

When nothing compares to me: How defensive motivations and similarity shape social comparison effects

DIEDERIK A. STAPEL^{1*}
AND CAMILLE S. JOHNSON^{2**}

¹*Tilburg Institute for Behavioral Economics Research (TIBER), Tilburg University, Tilburg, The Netherlands*

²*Graduate School of Business, Stanford University, Stanford, California, USA*

Abstract

While similarity typically breeds social comparison, all information gained from social comparisons is not equally influential. Three studies illustrate the situations in which individuals defensively interpret social comparison information such that they incorporate information that reflects positively on the self and disregard negative information. Study 1 extends previous research to show that self-threat broadens the conditions under which defensive interpretations occur to include those in which similarity is ambiguous. Studies 2 and 3 demonstrate that defensive interpretations are less likely to occur when individuals are affirmed or when the comparison information is unimportant. These findings suggest that the impact of social comparisons on self-views is determined by both similarity of comparison targets and the motives of the perceiver. Copyright © 2006 John Wiley & Sons, Ltd.

In his original description of social comparison theory, Festinger hypothesized that “given a range of possible persons for comparison, someone close to one’s own ability or opinion will be chosen for comparison” (Festinger, 1954, p. 121). Based on this corollary, researchers interested in social comparison have long focused on the role of similarity. One area of research has focused on the impact of similarity on the “choice” component of the social comparison process. Specifically, this research has examined the role of perceived similarity in choice of comparison targets and found that similarity breeds comparison (Festinger, 1954; Goethals & Darley, 1977; Turner, 1987). That is, individuals are more likely to compare themselves to others when they perceive these others as being similar across any number of important aspects. Thus, when interested in judging your ability levels, you are likely to ask similar others how they did. These others may be considered similar because of gender, age, race, or study habits (Goethals & Darley, 1977).

*Correspondence to: Dr Diederik A. Stapel, Tilburg Institute for Behavioral Economics Research (TIBER), Tilburg University, P.O. Box 90153, 5000 LE Tilburg, The Netherlands. E-mail: d.a.stapel@uvt.nl

**Correspondence to: Camille S. Johnson, 518 Memorial Way, Stanford University, Stanford, CA, USA.
E-mail: camille_johnson@stanford.edu

Other researchers have focused on the “consequence” component of the social comparison process. These researchers have investigated how people’s self-perceptions and actions are changed after comparison with similar others. Most of these researchers have found that when exposed to similar others, individuals often contrast themselves against the comparison targets, especially when these targets’ competencies or attractiveness are extreme rather than moderate¹ (Markman & McMullen, 2003; Mussweiler, 2003; Stapel & Marx, 2006; Tesser, 1988). That is, when comparing yourself to similar, but superior others, you are likely to contrast your performance with theirs and judge yourself to be less able. If you compare yourself to similar, inferior others, you are likely to contrast your performance with theirs and judge yourself to be more able (Morse & Gergen, 1970). Interestingly, research shows these contrast effects may occur on explicit self-reports as well as on more implicit, behavioral measures (see Gordijn & Stapel, 2006; Stapel & Blanton, 2004).

According to Festinger (1954), the purpose of social comparison is to gain self-knowledge. Thus, it might be argued that if individuals do not incorporate information gained from social comparison into their self-concepts, they are not receiving the full benefits of the social comparison process. On the other hand, it might also be argued that under certain circumstances failing to incorporate information into the self is beneficial. For instance, if that information is particularly negative or the person is particularly vulnerable it would be harmful to incorporate the information (no matter how diagnostic) into the self. While a great deal of research has focused on the conditions under which individuals actively seek positive information and avoid negative information (Sedikides, 1993; Sedikides & Strube, 1997; Swann, Pelham, & Krull, 1989; Taylor, Neter, & Wayment, 1995), less is known about how individuals deal with both positive and negative information that arrives unbidden. That is, once individuals are faced with information about a similar superior other, with which comparison is diagnostic, how do individuals defend and maintain their positive self-views? The current studies focus on this question.

WHAT DETERMINES SIMILARITY?

According to the dictionary, two objects are similar if they are: “marked by correspondence or resemblance; have the same or similar characteristics; or are capable of replacing or exchanging places” (American Heritage Dictionary of the English Language, 2002). However, in deciding whether people are similar or different, this dictionary definition is somewhat lacking. People have many different characteristics that may yield them similar or different. For instance, a sociology student and a psychology major may be considered similar if we categorize them as students. On the other hand, they may be considered different because they are studying different fields. What determines whether people treat the two students as similar or as different?

Here, we suggest that the sociology student will be treated as a relevant comparison standard for the psychology student, and that information gained from comparison will be incorporated into the self—if doing so will benefit self-evaluations. Equally, we suggest that the psychology student will treat the sociology student as dissimilar and not incorporate information gained from comparison into the self—again, only if doing so will benefit self-evaluations (Mussweiler, Gabriel, & Bodenhausen, 2000; Stapel & Schwinghammer, 2004). Thus, we predict that in order to protect positive self-views, comparison

¹It is important to note that contrast is found when similarity is based upon moderate or common traits. When similarity is based on an unique trait (you and the comparison target share an uncommon preference for Polish rock music (Stapel & Marx, 2006) or you and the comparison target share a birthday (Brown, Novick, Lord, & Richards, 1992)) assimilation occurs (see for details, Mussweiler, 2003; Stapel & Marx, 2006). The present research deals with similarity that is not extremely special or unique, and focuses on whether defensive, non-defensive, or non-contrastive comparison effects occur (cf. Stapel & Schwinghammer, 2004).

targets will be *strategically* treated as similar or dissimilar, and information gained from comparison will be *strategically* incorporated or ignored. We argue that how social comparison information shapes self-views is determined both by the similarity of the target and by the motivations of individuals to view others as similar. Thus, the mutability or vagueness of definitions of similarity is not always an entirely bad thing.

Recent research on social comparison supports this view of similarity as dynamic and changing. The Selective Accessibility Model, for example, suggests that when comparing two objects, how individuals mentally frame their hypothesis matters (Mussweiler, 2003). If they are asking “Is A like B?” then they are likely to search for and find information confirming that the two objects are alike. However, if they are asking “Is A not like B?” then they are likely to search for and find information confirming that the two objects are dissimilar. Thus, the confirmation bias leads individuals to support their hypotheses, yielding judgments of similarity or dissimilarity.

However, it is important to note that the Selective Accessibility Model describes and predicts how a particular mental framing (“test for similarity” vs. “test for dissimilarity”) will lead individuals to see two objects as similar or different. The Selective Accessibility Model was thus designed mainly to illustrate the consequences of these two mental states, not the causes of the mental states. As a result, how individuals come to frame the comparison has been explored less systematically and little attention has been focused on the motivations behind such framings (Mussweiler, 2003). In the current research, we suggest that individuals capitalize on opportunities to treat comparison others as similar or different in order to protect or repair self-regard. The current research is not concerned with perceptions of similarity *per se* or with how individuals characterize and categorize different objects. Rather, our concern is with how individuals use different levels of similarity to optimize self-evaluative outcomes.²

DEFENSIVE SOCIAL COMPARISONS

One of the primary self-motives is the drive to maintain a positive self-image (Dunning, 2004; Sedikides, 1993). To maintain a positive self-image, individuals engage in biased processing and recollection of self-relevant information (Sedikides, Green, & Pinter, 2004). One source of this information is social comparison. When faced with a target with which comparison would be detrimental to self-evaluations, individuals use defensive interpretation of social comparison information or what could be called “defensive social comparison” (Mussweiler et al., 2000; Stapel & Koomen, 2001; Stapel & Schwinghammer, 2004). Defensive social comparisons are characterized by an asymmetric effect on self-evaluations: *upward* comparisons to superior others do not significantly *damage* self-evaluations, while *downward* comparisons to inferior others significantly *boost* self-evaluations. Thus, one of the signature findings of defensive social comparisons is that individuals are especially likely to contrast with downward comparison targets because such contrast may benefit self-evaluations, and not contrast with upward comparison targets because such contrast may harm self-evaluations (Stapel & Koomen, 2001). In this way, the information obtained from social comparison is only incorporated into the self when that information is beneficial to the self.

²Note that in these studies we focus on the question what determines whether different levels of other self-similarity lead to defensive or non-defensive social comparison effects rather than on what determines whether such effects are contrastive or assimilative. In the studies reported in this paper the materials were constructed in such a way that contrast rather than assimilation was likely to occur. For the issue of defensiveness an assimilation/contrast issues, the reader may turn to Stapel and Koomen (2001) or Stapel and Schwinghammer (2004). For a theoretical treatise of the determinants of assimilation and contrast effects, Mussweiler (2003) is an authoritative source (see also Stapel & Blanton, 2004).

Given that the desire to maintain a positive self-image is a fundamental motivation (Dunning, 2005; Sedikides, 1993; Tesser, 1988), one might expect all social comparisons to be defensive in nature. However, it appears that defensive comparisons are limited by the constraints of reality. Sometimes it is hard to escape from the similarity and relevance of a comparison target. In a series of studies, Stapel and Schwinghammer (2004) demonstrated that individuals are flexible in how they define similarity for the purposes of social comparison, but that this flexibility is limited to ambiguous situations. In their studies, psychology students read about students who had performed better or worse than they had on an intellectual task. The comparison students were described as either psychology students (unambiguously similar), law students (unambiguously dissimilar), or as sociology students (ambiguously similar: sociology is also a social science, but is not an experimental, behavioral science). Under ambiguous conditions, the traditional effects of social comparison were found. Unambiguously dissimilar comparison targets had no effect on self-evaluations: no similarity, no effect (Festinger, 1954). Unambiguously similar comparison targets led to symmetric contrast effects: the inferior student boosted the psychology students' self-evaluations and the superior student lowered their self-evaluations. Under ambiguous conditions ("is a sociology student similar to me or not?"), participant's responses were self-serving and asymmetric: exposure to the inferior comparison target boosted self-evaluations, but the superior comparison target had no effect on self-evaluations. Thus, while ambiguous similarity allowed participants to engage in defensive social comparison (i.e., only incorporate the consequences of social comparison when they were self-serving), unambiguous targets prevented such self-protective and self-serving comparison behavior.

Previous work has shown that similarity is strategically used to protect and boost self-regard, but that defensive interpretations of social comparison information are constrained by reality. In the current studies, we suggest that motivational states can loosen the constraints of reality. Whether or not a comparison target is considered similar and is allowed to affect self-evaluations is not preordained. In the current studies we suggest that target similarity in combination with perceiver's motivational state determine the outcome of social comparison processes. Specifically, we test the following hypotheses: when individuals are particularly motivated to repair self-regard, they are more likely to engage in defensive social comparisons, regardless of the ambiguity of the target's similarity. Additionally, when individuals are feeling self-affirmed, we expect that they are more likely to show non-defensive patterns of social comparison. That is, individuals under threat are more likely to show asymmetric effects of social comparison and only incorporate information gained from comparison into the self when it is self-enhancing and boosts self-evaluations. In contrast, individuals who have been affirmed are more likely to show symmetric effects of social comparison and incorporate all information gained from comparison into the self, regardless of effects on self-evaluations.

CURRENT STUDIES

Whereas previous research has outlined the conditions under which defensive comparisons naturally occur (Mussweiler et al., 2000; Stapel & Schwinghammer, 2004), we suggest that motivational states can magnify or decrease defensive comparisons. Specifically, we suggest that experiences of self-threat can lead to increased use of defensive comparisons and allow individuals to disregard negative self-consequences from a broader range of comparison others. In other words, when the self is threatened, social comparison information will be processed in a manner such that individuals are better able to harvest self-enhancing information and disregard threatening information from both similar and dissimilar others. Conversely, we suggest that self-affirmation can lead to decreased use of defensive comparisons and allow individuals to incorporate both positive and negative information from a

broader range of comparison others. When the self is affirmed, social comparison information will be processed non-strategically, in a manner such that individuals incorporate self-enhancing information as well as self-threatening information.

Three studies demonstrating the strategic use of similarity are presented here. Study 1 examines how self-threat can increase the use of defensive comparisons. Participants completed a self-threatening exercise and then read about inferior and superior targets from the same, a related, or a different major. Because of the self-evaluation maintenance and repair motivations instigated by the self-threat manipulation, participants were expected to respond to both ambiguously similar and unambiguously similar targets in an asymmetric and defensive manner: receiving boosts from downward comparison and no influence from upward comparison.

Study 2 explores the effects of self-affirmation (e.g., Steele, 1988). In Study 2, participants completed a self-affirming exercise and then read about the comparison targets. Previous research has found that when individuals are self-affirmed and experience self-evaluation boosts, they are more resilient in the face of self-image threats such as cognitive inconsistencies and negative feedback (Steele, 1988). Additionally, previous research has found that positive experiences can increase individuals' interest in negative feedback (Trope & Neter, 1994). Therefore, it was expected that when participants affirmed, non-defensive patterns would emerge: participants were expected to respond to the targets symmetrically and incorporate both positive and negative information into the self.

Finally, Study 3 explores the effects of dimensional importance. We have posited that defensive comparisons occur when individuals feel threatened and not when they are affirmed. Thus, in a context in which comparisons do not provide threatening information, defensive patterns should not be observed. In Study 3, participants received comparison information that was related to an unimportant self-aspect. Because the information was not related to an important self-aspect, self-protective strategies were less likely to be initiated and defensive comparisons were not expected.³

STUDY 1

The purpose of Study 1 was to demonstrate that the boundaries of reality (Stapel & Schwinghammer, 2004) can be stretched and that individuals can engage in defensive comparison with less ambiguous comparison targets when the need arises. Prior to reading about superior and inferior law, social science, and psychology students, participants completed a self-threatening task. Under these conditions of self-threat, participants were expected to engage in defensive comparisons with a wider range of comparison targets: to report higher self-evaluations after reading about inferior students and no change in self-evaluations after reading about superior students, regardless of the type of comparison target.

Method

Participants and Design

Participants were 103 psychology majors. Participants were randomly assigned to the conditions of a 2 (comparison direction: upward vs. downward) \times 3 (type of target: law student, social science student,

³At first sight, the hypothesis (and finding) that others who are categorically dissimilar (e.g., law students) to our participants (psychology students) will not lead to self-evaluative comparison effects is inconsistent with Gilbert, Morris, and Giesler's (1995) argument that "non-diagnostic" comparison do affect the self and that only because people are typically able to correct for these first and automatic effects, it often only *seems* as if such information has no effects on self-evaluations. However, note that in the actual Gilbert et al. studies, the comparison targets were similar (fellow participants) rather than dissimilar others. The Gilbert et al. data thus are consistent with the present perspective (see for more details about this argument, Stapel & Marx, 2006).

psychology student) between-participants design. Additionally, a control condition was included in which participants were asked only to give self-evaluations but did not perform the self-threat exercise and were not exposed to social comparison information. Participants received partial course credits for their participation.

Procedure and Materials

Participants were informed that they would be completing a series of intellectual tasks on a computer. Participants completed the study in small groups.

The instructions screens reminded participants of their identity as 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.” Earlier research has shown that these instructions increase the likelihood that participants will categorize themselves as psychology students (see Stapel & Schwinghammer, 2004)

Self-threat exercise Participants were asked to describe four negative aspects of themselves, and illustrate their answers by giving examples.

Social comparison information Participants completed “a test of general intelligence.” This test included items from the Remote Associates Task (RAT, Mednick, 1962) and trivial pursuit questions (see e.g., Stapel & Suls, 2004). Participants were given 15 minutes to complete the 18 general intelligence test items. After completing the test, the computer provided them with their score. All participants were told that they had completed 10 of the 18 questions correctly. Following this feedback, participants were told to begin the second part of the experiment.

The third task was called “Impression Formation.” This task asked participants to read about a fellow student who had recently completed the same general intelligence test and form an impression of that student. This student was introduced as Chris, who was unambiguously similar (a psychology major), unambiguously dissimilar (a law student), or ambiguously similar (a social scientist).⁴ Chris’s test score was provided in the midst of otherwise neutral information. In the *upward comparison* conditions, Chris’ score was very high (16 out of 18 correct) and labeled a high score (“This is a high score”). In the *downward comparison* condition, Chris’ score was very low (4 out 18 correct) and labeled as such (“This is a low score”).

Finally, participants were asked to answer some questions about themselves, ostensibly to determine whether their personality had any impact on the tasks they had just completed. All participants rated their own intelligence, competence, and success on 7-point scales ranging from 1 (not at all) to 7 (very).

Comparison other ratings Next, participants rated how competent and similar to the self the comparison other (Chris) was. These items were also rated on 7-point scales ranging from 1 (not at all) to 7 (very).

⁴In the Dutch University System, law, psychology, and social science are all topics of study in which undergraduate students can major. Thus, the comparison targets were described as being of the same age and same level of schooling as our participants. Additionally, in the Netherlands, students can complete a major in social behavioral sciences. This major is rather broad in its extent and some of the courses would overlap with those taken by psychology majors. Thus, the category of social behavioral science majors is “broadly speaking” applicable to psychology majors, and at the same time not “identical” to a psychology majors.

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 either the general intelligence measure or the comparison target might have influenced their self-evaluations. After debriefing, participants were thanked, paid, and dismissed.

Results and Discussion

Manipulation Check

The study was of a 2 (comparison direction: upward vs. downward) \times 3 (type of target: law student, social scientist, psychology major) design. An ANOVA verified that participants viewed the superior comparison target as more competent ($M = 6.02$, $SD = 0.66$) than the inferior comparison target ($M = 2.76$, $SD = 0.91$), $F(1, 84) = 369.84$, $p < 0.001$ (other $F_s < 1$). An ANOVA on participants' similarity judgments confirmed that participants viewed psychology majors as the most similar to the self ($M = 3.23$, $SD = 0.97$) and law students as the least similar to the self ($M = 1.90$, $SD = 0.76$), with social scientists falling in the middle ($M = 2.53$, $SD = 1.0$), $F(2, 84) = 15.83$, $p < 0.001$ (other $F_s < 1$). Single comparisons were all significant at the $p < 0.05$ level.

Main Analyses

A no-comparison control condition was included in this study for the purpose of determining the direction of effects on self-evaluations. Therefore, in this study, and each of the subsequent studies, analyses were conducted in two steps. First, a 2 (comparison direction: upward vs. downward) \times 3 (identity: law student, social scientist, psychology major) ANOVA was conducted, testing for main effects and interactions. Then, following the strategy employed in previous research (Jaccard, 1998; Stapel & Schwinghammer, 2004), we conducted single degree of freedom contrasts comparing means in the factorial to the control condition to test if observed effects were consistent with our specific hypotheses.

It was predicted that participants would respond defensively to both the ambiguously similar social science student and to the unambiguously similar psychology student. The dissimilar law student was not expected to affect self-evaluations at all.

A comparison direction \times type of target ANOVA on self-evaluations revealed the predicted main effect of comparison direction, $F(1, 84) = 121.33$, $p < 0.001$. Neither the main effect of comparison target type nor the interaction effect were significant ($F_s < 1$).

The pattern of mean self-evaluations displayed in Table 1 provide partial support for our predictions. As expected, participants reading about the unambiguously similar psychology student and the ambiguously similar social science student showed asymmetric contrast effects. Regardless of the type of the comparison target, when participants read about a superior comparison target ($M = 14.60$, $SD = 2.04$), their self-evaluations did not differ from the control condition ($M = 14.31$, $SD = 2.10$) and when they read about an inferior comparison target, their self-evaluations were significantly higher ($M = 18.98$, $SD = 1.63$). Less expected was the finding that asymmetric effects emerged for the participants reading about the law students as well. As shown in Table 1, this pattern of enhanced self-evaluations following exposure to the inferior student and unchanged self-evaluations following exposure to the superior student was significant for participants reading about the unambiguously similar psychology student, the ambiguously similar social science student, and the unambiguously dissimilar law student.

Table 1. Effects of self-threat on self-evaluations as a function of direction of comparison and type of comparison target (Study 1)

Direction of comparison	Type of comparison target		
	Law student	Social science	Psychology
Upward comparison	14.73 (1.39)	14.40 (1.55)	14.67 (1.29)
Downward comparison	19.00* (1.07)	18.87* (1.96)	19.07* (1.83)

Note: Scale range is from 1 (*negative*) to 7 (*positive*). Higher numbers indicate more positive self-evaluations. Mean self-evaluations in the control condition were 14.31 with a standard deviation of 2.09.

*Indicates different from the control at $p < 0.05$.

These results stand in contrast to the results of previous research (Stapel & Schwinghammer, 2004). In those studies, participants responded symmetrically to the unambiguously similar comparison targets and asymmetrically to the ambiguously similar targets. Additionally, dissimilar comparison targets did not affect participants' self-evaluations whatsoever. Therefore, those authors concluded that ambiguity and similarity were limits on the situations in which defensive comparisons could occur. Here, however, we demonstrated that when individuals have recently written about negative self-aspects, the limits are greatly expanded and participants are able to disregard negative information presented by an unambiguously similar fellow psychology student and incorporate positive information presented by an unambiguously dissimilar law student.

The asymmetric defensive response to the law student was not predicted. Because the law student was unambiguously dissimilar to the participants, no information obtained from comparison was expected to be influential. However, participants were able to use comparison with an inferior law student to boost self-evaluations. This effect suggests that the motivation to repair and maintain self-regard is particularly influential and can push the constraints of similarity further than expected. Research on the primacy of self-motives supports this view of self-enhancement and protection of self-regard as a powerful and influential motive (Dunning, 2004; Sedikides & Strube, 1997).

Thus, Study 1 established that under self-threat conditions, defensive comparisons are more likely to occur. Study 2 looks at the opposite effect, and examines the conditions under which defensive comparisons are less likely to occur.

STUDY 2

Defensive comparisons protect individuals from the negative consequences of unflattering social comparisons. While such strategies protect and serve self-enhancing motives, they do not satisfy accuracy motives (Baumeister, 1998). That is, if individuals consistently engaged in defensive comparisons, their self-evaluations would be inaccurate and undermine self-knowledge. Under the appropriate conditions, negative information can be valuable for the self and is desired (Sedikides & Strube, 1997). For example, when individuals are motivated to obtain an accurate self-view, they may seek out accurate information, even if that information is negative (Trope, 1986). Therefore, it was expected that following self-affirmation, individuals would be less likely to engage in defensive comparisons and instead would incorporate information gained from a wider range of comparison targets.

Method

Participants and Design

Participants were 99 psychology majors. Participants were randomly assigned to the conditions of a 2 (comparison direction: upward vs. downward) \times 3 (type of target: law student, social scientist, psychology major) between-participants design. Additionally, a control condition was included in which participants were asked to give self-evaluations but were not given the self-affirmation exercise and were not exposed to social comparison information. Participants received partial course credits for their participation.

Procedure and Materials

The procedures were the same as in Study 1. The exception was that at the beginning of the experimental session, in an ostensibly unrelated study, participants completed a self-affirmation exercise.

Self-affirmation exercise Participants were asked to describe four positive aspects of themselves, and illustrate their answers by giving examples.

Results and Discussion

Manipulation Check

The study was of a 2 (comparison direction: upward vs. downward) \times 3 (type of target: law student, social scientist, psychology major) design. Analysis verified that participants viewed the superior comparison target as more competent ($M = 5.86$, $SD = 0.87$) than the inferior comparison target ($M = 2.62$, $SD = 0.94$), $F(1, 78) = 264.78$, $p < 0.001$. The interaction effect was not significant ($F < 1$). Then, analysis examined the effect of type of target on perceptions of similarity. As expected, a main effect emerged such that participants viewed the psychology majors as the most similar to the self ($M = 3.33$, $SD = 1.14$) and law students as the least similar to the self ($M = 1.72$, $SD = 0.80$), with social scientists falling in the middle ($M = 2.61$, $SD = 1.10$), $F(1, 78) = 18.83$, $p < 0.001$. A second main effect also emerged such that downward comparison targets were perceived as less similar ($M = 2.29$, $SD = 1.18$) than upward comparison targets ($M = 2.79$, $SD = 1.2$), $F(2, 78) = 6.24$, $p < 0.05$. The interaction effect was not significant ($F < 1$).

Main Analysis

Because participants had self-affirmed, it was expected that they would not respond defensively to the comparison targets. Therefore, we expected that responses to the unambiguously similar psychology student and the ambiguously similar social science student would show symmetric contrast effects, such that the superior comparison target would result in lowered self-evaluations and the inferior comparison target would result in boosted self-evaluations. That is, following self-affirmation, defensive comparison processes should *not* emerge and participants should incorporate both negative and positive information into the self.

Table 2. Effect of self-affirmation on self-evaluations as a function of direction of comparison and type of comparison target (Study 2)

Direction of comparison	Type of comparison target		
	Law student	Social science	Psychology
Upward comparison	15.57 (1.74)	12.79* (1.12)	12.57* (2.38)
Downward comparison	15.40 (1.88)	19.51* (1.51)	19.15* (1.46)

Note: Scale range is from 1 (*negative*) to 7 (*positive*). Higher numbers indicate more positive self-evaluations. Mean self-evaluations in the control condition were 14.87 with a standard deviation of 2.45.

*Indicates different from the control at $p < 0.05$.

As before, it was predicted that participant responses would not be affected by exposure to the unambiguously dissimilar law student.

As shown in Table 2, an ANOVA revealed the expected interaction effect, $F(2, 78) = 36.78$, $p < 0.001$, as well as a main effect of comparison direction, $F(1, 78) = 133.76$, $p < 0.001$. There was no main target type effect, $F(1, 78) = 1.03$, $p = 0.36$. As expected, self-evaluations of those exposed to the unambiguously dissimilar target (the law student) were not affected.

Participants who were exposed to an unambiguously similar target (psychology student) or an ambiguously similar target (social science student) showed symmetric contrast effects on their self-evaluations. Participants who read about a superior psychology student had lower self-evaluations ($M = 12.57$, $SD = 2.38$) compared to participants in the control condition ($M = 14.87$, $SD = 2.45$) and compared to participants who read about an inferior psychology student ($M = 19.15$, $SD = 1.46$). Participants who read about a superior social science student had lower self-evaluations ($M = 12.79$, $SD = 1.12$) compared to participants in the control condition and compared to participants who read about an inferior psychology student ($M = 19.50$, $SD = 1.51$). For all single comparisons, $p < 0.05$.

In Study 1, participants under threat responded defensively to all targets. In Study 2, participants who had self-affirmed responded non-defensively to both unambiguously and ambiguously similar targets. Thus, one may conclude that mental states that increase self-enhancement or accuracy motives, in conjunction with similarity of comparison targets, determine how information gained from social comparison is incorporated into self-views.

STUDY 3

Defensive responding occurs when individuals believe that information gained from social comparisons will jeopardize or threaten self-evaluations. Information may be considered less-threatening if it is from a dissimilar source, if one is self-affirmed, or if the information is about an unimportant domain. Thus, in addition to motivational states and the similarity of the comparison target, the importance of the domain of comparison should impact defensive comparisons. In Studies 1 and 2, participants received comparison information about a relevant and important task. In Study 3, we examine the effects of comparison targets that have succeeded on a relevant and unimportant task.

Participants were told how an ambiguously similar, unambiguously dissimilar, or unambiguously similar comparison target had performed on an unimportant test. Because the test performance was presented as non-diagnostic of ability, comparison information should be regarded as non-threatening. Therefore, participants were not expected to engage in defensive comparisons.

Method

Participants and Design

Participants were 107 psychology majors. Participants were randomly assigned to the conditions of a 2 (comparison direction: upward vs. downward) \times 3 (type of target: law student, social scientist, psychology major) between-participants design. Again, a control condition in which participants were asked to give self-evaluations but were not exposed to social comparison information was included. Participants received partial course credits for their participation.

Procedure and Materials

All procedures were the same as in Study 1. One exception was how the performance task was described. Participants were informed that they would complete a relatively new test, designed by a recently retired professor. The test was described as an interesting yet rather useless test that had met with very limited success in the testing industry as it was low in validity and unreliable. Participants were also told that the test did not correlate with managerial success or interpersonal skills.

Results and Discussion

Manipulation Check

The study was of a 2 (comparison direction: upward vs. downward) \times 3 (type of target: law student, social scientist, psychology major) design. First, analysis verified that participants viewed the superior comparison target as more competent ($M = 5.29$, $SD = 1.58$) than the inferior comparison target ($M = 3.00$, $SD = 1.41$), $F(1, 86) = 52.95$, $p < 0.001$. No other effects were significant, $F_s < 1$. Then, analysis examined the effect of target type on perceptions of similarity. As expected, a main effect emerged such that participants viewed the psychology majors as the most similar to the self ($M = 3.52$, $SD = 0.82$) and law students as the least similar to the self ($M = 1.74$, $SD = 0.78$), with social scientists falling in the middle ($M = 2.68$, $SD = 1.09$), $F(2, 86) = 30.54$, $p < 0.001$. No other effects were significant, $F_s < 1$.

Main Analysis

It was predicted that participant responses would not be affected by exposure to the unambiguously dissimilar law student. Responses to the unambiguously similar psychology student and the ambiguously similar social science student were expected to show symmetric contrast effects, such that the superior comparison target would result in lowered self-evaluations and the inferior comparison target would result in boosted self-evaluations. That is, because the information was presented as unimportant (but not irrelevant), participants were expected to process comparison information non-defensively and the same pattern of responses that was found in Study 2 was expected here.

A significant interaction effect of direction of comparison and type of comparison target was found such that the self-evaluations of those exposed to the unambiguously dissimilar target (law student) were not affected, while the self-evaluations of those reading about the ambiguously similar (social science student) and unambiguously similar (psychology student) were affected, $F(2, 86) = 28.72$, $p < 0.001$. Significant

main effects were also found for both direction of comparison ($F(1, 86) = 108.81, p < 0.001$) and type of target ($F(1, 86) = 5.08, p = 0.008$). However, these main effects were moderated by the significant, predicted, interaction effect and further analyses focus on that interaction effect.

As seen in Table 3, comparison with the unambiguously different law student had no effect on self-evaluations. The self-evaluations of participants exposed to a superior ($M = 14.44, SD = 2.43$) or an inferior ($M = 14.41, SD = 1.62$) law student comparison target were similar to those of participants in the control group ($M = 14.33, SD = 2.41, F_s < 1$).

Self-evaluations of participants who were exposed to an unambiguously similar target (psychology student) and an ambiguously similar target (social science student) showed symmetric contrast effects. Participants who read about a superior psychology student had lower self-evaluations ($M = 12.57, SD = 2.38$) compared to participants in the control condition and compared to participants who read about an inferior psychology student ($M = 19.40, SD = 1.59$). Participants who read about a superior social science student had lower self-evaluations ($M = 12.29, SD = 2.40$) compared to participants in the control condition and compared to participants who read about an inferior psychology student ($M = 19.00, SD = 1.80$). For all single comparisons, $p < 0.05$.

GENERAL DISCUSSION

Defensive comparisons occur when individuals disregard negative information and incorporate positive information obtained from comparison targets. In this way, defensive comparisons are characterized by asymmetric responses to upward and downward comparisons: upward comparisons do not influence self-evaluations and downward comparisons enhance self-evaluations. Previous research suggested that reality constrains the degree to which individuals defensively interpret social comparison information (Stapel & Schwinghammer, 2004). Specifically, defensive reactions to social comparison information are less likely to occur when that information is unambiguously similar and thus highly relevant for the self. For example, if you are majoring in psychology and the comparison target is also a psychology student, then the comparison information is unambiguously similar whereas if you are majoring in psychology and minoring in sociology and the comparison target is a sociology student, the comparison information is ambiguously similar to the self. The current research demonstrates that mental states associated with self-threat and self-affirmation exercises can expand and narrow the circumstances under which defensive comparisons arise. As shown in Table 4, under threat individuals are able to respond defensively to a wide range of comparison targets, while following affirmation individuals appear to choose not to respond defensively to any comparison targets.⁵

⁵One could argue, with the current studies comparisons across self-threat and self-affirmation effects on the role similarity plays in social comparison processes are difficult to make because self-threat and self-affirmation were manipulated in separate experiments. However, since these experiments used the exact same experimental paradigm and stimulus materials (except for the affirmation versus threat exercise of course) and the same type of participants (psychology students), one could easily combine these two studies into one ($n = 202$). As a look at Tables 2 and 3 reveals, this "big" study also shows the predicted pattern of results. Most importantly, this big study shows non-defensive contrast effects in the psychology condition of the affirmation part of the design ($M_{\text{upward}} = 12.57$ vs. $M_{\text{downward}} = 19.15, M_{\text{control}} = 14.33$), whereas these effects are defensive in the threat part of the design ($M_{\text{upward}} = 14.67$ vs. $M_{\text{downward}} = 19.07, M_{\text{control}} = 14.33$). Similarly, this big study shows no effects in the law student condition of the affirmation part of the design ($M_{\text{upward}} = 15.57$ vs. $M_{\text{downward}} = 15.40, M_{\text{control}} = 14.33$), whereas in the threat part of the design, the effect is defensive contrast ($M_{\text{upward}} = 14.73$ vs. $M_{\text{downward}} = 19.00, M_{\text{control}} = 14.33$). And indeed, a 2 (comparison direction: upward vs. downward) \times 3 (type of target: law student, social science student, psychology student) ANOVA on the self-evaluation measure (cronbach's alpha = 0.73) showed the predicted 3-way interaction, $F(2, 162) = 16.39, p < 0.001$ for this big, combined study. This strongly suggests that is safe to compare and contrast the results across Studies 2 and 3.

Table 3. Effect of unimportant comparison information on self-evaluations as a function of direction of comparison and type of comparison target (Study 4)

Direction of comparison	Type of comparison target		
	Law student	Social science	Psychology
Upward comparison	14.44 (2.43)	12.29* (2.40)	12.57* (2.38)
Downward comparison	14.41 (1.62)	19.00* (1.80)	19.40* (1.59)

Note: Scale range is from 1 (*negative*) to 7 (*positive*). Higher numbers indicate more positive self-evaluations. Mean self-evaluations in the control condition were 14.33 with a standard deviation of 2.41.

*Indicates different from the control at $p < 0.05$.

Table 4. Summary of situations leading to defensive and non-defensive comparisons

Conditions of comparison	Similarity of comparison target		
	Unambiguously dissimilar target	Ambiguously similar target	Unambiguously similar target
Normal circumstances (Stapel & Schwinghammer, 2004)	Null effects	Defensive response	Non-defensive response
Following self-threat (Study 2)	Defensive response	Defensive response	Defensive response
Following self-affirmation (Study 3)	Null effects	Non-defensive response	Non-defensive response
Unimportant domain of comparison (Study 4)	Null effects	Non-defensive response	Non-defensive response

Increasing Defensive Comparisons

When individuals respond defensively to social comparison information, they incorporate positive information gleaned from comparison into the self, but do not incorporate negative information. In this way, self-evaluations can be buffered, boosted, or repaired. Thus, it is not surprising that experiences of self-threat can increase defensive responses and lead individuals to respond defensively to persons that might be simply disregarded. For example, in the current studies, when participants felt threatened, they were able to gather self-enhancing information from unambiguously different comparison targets. The motivation to repair and protect self-regard was so powerful that participants were able to overlook obvious differences and treat dissimilar comparison targets as similar. Thus, in the face of a powerful and primary self-motive (Dunning, 2004; Sedikides, 1993), similarity was disregarded. This suggests that the self-impact of similarity is neither static in its definition nor constant in its influence. Instead, the self-relevance of similarity appears to be constructed in the moment and its influence thus depends upon the strength of individuals' needs to repair or boost the self.

Decreasing Defensive Comparisons

In addition to increasing defensive responding, the current studies also show that it is possible to decrease defensive responding. Two situations, in particular, were described in which participants did not engage in defensive responding where they could have. First, there was the situation in which participants had been self-affirmed. Self-affirmation has previously been associated with openness and

willingness to incorporate negative feedback into the self (Steele, 1988). While such incorporation can temporarily threaten self-regard, researchers have suggested that in some circumstances such acceptance and integration of negative information is beneficial. When individuals incorporate negative information, they may gain a more accurate view of themselves and their abilities and may be better able to pursue goals (Bayer & Gollwitzer, 2005).

Participants also responded non-defensively to what they believed to be unimportant information. Participants were given information about another student's performance on an unimportant and unreliable test. When the other student outperformed participants, participants reported self-evaluations. When participants outperformed the other student, the participants showed boosted self-evaluations. Thus, the suggestion that the comparison information was unimportant seems to have turned off defensive responding, but did not prevent individuals from attending to and incorporating this information into the self. This finding, that seemingly unimportant information is not guarded against, and is still influential has some intriguing implications. For instance, the framing of information as unimportant may allow persuasive arguments to influence self-evaluations, as well as attitudes.

CONCLUSIONS

In summary, there is a lack of clarity regarding what makes things similar (Miller & Prentice, 1996). Based on the evidence provided here, one could argue that similarity effects are unimportant: one is unable to make predictions about responses to comparison information on the basis of perceiver-target similarity. Rather, it appears that similarity is used differently from time to time, depending on the needs and motivations of the individual, and, of course, within certain restrictions (a law student and a psychology student may be seen as similar, but neither could be seen as similar to furniture). We suggest that this looseness in defining similarity serves people well—in ambiguous situations it allows them to treat threatening others as dissimilar and enhancing others as similar. Individuals are able to harvest the information that is most beneficial to them at that time. When self-evaluations are threatened, boosting and enhancing information can be incorporated into the self and negative information can be discarded. When self-evaluations are boosted, accurate and informative information can be incorporated into the self, increasing the accuracy of self-views. Thus, flexibility yields resilience.

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