

## **'Seek and ye shall find': antecedents of assimilation and contrast in social comparison**

THOMAS MUSSWEILER\*  
*Universität Würzburg, Germany*

### *Abstract*

*Based on a Selective Accessibility (SA) model of comparison consequences, it is suggested that the self-evaluative effects of social comparisons depend on the nature of the hypothesis that is tested as a starting-point of the comparison process. If judges test the hypothesis that they are similar to the standard, then standard-consistent self-knowledge is rendered accessible so that self-evaluations are assimilated towards the standard. If judges test the hypothesis that they are dissimilar from the standard, however, standard-inconsistent self-knowledge is made accessible so that self-evaluations are contrasted away from the standard. These predictions are tested by inducing participants to test for similarity versus dissimilarity to the standard via a procedural priming manipulation. Consistent with the SA model, assimilation occurs if participants are procedurally primed to focus on similarities to the standard, whereas contrast results if they are primed to focus on dissimilarities. These findings suggest that similarity versus dissimilarity testing is a crucial determinant of assimilation versus contrast. It is proposed that distinguishing between these two alternative hypotheses may provide an integrative framework for an understanding of the self-evaluative consequences of social comparisons. Copyright © 2001 John Wiley & Sons, Ltd.*

How we perceive and evaluate ourselves strongly depends on comparisons with others. Whether we see ourselves as smart, good-looking, or athletic is not only a function of our objective qualities but also of how we measure up to others. You may, for example, feel relatively smart in comparison to your 5-year-old niece. In comparison to Albert Einstein, however, you may have to concede that you are not quite the brightest light in the garage.

This essential relativity of self-evaluation and self-perception has long been recognized in social psychology. Recent social comparison research has exceeded in demonstrating just how strongly our self-perceptions depend on comparisons with others (for recent reviews, see Collins, 1996; Wood, 1989). Thus, it is well established that social comparisons influence how we think of ourselves. Less clarity, however, exists about the direction of this influence. It is often assumed that social comparisons

\*Correspondence to: Thomas Mussweiler, Psychologie II, Universität Würzburg, Röntgenring 10, 97070 Würzburg, Germany.  
E-mail: mussweiler@psychologie.uni-wuerzburg.de

produce a contrast effect on self-perception and self-evaluation (e.g. Morse & Gergen, 1970; Wills, 1981). Comparing yourself to a more competent other would thus induce you to see yourself as less competent and comparing yourself to a less competent other would induce you to see yourself as more competent. Thus you would evaluate yourself as more intelligent after a comparison with your 5-year-old niece than after a comparison with Albert Einstein. In fact, ample evidence demonstrates that this may indeed be the case. In one classic study, for example, job candidates reported to be less confident about their own abilities if they had waited for a job interview in the company of an impeccable rival who exhibited highly competent behavior (e.g. Morse & Gergen, 1970). Thus, one possible consequence of social comparison is that self-evaluations are contrasted away from the social comparison standard.

Self-evaluations, however, are not necessarily contrasted away from a comparison standard. Under specific conditions they may also show the exact opposite result and be assimilated towards the standard (e.g. Buunk, Collins, Taylor, VanYperen, & Dakof, 1990; Lockwood & Kunda, 1997; Mussweiler & Strack, 2000a; Pelham & Wachmuth, 1995). In one recent study, for example, participants who were exposed to a description of an excellent fellow student subsequently evaluated themselves to be more competent (Lockwood & Kunda, 1997). This suggests that social comparison may influence subsequent self-evaluations in opposite directions, they may produce assimilation as well as contrast effects.

Which of these opposing consequences results appears to depend on a host of moderating variables (for a recent overview, see Mussweiler & Strack, 2000b). Among others, self-esteem (e.g. Aspinwall & Taylor, 1993; Buunk *et al.*, 1990; Gibbons & Gerard, 1989) psychological closeness (e.g. Brewer & Weber, 1994; Brown, Novick, Lord, & Richards, 1992; Pelham & Wachmuth, 1995; Tesser, Millar, & Moore, 1988), and the attainability of the comparison standard (Lockwood & Kunda, 1997) have been demonstrated to constitute important moderators of social comparison consequences (for a discussion of additional moderating variables, see Taylor, Wayment, & Carrillo, 1996). In fact, whether assimilation or contrast results, may even depend on seemingly trivial factors. In one study (Brown *et al.*, 1992), for example, participants contrasted self-evaluations of their attractiveness away from a highly attractive standard, if they were born on a different day as the standard. If they shared the same birthday—a fact that is not too closely related to physical attractiveness—however, they assimilated self-evaluations towards the standard and judged themselves to be more attractive after a comparison with an attractive rather than an unattractive standard.

Thus, the ways in which social comparisons shape our self-evaluations appear to be rather complex and multifaceted. Not only may social comparisons produce assimilation as well as contrast, which of both effects occurs also depends on a plethora of factors, of which some seem rather trivial at first sight. Why do these divergent effects occur? Why do we sometimes see ourselves in more favorable light after an upward comparison and why do we sometimes see ourselves less favorably? Further, why do these consequences depend on such trivial things as a shared birthday? To help find an answer to these important questions, we have recently suggested a Selective Accessibility (SA) model of comparison consequences (Mussweiler, 2001a,b; Mussweiler & Strack, 2000a,b).

### THE SELECTIVE ACCESSIBILITY MODEL

Taking a social cognition perspective, the most fundamental assumption of the SA model is that to understand how social comparisons influence self-evaluations, one has to examine their

informational underpinnings (for more detailed discussions of the model, see Mussweiler, 2001a,b; Mussweiler & Strack, 1999a,b, 2000a,b). As any judgment (for an overview, see Higgins, 1996), post-comparison self-evaluations are based on the implications of the judgment-relevant knowledge that is accessible at the time the judgment is made. Thus, comparisons with others may effect self-evaluations because they influence what knowledge about the self is accessible and is consequently used as a basis for self-evaluation. From this perspective, understanding what self-knowledge is sought and activated during the comparison process is crucial to understand their self-evaluative consequences.

So, what self-knowledge is rendered accessible during a social comparison? What are the informational consequences of evaluating oneself relative to an other? The SA model conceptualizes these informational consequences as the product of an active hypothesis-testing process in which judges engage during the comparison. In the context of social comparison, there are two principle hypotheses that can build the basis of this process. In particular, judges can either test the hypothesis that their standing on the judgmental dimension is similar to or dissimilar from that of the standard. Notably, because comparisons often involve an initial focus on similarities (see Gentner & Markman, 1997; Medin, Goldstone, & Gentner, 1993) similarity testing appears to constitute the default option (Chapman & Johnson, 1999; Mussweiler, 2001a,b; Mussweiler & Strack, 2000a).

Whatever hypothesis they test, judges are likely to primarily seek information that is consistent with it (Klayman & Ha, 1987; Snyder & Swann, 1978; Trope & Bassok, 1982; Trope & Liberman, 1996). Because the self is an extraordinarily complex cognitive structure about which vast amounts of knowledge are stored in memory (Kihlstrom & Cantor, 1984), in most situations judges are likely to find the hypothesis-consistent information they seek. In fact, even if the implications are opposite to one another (e.g. high and low intelligence), the rich and multifaceted representation of self-knowledge ensures that judges will typically find the information they seek. Whatever knowledge is sought and found will be rendered accessible. As a consequence, similarity testing increases the accessibility of knowledge indicating that the self is similar to the standard. Dissimilarity testing, on the other hand, increases the accessibility of knowledge, indicating that the self is different from the standard. Conceivably, subsequent self-evaluations that are based on the implications of accessible self-knowledge are likely to be assimilated towards the standard in the first case, and contrasted away from the standard in the latter case. For example, if you tested the hypothesis that you are as intelligent as a friend who is widely known to be smart, you would do so by generating information which indicates that you are pretty smart as well. Doing so increases the accessibility of this self-knowledge so that it is likely to build the basis of subsequent evaluations of your intellectual abilities. Because all of this information implies that you are rather smart, self-evaluations are likely to indicate high levels of intelligence. That is, your self-evaluations are assimilated to your highly competent friend. Testing the hypothesis that your intellectual abilities are different from those of your friend and that you are less intelligent, on the other hand, renders knowledge indicating that you are not so smart more accessible. As a consequence, self-evaluations are based on the implications of this less favorable knowledge so that you are likely to evaluate yourself to be less intelligent.

From this perspective the nature of the tested hypothesis critically determines the self-evaluative consequences of social comparisons. If judges test the hypothesis that they are similar to the standard, then knowledge indicating similarity is rendered accessible so that self-evaluations are assimilated towards the standard. If, on the other hand, they test the hypothesis that they are dissimilar from the standard, then knowledge indicating dissimilarity is rendered accessible so that self-evaluations are contrasted away from the standard. In a nutshell, similarity testing is assumed to produce assimilation and dissimilarity testing is assumed to produce contrast.

## THE PRESENT RESEARCH

The present research was designed to test this core assumption of the SA model and examine the possibility that the nature of the initially tested hypothesis determines the self-evaluative consequences of social comparison. To do so, we used a procedural priming task. Prior to a social comparison, participants worked on an unrelated task in which they compared sketches of two scenes. About half of the participants were asked to list all the similarities between the two scenes they could find. The other half, however, was asked to list all the differences they could find. In both cases, the respective focus on similarities or differences should become proceduralized (Smith, 1994) and carry over to the subsequent comparison. That is, searching for similarities or differences in the two scenes should set participants' minds on either processing style and should induce them to search for the same kind of evidence in the subsequent social comparison. Would these different foci on similarities versus differences influence the outcome of the comparison? Would a focus on similarities yield assimilation and a focus on dissimilarities produce contrast?

## PRETEST

Before examining these questions, we pretested our priming manipulation to ensure that searching for similarities versus differences in the priming scene does indeed influence whether judges focus on similarities or differences to a social comparison standard. To do so, we asked participants to compare themselves to a social standard and describe their standing on the judgmental dimension relative to the standard. We then counted the explicit references to similarities and differences participants made in these self-descriptions. If our priming procedure is successful in influencing participants' comparison focus, then they should mention more similarities after having searched for similarities in the two priming scenes. Conversely they should list more differences after having searched for differences in the priming scenes.

## Method

### *Participants*

We recruited 30 students at the University of Würzburg as participants and randomly assigned them to one of two experimental conditions. Participants were offered a chocolate bar as a compensation.

### *Materials*

The procedural priming task consisted of sketches of two scenes that were taken from Markman and Gentner (1996). The first sketch depicted a woman leaning over a table while holding a cup of coffee, a Christmas tree with a few presents underneath and a fireplace. The second sketch depicted a man standing in front of a table and reaching for a bowl placed in the middle of the table, a bottle and a few glasses that were also placed on the table and a fire place.

The target description introduced a person ('Christiane') who was described as adjusting very well to college. Christiane was described as a second-year student at the University of Würzburg for whom

moving to a new city was easy, because she had often moved during her childhood. She never had problems getting used to a new environment and saw moving as a challenge. At the beginning of her studies she still went home regularly on weekends, but now that she had found many new friends in Würzburg, she typically spent her weekends here. She also liked her studies very much and had no problems with the exams.

### *Procedure*

Participants were recruited while working in individual cubicles in the library. They were asked to participate in two brief pretests of stimulus materials. Upon agreement to participate they were handed two separate folders and were instructed to work through them in the given order. It was pointed out that both pretests were completely unrelated and were administered together solely for efficiency reasons. This ostensible unrelatedness was further underlined by using different fonts. The first folder included the procedural priming task, which was introduced as a pretest for later studies on event memory. Half of the participants were instructed to list as many similarities between the two critical scenes as they could find. The other half was instructed to list as many differences as they could find. In both cases, instructions emphasized that it was important for participants to inspect the two scenes as thoroughly as possible, to list as many features as they can find, and to allow themselves a few minutes to complete the task.

The second folder included the social comparison task, which was again introduced as a pretest. Participants received the target description and were instructed to read it attentively and to form an impression of the target person. Subsequently, they were asked to compare their own adjustment to college to that of Christiane. They were further instructed to describe in a few sentences how their adjustment to college relates to that of the target person. Subsequent to the description task, participants were tested for awareness of a connection between both parts. None of them indicated that they were aware of the actual connection. After completing these materials participants were debriefed, thanked, and offered their candy.

### **Results and Discussion**

The purpose of the pretest was to examine whether our priming manipulation induces participants to primarily focus on similarities versus differences when comparing to the standard person. If this were indeed the case, then participants who had been primed to focus on similarities should mention more similarities to the standard in their description of their relative adjustment to college. Participants who had been primed to focus on differences, however, should mention more differences in their description.

To examine this possibility, we counted the number of similarities and differences that were explicitly mentioned in participants' descriptions. The number of similarities and differences were combined into one score (number of similarities — number of differences), which constitutes the central dependent variable for the pretest. For this measure, positive values indicate that relatively more similarities were listed and negative numbers indicate that relatively more differences were listed.

Consistent with our assumptions, participants who were primed to focus on similarities did indeed list relatively more similarities ( $M = 1.4$ ) than participants who were primed to focus on differences ( $M = -0.4$ ),  $t(28) = 2.1$ ,  $p < 0.05$ . This finding indicates that our priming task is successful in manipulating the relative focus on similarities versus differences that participants adopt in the social

comparison task. It thus appears to be appropriate for the main study which examined the self-evaluative consequences of the induced similarity versus dissimilarity focus.

## MAIN STUDY

### Method

#### *Participants*

We recruited 44 students at the University of Würzburg as participants and randomly assigned them to one of four experimental conditions. We offered participants a chocolate bar as a compensation for their participation.

#### *Materials*

The priming procedure and the description of the high standard were identical to those used in the pretest. In addition, we constructed a second target description of a downward standard who adjusted very poorly to college. This target person ('Christiane') was also introduced as a second-year student at the University of Würzburg. It was further pointed out that Christiane had had problems adjusting to Würzburg because she had spent her whole life in the same city and never had to adjust to a new environment before. She was very sceptical about moving to a new city in the beginning and was worried that she might have problems adjusting. Since her move to Würzburg, Christiane had spent most of her weekends at home and although she had made some acquaintances here, her best friends were still at home. She liked her studies but found many of the exams to be rather difficult and had to spend a lot of time preparing for them.

#### *Procedures*

For the most part, the procedures are identical to those described in the pretest. About half of the participants were procedurally primed to focus on similarities whereas the other half were primed to focus on differences. Furthermore, half of the participants received the description of the well-adjusting upward standard, and the other half received the description of the mal-adjusting downward standard. Thus, the study is based on a 2(similarity focus versus dissimilarity focus)  $\times$  2(comparison with upward versus downward standard) experimental design.

Upon agreement to participate, participants were again handed two separate folders and were informed that both pretests were unrelated and were solely administered together for efficiency reasons. The first folder included the exact same priming materials as in the pretest. The second folder included the social comparison task. Participants received either of the two standard descriptions, were asked to compare themselves to this person and to indicate how difficult it was for them to make this comparison along a 9-point scale (1 = very difficult, 9 = very easy). Subsequent to this comparison, they received two questions which assessed self-evaluations of their adjustment to college. In particular, these questions asked how often participants typically went out per month and how many friends they had in Würzburg. We used these objective judgments rather than subjective judgments ('How well did you adjust to college on a scale from 1 to 9?') (see Biernat, Manis, &

Nelson, 1991; Biernat, Manis, & Kobrynowicz, 1997, for a discussion of this distinction), because previous research has repeatedly demonstrated that objective judgments allow for a more direct and less biased assessment of evaluations of others (Biernat *et al.*, 1991, 1997) and the self (Mussweiler & Strack, 2000a).

Subsequent to the self-evaluative judgments, participants were tested for awareness of a connection between both tasks. Again, none of them was aware of the actual connection. Finally, participants were debriefed, thanked for their participation, and offered their candy.

## Results and Discussion

To examine the self-evaluative consequences of the social comparison, we *z*-transformed both self-evaluative judgments and averaged them into one score. As inspection of Figure 1 reveals, participants' self-judged adjustment to college indeed critically depended on the social comparison standard as well as the induced focus on similarities versus differences. If participants were induced to focus on similarities, then they evaluated their adjustment to college to be better after a comparison with the high standard ( $M = 0.27$ ) rather than the low standard ( $M = -0.42$ ) — an assimilation effect. If participants were induced to focus on differences, however, they evaluated their adjustment to college to be worse after a comparison with the high ( $M = -0.35$ ) rather than the low standard ( $M = 0.36$ ) — a contrast effect.

In a 2(similarity focus versus difference focus)  $\times$  2(comparison with upward versus downward standard) ANOVA using the combined self-evaluations as a dependent measure, this pattern produced a significant interaction effect,  $F(1, 40) = 8.9, p < 0.005$ . In this analysis none of the remaining effects approached significance,  $F_s < 1$ . Furthermore, the difference in self-evaluations following the comparison with the upward and the downward standard proved to be significant for the similarity focus,  $t(40) = 2.01, p < 0.05$ , as well as the difference focus,  $t(40) = 2.22, p < 0.05$ .

These findings demonstrate that the self-evaluative consequences of social comparisons do indeed depend on whether judges focus on the ways in which they are similar to the standard or on those that

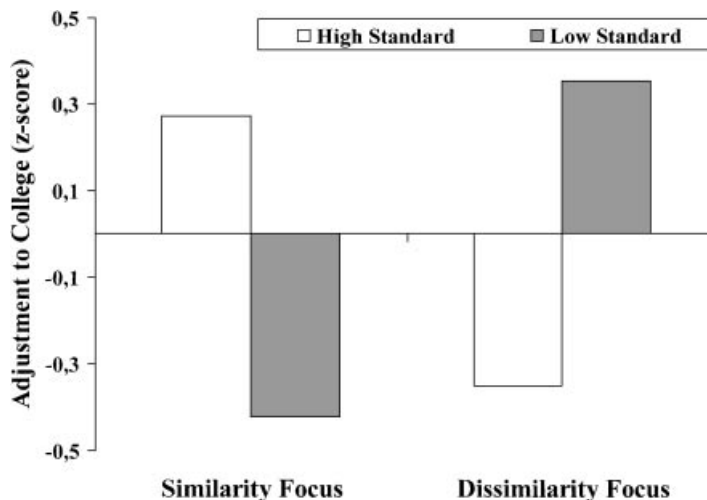


Figure 1. Self-evaluations of adjustment to college (*z*-score) as a function of standard (upward versus downward) and focus (similarity versus dissimilarity)

distinguish them from the standard. Under conditions which set participants' minds to focus on similarities, so that they were likely to test the hypothesis that they are similar to the standard, self-evaluations were assimilated towards the standard. If participants' minds were set to focus on dissimilarities so that they were likely to test the hypothesis that they were dissimilar from the standard, however, social comparisons with the exact same standards produced the opposite outcome. Here, self-evaluations were contrasted away from the standard.

## GENERAL DISCUSSION

These results support the core assumptions of the SA model. They suggest that the nature of the initial hypothesis that is tested during a social comparison critically determines how this comparison influences self-evaluation and self-perception. If judges initially seek information indicating that they are similar to the standard, then the accessibility of standard-consistent self-knowledge is increased so that self-evaluations are assimilated towards the standard. If judges initially seek information indicating that they are dissimilar from the standard, however, then the accessibility of standard-inconsistent knowledge is increased so that self-evaluations are contrasted away from the standard. The self-evaluative consequences of social comparison are thus consistent with the informational focus judges take during the comparison. In this respect judges do indeed get what they seek.

In addition to providing support for a core assumption of the SA model, the current findings also suggest an integrative perspective on the variable consequences of social comparisons. In fact, the informational approach I have taken, provides a conceptual framework which may be able to integrate much of the research on comparison consequences. Many of the factors that are associated with the occurrence of assimilation versus contrast in social comparison can indeed be related to the basic mechanisms I have lined out. In particular, these moderators may influence whether judges test for similarity between the self and the standard as a starting-point in the comparison process or whether they test for dissimilarity. As I have lined out before, assimilation is likely to result if judges test for similarity, whereas contrast is likely to result if they test for dissimilarity. Which of these two alternative hypotheses is initially considered depends on how likely the assumed possibility is. Consequently, any factor that influences the assumed similarity between the target and the standard is likely to influence whether a comparison yields assimilation or contrast.

The factor that is most directly related to the nature of the tested hypothesis is the *perceived similarity* to the standard. Conceivably, judges are more likely to test for similarity to the standard, if they initially see themselves as similar rather than dissimilar to him or her. A recent study demonstrates this dependency (Mussweiler, 2001a). Here, the perceived similarity to the same standard was manipulated by varying whether the self was compared to the standard or the standard was compared to the self. Previous research (e.g. Srull & Gaellick, 1983) has demonstrated that similarity is perceived to be higher if the standard is compared to the self rather than the self to the standard (Tversky, 1977). As a consequence, assimilation should be more likely to occur in the first case, whereas contrast should ensue in the latter. This pattern was obtained in two studies. Moreover, the occurrence of assimilation versus contrast was at least partially mediated by the perceived similarity to the standard.

Another potent moderator of the consequences of social comparison is *psychological closeness* to the standard. If judges feel close to the comparison target, they often tend to assimilate. If closeness is low, however, contrast is more likely to occur (e.g. Brewer & Weber, 1994; Brown *et al.*, 1992; Mussweiler & Bodenhausen, in press; Pelham & Wachsmuth, 1995; Tesser *et al.*, 1988). This may be the case because judges are more likely to test the hypothesis that they are similar to the standard if



they feel close to him or her. In much the same way, *attainability* of the standard's status may often lead to assimilation (e.g. Buunk *et al.*, 1990; Lockwood & Kunda, 1997; Taylor *et al.*, 1996) because judges are more likely to assume similarity if the standard's level of performance is attainable. If the standard is not attainable, however, assuming similarity is unrealistic, so that judges may be more likely to test for dissimilarity.

By the same token, at least some of the the effects of *self-esteem* (Buunk *et al.*, 1990; Gibbons & Gerard, 1989) may be mediated by differences in the initial hypothesis that judges who are high vs. low in self-esteem test when they are confronted with an upward versus a downward standard. Specifically, judges who are high in self-esteem may perceive themselves to be closer to an upward than to a downward standard. Consequently, they may test for similarity in the first and dissimilarity in the latter case, so that self-evaluations are assimilated towards the upward standard and contrasted away from the downward standard. For judges low in self-esteem, however, the reverse may be the case. In particular, they may see themselves as closer to a downward standard than to an upward standard and may test for similarity versus dissimilarity accordingly. As a result, they assimilate towards the downward standard and contrast away from the upward standard.

From this integrative perspective, many of the diverse set of factors that have been found to determine whether a comparison produces assimilation or contrast may be linked to the same mechanism, namely whether judges initially test for similarity or dissimilarity in the comparison process. The present findings demonstrate that testing for similarities produces assimilation whereas testing for dissimilarity produces contrast. Consequently, any factor that influences the nature of this initial hypothesis is likely to have an effect on the evaluative consequences of the comparison. In fact, this notion also helps to explain why the fact that a social comparison standard was born on the same day as oneself may have such dramatic effects on the consequences of the comparison (Brown *et al.*, 1992). Specifically, the rather unlikely fact that one was born on the same day as the standard may induce judges to initially focus on other similarities to the standard. That is, they are likely to seek additional similarities, and, because of the rich and multifaceted nature of self-knowledge, they are likely to find them. Because this information will then build the basis of subsequent self-evaluations, they are likely to be assimilated towards the standard. In this respect, the current perspective allows to relate factors that — on the surface — appear to be fairly unrelated such as whether one is high or low in chronic self-esteem and whether one does or does not share the same birthday with the standard to one unifying principle.

Although some of the previously mentioned moderators yield more complex and multifaceted self-evaluative consequences than the preceding discussion conveys, and may interact with other factors, some of their basic effects seem quite consistent with the present framework. Clearly, however, the assumption that testing for similarity versus dissimilarity is the critical determinant of whether social comparisons lead to assimilation or contrast, requires further empirical scrutiny. In particular, future research will have to demonstrate that the nature of the hypothesis that is tested during the comparison process does indeed mediate the direction of comparison consequences. Furthermore, the precedents of testing for similarity versus dissimilarity to the standard need to be examined in more detail. In this respect, the integrative potential of the selective accessibility perspective on comparison consequences remains speculative to some extent.

In conclusion, the preceding discussion suggests that the SA model may well provide an integrative understanding of the conditions that produce assimilation versus contrast in social comparisons. Although it has long been acknowledge that social comparisons exert powerful effects on our lives and well-being, the psychological mechanisms that are responsible for these consequences are still unclear. The present framework attempts to close this theoretical gap by taking an informational perspective on social comparisons. To understand the variable consequences of social comparisons, I have argued, one has to take a close look at the self-knowledge that is sought and activated during the

comparison process. The current findings suggest that doing so may indeed be a fruitful path in our quest for a more complete understanding of this classic domain of social psychological research.

### ACKNOWLEDGEMENTS

The present research was supported by a grant from the German Science Foundation (DFG). I would like to thank the members of the Emmy Noether Research Group on Comparison Processes and the Würzburg Social Cognition Group for stimulating discussions of this work and Alexandra Walter for her help in preparing the stimulus materials and collecting the data.

### REFERENCES

- Aspinwall LG, Taylor SE. 1993. Effects of social comparison direction, threat, and self-esteem on affect, self-evaluation, and expected success. *Journal of Personality and Social Psychology* **64**(5): 708–722.
- Biernat M, Manis M, Nelson TE. 1991. Stereotypes and standards of judgment. *Journal of Personality and Social Psychology* **60**(4): 485–499.
- Biernat M, Manis M, Kobryniewicz D. 1997. Simultaneous assimilation and contrast effects in judgments of self and others. *Journal of Personality and Social Psychology* **73**(2): 254–269.
- Brewer MB, Weber JG. 1994. Self-evaluation effects of interpersonal versus intergroup social comparison. *Journal of Personality and Social Psychology* **66**(2): 268–275.
- Brown JD, Novick NJ, Lord KA, Richards JM. 1992. When Gulliver travels: Social context, psychological closeness, and self-appraisals. *Journal of Personality and Social Psychology* **62**(5): 717–727.
- Buunk BP, Collins RL, Taylor SE, VanYperen NW, Dakof GA. 1990. The affective consequences of social comparison: Either direction has its ups and downs. *Journal of Personality and Social Psychology* **59**(6): 1238–1249.
- Chapman GB, Johnson EJ. 1999. Anchoring, activation, and the construction of values. *Organizational Behavior and Human Decision Processes* **79**: 1–39.
- Collins RL. 1996. For better or worse: The impact of upward social comparison on self-evaluations. *Psychological Bulletin* **119**(1): 51–69.
- Festinger L. 1954. A theory of social comparison processes. *Human Relations* **7**: 117–140.
- Gentner D, Markman AB. 1997. Structure mapping in analogy and similarity. *American Psychologist* **52**: 45–56.
- Gibbons FX, Gerrard M. 1989. Effects of upward and downward social comparison on mood states. *Journal of Social and Clinical Psychology* **8**: 14–31.
- Higgins ET. 1996. Knowledge activation: Accessibility, applicability, and salience. In *Social Psychology: Handbook of basic principles*, Higgins ET, Higgins ET, Kruglanski AW (eds). The Guilford Press: New York; 133–168.
- Kihlstrom JF, Cantor N. 1984. Mental representations of the self. In *Advances in Experimental Social Psychology*, Berkowitz L (ed.). Academic Press: New York; Vol 21; 145–180.
- Klayman J, Ha YW. 1987. Confirmation, disconfirmation, and information in hypotheses testing. *Psychological Review* **94**: 211–228.
- Lockwood P, Kunda Z. 1997. Superstars and me: Predicting the impact of role models on the self. *Journal of Personality and Social Psychology* **73**(1): 91–103.
- Markman AD, Gentner D. 1996. Commonalities and differences in similarity comparisons. *Memory & Cognition* **24**: 235–249.
- Medin DL, Goldstone RL, Gentner D. 1993. Respects for similarity. *Psychological Review* **100**: 254–278.
- Morse S, Gergen KJ. 1970. Social comparison, self-consistency, and the concept of self. *Journal of Personality and Social Psychology* **16**(1): 148–156.
- Mussweiler T. 2001a. Focus of comparison as a determinant of assimilation versus contrast in social comparison. *Personality and Social Psychology Bulletin* **27**: 38–47.
- Mussweiler T. 2001b. Comparison processes in social judgement: mechanisms and consequences, (submitted).

- Mussweiler T, Bodenhausen G. in press. I know you are but what am I? Self-evaluative consequences of judging ingroup and outgroup members. *Journal of Personality and Social Psychology*.
- Mussweiler T, Strack F. 1999a. Hypothesis-consistent testing and semantic priming in the anchoring paradigm: A selective accessibility model. *Journal of Experimental Social Psychology* **35**: 136–164.
- Mussweiler T, Strack F. 1999b. Comparing is believing: A selective accessibility model of judgmental anchoring. In *European Review of Social Psychology* (Vol. 10), Stroebe W, Hewstone M (eds). Wiley: Chichester; 135–167.
- Mussweiler T, Strack F. 2000a. The 'relative self': Informational and judgmental consequences of comparative self-evaluation. *Journal of Personality and Social Psychology* **79**: 23–38.
- Mussweiler T, Strack F. 2000b. Consequences of social comparison: Selective accessibility, assimilation, and contrast. In *Handbook of Social Comparison: Theory and research*, Suls J, Wheeler L (eds). Plenum: New York; 253–270.
- Pelham BW, Wachsmuth JO. 1995. The waxing and waning of the social self: Assimilation and contrast in social comparison. *Journal of Personality and Social Psychology* **69**(5): 825–838.
- Smith ER. 1994. Procedural knowledge and processing strategies in social cognition. In *Handbook of Social Cognition* (2nd edn, Vol. 1), Wyer RS, Srull TK (eds). Erlbaum: Hillsdale, NJ; 99–152.
- Snyder M, Swann WB. 1978. Hypothesis-testing processes in social interaction. *Journal of Personality and Social Psychology* **36**: 1202–1212.
- Srull TK, Gaelick L. 1983. General principles and individual differences in the self as a habitual reference point: An examination of self-other judgments of similarity. *Social Cognition* **2**: 108–121.
- Taylor SE, Wayment HA, Carrillo M. 1996. Social comparison, self-regulation, and motivation. In *Handbook of Motivation and Cognition*, Sorrentino RM, Higgins ET (eds). The Guilford Press: New York; 3–27.
- Tesser A, Millar M, Moore J. 1988. Some affective consequences of social comparison and reflection processes: The pain and pleasure of being close. *Journal of Personality and Social Psychology* **54**(1): 49–61.
- Trope Y, Bassok M. 1982. Confirmatory and diagnostic strategies in social information gathering. *Journal of Personality and Social Psychology* **43**: 22–34.
- Trope Y, Liberman A. 1996. Social hypothesis testing: Cognitive and motivational factors. In *Social Psychology: Handbook of basic principles*, Higgins ET, Kruglanski AW (eds). The Guilford Press: New York; 239–270.
- Tversky A. 1977. Features of Similarity. *Psychological Review* **84**: 327–352.
- Wills TA. 1981. Downward comparison principles in social psychology. *Psychological Bulletin* **90**: 245–271.
- Wood JV. 1989. Theory and research concerning social comparisons of personal attributes. *Psychological Bulletin* **106**(2): 231–248.

Copyright of European Journal of Social Psychology is the property of John Wiley & Sons Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.

Copyright of European Journal of Social Psychology is the property of John Wiley & Sons, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.