from the entire experiment was used to conduct planned comparisons, these two conditions did differ at conventional levels of significance, $F(1, 89) = 1.98, p < .05$.

TABLE 2. Mean Self-Evaluations after exposure to comparison information about a sociologist as a Function of Importance (Important, Unimportant) and Valence Other (Positive, Negative)

| | Importance | |
|-----------------|-------------|-----------|
| | Unimportant | Important |
| Self-Evaluation | | |
| Valence Other | | |
| Positive | 3.87* | 4.56 |
| Negative | 5.37* | 5.16* |

Note. Scale range is from 1 (*negative*) to 7 (*positive*). Higher numbers indicate more positive self-evaluations. Mean self-evaluations were 4.49 in the control condition. *indicates different from the control at $p < .05$.

unimportant. In the important conditions, downward social comparison differed from the control condition, $t(89) = 2.21, p < .05$, whereas the upward social comparison did not, $t(89) < 1.00$. This pattern suggests defensive processing in the important condition. These results support our hypotheses.

Importance

A Valence Other \times Importance ANOVA on the importance measure revealed a main effect of importance, $F(1, 71) = 8.50, p < .01$, and a main effect of valence other, $F(1, 71) = 40.88, p < .01$. The interaction effect was not significant, $F < 1$. The importance effect indicated, as intended, that participants who were told that the RAT was an important and diagnostic test indeed perceived the task as such ($M = 4.6$), compared to participants who were told that the task measured rather trivial abilities ($M = 4.0$). The main effect of valence other points to a self-repair pattern: In the upward comparison conditions, in which social comparison had null effect or a negative effect on self-evaluation, participants rated the importance of the comparison dimension lower ($M = 3.8$) than in the downward conditions, in which social comparison information had a positive impact on self-evaluation ($M = 4.8$). Thus the importance ratings mirror nicely the positivity of the self-evaluative consequences of social comparisons (see also Stapel & Koomen, 2001).

These findings provide further support for the hypothesis that, when other-self similarity is moderate and thus ambiguous, social comparison effects show a defensive pattern. In such a situation, the self-relevance of social comparisons is ambiguous and people can strategically incorporate the effects of such comparisons when they are positive and dismiss

these effects when they are negative. Furthermore, the findings demonstrate that such defensive social comparison effects are most likely to occur when the focal dimension is perceived as important. Exposure to a moderately similar comparison target instigates defensive processing, but only so when important aspects of the self are at stake and negative self-evaluations will indeed reflect unfavorably on the self.

GENERAL DISCUSSION

In the current research, we investigated the role of other-self similarity in social comparison effects. What is that role? The relevance of similarity for social comparison effects is widely acknowledged in the social comparison literature (Wood, 1989). Unfortunately, however, “statements about the role of similarity in comparative appraisal have been notoriously vague” (Miller & Prentice, 1996, p. 813). The concept of “similarity” is used to refer to the distance between self and other on the focal dimension (dissimilar: “Paul scored 10, I scored 5 on the test; similar: “Paul scored 6, I scored 5”) as well as self-other distance on non-focal dimensions (dissimilar: Paul is from New York, I am from Valencia; similar: Paul is my twin brother). We like to distinguish these two kinds of other-self distance as “extremity” and “similarity,” respectively (Goethals & Darley, 1977; Stapel & Koomen, 2000). Defined in this way, similarity is often treated as a precondition for the occurrence of social comparison effects (Lockwood & Kunda, 1997). When there is no other-self similarity, that is when the comparison target is categorized as belonging to a different category as oneself, there will be no social comparison effects (Blanton, 2001; Wood, 1989). At least a certain degree of similarity seems to be necessary for comparison contrast to occur (see Stapel & Winkielman, 1998). An experiment by Cash et al. (1983) nicely illustrates this point: Female respondents who had been shown photographs of especially attractive females judged themselves as less attractive, but this effect disappeared when the women in the photographs were described as professional models. Apparently, models are irrelevant comparison standards for mortals (Brown et al., 1992; Miller & Prentice, 1996; Stapel & Koomen, 2000).

Our results are consistent with the notion that similarity is a precondition for contrastive comparison effects to occur: Comparison information about a lawyer did not influence the self-evaluations of our participants, who were psychology students. More importantly, we also showed that, when other-self dissimilarity is *extreme*—when the comparison is an animal rather than a person—social comparisons do yield an effect, namely *assimilation*. To our knowledge, this is the first demonstration of an assimilation effect on self-evaluations after exposure to extremely dissimilar comparison information. The findings supports

Stapel and Koomen's (2000) *interpretation-comparison* perspective on social comparison effects. This perspective postulates that during impression formation accessible knowledge could be used as an interpretation frame (which makes other-self inclusion and thus assimilation more likely) and as a comparison standard (which makes other-self comparison and thus contrast more likely). Similarity is one of the factors influencing whether the interpretation or the comparison process exerts the stronger impact. When dissimilarity is high, the pull towards interpretation (and assimilation) is stronger. This effect occurred when our psychology participants were exposed to information about an animal. However, when dissimilarity is moderate, the pulls towards interpretation and comparison are equally strong and no effect is likely to occur. This is what we found when our psychology participants were exposed to information about a lawyer (see also Stapel & Koomen, 2001; Stapel et al., 1997; Stapel & Winkielman, 1998). Thus, we predicted and found that depending on the size of other-self dissimilarity, social comparison yields an assimilation or null effect.

But what about similarity? According to Stapel and Koomen's (2000) interpretation-comparison approach to social comparison effects, when there is other-self similarity, the pull towards comparison (and contrast) is stronger. This is in line with what previous social comparison research has reported time and again: Comparison to similar others is likely to yield contrastive effects (Blanton, 2001; Wood, 1989). Although most previous research consistently shows that comparisons with categorically similar others typically yield contrast effects, it has not been clear what determines whether the pattern of such contrast effects is defensive (downward comparison, positive self-evaluation; upward comparison, no effect) or non-defensive (downward comparison, positive self-evaluation; upward comparison, negative self-evaluations).

With the present research, we hope to have furthered our understanding of this issue by showing that one important determinant of whether similar comparison other yield defensive or non-defensive contrast effects is the size or ambiguity of this similarity. When similarity is moderate and thus ambiguous, there may be leeway for idiosyncratic or defensive processing of the comparison information, whereas this is less likely to occur when similarity is high and thus clear. Specifically, we demonstrated that when we gave psychology students information about an other person whose identity (sociology student) in terms of other-self similarities ("we are both social scientists") as well as on other-self dissimilarities ("I am a psychologist, she is a sociologist"), participants incorporated the self-evaluative effects of such comparisons if they were positive (positive self-evaluation effect) and dismissed them if they were negative (null effect). Thus, when other-self similarity was moderate and ambiguous, we found defensive contrast effects. Further-

more, as is to be expected of a motivational process, these effects were especially strong when the relevant comparison dimension was perceived as important. Defensive contrast effects did not occur, however, when a comparison target was *extremely* similar to the self. That is, when we gave psychology students information about an other psychology student, participants incorporated the self-evaluative effects of such comparisons both when they were positive and also when they were negative. This supports the idea that even though most people are motivated to see themselves in a favorable light, they are also motivated to be rational. When the relevance of social comparisons is clear and undisputed, it is difficult *not* to incorporate the self-evaluative consequences of these comparisons, be they positive or negative.

Recently, Stapel and Koomen (2001) demonstrated that *self-activation* is an important determinant of whether or not defensive processing of social comparison information will occur. These researchers showed that social comparison is defensive when self-construals are relatively accessible. The present findings extend that work by showing that self-activation (i.e., identity-salience, "I am a psychologist") is not sufficient to instigate defensive social comparison processing. Together then, the Stapel-Koomen experiments and the present research suggest that, for defensive processing of social comparison information to occur, both the self needs to be salient and other-self similarity needs to be flexible. If so, people will dismiss the negative effects of social comparison and incorporate the positive ones. If these preconditions are not met, however, people may take off the rose-colored glasses that come with the self-enhancement motive and face the constraints of reality: Sometimes the actions and behaviors of others reveal that those others are simply more competent, informed, attractive, and moral than we are. So be it.

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