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Brief report

On reducing an empathy gap: The impact of self-construal and order of judgment

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Empathy gaps, in which individuals exaggerate self–other similarities or differences, generate errors in social judgments. We investigated whether changing individuals' self-construal may reduce one specific empathy gap: the illusion of courage. Participants primed with independent or interdependent self-construal made judgments about their own and other people's willingness to dance in public. Participants in the interdependence condition showed a reduction of the empathy gap, but only when judging the other first. This finding highlights that simple contextual manipulations have the potential to reduce egocentric biases in social judgments.

People often face the challenge of predicting and understanding the psychological states of others. When mastered, this ability brings about social and material benefits and eases interpersonal functioning (Ickes & Simpson, 1997). For example, adequately estimating to what extent a colleague will feel anxious about performing in front of others is relevant when deciding whether to sign up for a team stage performance. Just how well do people engage in this task? Overall, research suggests that they perform rather poorly due to egocentric biases.

That social judgments are egocentrically biased has long been recognized in social psychology (e.g., Katz & Allport, 1931; Krueger, 1998). When inferring others' mental states, people first recruit their own states and then adjust from there (Epley, Keysar, Van Boven, & Gilovich, 2004). In the absence of contrary information, people tend to project their own traits and attitudes onto others (Krueger, 2007), such as in the false consensus bias (Ross, Greene, & House, 1977). The current research focuses on one important egocentric bias, namely so-called empathy gaps (Van Boven & Loewenstein, 2005) in predicting others' reactions.

Empathy gaps in social predictions result from a combination of erroneous predictions of one's own preferences and decisions and an erroneous adjustment of these predictions

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to accommodate perceived similarities or differences between self and others (e.g., Van Boven, Dunning, & Loewenstein, 2000; Van Boven & Loewenstein, 2005). For instance, people who do not own a good underestimate how attached they would be to it if they owned it (Van Boven et al., 2000), leading to worse negotiation outcomes. Empathy gaps in social predictions also fuel suboptimal outcomes in other contexts such as negative evaluations of other people's impulsive behaviour (Nordgren, Van der Pligt, & Van Harreveld, 2007) and patients' under-treatment by health care providers (Loewenstein, 2005).

We focus here on one specific empathy gap, namely the illusion of courage. Van Boven, Loewenstein, and Dunning (2005) showed that participants overestimate other students' willingness to dance in front of an audience and underestimate the lowest amount of money other students would be willing to dance for. The roots of this empathy gap lie in participants exaggerating self–other differentiation due to an intuitive belief that they will experience fear of embarrassment more than others (e.g., McFarland & Miller, 1990; Sabini, Cosmas, Siepmann, & Stein, 1999). If this account holds, any moderating factor that helps reducing perceptions of self–other differences should contribute to reducing the illusion of courage. This straightforward hypothesis was examined in the present research. We set out to do so by manipulating participants' self-construal (Hannover & Kühnen, 2004) and also by varying the order in which they would make self-judgments and other-judgments (i.e., self-judgment first or second; Mussweiler, Epstude, & Rüter, 2005). The rationale for our hypothesis is explained below. Then, we proceed to the study proper.

We first consider self-construal. Individuals primarily define themselves as an autonomous entity (independent self-construal) or as related to other people (interdependent self-construal; e.g., Hannover & Kühnen, 2004) and these self-construals have been shown to vary both within and across cultures (Markus & Kitayama, 1991). Self-construals also vary across contexts. For example, they can be changed using priming techniques (for studies and techniques, see Oyserman & Lee, 2008). Of note, higher interdependence has been associated with higher perception of self–other similarity (leading to assimilation in social judgments; Kühnen & Hannover, 2000; see also Stapel & Koomen, 2001). As the illusion of courage in social predictions results from exaggerating self–other differences (Van Boven et al., 2005), we may expect this empathy gap to be reduced for individuals primed with interdependence (compared to independence).

Although priming interdependence may be a necessary pre-condition to reduce the illusion of courage, it may not be a sufficient one, insofar as making judgments about others involves a relational perspective in which the self constitutes a particularly salient part of the evaluative context (Mussweiler et al., 2005). Because of this, we would expect the order in which self-judgments and other-judgments are made to modulate the impact of the priming of interdependence. Specifically, if a judgment about the self is made prior to the judgment of the other, this incidental activation of the self may counteract the feeling of interdependence by disrupting participants' interdependent mode. In the present case, this should result in a failure to eliminate the illusion of courage.

To sum up, we expect the order of self-judgments and other-judgments to have not much of an effect in an independent mode. In sharp contrast, we expect the illusion of courage to be reduced in the interdependence mode, but only if the other is activated/judged first. Our hypothesis is consistent with the original results of Van Boven et al. (2005). These authors did not find any order effect in their presumably independent (American) sample. More importantly, it is also consistent with the literature on the self–other similarity asymmetry: For explicit social comparisons, people rate similarity to be

larger when the other rather than the self is the target, which is the case if self-ratings are made prior to other-ratings (Holyoak & Gordon, 1983; Srull & Gaelick, 1983; see also Mussweiler, 2001). Interestingly, there is evidence suggesting that this general effect of judgment order is likely to be moderated by interdependence. Markus and Kitayama (1991) report that students from India judge themselves to be more similar to others than others to themselves. Also, interdependence is a central feature of religious groups (Markus & Kitayama, 1991) and Hodges, Bruininks, and Ivy (2002) found a reversal of the self–other similarity asymmetry when people judged their own and others' religiousness. Thus, despite only little work conducted on this issue, there is reason to expect the self–other similarity asymmetry to be reversed for people with an active interdependent self-construal.

Overall, we thus expected a self-construal by order of judgment by judgment type (self vs. other) interaction, with a significant reduction of the illusion of courage concerning self-judgments and other-judgments for participants primed with an interdependent self-construal and judging the other prior to the self.

Method

Participants

Ninety-four French-speaking undergraduates took part in this study for course credit. In line with the original work (see Van Boven et al., 2005, p. 136) participants were excluded if they stated inconsistent performance prices and decisions, either for themselves or for the other participant ($n = 3$). Two participants were excluded because they provided answers outside the provided scale ranges. The findings thus correspond to 89 participants (70 females; mean age was 21 years).

Measures

Lowest performance price

Participants indicated on an 11-point scale (from 0 € to 50 €) the lowest price they and another student would have to be paid to dance a few minutes in front of a large class as a monetary indication of their own and the other's willingness to dance.

Unwillingness to perform

Participants' own and their estimation of another student's willingness was also directly measured on a scale ranging from 1 (*not at all willing*) to 11 (*very willing*). Ratings were re-coded so that larger scores reflect greater unwillingness.

Procedure

Participants were randomly assigned to conditions and told they would participate in two separate studies (on grammatical and verbal skills and factors in public performances).

The first questionnaire comprised the manipulation of self-construal, consisting of two consecutive priming tasks (see Gardner, Gabriel, & Lee, 1999). The first task was the classic noun-circling task (Brewer & Gardner, 1996), which has often and successfully been used in research on self-construal (for an overview, see Oyserman & Lee, 2008). In this task, participants read a paragraph describing a trip to the city and were instructed to circle all pronouns. In the interdependent self-construal condition, the text started with 'Yesterday, we went to the city', and most of the following pronouns were we, us, and our(selves). In the independent self-construal condition,

the text started with 'Yesterday, I went to the city', and most of the following pronouns were I, me, and my(self). Previous studies have shown that participants primed with interdependence (independence) value more the collective (personal) self (Stapel & Van der Zee, 2006), describe themselves with a greater proportion of interdependent (independent) self-construals, and endorse collectivist (individualist) values (Gardner et al., 1999). In the second task, we constructed a scrambled sentences test (Srull & Wyer, 1979) modelled after Kühnen and Hannover (2000). Participants unscrambled 21 five-word sentences (18 primes, three fillers) with four words forming a grammatically correct sentence. Depending on condition, these sentences were either interdependent (e.g., 'I help my team') or independent (e.g., 'I like being unique') self-descriptions. Additionally, the superfluous fifth word implied either interdependence (e.g., cohesion) or independence (e.g., autonomy). This priming results in salient self-knowledge in terms of either interdependence or independence and in context-dependent versus –independent modes of processing (see Hannover & Kühnen, 2004).

Participants then read the following situation: 'The annual party of all students at the university will take place next week. The organizers of this party are looking for students who are willing to take part in a dancing contest. They pass by in classes to recruit students and pick one or several students whom they ask to dance for a couple of minutes in front of the auditory.

In the self-first condition, students were asked to imagine that they had been selected to dance and to fill in the dependent measures pertaining to them. On a following page, they were invited to imagine that a different student had been selected and to fill in measures pertaining to the other student. The reverse order was implemented in the other-first condition. Participants then answered to socio-demographic measures, were debriefed, thanked, and given their course credit.

Results

We analyzed participants' ratings of the lowest performance price for which they or another student would be willing to dance by means of a 2 (self-construal: independent vs. interdependent) × 2 (judgment order: self-first vs. other-first) × 2 (judgment type: self vs. other) mixed-design analysis of variance (ANOVA), with the first two factors varying between participants and the last one varying within them. This analysis yielded a main effect of judgment type, $F(1,84) = 47.93$, $p < .001$, $\eta_p^2 = .36$, indicating that the amount of money requested was higher for the self than for the other student. More importantly, the analysis yielded the predicted three-way interaction between self-construal, judgment order, and judgment type, $F(1, 84) = 5.32$, $p = .024$, $\eta_p^2 = .06$.[1] There were no other effects (Fs < 1).

To probe the nature of the three-way interaction, we examined the effects of the judgment order in the two self-construal conditions (see Figure 1a). In the independent self-construal condition, the judgment type by judgment order interaction was not significant, $F(1,43) = 1.73$, ns, indicating that participants in this self-construal condition displayed an empathy gap of equal magnitude in the two judgment order conditions

[1] *We also computed self–other difference scores for our dependent variables and analyzed them with a focused a-priori contrast (i.e., comparing the interdependent/other-first, coded −3, with all other conditions, coded 1), which led to basically the same results for lowest performance price,* $F(1,84) = 3.07$, $p < .05$, $\eta_p^2 = .04$, *one-tailed, and for unwillingness to dance,* $F(1,85) = 3.91$, $p < .03$, $\eta_p^2 = .04$, *one-tailed.*

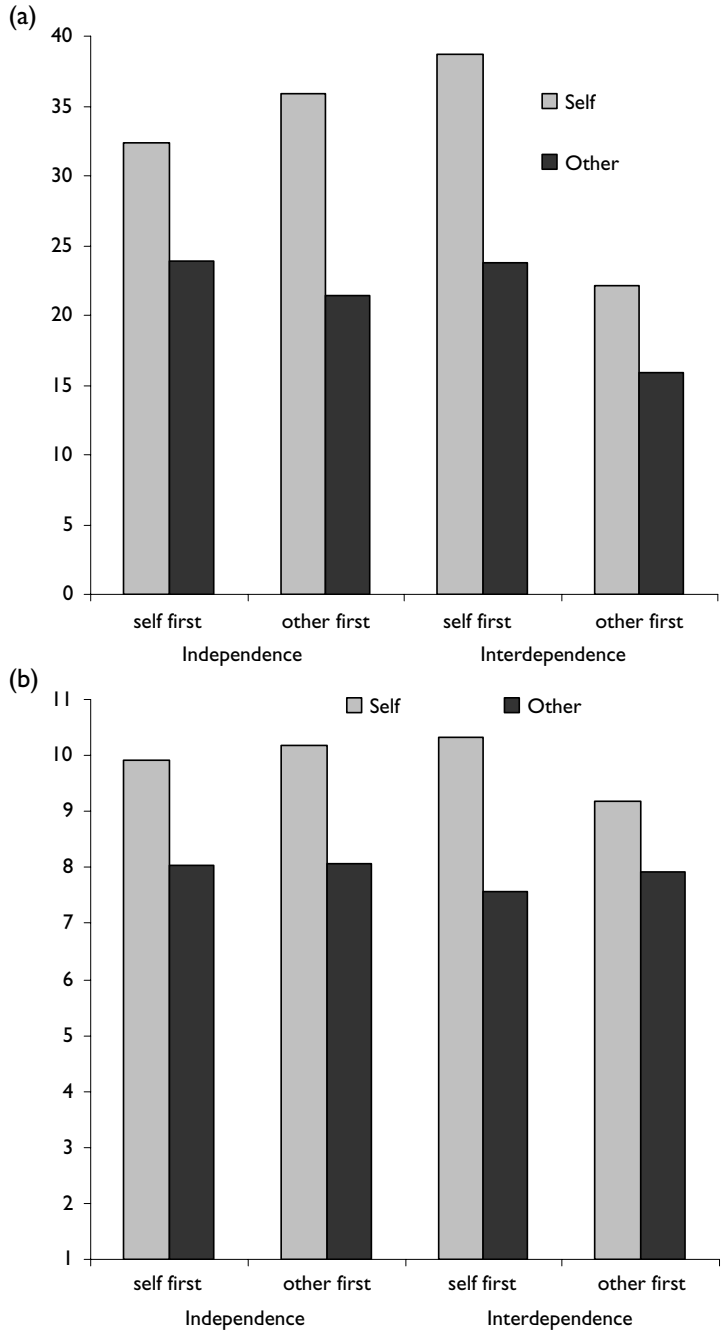

Figure 1. (A) Average self-ratings and other-ratings of lowest performance price in Euro as a function of level of self-construal and order of judgment. (B) Average self-ratings and other-ratings of unwillingness to perform as a function of level of self-construal and order of judgment.

(self-first: $M_{self} = 32.39$, $SD_{self} = 19.71$ and $M_{other} = 23.91$, $SD_{other} = 17.96$, $p = .008$; other-first: $M_{self} = 35.91$, $SD_{self} = 19.06$ and $M_{other} = 21.36$, $SD_{other} = 17.61$, $p < .001$). In contrast, and as expected, the judgment type by judgment order interaction was significant in the interdependent self-construal condition, $F(1, 41) = 3.58$, $p = .05$, $\eta_p^2 = .09$. As Figure 1a illustrates, participants in the interdependent self-construal condition showed a reduced empathy gap when judging the other-first ($M_{self} = 22.17$, $SD_{self} = 19.47$, $M_{other} = 15.87$, $SD_{other} = 17.62$, $p = .047$) compared to when judging the self first ($M_{self} = 38.75$, $SD_{self} = 13.75$; $M_{other} = 23.75$, $SD_{other} = 11.68$, $p < .001$).[2]

These findings were paralleled by the results on participants' ratings of unwillingness to perform. The same ANOVA analysis yielded a main effect of judgment type, $F(1,85) = 82.83$, $p < .001$, $\eta_p^2 = .49$, indicating that unwillingness was rated higher for the self than for the other student. More importantly, the analysis again yielded the predicted three-way interaction between self-construal, judgment order, and judgment type, $F(1, 85) = 4.02$, $p = .048$, $\eta_p^2 = .05$. There were no other effects (Fs < 1.9, ns). As before, we examined the effects of the judgment order separately in the two self-construal conditions (see Figure 1b). Once more, the judgment type by judgment order interaction was not significant in the independent self-construal condition ($F < 1$), with empathy gaps of similar magnitudes obtained for both judgment order conditions (self-first: $M_{self} = 9.91$, $SD_{self} = 1.28$ and $M_{other} = 8.04$, $SD_{other} = 2.18$, $p < .001$; other-first: $M_{self} = 10.18$, $SD_{self} = 1.09$ and $M_{other} = 8.06$, $SD_{other} = 1.86$, $p < .001$). In contrast, and in line with expectations, the same interaction was significant in the interdependent condition, $F(1, 42) = 5.35$, $p = .026$, $\eta_p^2 = .11$, with a reduced empathy gap observed in the other-first ($M_{self} = 9.17$, $SD_{self} = 2.04$, $M_{other} = 7.91$, $SD_{other} = 1.93$, $p = .005$) relative to the self-first condition ($M_{self} = 10.33$, $SD_{self} = 0.91$; $M_{other} = 7.57$, $SD_{other} = 2.38$, $p < .001$).

Discussion

Our findings replicated the illusion of courage in social predictions (Van Boven et al., 2005). Participants underestimated other students' unwillingness to dance in front of an audience. They also underestimated the lowest performance price others would dance for. More importantly, and in line with the notion that an interdependent self-construal conveys the idea of being more connected and similar to others (Kühnen & Hannover, 2000; Markus & Kitayama, 1991), this empathy gap stemming from exaggerated self–other differentiation was reduced by more than 40% when participants were primed with interdependence and made other-judgments prior to self-judgments. Because in the latter order of judgment the self is the target of a comparison process (Mussweiler et al., 2005), this entails that effects should be found on self-ratings rather than on other-ratings. Indeed, this was the case.

Despite an activation of an interdependent self-construal, priming participants' empathy gap was not reduced when the self was judged prior to the other. In line with our reasoning, priming interdependence seems to be a necessary but not a sufficient pre-condition to reduce the illusion of courage. In comparative judgments where the self

[2] *An identification interpretation might be that the interdependent self-construal increased participants' university identification and in turn their willingness to cooperate in the university event. Activating the belief that some students are willing may have moved the perceived norm towards the direction of higher willingness, with self-ratings conforming to the norm. This explanation would be supported by a self-construal by judgment type interaction for other-first judgment, only. However, for this we found no supportive evidence, neither for lowest performance price, $F(1,43) = 2.93$, $p = .09$ (self-first: $F < 1$), nor for unwillingness to dance, $F(1,43) = 1.90$, $p = .18$ (self-first: $F(1,42) = 2.13$, $p = .15$).*

is judged first, this self-activation seems to counteract the priming, thus reducing self–other similarity. As such, our results correspond with and contribute to the limited body of research on the moderation of the self–other similarity asymmetry by interdependence (Hodges et al., 2002; Markus & Kitayama, 1991) and point to two factors that may jointly reduce empathy gaps.

As mentioned before, self–other differences were mainly diminished by people predicting that they themselves would be more willing to dance and would demand less money for it. On a critical note, the reduced empathy gap thus came at the cost of producing more prediction errors. According to past research (Van Boven et al., 2005), people normally demand more money when the situation arises (i.e., when they face a real rather than a hypothetical situation) and show a greater willingness to back out of dancing. This means that participants miss-anticipated most how they would most likely behave when they found themselves in the critical condition (interdependence/other-first), thus displaying empathy gaps in self-predictions (e.g., Loewenstein, 1996; Van Boven & Loewenstein, 2003).

Given that interdependence conveys the notion of being similar to others and that we found larger self-other similarity concerning judgments in the interdependent/other-first condition, our findings are in line with recent work by White (2008), who reported a reversal of the self–other similarity asymmetry for comparison others to whom participants wished to be similar: Similarity was judged to be greater when the self rather than the other was the target of a comparative judgment. Interestingly, White (2008) also found the classic self–other similarity asymmetry for comparison others to whom participants did not wish to be similar. In line with Van Boven et al. (2005), who drew on a presumably independent self-construal (American) sample, we found no differences in the empathy gap for people with an activated independent self-construal, regardless of whether the self was judged first or second. Apart from an independent self-construal conveying the notion of uniqueness, thus rendering the other less meaningful in a comparison process, several further factors may explain this difference. First, White (2008) asked participants to directly evaluate how similar they were compared to others (or others compared to them). In the present experiment, participants elaborated a more complex decision involving their own and others' unwillingness to engage in an embarrassing act. Second, White's (2008) participants stated specific others they wanted and did not want to be similar to, while our participants predicted decisions of 'an unknown other student'. Finally, while activating an independent self-construal likely rendered the other rather meaningless as reference for the judgment at hand, White's (2008) participants were motivated to differ from the other. Future research should address these issues by using similar dependent measures, focusing also on familiar others, and assessing the personal relevance of the other.

The current results suggest a simple yet powerful remedy to self–other differentiation empathy gaps such as underestimation of patients' pain (Loewenstein, 2005) or overestimations of others' courage (Van Boven et al., 2005): It may be salutary to evoke an interdependent self-construal and to have people focus on the other rather than the self. It should be noted, however, that interdependence will not always reduce empathy gaps as the nature of the bias needs to be kept in mind. When, as in the present case, the bias stems from exaggerating self–other differentiation, interdependence should lead to a reduction of the bias. If, however, the bias stems from exaggerating self–other *similarity,* as when owners and buyers overestimate the similarity between their own valuation of a commodity and the valuation of people in the other role (Van Boven et al., 2000), interdependence may likely increase the empathy gap. Based on our findings we

cannot conclude whether parallel effects would emerge for independent self-construal activation and empathy gaps resulting from exaggerated self–other similarity. However, in line with our reasoning, Vorauer and Cameron (2002) found collectivism to foster a bias involving exaggerated self–other similarity, namely the illusion of transparency (in which people overestimate others' ease in detecting their feelings and traits).

A limitation of this study is that it fails to provide evidence for cognitive mechanisms accounting for the findings. One viable mechanism is that participants formed a focal hypothesis on similarity or dissimilarity, which then resulted in hypothesis confirmation by selectively accessing confirming information (Mussweiler, 2003). Such an initial hypothesis should have been on similarity in the interdependent (and perhaps on dissimilarity in the independent) self-construal condition, and led participants to access similarity (or dissimilarity) information about the comparison target. Because an activated interdependent self-construal conveys the notion of similarity (Kühnen & Hannover, 2000; Stapel & Koomen, 2001), people are more likely to form a focal hypothesis on similarity and selectively access target information consistent with the comparison standard (Mussweiler, 2003). Because more information about the self than the other is available, similarity will be perceived to be larger when the self is the target of judgment (when other-judgments precede self-judgments) compared to when the other is the target of judgment (when self-judgments precede other-judgments). Alternatively, judgments might have been affected by salient features of the other, and participants with an interdependent self-construal might have been more inclined to empathize with students from their university. Future research should thus evaluate the other's role by manipulating in- and out-group membership. This is especially expedient as people engaging in social comparisons tend to assimilate to in-group members (Epstude & Mussweiler, 2009; Mussweiler & Bodenhausen, 2002) and as assimilation is enhanced after collective identity priming (Stapel & Koomen, 2001). Finally, self-judgments of interdependent people may be more variable than those of independent people, because they are more likely to vary standard sources according to the context rather than relying on enduring internal standards.[3]

In sum, the current findings contribute to the understanding of the role that activated self-knowledge in terms of self-construals plays in the reduction of empathy gaps stemming from exaggerated self–other differentiation. Moreover, they highlight the importance of comparison direction (self to other vs. other to self) in this process. Our findings also add to the research pointing to a reversal of the self–other similarity asymmetry in individuals with an interdependent self-construal. As such, they indicate a new avenue for research focusing on the alleviation of empathy-gap effects.

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