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Abstract

When the relative contribution of the self and the group to a group success is unclear, Americans tend to exhibit a self-serving bias (rewarding the self more than what the self deserves), whereas the Chinese tend to exhibit an other-serving bias (rewarding the group more than the group deserves). In a study comparing the reward allocation biases of Americans and Chinese in different group outcome conditions, the authors showed that the abovementioned cultural difference is found (a) only for culturally congruent success experience (attaining approach goals for Americans and avoidance goals for Chinese) and (b) among individuals who are motivated by the need for cognitive closure to exhibit culturally typical responses. This finding has important implications for understanding the dynamic nature of cultural influences on social behaviors.

Keywords

self-serving bias, other-serving bias, culture, success, need for cognitive closure

Cross-cultural research has shown that in reward allocation situations in which the relative contributions of the self (vs. other group members) are ambiguous, Americans tend to give extra credit to the self, taking more than what the self deserves (i.e., exhibiting a self-serving bias). In contrast, Chinese in the same situation tend to give extra credit to the group, giving their group members more than what they deserve (i.e., exhibiting an other-serving bias; see Zhang, 2006). This cultural difference has been attributed to higher levels of collectivism or social orientation in Chinese (vs. American) contexts.

In the present article, we propose two moderators of this cultural difference. Specifically, we argue that this cultural difference is particularly pronounced when (a) the group encounters a culturally congruent success experience and (b) the motivation to exhibit the culturally typical response pattern is salient. A growing body of evidence indicates that Americans more

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eagerly pursue approach goals (i.e., achievement of positive outcomes) than avoidance goals (i.e., prevention of negative outcomes), whereas the Asians display the opposite pattern (Elliot, Chirkov, Kim, & Sheldon, 2001; see also Higgins, 2008). Thus, attaining positive outcomes (vs. preventing negative ones) may be seen as a more culturally congruent goal orientation in American contexts, whereas preventing negative outcomes (vs. attaining positive ones) may be seen as a more culturally congruent goal orientation in Chinese contexts. There is also consistent evidence that Americans perceive the self as being more agentic than the group, whereas the Chinese perceive the group as being more agentic than the self (Menon, Morris, Chiu, & Hong, 1999). Accordingly, if people tend to give credits to the agent who is responsible for a meaningful success experience of the collective, when the relative contributions of the self and the group to a positive group outcome is unclear, Americans would be particularly lenient in giving extra credit to the self. In contrast, the Chinese would be particularly generous in giving extra credit to the group when there are some (albeit ambiguous) indications that the group has worked together as a team to avoid a group failure.

Furthermore, past research has shown that the tendency to display culturally typical responses is particularly pronounced among individuals with a stronger need for cognitive closure (NFCC; Chiu, Morris, Hong & Menon, 2000; Fu et al., 2007). This is the case because high NFCC individuals desire certainty and prefer having a firm answer (vs. many alternatives) when deciding how to react to a situation, and culturally typical responses confer certainty (or social proof) given that they are widely accepted and practiced behavioral guides in the culture (Kruglanski, Pierro, Mannetti, & De Grada, 2006). Consistent with this idea, research has shown that American-Chinese differences in reward allocation preferences are more prevalent among individuals with higher (vs. lower) levels of NFCC (Chao, Zhang, & Chiu, 2010; Fu et al., 2007).

Together, we hypothesize that in a situation where there are indications that both the self and group cohesiveness have contributed to a desirable outcome, high NFCC Americans are most likely to exhibit the culturally prescribed self-serving bias (giving additional credit to the self) in reward allocation when the group has attained a positive outcome. We also hypothesize that in the same situation, high NFCC Chinese are most likely to exhibit the culturally prescribed other-serving bias (giving additional credit to the group) in reward allocation when the group has avoided a negative outcome. The present research extends past findings by showing that previously obtained American-Chinese differences in reward allocation are particularly likely to emerge in culturally congruent success situations—attainment of approach goals for Americans and avoidance goals for the Chinese. In addition, the current study seeks to further reinforce the idea that people are more motivated to adhere to cultural norms for satisfying their epistemic need for certainty through following consensually accepted behavioral norms. If these hypotheses are confirmed, our results will provide further support for the important roles of cultural construction of success experiences and individual epistemic motive in predicting when people will comply with the prescribed norms of reward allocation in the culture.

Pretest

To verify the assumed cultural differences in construction of meaningful success experiences, we had 64 European American (24 male, 40 female; mean age = 18.59 years) and 60 Chinese undergraduates (16 male, 44 female; mean age = 19.57 years) read a list of 10 goals and rate how important it was for them to attain each of these goals on a 9-point scale (0 = *not important at all* to 8 = *extremely important*). These 10 goals were identical across all participants, but we counterbalanced the way the goals were framed, with 5 goals framed as an approach goal and 5 framed as an avoidance goal. For example, the same goal was framed as an approach goal (e.g., maintaining a healthy diet) in one counterbalanced condition but an avoidance goal (e.g.,

avoiding an unhealthy diet) in another. We collapsed the importance ratings of the 5 approach goals and 5 avoidance goals to form the dependent measures.

As expected, in a repeated measures ANOVA with goal framing as a within-participants variable, the Culture \times Goal Framing interaction on the importance ratings was significant, $F(1, 122) = 73.40, p < .0001, p_{\text{rep}} = .996, \eta^2_p = .38$: Chinese participants rated the avoidance goals ($M = 4.47, SD = .86$) as more personally important than the approach goals ($M = 4.09, SD = 1.13; t = 2.79, p = .007$), whereas American participants rated the approach goals ($M = 5.00, SD = 1.06$) to be more important than the avoidance goals ($M = 3.54, SD = .81; t = 8.89, p < .0001$). These results indicated that attaining an approach (avoidance) goal is more culturally central to Americans (the Chinese).

Main Study

Participants

Participants were 76 European American undergraduates (35 male, 41 female; mean age = 19.14 years) and 141 Chinese undergraduates (80 male, 55 female, with six participants not reporting their gender; mean age = 22.65 years).

Need for Cognitive Closure Measure

We measured participants' NFCC with the 42-item Need for Cognitive Closure Scale (NFCC scale; Webster & Kruglanski, 1994). Participants rated their agreement on a 6-point scale (1 = *strongly disagree* to 6 = *strongly agree*). A sample item is, "I think that having clear rules and order at work is essential for success." Chinese participants responded to the Chinese version of the scale (see Lam & Chiu, 2002, for its psychometric properties). In the present study, Cronbach's α was .88 for the original scale and .75 for the Chinese version.

Outcome Manipulations and Procedures

Next, in an allegedly unrelated study, participants performed the reward allocation task. To manipulate the nature of the group experience, we randomly assigned participants into one of the four Outcome Valence (positive or negative) \times Outcome Realization (present or absent) conditions. Participants were asked to take the role of the protagonist who took part in a Science Marathon with a team of three students (including the protagonist). In the presence of positive outcome condition, participants learned that the team was given a scholarship of US\$1,000 (or 5,000 Chinese Yuan for the Chinese participants, see below) at the beginning of the game. If the team got 15 or more correct answers out of 20 questions, they would win another US\$1,000 (or 5,000 Chinese Yuan). In this condition, the team won and got the bonus; with the bonus, they received US\$2,000 (or 10,000 Chinese Yuan). In the absence of positive outcome condition, the initial scholarship was changed to US\$2,000. The team did not win and did not get the bonus; they received US\$2,000. In the presence of negative outcome condition, the initial scholarship was US\$3,000 (or 15,000 Chinese Yuan). If the team failed to answer 15 or more questions correctly, they would lose US\$1,000. In this condition, the team lost and received US\$2,000. In the absence of negative outcome condition, the initial scholarship was US\$2,000. The team did not lose and received US\$2,000. Note that in all four conditions, despite the different framings, the actual money received was the same (US\$2,000 or 10,000 Chinese Yuan).

In the scenario, participants also learned that to prepare for the competition, each student researched different topics. We presented ambiguous information concerning members' contribution to the group outcome. On the one hand, to emphasize group contribution, participants

were told that all team members were well prepared for the game and they had worked together as a team. On the other hand, to allow the participants to believe (if they wanted to) that the protagonist had made a significant contribution to the team's outcome, we mentioned that the protagonist answered a few challenging questions during the game. Next, participants took the role of the protagonist and decided (a) how they wanted to distribute the US\$2,000 (or 10,000 Yuan) among the three team members (i.e., preferred allocation) and (b) what the fair way of distributing the reward would be (i.e., fair allocation).

The materials were written in English and translated into Chinese using the back-translation procedure. Because of country differences in currency and cost of living, we converted US\$2,000 into 10,000 Chinese Yuan after taking into consideration the purchasing power of US\$2,000 in Beijing at the time the study was conducted. The American participants responded to the English version of the study and the Chinese participants to the Chinese version.

Results

We created a self-serving (vs. other-serving) score by converting participants' preferred and fair allocations to the self into percentages (out of US\$2,000 or 10,000 Yuan) and subtracting the fair percentage from the preferred percentage. A positive score indicated a self-serving bias (taking more than deserved) and a negative one indicated an other-serving bias (taking less than deserved). To elaborate, this measure of self-serving allocation captures the participants' inclination to take more or less than what they *themselves* thought to be their fair share. Although participants' perception of fair allocation might be affected by many factors, if they perceived that they deserved to receive \$X and preferred to take more than this amount, *from the participants' own perspective*, they wanted to take more than what they deserved. Similarly, if they preferred to take less than this share, *from the participants' perspective*, they wanted to take less than what they deserved. Based on this logic, we derived the self-serving score by subtracting the fair percentage of reward from the preferred percentage.

We conducted the analyses with and without gender and age as covariates. As the results did not differ, the analyses reported did not include gender and age as covariates.

A Culture (American or Chinese) \times Outcome Valence (positive or negative) \times Outcome Realization (present or absent) \times NFCC (mean-centered) General Linear Model (GLM) was performed on the self-serving score. The two significant two-way interactions [Outcome Valence \times NFCC: $F(1, 198) = 4.30, p = .04, p_{\text{rep}} = .90, \eta_p^2 = .02$, and Outcome Realization \times NFCC: $F(1, 198) = 7.89, p = .005, p_{\text{rep}} = .97, \eta_p^2 = .04$] were qualified by the predicted four-way interaction, $F(1, 198) = 4.45, p = .04, p_{\text{rep}} = .90, \eta_p^2 = .02$. As illustrated in Figure 1a and 1c, among American participants, self-serving allocation was significantly above zero only among those with a higher NFCC in the presence of positive outcome condition (predicted value = 13.36%, $SE = 6.64\%$, $t = 2.01, p < .05, p_{\text{rep}} = .88$, Cohen's $d = .23$). Among the Chinese participants, self-serving allocation was significantly below zero (indicating a significant other-serving bias) only among those with a higher NFCC in the absence of negative outcome condition (predicted value = -32.82%, $SE = 5.12\%$, $t = -6.37, p < .001, p_{\text{rep}} = .99$, Cohen's $d = .54$; Figure 1b and 1d). Furthermore, among Americans, although the correlation did not reach statistical significance, NFCC was positively associated with the self-serving bias in the presence of positive outcome condition only ($r = .11, p = .66$; r ranged from -.26 to -.33 in other conditions); among the Chinese, NFCC was significantly negatively associated with self-serving bias (or positively associated with other-serving bias) in the absence of negative outcome condition only ($r = -.53, p = .002, p_{\text{rep}} = .98$; r ranged from -.04 to .20 in other conditions). Interestingly, among Chinese participants, those with a lower NFCC in the absence of negative outcome condition were found to exhibit a significant self-serving bias ($M = 33.89\%$, $SE = 8.22\%$, $t = 4.12, p < .001, p_{\text{rep}} = .99$, Cohen's $d = .35$). Although this result is not anticipated, it is consistent with past studies that

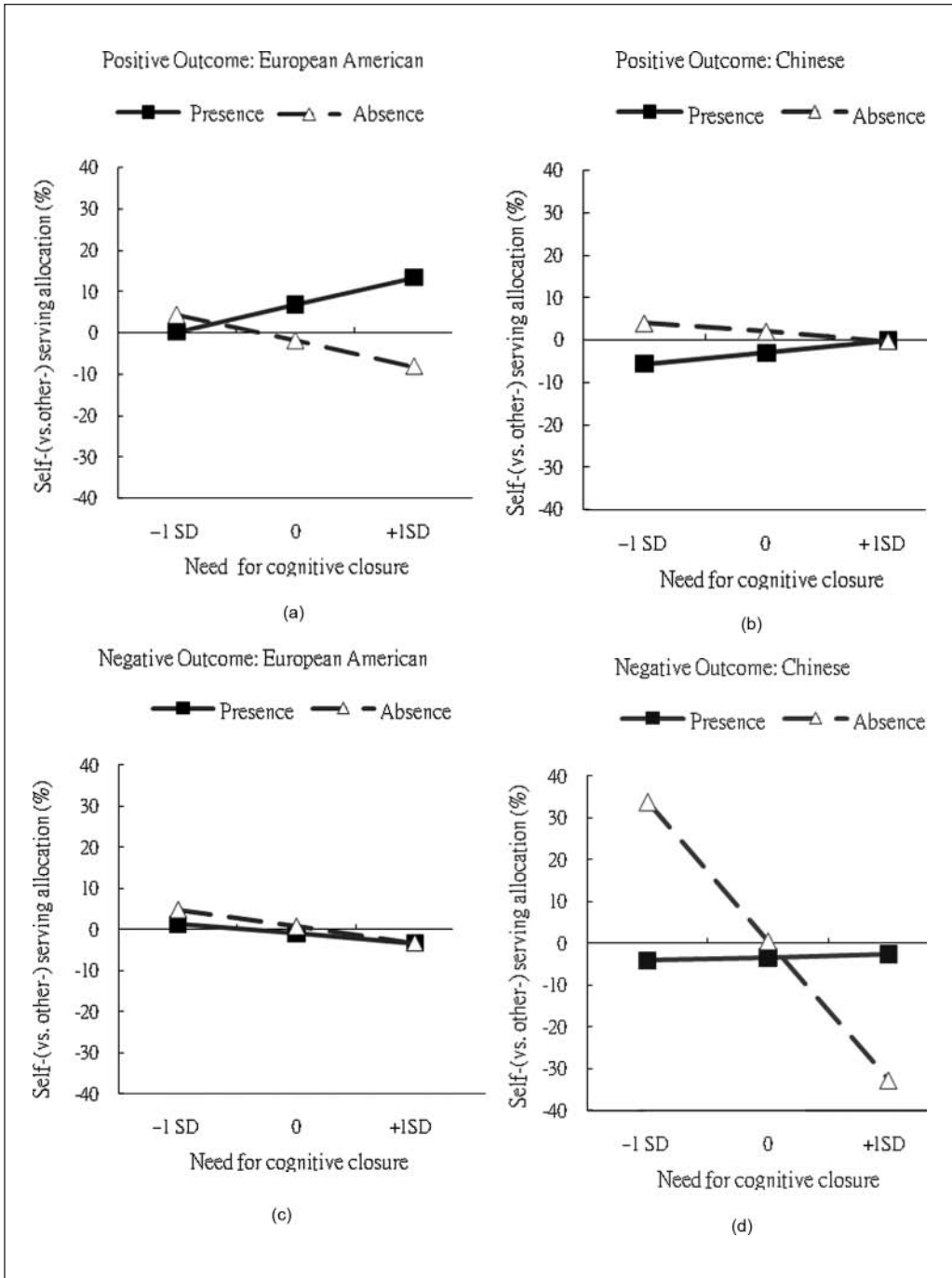


Figure 1. Extent of Self- (Vs. Other-) Serving Bias in Reward Allocation as a Function of Culture, Outcome Valence, Outcome Realization, and Need for Cognitive Closure (NFCC)
 Note: A positive percentage on the y-axis indicates a self-serving bias and a negative percentage indicates an other-serving bias in reward allocation.

have shown a tendency to exhibit counter-normative behaviors among lower NFCC individuals (Chiu et al., 2000; Fu et al., 2007).

The result just described was not due to differences in perceived fair allocation. In a Culture \times Outcome Valence \times Outcome Realization \times NFCC GLM performed on the fair percentage allocated to the self, only the main effect of culture was significant, $F(1, 200) = 3.83$, $p = .05$, $p_{rep} = .88$, $\eta_p^2 = .02$, with the fair percentage being slightly higher among the Chinese than European Americans ($M = 36.7\%$ and 34.2% , respectively).

Discussion

The result supported our hypothesis: When the relative contributions of the self and the group to the group outcome were unclear, both the Chinese and European Americans, particularly those with a higher NFCC, showed the culturally typical allocation bias when their group encounters a culturally congruent success experience. Specifically, for the Chinese, the culturally typical bias is to give extra credit to the group, probably because the group is considered to be a more powerful causal agent in Chinese contexts (Menon et al., 1999). Moreover, for the Chinese, a more meaningful success experience for the group is attainment of avoidance goals (as opposed to approach goals). In contrast, for Americans, the culturally typical bias is to give extra credit to the self, probably because the self is regarded as a more powerful causal entity in American contexts (Menon et al., 1999). Also, unlike their Chinese counterparts, Americans perceived attainment of approach goals a more meaningful success experience for the group.

Although these results were based on a high-order interaction in a single study, we predicted the interaction based on current theories of motivated cultural cognition (Chiu et al., 2000; Fu et al., 2007). Moreover, the pattern of the interaction is consistent with findings from previous studies on the moderation effect of NFCC on cultural differences in judgment (Chiu et al., 2000) and reward allocation (Chao et al., 2010; Fu et al., 2007). We, however, would recommend further studies to establish the generality and to extend the implications of the current findings to other culturally relevant phenomena.

In conclusion, although the social psychological conditions for the exhibition of culturally typical reward allocation biases appear to be identical across American and Chinese cultures, it is important to consider cultural differences in the constructions of agency and success experiences when predicting when and how such biases will be displayed in American and Chinese contexts. Furthermore, the finding that NFCC accentuates cultural bias in culturally relevant situations highlights the epistemic function of cultural norms and suggests that culture does not rigidly determine behaviors. Instead, some individuals in a culture are inclined to follow cultural norms because they desire epistemic certainty, and cultural norms, by virtue of their consensual validity, confer this epistemic security.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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