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Do Collectivists Know Themselves Better Than Individualists? Cross-Cultural Studies of the Holier Than Thou Phenomenon

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Collectivists know themselves better than individualists do, in that collectivists provide more accurate self-predictions of future behavior in situations with moral or altruistic overtones. In 3 studies, respondents from individualist cultures overestimated the likelihood that they would act generously in situations involving redistributing a reward (Study 1), donating money (Study 2), or avoiding rude behavior (Study 3), whereas collectivists were, in general, more accurate in their self-predictions. Both groups were roughly accurate in predicting the behavior of their peers. Collectivists were more accurate in their self-predictions than were individualists, even when both groups were sampled from the same cultural group (Study 4). Discussion centers on culturally specific motivations that may bias the accuracy of self-insight and social insight.

Keywords: self-enhancement bias, culture, self-prediction, collectivism, individualism

> The one thing that unites all human beings, regardless of age, gender, religion, economic status, or ethnic background, is that deep down inside, we all believe that we are above average drivers.
>
> —Dave Barry, *Dave Barry Turns 50*

Accurate self-perceptions are elusive, as evidenced by voluminous research across several domains in the psychological literature (for reviews, see Dunning, 2005; Dunning, Heath, & Suls, 2004). Take, as an example, the tendency for people to describe themselves in overly favorable terms. In one common demonstration, participants comparing their competence or character against that of their peers tend to describe themselves as above average, a claim reminiscent of the glib Dave Barry observation that opens this article. For instance, the majority of people feel themselves to be more ethical, moral, kind, civic minded, and generous than their peers (Balcetis & Dunning, 2008; Baumhart, 1968; Epley & Dunning, 2000, 2006). Likewise, the majority of people believe they are less likely than others to develop health-related problems such as influenza (Larwood, 1978), mental breakdown (Perloff & Fetzer, 1986), and AIDS (Hoorens & Buunk, 1993). Of course, it is unlikely to impossible for reality to match these rather favorable self-impressions, in that it is not mathematically possible for the average person to be above average (Alicke, 1985; Dunning, 2005; Dunning, Heath, & Suls, 2004; Dunning, Meyerowitz, & Holzberg, 1989; Weinstein, 1980). Thus, the tendency to see oneself as superior to one's peers can be taken as *prima facie* evidence that the knowledge people have of themselves is imperfect and overly optimistic.

The psychological literature, however, suggests that these unjustly favorable self-views may not be universal (Heine, Kitayama, & Hamamura, 2007; Heine & Lehman, 1995; Heine, Lehman, Markus, & Kitayama, 1999; Markus & Kitayama, 1991a, 1991b). If what it takes to be accurate are self-evaluations that are less inflated and more modest, then members of Eastern or collectivist cultures appear to be more accurate. Unlike their Western counterparts, individuals from Japan, Korea, and Thailand are less likely to overemphasize the uniqueness of their own positive traits in relation to others (Markus & Kitayama, 1991a, 1991b). They are also less likely to claim that their futures will be filled with more pleasant events than that of their peers and that the future of their peers will hold relatively more negative ones (Heine & Lehman, 1995). In a recent meta-analysis, it was found that within 79 of 81 studies, East Asian participants showed significantly weaker self-enhancement tendencies than did Western participants (Heine, 2003). Moreover, self-enhancement is reliably present in Western samples and absent in East Asian samples when testing enhancement with any of 12 separate methods (Heine & Hamamura, 2007).

That said, we should note that findings of lowered self-enhancement in collectivist cultures are open to debate and contention (see exchanges among Heine, 2005; Heine & Hamamura, 2007; Heine et al., 2007, versus Brown & Kobayashi, 2002; Sedikides, Gaertner, & Toguchi, 2003; Sedikides, Gaertner, &

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Vevea, 2005, 2007). Sedikides and colleagues (Sedikides et al., 2003) provided evidence that East Asians self-enhance when tested with the better-than-average paradigm and argued that self-enhancement is most likely a universal phenomenon, given the existential importance of esteem and the consequences of enhancement for mental health. The reason that differing self-enhancement levels are found in the East and the West is the inclusion of experimental paradigms that are questionably relevant to the study of self-enhancement, as well as issues in the selection of personal attributes that respondents are asked to consider.

Setting aside this contention, the diminution of an above average effect among collective cultures fits with recent treatments with cultural differences. Individualist cultures place an emphasis on an individual's positive sense of self, encouraging members of these cultures to believe themselves to be autonomous agents who are capable of creating positive outcomes while avoiding negative ones. The primary goals of those socialized in individualist cultures are to affirm the self and to maintain, if not enhance, self-esteem. Thus, individualists are encouraged to see themselves as exceptional among their peers. Collectivist cultures, in contrast, emphasize an individual's relationships and interdependencies with others. Rather than maintaining self-esteem, autonomy, and agency, the primary goals of those from collectivist cultures are to maintain interpersonal harmony (Rosenberger, 1992), to connect to others (Aron, Aron, Tudor, & Nelson, 1991; Mills & Clark, 1994), and to define the self in relation to others (Bond & Hwang, 1986). If anything, the emphasis among individuals in collectivist cultures is not on exalting the self but on improving the self to better fulfill expectations of and obligations to other people (Fiske, Kitayama, Markus, & Nisbett, 1998; Heine et al., 1999; Markus & Kitayama, 1991a, 1991b). Collectivist cultures, then, encourage people to emphasize personal weaknesses rather than strengths (Heine & Lehman, 1995; Wang, 2001).

The Issue of Self-Insight

These observations led us to the central question that inspired the empirical work described in this report. That question was one of self-insight. At first blush, the finding that collectivists, compared with individualists, avoid describing themselves as superior to their peers suggests that they hold more accurate views of themselves. However, we would argue that this would be an inference too far, in that avoiding the above average effect does not conclusively demonstrate that collectivists have a more accurate understanding of the self or are more likely to avoid the consequences of self-enhancing motivations (see Epley & Dunning, 2000).

There are three central problems with the approach of using above average responses as a gauge of accuracy in self-knowledge. These problems apply to the interpretation of above average effects as an indicator of underlying self-enhancement motives. First, it is possible for people to be perfectly accurate about themselves yet still claim to be above average. This pattern can arise if people are overly pessimistic or cynical in their assessments of their peers. For example, imagine a charitable cause that is supported by 60% of the population. If 60% of participants accurately predict that they will support the charity, they can mistakenly think they are above average if they underestimate the support from their peers by guessing that only 20% of their peers would support the event (Epley & Dunning, 2000). That is, biased perceptions that one is above average may not represent errors in self-insight, but rather may represent mistaken views about one's peers.

Second, often the types of questions asked of respondents in studies of the above average effect focus on abstract traits, such as *loyalty* or *independence*. Questions focused on such global traits may be more meaningful for members of individualist cultures than for members of collectivist ones. Extant research suggests that collectivists tend to think of themselves not in terms of traits but rather in more context-bound and specific social roles and behaviors (Heine, 2001; Heine & Renshaw, 2002; Kanagawa, Cross, & Markus, 2001; Suh, 2002). If that is the case, then collectivists would appear to be less self-aggrandizing in their questionnaire responses about global traits, even if they held unrealistically positive views of self. Answering trait questions, collectivists may demur from believing that they possess traits more than their peers do (e.g., "Are you more generous than other people?"). However, when it comes to the more context-bound units, which collectivists find more familiar, comfortable, and meaningful (e.g., "Do you give more time to helping your mother than others?" "Do you contribute more to work projects in the office?"), they may very well think of themselves as better than others. Many studies of the above average effect, with an emphasis on traits, may miss this self-enhancement.

Finally, cultural differences in the above average effect may not reflect theorized motivations that are reputed to underlie those differences. In a growing body of evidence, it is argued that above average effects are commonly the result of general cognitive biases rather than self-enhancement motives (Kahneman & Tversky, 1973; Klar & Giladi, 1997, 1999; Giladi & Kar, 2002; Hamamura, Heine, & Takemoto, 2006; Heine, 2005; Heine & Hamamura, 2007). When making a comparative judgment between a singular target (i.e., the self) and a distributional or aggregate target (i.e., a university student body), people fail to accurately assess the qualities of the group. As a result, the comparison reflects only the absolute evaluations of the target. This may cause people to evaluate a single target, regardless of whether that target is the self, a friend, or a stranger, as better than the aggregate, independent of any underlying motive.

Predicting Events in the Future

Thus, in the studies that follow, we adopted a different research strategy, which, to date, has not been applied to the investigation of cultural differences in self-enhancement. To gauge whether the above average effect reflects errors in self-insight rather than errors in social insight, one must ask respondents not merely to compare themselves with their peers but rather to estimate separately how they themselves and their peers stack up against some independent, objective criterion. One can presume that respondents will provide more favorable estimates of the self than of their peers—but which estimate will more closely match an objective criterion?

To provide such a test, we asked individualist and collectivist participants to predict their own objective behavior in future situations, as well as that of their peers. Respondents were asked, for example, how much money they would donate to charity. We then measured their actual donation behavior at a later date, or observed

behavior in a comparable group, to see the extent to which self-predictions and peer predictions better anticipated the level of actual behavior we would later observe—a strategy we used in the past to assess accuracy of predictions (Balcetis & Dunning, 2008; Epley & Dunning, 2000, 2006). If collectivist respondents hold more accurate impressions of themselves, then they should provide more accurate forecasts of their own behavior. If individualists hold not only favorable self-impressions but impressions that are wrong, their predictions should prove less accurate. Thus, in the studies described in this article, we investigated the extent to which members of individualist and collectivist cultures accurately predicted their behavior versus that of their peers.

We should note that there exists other methods to assess self-accuracy, but in our opinion they do not provide as conclusive a test of accuracy or error as does the prediction of future events. For example, by far the most common approach to assessing accuracy in social judgment is interjudge agreement, defined as the degree to which one's self-ratings match the ratings given by one's friends and acquaintances (Ambady, Hallahan, & Rosenthal, 1995; Bernieri, Zuckerman, Koestner, & Rosenthal, 1994; Funder, 1980; Funder, Kolar, & Blackman, 1995; Kenny, 1991). However, one problem with using self–other agreement as a proxy for accuracy is self-selection of relationship partners. Given that people tend to associate with similar others and to later base ratings of others on their own personalities—a process Cronbach (1955) called similarity—the accuracy or veracity of such judgments is questionable. In addition, it is not necessarily the case that people who have known each other longer have greater insight into the character of the other person (for discussion, see Funder et al., 1995). For example, Bem and Allen (1974) found that individuals' ratings of the friendliness of their peers were the poorest predictor of spontaneous friendliness, even when peers had highly stable and invariable personalities.

Further, the use of self–other agreement proves to be problematic if applied to cross-cultural comparisons. Members of different cultures vary in the degree to which they behave consistently across conditions (Heine, 2001; Heine & Renshaw, 2002; Kanagawa et al., 2001; Suh, 2002). As a result, external raters may gain an understanding of only a subset of the traits a target exhibits, whereas the target himself or herself has access to the complete set. To the extent that individualists are more consistent than collectivists across situations, there is less discrepancy in the information that individualist targets and their peers have, in comparison with information held by collectivist targets and their peers. As a result, individualist self–other comparisons exhibit greater consensus than do collectivist self–other comparisons. That this suggests greater self-insight is unlikely.

We should further note that in past work, gauging the accuracy of predicting future events has revealed that above average effects are produced by errors in self-judgment rather than by errors in social judgment. When people predict, for example, the percentage of their peers who would give to charity, read to the blind, vote, cooperate in a prisoner's dilemma game, volunteer for a noxious experiment to spare another person, stop for pedestrians at a crosswalk, and have a long-lasting romantic relationship, they turn out to be largely accurate in their estimates. However, when they predict their own behavior, they are dramatically overoptimistic (Balcetis & Dunning, 2007, 2008; Epley & Dunning, 2000, 2006).

In sum, people fall prey to a *holier than thou phenomenon* that displays itself in two ways. First, people state they are more likely to engage in socially desirable behaviors than their peers are (in essence, another manifestation of the above average effect). Second, when prediction is compared with actual behavior, people's self-estimates prove to be significant overestimates, whereas predictions of their peers' behavior are much more accurate. For example, when predicting whether they will buy a daffodil in a charity drive supporting the American Cancer Society, 83% of respondents predict that they will (and that only 55% of their peers will do the same), but the actual percentage who do so is only 43% (Epley & Dunning, 2000, Study 1). As such, people overestimate themselves relative to their peers, as well as overestimate themselves relative to reality.

In these studies, we examined whether the two prongs of the holier than thou phenomenon would arise when examining the behavior of people from collective cultures. Given the fact that members of collectivist cultures fail to display the above average effect, we anticipated that they would also avoid the holier than thou phenomenon and show more self-insight without any diminution of insight into their peers. Thus, we predicted that members of collectivist cultures would fail to claim that they would engage in desirable behaviors more than their peers would and that these more modest self-predictions would later prove to be more accurate, relative to the self-predictions provided by individualists.

Overview of the Present Research

In this research, we examined cross-cultural differences in the accuracy of self-insight and social insight. In the first two studies, we asked members of individualist and collectivist cultures to predict how they and their peers would behave in situations with a moral or altruistic flavor. These included decisions about whether to donate a candy reward back to a common pool to benefit less-achieving students (Study 1) and whether to donate money to nonprofit organizations (Study 2). In Study 3, we expanded our investigation from measuring positive social behaviors to examining negative ones by asking participants whether they would refuse to support an initiative to fund breast cancer research. In Study 4, to more specifically assess whether it was the interdependent (collectivist) versus independent (individualist) nature of people's self-concepts that drove our effects, we asked individualists and collectivists within the same culture to predict whether they would give to a local food bank.

In each study, participants made similar predictions for their peers as well as for themselves, and their predictions were compared with the behavior of participants who actually experienced these situations. For two of these studies, we observed the actual behavior of the very participants who provided predictions. For the other two, we observed the actual behavior of individuals drawn from the same population as the predictors. We predicted in each study that collectivist participants would provide less self-aggrandizing and more accurate predictions than would their individualist counterparts regarding whether they would engage in socially desirable behaviors or avoid socially undesirable ones. We also predicted that both groups would provide relatively accurate predictions about what their peers would do.

Study 1: Can You Spare a Sweetie?

As an initial investigation, we asked students attending an international summer school in Palma de Mallorca, Spain, to predict their behavior during a class activity. Participants imagined completing an assignment for which they would be rewarded with candy and then predicted how generous they and others in their group might be with this candy. To assess the accuracy of their predictions, the same participants actually experienced this situation 5 days after making their predictions. We expected that the accuracy of their predictions would differ depending on cultural background of the participants involved. Students from collectivist cultures would be largely accurate in both their self-predictions and their social predictions. Students from individualist cultures would display holier than thou effects, saying they would donate more candy than their peers would, as well as overestimating how much candy they themselves would donate.

Method

Participants. Children ($n = 35$) attending a summer school in Palma de Mallorca, Spain participated in this study. Participants were classified into one of two groups on the basis of the Hofstede (1980) Individualism Index score (IDV) for the country from which the participant originated. As the possible range of IDV scores is 0 to 100, for the sake of convenience, we categorized participants from countries with an IDV score higher than the mean (greater than 51) as coming from an individualist culture. Those from countries with an IDV score at the mean or lower (51 or less) were classified as coming from a collectivist culture. Most participants from individualist cultures ($n = 18$, age $M = 9.0$ years) had two parents born in England ($n = 12$) or Germany ($n = 2$). Others had one English parent and one parent from Germany ($n = 1$), Iran ($n = 1$), Poland ($n = 1$), or Wales ($n = 1$). Participants from collectivist cultures ($n = 17$, age $M = 8.9$ years) had two parents from the Spanish mainland ($n = 16$) or the island of Mallorca ($n = 1$). Besides being lower in individualism, Spain has been identified as a collectivist culture (Gouveia & Clemente, 2000; Gouveia, de Albuquerque, Clemente, & Espinosa, 2002).

Participants at the summer school were divided into classes, primarily on the basis of age. Thus, all participants had classmates who were from individualist cultures and collectivist cultures. It is important to note that during all phases of this study (and during most of the normal classroom instruction outside of this study), participants from individualist cultures were spoken to in English, whereas those from collectivist cultures were spoken to in Spanish.

Procedure. The paradigm for this study was modeled after the donation study used by Epley and Dunning (2000). Experimenters asked participants at the beginning of the week (Part 1) to imagine completing a hard assignment on their own at summer school. They were told that for their hard work, they would be rewarded with 10 pieces of candy. Then, participants were asked to imagine that other students in their class at summer school did not perform as well as they did. Participants were asked to report whether they would give away any of their 10 pieces of candy to a common pool that would be distributed among those students who did not perform as well and, if so, how many pieces they would donate. Additionally, participants were asked to predict how many pieces of candy, on average, other students in their class would donate to the common pool.

Five days later, we drew on a subset of the total sample to complete Part 2. All of those participants who made predictions during Part 1 and who were in attendance at summer school that day (13 individualists, 13 collectivists) completed Part 2. During this phase, participants completed a Where's Waldo picture search task in which they located icons displayed on the side of the page in the larger, complex image. After working on this task for 5–10 min, participants were removed from their classroom to have their work graded. On an individual basis, experimenters complimented participants on their hard work and rewarded them with 10 pieces of candy. Participants were then told that some of their classmates did not perform as well as they did and would not be receiving any candy. The experimenter informed participants that if they wished to give some of their candy back to be distributed among these poorer performing students, they could leave as many pieces as they wished in a bucket. The bucket already contained a few pieces of candy ostensibly left by others.

At this point, the experimenter left the participant alone to consider the donation so that he or she would feel that the donation would be made anonymously and without pressure from an authority figure.[1] Only 1 participant commented on the similarity of the hypothetical prediction she had made 5 days prior and this actual opportunity to donate her candy. Inclusion or deletion of data from this participant did not alter the results.

Results and Discussion

Self-predictions and social predictions. First, we investigated the tendency to feel holier than thou by looking at predicted generosity for oneself and others. A 2 (cultural group: individualist or collectivist) × 2 (target: self or others) repeated-measures analysis of variance (ANOVA) produced a main effect of target, $F(1, 33) = 15.32$, $p < .001$, $\eta_p^2 = .32$, such that overall, participants expected that they would donate more candy than would others. This difference was influenced neither by the cultural group nor by the interaction between the target and the cultural group (Fs < 1). Participants from individualist cultures expected that they would donate more candy than would their classmates (Ms = 5.0 and 3.4, SDs = 2.3 and 1.6, respectively); simple effects paired $t(33) = 4.46$, $p < .0001$, $d = 1.05$.

Although we expected participants from collectivist cultures would not predict greater generosity from themselves than from their peers, a cursory glance at the results suggests this was not the case. Those from collectivist cultures predicted that they would donate 4.6 pieces of candy ($SD = 1.1$) and that other classmates would donate, on average, 3.4 pieces ($SD = 1.8$); simple effects $t(33) = 3.25$, $p = .003$, $d = 0.85$. However, closer inspection suggested that the reason behind these differences depended on cultural group and that it was not self-enhancement that led to collectivists'

[1] Although research suggests that predicting one's own behavior increases the probability of acting in the predicted manner (Greenwald et al., 1987), Epley and Dunning (2000) found that separating predictions from actual situations by at least 5 days reduces the influence that predictions have on actual behavior.

difference in self-prediction and social prediction. We explore this reason in the following analyses.

Accuracy in self-prediction and social predictions. The accuracy of participants' charitable self-predictions depended on their cultural background. A 2 (cultural group) × 2 (self-behavior: predicted versus actual) repeated-measures ANOVA produced a main effect of cultural group, $F(1, 25) = 4.34$, $p = .04$, $\eta_p^2 = .15$, and a main effect of self-behavior, $F(1, 25) = 4.85$, $p = .04$, $\eta_p^2 = .16$. It is most important to note that the analysis produced significant interaction between cultural group and self-behavior, $F(1, 25) = 4.85$, $p = .04$, $\eta_p^2 = .16$. Those from individualist cultures actually donated 2.4 pieces of candy ($SD = 2.4$), significantly lower than the number they had predicted that they would donate; simple effects paired $t(25) = 5.09$, $p < .0001$, $d = 1.20$. On the other hand, those from collectivist cultures donated 4.5 pieces ($SD = 1.1$), a figure that largely matched their predictions; simple effects paired $t(25) = 0.23$, $p = .82$, $d = 0.06$.

In fact, collectivists' predictions of their actual donations were more calibrated than were individualists' in another way. The correlation between predicted and actual self-donations was not significant among those from individualist cultures, $r(13) = -.13$, $p = .68$. However, the same correlation was significant among those from collectivist cultures, $r(13) = .80$, $p = .0002$. It is important to note that the difference between individualists' correlations and collectivists' correlations was significant ($Z = 2.08$, $p = .04$).[2]

Next, we asked whether predictions regarding peers' generosity were accurate. Participants were asked to make predictions about how much their other classmates would donate on average. Participants' classmates were individualists and collectivists; thus, in order to gauge the accuracy of their predictions about others, it was important to compare predictions against the average number of candies left by all students in the summer school class, regardless of cultural background. The average number of pieces donated across both types of participants ($M = 3.2$, $SD = 2.1$) was used in analyses for accuracy of social predictions. Predictions made by members of individualist cultures about others did not significantly differ from the actual number ($M = 3.4$, $SD = 1.6$); one sample $t(17) = 0.66$, $p = .52$, $d = 0.15$. In addition, predictions made by collectivists did not significantly differ from the actual amount left ($M = 3.4$, $SD = 1.8$); one sample $t(16) = 0.34$, $p = .74$, $d = 0.09$.

Summary. These results suggest that collectivist and individualist participants in Study 1 displayed different levels of self-insight. Participants from individualist countries overestimated the amount of candy they would donate, whereas those from collectivist countries did not. Furthermore, collectivists' predictions correlated more strongly with the amount of candy they actually donated than did individualists' predictions. Both groups displayed accuracy in their predictions regarding their peers' generosity.

Study 2: Donating Money

Data from Study 1 provide initial evidence that self-serving assessments are made more often by members of individualist cultures and primarily reflect errors in self-predictions rather than errors in social predictions. Although the within-subjects design of this study made it easy to identify both errors and accuracy in prediction, as those who predicted their behavior were also those who actually experienced the situation, it is possible that the within-participant design may have diminished the magnitude of prediction errors. After all, the very act of predicting one's own behavior may lead people to behave in a manner that confirms that prediction (Greenwald, Carnot, Beach, & Young, 1987; Sherman, 1980). Although the potential for contamination seemed minimal given that only one participant mentioned the connection from Day 1 to Day 5, it is possible that participants' predictions influenced their subsequent behavior but was not brought to the attention of the experimenters or may have exerted that influence without the participants' awareness.

To avoid the possibility of contamination, we adopted a between-participant methodology for Study 2, adapted from Epley and Dunning (2000, Study 3). All participants completed a 15–20 min interview about their cultural background and were compensated with $5. After receiving payment, some participants were asked to predict how much of their payment they would donate to a charity if given the chance. Others were confronted with a real opportunity to donate any or all of their payment to a charity. Thus, participants were randomly assigned to a condition in which they either predicted their own behavior and that of their peers or experienced the actual situation without making prior predictions. Because the prediction and actual behavior conditions involved different participants, there was no chance for predictions to influence behavior. In another change, we asked participants in Study 2 to predict only the behaviors of their own cultural group.

Additionally, we expanded the design of Study 1. In this study, we used European American and Asian American college students attending an American university. Thus, the Asian population we used was actually bicultural. Bicultural people, who have been immersed in two cultures (i.e., raised in China, attending college in the Unites States), hold both an independent and interdependent self-construal representing the individualist culture within which they currently live and the collectivist culture within which they were raised. However, certain situations or circumstances can make one self-construal or mindset more salient than the other (Gardner, Gabriel, & Lee, 1999; Hong & Chiu, 2001). Because of this, we included a priming manipulation to make the collectivist orientation accessible for this group of bicultural participants. To do this, we created a cultural immersion exercise in which we temporarily influenced the degree to which participants' individualist or collectivist-related values, beliefs, and cognitions were more salient (for a discussion of benefits of cultural priming, see Oyserman, Coon, & Kemmelmeier, 2002).

[2] Although we report the results of analyses after separating children into discrete groups on the basis of the cultural background of their parents, the same pattern of results holds with continuous measures of cultural background. Using the Hofstede index score associated with each parents' place of birth and averaging across the two scores, we generated a single score that reflects the amount of individualism held by each parent. We correlated this measure of individualism with the accuracy of participants' self-predictions assessed by subtracting actual contributions from predicted contributions. As expected, individualism positively correlated with overestimation of one's own expected contributions, $r(35) = .61$, $p < .001$, suggesting that as the individualism associated with children's parental background increased, so too did the inaccuracy in their expectations for their contributions. However, individualism did not correlate with accuracy when predicting others' contributions, $r(35) = -.02$, $p = .92$.

We expected that individualists would predict that they would donate more than their peers. We did not expect collectivists to predict differences between their own donations and others' donations. In addition, we expected that individualists would overestimate the amount of money they would donate in comparison with the actual amount individualists actually donated. In contrast, we expected that collectivists would be accurate in their own predictions compared with the actual amount collectivists actually donated. Both groups should accurately predict others' donations.

Method

Participants. A total of 48 undergraduates at Cornell University participated in exchange for $5. The individualist sample was composed of 24 North American students who had two parents who were born in the United States. The collectivist sample was composed of 24 Chinese students who had two parents who were born in China, 17 of which students were themselves born in China; the remaining 7 students were born in the United States.

Procedure. Participants completed a cultural immersion exercise for the first 15–20 min, making salient a specific cultural background. We intended to increase the degree to which participants' individualist or collectivist-related values, beliefs, and cognitions were more salient (for a discussion of benefits of cultural priming, see Oyserman et al., 2002). Because members of both individualist and collectivist cultures are aware of and represent in memory both individualist and collectivist cultural orientations (Gardner, Gabriel, & Dean, 2004; Vandello & Cohen, 1999), we wanted to bolster the relevant cultural mindset. Additionally, a cultural immersion exercise can assist in preventing participants from switching between mindsets for a bicultural sample (Hong, Morris, Chiu, & Benet-Martinez, 2000). In this case, we wanted to make salient either the individualist or collectivist mindset for those who hold both in mind, in particular for Chinese students who were studying in the United States, and to reduce the possibility that these participants would switch to the individualist mindset. In addition, we wanted to make salient the individualist mindset for those of a North American background who might be aware of other cultural orientations.

During the cultural immersion exercise, the experimenter interviewed participants about their cultural background. The interview was conducted in English for individualists and in Mandarin for collectivists, because language is a strong prime for self-construal (Trafimow, Silverman, Fan, & Law, 1997). In this interview, participants described their family, educational experience, and culturally specific traditions. Participants also described the significance of a number of specific cultural icons (i.e., the American flag or the Great Wall of China).

After the interview, the experimenter explained that the study was nearly over except for a one last questionnaire. After searching through a stack of papers, the experimenter explained that he/she had left it in another room. Before leaving the room, the experimenter handed the participant an envelope containing four dollar bills and four quarters, an information sheet explaining the missions of three world charity organizations (e.g., Doctors Without Borders), and instructions. These materials were written in English for the individualists and in Mandarin for the collectivists. For those in the prediction condition, the instructions asked participants to predict how much of their payment they would donate to one of the charities if given the chance. Then, participants in the prediction condition were asked to predict the amount of money that others would donate in this situation. Individualists were asked to predict how much money the typical North American student from this university would donate. The collectivists predicted the amount the typical Chinese student from this university would donate. Participants wrote all of their predictions on the instruction sheet, folded it, sealed it inside the envelope, and left it in a box containing other envelopes.[3]

To obtain actual base rate information as a measure of accuracy in predictions, we included an actual behavior condition. Those in the actual behavior condition received the same informational packet. However, in this condition, the instructions explained that they now had the opportunity to donate any portion of their payment to the charity of their choice. They were told that they could leave some of their money in the envelope, seal it, and place it in the box with other envelopes. Thus, the participants felt the donation would be made anonymously and without pressure from an authority figure. The amount of money donated by participants in the actual condition served as a baseline against which predictions were compared. So as to not artificially alter actual donations or induce suspicion, participants in the actual condition were not asked to make predictions about others' donations. After 5 min, the experimenter returned and ended the session. Participants were debriefed and thanked for their time.

Results and Discussion

Self-prediction and social predictions. We began by looking at predictions made about the self and others by those in the prediction condition. There was some slight evidence to suggest that the degree to which participants felt holier than thou depended on their cultural orientation. We ran a 2 (cultural group) × 2 (target: self vs. others) repeated measures ANOVA. There was a main effect of target, $F(1, 23) = 5.21$, $p = .03$, $\eta_p^2 = .19$, and an effect of cultural group, $F(1, 23) = 3.43$, $p = .08$, $\eta_p^2 = .13$. Although the expected interaction between target and cultural group did not emerge, $F(1, 23) = .14$, $p = .72$, $\eta_p^2 = .01$, the predictions made about the self and others fell in the predicted direction. As expected, North American students predicted that they would donate more than would other North American students at the same university (*M*s = $2.92 and $2.00 respectively); simple effects paired $t(23) = 2.70$, $p = .01$, $d = 0.75$. However, the same comparison among Chinese respondents was nonsignificant (*M*s = $1.83 and

[3] We did run a third group of participants but chose not to discuss it in this article, due to methodological problems pointed out by a reviewer of a previous version of this article. This group was composed of Asian American students who were primed with English language and American culture, but these students included Korean participants as well as Chinese ones and, thus, were not directly comparable with our Mandarin-primed group. In addition, given that other work has shown that bicultural people communicate and act in ways representative of both individualist and collectivist cultures (Kim, Hunter, Miyahara, & Horvath, 1996; Yum, 2004), we, and the existing literature, were unable to make any a priori predictions regarding the participants' predictions, thus, we chose not to include this group in this article.

$1.17); simple effects paired $t(23) = 1.86$, $p = .08$, $d = 0.54$ (see Table 1).[4]

Accuracy in self-prediction and social predictions. The accuracy of participants' charitable self-predictions depended on their cultural group. We conducted a 2 (cultural group) × 2 (behavior: predicted, actual) ANOVA comparing participants' predicted donations against base rate donations collected from participants in the actual condition. There was no effect of cultural group, $F(1, 44) = 0.06$, $p = .81$, $\eta_p^2 = .001$, or predicted versus actual behavior, $F(1, 44) = 1.07$, $p = .31$, $\eta_p^2 = .02$.

It is important to note that the expected interaction between cultural group and predicted versus actual behavior emerged, $F(1, 44) = 5.70$, $p = .02$, $\eta_p^2 = .12$. Individualists overestimated their donations. On average, individualists predicted that they would donate $2.92 but actually donated $1.18, a significantly lower amount; simple effects $t(44) = 2.42$, $p = .02$, $d = 0.99$. Collectivists were more accurate in predicting their generosity. They predicted that they would donate $1.83 but actually donated $2.52, a prediction that did not significantly differ from the actual amount donated; simple effects $t(44) = -0.96$, $p = .34$, $d = -0.39$.

We next looked at the predictions about peers. As was the case in Study 1, individualists' predictions about their peers were more accurate than were their self-predictions. Planned contrasts comparing predictions about others' donations against actual behavior indicated that the predictions were only marginally higher than the actual donations; one sample $t(12) = 1.94$, $p = .08$, $d = 1.17$. Unexpectedly, collectivists' predictions regarding the donations made by the typical Chinese student differed from the actual amount of money donated by this group, $t(11) = 3.07$, $p = .01$, $d = 0.77$, which suggests that they underestimated the amount donated by members of their same cultural group.

However, we suspected that this cynicism from collectivist participants might be the result of methodological issues rather than theoretical ones. Given that all classes at the university collectivists attended are conducted in English, that most conversation occurs in English, and that Mandarin is rarely spoken on campus, collectivists may have been thinking about Chinese students speaking English when asked to predict the behaviors of the typical Chinese student. That is to say, the typical Chinese student that participants imagined may have been one that speaks English, as that is far more common on campus. To investigate the accuracy of collectivists' predictions as tested against the behavior of typical Chinese students, we collected actual behaviors from Chinese students who went through this experience while speaking in English ($n = 10$).

As stated above, collectivists who completed the interview in Mandarin donated $2.52. However, collectivists who completed the interview in English donated $1.00 ($SD = 0.95$), a considerably smaller amount, $t(20) = 2.05$, $p = .05$, $d = 0.91$. When donations from English-primed collectivists were used in comparisons to assess accuracy of predictions, collectivists' estimates of what the typical Chinese student would donate did not differ from what they actually donate; one sample $t(11) = 0.38$, $p = .71$, $d = 0.77$.

Summary. As in the previous study, self-serving predictions tended to be more likely among individualists than among collectivists. Again, the individualists' error was produced more by mistakes in self-prediction than by mistakes in social prediction. That is, individualists greatly overestimated their own generosity but were relatively accurate when predicting the generosity of others. Collectivists were generally accurate in predicting their own behavior. In fact, although not significantly so, the means tend to suggest that collectivists underestimated their own generosity. When predicting others' generosity, collectivists incorrectly predicted their peers behavior. In the remaining studies, we see whether this is an isolated occurrence or a replicable pattern.

Table 1
Predicted Donation Versus Actual Amount of Donation (in Dollars) for Self and Others

Measure	Cultural group	
	Individualists	Collectivists
Predictions for self		
M	2.92	1.83
SD	1.71	1.47
Predictions for others		
M	2.00	1.17
SD	1.53	1.53
Actual		
M	1.18	2.52
SD	1.60	2.17

Study 3: Predicting Rudeness

We proposed that collectivists come to know themselves better than individualists, and we tested this idea in domains in which participants think about or have the opportunity to actually act in a charitable manner. But what about predictions regarding the likelihood of acting uncharitably in a social situation? If some respondents do have greater insight into their own and others' behaviors, they should be just as accurate when thinking about harmful, immoral, or hurtful actions as well. We asked whether the same accuracy differences between individualists and collectivists reveal themselves again. To test predicted and actual negative behavior, we asked participants to consider whether they would rudely refuse to support an initiative to fund breast cancer research. Specifically, we asked participants what they would do when they saw a person soliciting signatures for a petition asking Congress to pass the breast cancer research stamp. Do participants expect that they would walk away from that student, thereby refusing to sign the petition? How would these predictions compare with actual behavior?

We anticipated that individualists would predict that they would be less likely than their peers to rudely avoid the student soliciting support for breast cancer research. We did not anticipate that collectivists expected their behavior to be morally superior to that of their peers. In addition, we expected that individualists would underestimate the likelihood that they would rudely avoid the petition holder in comparison with the actual percentage of students of individualist heritage who do so.

[4] When analyzed nonparametrically, the difference between predictions for the self and predictions for the other among individualists was nonsignificant ($Z = 1.90$, $p = .058$). The difference among collectivists was not significant ($Z = 1.12$, $p = .26$).

Method

Participants. In total, 236 students at Cornell University participated. Those in the prediction condition participated in exchange for a chance to win university merchandise and cash prizes. Participants who were observed in order to allow collection of actual base rate information were not compensated. We collected demographic information only from participants in the prediction condition ($n = 116$). Of participants in the prediction condition who were from individualist cultures ($n = 63$), all were born in the United States and were of European descent. All but 1 individualist had two parents who were born in the United States, and the remaining participant had one parent born in the United States and the other born in Canada. Of participants in the prediction condition who were from collectivist cultures ($n = 53$), 31 were born in China and had two parents who were born in China. In addition, 19 were born in the United States, and 1 was born in Panama, but all had two parents born in China. Two participants did not supply this demographic information; however, all collectivist participants were solicited from a Chinese student e-mail mailing list. Participants included in the base rate condition were those who appeared to be Caucasian American ($n = 60$) or Chinese ($n = 60$) students, as identified by either a Caucasian American research assistant or a Chinese research assistant.

Procedure. Participants in the prediction condition ($n = 116$) completed an online survey in English. First, they supplied demographic information about themselves, including where they and their parents were born. Next, participants in the prediction condition read a hypothetical scenario. Participants were asked to imagine walking around campus and coming across a female student holding a clipboard that read "Breast Cancer Research." Participants were told that the female student was of their same cultural background (either American or Chinese). Half of the participants were asked to imagine that they were walking around campus alone while the other half of participants were asked to imagine that they were walked around campus with one or two friends. Participants imagined that the petition holder approached them and explained that the petition urges members of Congress to support the breast cancer research stamp and that she then presented a short list of statistics regarding funding for breast cancer research, the purpose of the stamp, and a statement that signing the petition would tell Congress to reauthorize the stamp.

After imagining this situation, participants predicted how they would respond in such a situation. We presented participants with a number of possible behaviors in addition to allowing them to supply their own. In particular, we were interested in the number of participants who indicated they would respond in the least hospitable manner. Specifically, we counted the number of participants who indicated they would walk away as the petition holder tried to get their attention and before the petition holder told them anything about the petition, thereby refusing to sign the petition. Next, participants provided social predictions of their peers in two different ways. First, they were asked to think about a single individual who happened to be a typical student within their cultural group and to predict how this individual would react to the same behavioral scenarios, with the same binary choices as were used for self-prediction. Next, they estimated the percentage of peers from their same cultural group who would do the same.

To assess the accuracy of participants' estimates, we actually staged the event exactly as described in the hypothetical scenario. We enlisted the services of two female undergraduates who were blind to the hypotheses—one Chinese and one Caucasian American. These research assistants took turns standing in the central plaza on campus, holding a clipboard with the sign "Breast Cancer Research" and approaching students to solicit support for the petition. While one assistant served as the petition holder, the other sat on a bench approximately 10 feet away to code participants' responses to being approached by the petition holder. When soliciting support for the petition, the research assistants only approached members of their own cultural group who were either walking alone or walking in groups of two or three ($n = 120$ total).

Although we used only a single assistant from both cultural groups, both assistants underwent an extensive training process to ensure that their verbal and nonverbal behaviors were matched and consistent. Both assistants received extensive instructions on what to say and on how and when to speak to passersby, and these instructions were discussed before and after each collection period. This was meant to prevent undue influence from single stimulus sampling concerns raised by Wells and Windschitl (1999). The research assistant who was coding reactions kept track of the following information: (a) the cultural group to which participants belonged, (b) the gender of the participant who was approached, (c) the number of participants in the group that was approached, and (c) the participants' reactions to being approached. In particular, we were interested in assessing the actual number of people who chose to avoid the petition holder by walking away or avoiding eye contact while the petition holder approached, thereby refusing to sign the petition. These data then served as a standard of accuracy group against which predictions made by participants assigned to the prediction condition could be compared.

Results

Group size and gender. Results did not depend on group size or gender. That is, all analyses remained the same regardless of whether participants imagined they were or actually were alone or with a group of friends. Likewise, participant gender did not significantly influence the analyses. As a result, these variables will not be discussed further.

Self-prediction and social predictions. We examined the predictions made for self and others by those in the prediction condition. To do so, we compared the binary predictions that participants had provided for self-predictions with the binary predictions participants made about a peer who happened to be the typical student from their cultural group. Overall, 13% of participants expected they would walk away and expected that 51% of their typical peers would do the same, evidence for a strong holier than thou phenomenon ($p < .0001$; by sign test, $g = .35$). However, this tendency was statistically significant only for European respondents when cultural groups are looked at separately. Only 5% of European respondents said they would walk away and that their typical peer would walk away 63% of the time ($p < .0001$, by sign test, $g = .47$). Chinese respondents did not differentiate themselves from their peers, in that 23% predicted that they would walk away and that 36% of their peers would do the same (*ns*; by sign test, $g = .15$). The degree to which European and Chinese respondents

displayed the holier than thou phenomenon was statistically different ($Z = 3.58$, $p < .005$).[5]

Accuracy in self-prediction and social predictions. The accuracy of participants' predictions depended on their cultural group. European respondents underestimated the likelihood that they would walk away, thereby refusing to sign the petition. Again, 5% expected they would walk away, but 20% actually did, $\chi^2(1, N = 123) = 6.66$, $p = .01$, $\phi_C = .23$. However, collectivists were accurate when predicting their own behavior, as their predictions did not differ from the actual behavior of those who shared their cultural background, $\chi^2(1, N = 113) = 0.01$, $p = .93$, $\phi_C = .008$. In fact, 23% of collectivists predicted they would walk away; 23% actually did.

Next, we explored the accuracy with which participants' estimated their peers' behaviors. Participants predicted the percentage of other students from their same cultural background who would refuse to sign the petition by walking away. The percentage of participants who actually refused to sign by walking away did not depend on the cultural background of the participant, $\chi^2(1, N = 120) = 0.20$, $p = .66$, $\phi_C = .27$. However, the accuracy of participants' predictions about their peers did depend on their cultural background. European respondents significantly overestimated the likelihood that their American peers would refuse to sign (63% predicted vs. 20% actual), $\chi^2(1, N = 63) = 22.23$, $p < .0001$, $\phi_C = .43$. However, Chinese participants were largely accurate in their predictions, as their predictions did not differ from the actual percentage of their Chinese peers who refused to sign (36% predicted vs. 23% actual), $\chi^2(1, N = 53) = 2.13$, *ns*, $\phi_C = .14$.

Summary. Again, the degree to which participants felt holier than thou depended on their cultural background. Specifically, individualist participants predicted that in comparison with their own predicted behavior, a significantly greater percentage of peers from their same cultural background would engage in an uncharitable action—refusing to sign by a petition. On the other hand, collectivist participants thought that both they and peers from their same cultural group would be equally likely to refuse to sign, estimates that did not diverge from the actual percentages of Chinese participants who refused to sign. In addition, the accuracy of participants' predictions about others depended on their cultural background. Individualists expected that a significantly larger percentage of their peers would refuse to sign than was actually the case, whereas collectivists' expectations of their peers' behaviors were more accurate.

Study 4: Comparing Individualism Versus Collectivism Within the Same Culture

The purpose of Study 4 was to explore one fundamental difference between members of collectivist cultures and members of individualist cultures that may explain the process by which individuals come to know themselves and others—that difference is the construal of the self (Markus & Kitayama, 1991a, 1991b). The independent self-construal is defined by the belief in the inherent separateness of individuals (Markus & Kitayama, 1991a, 1991b), a characteristic descriptive of individualistic cultures like the United States (Heine, 2001). Much like members of individualistic cultures, people with independent self-construals maintain the goal to express those aspects of the self that make them unique from others (Baumeister, 1998). In contrast, an interdependent self-construal is defined by the belief in the embeddedness of every member within a larger social context (Markus & Kitayama, 1991a, 1991b; Triandis, 1989), a characteristic descriptive of members of collectivist cultures (Heine, 2001). Much like members of collectivist cultures, people with interdependent self-construals strive to fulfill social obligations in the larger society (Markus & Kitayama, 1991a, 1991b). To accomplish this, interdependents must know their place in society and act according to their roles (Su et al., 1999) so that they do not fall short of cultural standards and expectations (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997).

To explore whether underlying goals toward uniqueness or togetherness bias accuracy of self-prediction and social predictions, we compared self-judgments and social-judgments from people within a single culture who still differed in their independent and interdependent self-construals (Aaker & Schmitt, 2001; Brockner & Chen, 1996; Kurman, 2001; Singelis, Bond, Sharkey, & Lai, 1999; Singelis & Sharkey, 1995; Wang, 2001). We concentrated on participants born in the United States and who had lived in the same geographic region—the Midwest. We separated this fairly homogenous sample into groups on the basis of independent and interdependent self-construals. The benefit of restricting our sample to individuals residing in the same location is that we are able to control for cultural differences in motives that may influence patterns of prediction, such as norms for self-presentation. In the first three studies, participants came from countries with different expectations for self-confidence and modesty, and these expectations may have differentially affected the predictions that participants made. In fact, displaying self-confidence is an important value and social norm in North America but less so in Asian countries (Heine et al., 1999). As a result of different social norms that vary between cultures, individualists' self-enhancing tendencies may be exaggerated (Baumeister, Tice, & Hutton, 1989), whereas collectivists' self-enhancing tendencies may be muted (Kurman, 2001). We predicted that respondents with interdependent construals would provide self-predictions and social predictions that were more modest and accurate than their counterparts with independent self-views.

Although investigating cultural differences through the lens of self-construal has a relatively long and fruitful history (see Brewer & Chen, 2007, for a recent review), we would like to note that

[5] The literature actually suggested that people would be less cynical if asked about a particular, individualized other person rather than an aggregate of their peers (Epley & Dunning, 2000). However, our data show the opposite pattern. Americans estimate that 38% of their peer group would refuse to sign by walking away, however this estimate becomes more, not less, harsh when people asked about the individualized other. Specifically, when asked about a single person who was the typical American student, 64% of Americans estimated that this individual would refuse to sign by walking away. Likewise, Chinese participants estimated that 26% of other Chinese students would refuse to sign by walking away when asked about the aggregate. When asked about a single typical Chinese student, 34% of Chinese participants estimated that this individual would do the same. That is, using these binary measures, namely, reports of whether a single typical student would or would not refuse to sign, we find even stronger evidence in support for our argument regarding cultural differences in the tendency to commit the holier than thou effect.

investigating the processes underlying cultural differences by measuring interdependent and independent self-construals has been criticized for its insensitivity to the subtleties of particular cultural outlooks and to the contextually mediated nature of cultural effects (for a review, see Miller, 2002). This is particularly true when interdependence is defined, in part, by the subjugation of the self to greater group membership. However, we chose to assess self-construal in a way that avoids this concern.

Method

Participants. Participants were 53 residents of a multifloor residence hall at the University of Nebraska at Kearney (36 women, 17 men; age $M = 18.9$ years). Of these participants, all were born in the United States. One participant did not indicate her ethnicity and did not complete all stages of the experiment; thus, her data were excluded from all analyses.

Procedure. This study was administered in three phases separated in time. The first phase measured participants' self-construal. During the second phase, participants made predictions about their own and others' generosity during an upcoming charity event. Finally, during the third phase, participants actually received the opportunity to donate items during a charity event, and their behavior was measured.

In the first phase, participants completed 20 sentence fragments, beginning with the words *I am* (Kuhn & McPartland, 1954), while in their residence hall dormitory room. As a first step toward creating groups on the basis of self-construal types, two independent coders blind to the experimental hypotheses coded the self-descriptors in the 20-statements survey based on Sedikides and Brewer's (2001) three levels of self-construal: personal self, relational self, and collective self. They coded the statements as being either personal, (e.g., "I am intelligent"), relational, (e.g., "I am the youngest daughter in my family"), or collective (e.g., "I am in a sorority"). Initial interrater reliability was 89%. Those items that were disputed were discussed until both raters agreed about the placement of the item. Each participant was given separate scores that represented the total number of their responses out of 20 that were representative of each of the three types of self-construal.

As a second step to identifying participants' primary self-construal type, we performed the following split. We began by computing the mean number of statements coded as each of the three types. Within each statement type, participants who wrote more statements than the mean of that type were considered high on that type. Those who wrote fewer statements than the mean were considered low on that type. Thus, participants were described as either high or low on each of the three statement types.

Because we were interested in independent and interdependent self-construals generally and not the specific form of interdependence (relational or collective), we collapsed across the relational and collective self-construal types following the procedure used by Gabriel and Gardner (1999, Study 2). This definition of interdependence serves to operationalize the meaningful distinction between cultures. Members of different cultures differ mostly on the degree to which they see themselves as independent agents (Kashima et al., 1995), which is captured by the individualistic and collective dimensions of the self rather than by the relational dimension (Singelis, 1994; Singelis & Brown, 1995). For example, the relational dimension better captures gender differences within cultures (Kashima et al., 1995), which was not of interest in this research. In addition, there are no significant interactions within our data between those participants who were high or low on the relational or collective dimensions on any of the dependent variables.

In order to allow us to describe participants by their level of interdependence and independence, those who were described as high on either the relational or collective statement type were described as high on the general category of interdependence. In addition, those high on personal statement type were considered high in independent self-construal. This resulted in an ultimate description of each participant as either high or low on only two dimensions: interdependence and independence.

As a final step in identifying self-construal types, we adapted a method used by Yum (2004) to identify whether participants primarily defined themselves as independent or interdependent. Those who were high on independence and low on interdependence were assigned to the independent group ($n = 17$). Those who were low on independence and high on interdependence were assigned to the interdependent group ($n = 27$). This method left 8 participants who could not be considered to define themselves primarily by a single self-construal type (all were high on both independence and interdependence). These 8 participants were dropped from further analyses.

The second phase of the experiment occurred 3 weeks afterward. The same residents were asked by the residence hall's resident assistant to complete a short questionnaire asking about their willingness to participate in a charitable food drive. Each resident read about the Boy Scouts of America's involvement in charity events throughout the area. As part of their Scouting for Food program, the scouts would be collecting canned, boxed, and jarred foods. They would go door to door in the dorms asking for collections. To ostensibly help the organizing committee plan for how many scouts would be needed to participate in the collection effort, participants were asked via a supposedly anonymous survey whether they would be able to make a donation to the Scouts' food drive. If they indicated yes, participants were then asked how many food items they might donate of the following types: cans of food such as soup or tuna, boxes of food such as macaroni or ramen noodles, and jars of food such peanut butter or pickles.

Next, ostensibly so that the organizing committee might plan for the number of scouts needed to pick up donations, participants estimated the number of items within each of the three food categories that they typical resident would donate. The envelopes in which surveys were returned were coded so that predictions could be matched to actual donations in the third phase of the study.

The third phase occurred 3 weeks after participants predicted their behavior. During the third phase, participants received the opportunity to actually donate food items to the Scouting for Food program. Resident assistants provided each participant with a paper bag and asked each to place their donated food in the bag. So that the Scouts could thank them for their support, participants were asked to write their room number on the bag. Because residents of these dormitories most often share their room with a roommate and prediction questionnaires needed to be matched up with actual donations, participants were also asked to write their name on the bag. Bags were returned to a common drop spot. The food in the bags was cataloged as to type and amount of food and was then provided to the Scouts, who donated it to the local food

bank. The Scouts wrote thank you letters to all participants who donated food.

Results

Data transformations. Participants in this experiment could predict and actually donate any amount of food they wished, with a minimum of zero and with an unconstrained maximum. Unfortunately for the food bank, most participants tended toward the absolute minimum. There were however 5 participants who gave 5 or more items and an additional 2 participants who gave 14 items. This created a positively skewed distribution. To restore normality, all predicted and actual donations were subjected to square root transformations. All analyses were performed on these transformed values, but the untransformed means are presented in the text and tables to ease interpretation.

Self-predictions and social predictions. First, we examined the specific number of donated items predicted for the self and others. To determine the estimate that participants made for their peers, we used their estimates of the proportion of their peers who would donate multiplied by the typical number of items they thought their peers would donate when choosing to do so.

We hypothesized that independents would predict that they would donate more items than would their peers and that interdependents would be less likely to predict higher donations by themselves than by others. To test this, we conducted a 2 (self-construal type) × 2 (target: predictions for self vs. others) repeated measures ANOVA with the second variable as within-subject. In general, participants predicted that they would donate more items than would others, $F(1, 42) = 7.46$, $p = .009$, $\eta_p^2 = .15$. There was no significant effect of self-construal type, $F(1, 42) = 1.20$, $p = .28$, $\eta_p^2 = .03$. It is important, though, to note the degree to which participants predicted differences in donation amounts for themselves and others depended on self-construal type, $F(1, 42) = 4.74$, $p = .04$, $\eta_p^2 = .10$. As expected, independents indicated that they would donate more items than would others; simple effects paired $t(42) = 4.35$, $p < .0001$, $d = 1.05$. However, interdependents did not predict that they would donate more than their peers; simple effects paired $t(42) = 0.64$, $p = .53$, $d = 0.12$, (see Table 2).

Accuracy of self-prediction and social predictions. We conducted a 2 (behavior: predicted versus actual) × 2 (self-construal type) repeated measures ANOVA, with the first variable being within-subjects. Overall, the predicted levels of donation were far higher than was the actual level, $F(1, 42) = 74.05$, $p < .001$, $\eta_p^2 = .64$, and there was no effect of self-construal type ($F < 1$). It is important to note that the accuracy of participants' charitable self-predictions depended on their type of self-construal as indicated by a significant interaction, $F(1, 42) = 11.60$, $p = .001$, $\eta_p^2 = .22$. Comparing independents' predictions against their actual donations revealed that independents expected that they would donate 4.8 items, when in reality they donated 0.4; simple effects paired $t(42) = 10.83$, $p < .0001$, $d = 2.63$ (see Table 2). Although still overestimating, interdependents were more accurate in predicting their generosity; they expected that they would donate 3.7 items and actually donated 2.3; simple effects paired $t(26) = 5.93$, $p < .0001$, $d = 1.14$. We should note that the correlation between predicted donation and actual donation was highly significant for interdependents, $r(27) = .52$, $p < .01$, but not for independents, $r(17) = .16$, *ns*, although the difference between these two correlations failed to reach significance ($Z = 1.23$).

Finally, to gauge the accuracy of participants' predictions about others, we collapsed across the actual donations made by independents and interdependents. On average, this sample donated 1.6 items ($SD = 3.3$). Planned one sample *t* tests comparing independents' predictions against the actual behavior of those confronted with the dilemma revealed that predictions for other students were overestimated, $t(16) = 7.57$, $p < .001$, $d = 0.53$. Interdependents also overestimated the number of items others would donate, $t(26) = 7.60$, $p < .001$, $d = 0.62$.[6]

Additional analyses with continuous measures. Although we wished to confirm the analysis in this study with a supplemental continuous analysis, our data were very skewed, even after data transformation, making a parametric analysis inappropriate. Thus, we examined whether individualism, measured continuously, predicted our outcome variables via nonparametric tests. To do this, we created a continuous measure of individualism by taking the number of statements coded as individualistic and subtracting the number coded as collective and relational. We ran a nonparametric correlational analysis and found that the continuous measure of individualism predicted holier than thou tendencies. Specifically, the difference between expectations of one's own donations and predictions for others' donations was positively correlated with individualism (Spearman $\rho = .36$, $p = .01$). In addition, individualism was positively correlated with erroneous predictions for the self ($\rho = .36$, $p = .009$), such that as individualism increased, so too did the difference between the predictions for oneself and the actual amount given by that participant. However, there was no relationship between individualism and erroneous predictions for others ($\rho = -.16$, $p = .27$), suggesting individualism was not related to accuracy regarding predictions about others' behaviors.

Summary. Self-serving predictions were produced more by independents than by interdependents. In particular, these self-serving tactics arose because of errors in self-prediction rather than because of errors in social prediction. In this experiment, all participants overestimated how much they would actually donate

Table 2
Predicted Versus Actual Donation in Number of Items for the Self and Others

Measure	Self-construal type	
	Independent	Interdependent
Predictions for self		
M	4.8	3.7
SD	2.7	3.8
Predictions for others		
M	2.8	3.0
SD	1.9	1.9
Actual		
M	0.4	2.3
SD	0.9	3.7

[6] Although the square-root transform of predicted and actual donations did improve the normality of the distribution, the Kolmogorov–Smirnov test for normality indicated that the transformed number of items participants actually gave still did not fit a normal distribution.

but were relatively more accurate when predicting others. It is important to note, though, that this pattern was more prominent among those with an independent self-construal and less so among those with an interdependent self-construal.

General Discussion

This research examined cultural differences in the accuracy of self-judgment and social judgment. Members of individualist cultures tended to inaccurately predict their own generosity. However, members of collectivist cultures were more accurate when predicting their own behavior (Studies 1, 2, and 3). Replicating this pattern, individuals with independent self-construals—a self-construal that partially contributes to individualism—were more inaccurate than individuals with interdependent self-construals—a self-construal that partially contributes to collectivism (Study 4). Specifically, participants who maintained independent self-construals and possessed personal motivations toward uniqueness demonstrated the same overestimated predictions for their own actions, compared with participants who maintained interdependent self-construals. It is interesting to note that all participants were roughly more accurate in predicting the generosity of others.

In contrast to self-predictions, neither group showed any consistent bias toward over-optimism or undue cynicism when it came to predicting others' behaviors. Individualists expected greater generosity from their peers than was warranted, given actual behavior in Study 4, and to a marginal degree in Study 2, but grossly underestimated the charitableness of their peers in Study 3, compared with actual behavior. Collectivists overestimated their peers' generosity only in Study 4 and underestimated it in Study 2, compared with actual behavior. Across all studies, no consistent pattern of social prediction emerged, a finding that is consistent with the conclusions of other research comparing self-prediction with social prediction (Balcetis & Dunning, 2007, 2008; Epley & Dunning, 2000, 2006).

Finally, individualists and collectivists showed strikingly different patterns when it came to the above average effect. Individualists in each study stated that they would act in a more generous manner than would their peers. Collectivists did so once, and only to a marginal degree (Study 2). To be sure, collectivists saw themselves as acting in a morally superior manner more than their peers in Study 1, but given the fact that estimates for both self and other proved to be accurate, those estimates appear to have been the product of insight rather than bias.

To be sure, some of the findings across studies were inconsistent—but collating the studies together provides a clear picture of self-insight and social insight among individualists and collectivists. Table 3 provides an overview of the results of each study. As seen in the table, individualists in each study showed strong levels of self-serving bias, consistently overestimating the degree to which they would act in a desirable manner relative to actual behavior. Often, the overestimation was over 1 *SD* in effect size. Collectivists, by contrast, overestimated the degree to which they would act in a prosocial way in only one study (Study 4)—and in that study they still proved to be more modest and less biased than their individualist counterparts. Furthermore, in the two studies in which we could assess accuracy by observing whether self-predictions correlated with actual behavior (Studies 1 and 4), we found significant and strong correlations for collectivists but not for individualists.

Table 3
Summary of Statistically Significant Self-Prediction and Social Prediction Overestimation Errors Relative to Actual Behavior

Study	Participant type: Individualist	Participant type: Collectivist
Self-prediction overestimation		
Study 1	****	
Study 2	**	
Study 3	***	
Study 4	****	****
Social prediction overestimation		
Study 1		
Study 2	*	†
Study 3	‡	
Study 4	***	***
Self-Overestimation > Social Overestimation		
Study 1	****	
Study 2	***	*
Study 3	****	
Study 4	****	

Overestimation: * $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.
Underestimation: † $p < .01$. ‡ $p < .0001$.

We should further note that in general the effect sizes indexing differences between collectivist respondents and individualist respondents were at times not especially large relative to past research (Heine, 2003). Because several of our studies used samples of participants who were displaced from their country or culture of origin (i.e., individualist students from England attending school in Spain, collectivist students from China attending school in the United States), we suspect that the effect sizes would be larger and more pronounced if we had used populations that did not have as readily accessible an alternative self-construal. In other words, had we used Chinese students living in Asia and compared their responses with European Americans living in the United states, the cross-cultural differences in accuracy might be even larger. In fact, when investigating differences in self-enhancement among people with less accessible alternative self-construals, the average Cohen's *d* effect size is .84—but this effect size drops to .33 when comparing between people who do have multiple self-construals available (Heine & Hamamura, 2007).

Taken as a whole, these findings—as well as those of past research (Balcetis & Dunning, 2007, 2008; Epley & Dunning, 2000, 2006)—suggest that members of individualist cultures have largely unbiased intuitions of the base rates of moral action but do not feel that these base rates were predictive of their own actions. This pattern is consistent with an individualist norm that stresses that the self is exempt from social norms. It seems that individualists have a sense of base rates for certain actions, yet they tend to ignore this information when making self-predictions. Instead, individuals view base rate information, of which they are accurately aware, as not informative about the self. However, because collectivists are less likely to describe themselves as different from those norms, they see themselves as more similar to their peers and no more superior.

Upon reflection, we should note the obvious relevance that these data have for current debates about whether members of collectivist cultures self-enhance less than do their counterparts in individualist cultures. A portion of this debate has centered on whether the above average effect, as traditionally measured, is an adequate gauge of self-enhancement motives (for details, see the exchanges among Heine, 2005; Heine & Hamamura, 2007; Heine et al., 2007, versus Brown & Kobayashi, 2002; Sedikides et al., 2003; Sedikides et al., 2005, 2007). In the present research, we avoided this issue by providing other measures of self-bias. To be sure, we did examine whether respondents claimed to be superior to their peers, and as in previous research, we found that individualists were more marked in their claims of moral superiority than were collectivists. But we also found that individualists overclaimed relative to their actual behavior. When compared with actual behavior, the predictions of individualists were consistently inflated, whereas those of collectivists were inflated in only one of our four studies. In short, in comparing the perceptions of individualists with the reality of themselves, we found evidence of much more self-enhancement bias among individualists and much less among collectivists. Thus, by providing this comparison, we were able to examine more clearly whether individualists and collectivists differ in the degree of bias, presumably prompted by self-enhancement motives that each group exhibits.

Collapsing Across Cultural Groups

We should note that we referred to groups of participants as individualists and collectivists for the sake of parsimony. The reader, however, will see that we compare responses from a large number of populations, including British, German, and Spanish children, Asian American college students, and European North Americans. Thus, we recognize that there may be important distinctions among groups that we label as collectivists (Dien, 1999; Roland, 1988) and even within groups of people from the same country (Kitayama, Ishii, Imada, Takemura, & Ramaswamy, 2006; Nisbett & Cohen, 1996; Vandello & Cohen, 1999). We further concede that using our broad labels may collapse across meaningful differences among all the populations that we sort into the same group.

That said, we chose to use these terms as they highlight the important distinctions that are at the root of our investigation. Namely, people born in or people whose parents were born in the countries identified as maintaining collectivistic orientations according to the individualism score from Hofstede's cultural dimensions (Hofstede, 1980) pursue interpersonal harmony by striving toward and adhering to group norms and expectations. However, people born in or people with parents who were born in countries that maintain individualistic orientations according to the same index pursue independence and personal uniqueness. Rather than investigating the effect of countries of origin, we are concerned with the influence of these divergent goals on the accuracy of self-prediction and social prediction.

Social Norms as a Function of Culture of Origin

A critic might argue that our reliance on participants from different countries confounds the social norms that vary by country with cultural differences that we believe are responsible for producing different patterns of accuracy. Perhaps privately, members of collectivist cultures are as self-serving in their predictions as those from individualist cultures, but social norms prevent them from presenting themselves as such.

Our data suggest two reasons to doubt this interpretation. First, in Study 4, we controlled for this possibility by calling on members within the same culture, namely a Midwestern academic community. The results from this study suggest that chronic differences in self-construal and not social pressures are responsible for the errors in self-prediction we observed, in that respondents with interdependent construals acted much like our collectivist respondents in the other three studies. Second, we created situations in which participants felt as anonymous as possible when making predictions and actually donating to a charity or describing others. Predictions and actual opportunities to donate or describe others as favorably as one would like were done in a way to maximize participants' feelings of anonymity. For instance, participants made predictions while alone in a secluded cubicle and deposited their responses in a common envelope (Study 2). Other participants made predictions anonymously through the Internet while at their own homes, responding to a survey that they knew would not contain any identifying information (Study 3). Therefore, it is unlikely that social norms or individual tendencies for public modesty produced these results.

Cultural Differences in Motivated Prediction?

At first glance, it may appear that individualists' predictions are plagued by motivational biases, whereas collectivists' predictions reflect the cold, hard facts of reality, produced without motivational underpinnings. However, we hasten to point out that this is not necessarily the case. Instead, we argue alongside others (Heine et al., 2007; Heine et al., 1999) that both individualists' and collectivists' predictions are biased by motivational urges to see themselves as good people. However, the ways in which becoming a good person are pursued and accomplished differ across cultural orientations. To be a good person in an individualist culture implies expressing favorable attributes and standing out from the crowd, whereas being a good person in a collectivist culture implies adjusting to social contexts and changing the self so as to fit in with one's group. These culturally specific motivational influences lead to the pattern of self-predictions and social predictions described in this article.

To be sure, we do not espouse the notion that individualists have an active agent working to massage incoming information and consequential evaluations, whereas collectivists sit stagnantly by until the moment that a judgment is rendered and coldly call on the available data. Instead, we argue that both individualists and collectivists are actively engaged in information seeking, evaluation, and prediction processes in light of their culturally specific motivational pressures—the former to see the self as unique and the latter to see the self as adhering to social custom.

Different Approaches to Prediction?

One question that still remains asks what the process is by which individualism leads to greater difficulty in accurately predicting one's own behavior? One possibility suggested by these studies is that people with more individualistic or indepen-

dent self-concepts, as compared with those with more collectivist or interdependent self-construals, approach social predictions via different routes: internal versus external. Given that individualists and those with independent self-concepts who are motivated to emphasize personal uniqueness strive to be better than the group, the best strategy to use in self-prediction is an internal one, making predictions based on one's dispositional nature. In contrast, given that collectivists and those with interdependent self-concepts who are not motivated to emphasize personal uniqueness strive to fit in with a comparison group, the best approach to take when making predictions about the self would be an external one based on the distributional, group-level base rates. In sum, a motivation toward personal uniqueness might lead to a focus on the individual, resulting in an internal and inaccurate approach to prediction, but those who lack such a motivation are led to focus on the behaviors of the group resulting in an external and more accurate approach to prediction.

Beyond differences in the drive to be seen as unique, differences in cross-situational consistency may produce different patterns of reliance on internal and external approaches to prediction. It is possible that the relatively greater cross-situational variation in collectivists' personality and behavior (Heine, 2001; Heine & Renshaw, 2002; Kanagawa, et al., 2001; Suh, 2002) leads collectivists to feel that the internal approach to self-prediction, at least one based on global traits, is inadequate. If the self is in flux and shifts to accommodate situational changes, it would be difficult to find dispositional qualities informative about future behavior. As a result, collectivists may instead turn to distributional information when predicting their own behavior and, therefore, assume an external approach. In future research, members of collectivist and individualist cultures might be asked to predict their own behaviors in domains that are free of moral overtones. Of course, these thoughts are speculative, as we did not include any measures to see whether collectivists and individualists differed in the inside approach versus the outside approach that they adopted for prediction. Future research, however, could include those measures to assess whether these speculations can be supported by data.

Conclusions

The accuracy of self-judgments and social judgments across cultural groups has been in question recently but, until this point, had not been tested against objective standards. We found that in the moral or altruistic domain, at least, members of cultures that focus on maintaining a unique and positive sense of self were much less accurate when predicting their own behavior than when predicting that of others. Members of individualistic cultures consistently overestimated the likelihood that they themselves would act in a generous manner and underestimated their negative behaviors, whereas the predictions made about others showed no such consistent bias. On the other hand, members of collectivist cultures who are more motivated toward fitting in with normative group behavior were generally accurate when predicting both their own and other's behaviors.

It is most likely not only within domains such as morality that discrepant self-judgments and social judgments can occur. We suspect that the basic mechanisms we have outlined here will hold in other domains as well. For instance, those who hold different motivations toward or away from a unique sense of self are likely to display different patterns of accuracy when predicting the likelihood that they will experience health complications (Clarke, Lovegrove, Williams, & Machperson, 2000), the likelihood that they will react to emotional events (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998), or the likelihood of other events that can be favorably construed. Still, other factors distinguish members of individualist and collectivist cultures (i.e., face-saving). These factors might act as moderating variables and attenuate the patterns of accuracy in these predictions and other social judgment scenarios. Identifying potential moderators and more generally exploring cross-cultural differences in the accuracy of self-predictions and social predictions in relation to actual behavior would be a fruitful pursuit.

The German philosopher Goethe wrote (before the advent of APA rules on sexist language), "Self-knowledge comes from knowing other men." But men and women can gain an understanding of themselves through knowing others only if they are willing to accept that knowing what constitutes normative social behavior will inform their personal understanding of themselves. This research suggests that acceptance of this premise may not be universal. Instead, there are cultural differences that prevent people from knowing themselves precisely because they are motivated to feel different from the norm or the typical group member.

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