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Self-promotion hypothesis: The impact of self-esteem on self–other discrepancies in decision making under risk

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ABSTRACT

This study aimed at investigating the role of self-esteem in self–other decision making under risk. A sample of 117 participants selected from 626 undergraduate students as a function of their Rosenberg Self-Esteem Scale scores completed a modified version of the cups task, in which participants were required to choose between a risky and a sure option for themselves or others. We found that the participants with high self-esteem (HSE) made more risk-seeking decisions than those with low self-esteem (LSE), and participants made more risk-seeking decisions in loss situations than in gain situations. Furthermore, the LSE participants made more risk-averse decisions for themselves than for others in gain situations but made more risk-seeking decisions in loss situations. In contrast, HSE participants made more risk-seeking decisions for themselves than for others in gain situations but made more risk-averse decisions in loss situations. These findings revealed that self-esteem has a robust effect on self–other decision making. A *self-promotion hypothesis* was introduced to explain these findings.

1. Introduction

People decide for others as often as they decide for themselves (Jung, Sul, & Kim, 2013). For example, doctors frequently decide for their patients, politicians represent their constituents, and asset managers decide on behalf of their investors. These other-regarding decisions are crucial to establishing and maintaining social relationships. However, empirical studies on how people make choices for others are lacking (Polman, 2012).

Even if deciding for others differs from deciding for the self (Polman, 2012), some studies found that decisions tend to be more risky when made on behalf of others than for oneself (Beisswanger, Stone, Hupp, & Allgaier, 2003; Stone & Allgaier, 2008; Stone, Choi, De Bruin, & Mandel, 2013; Wray & Stone, 2005), whereas other studies showed that decisions tend to be less risky when made on behalf of others than for oneself (Garcia-Retamero & Galesic, 2012; Hadar & Fischer, 2008; Zikmund-Fisher, Sarr, Fagerlin, & Ubel, 2006). In order to reconcile the conflicting findings, some researchers have sought to capture a more complete picture of self–other decision making under risk by focusing on individual personality factors of the decision maker (Garcia-Retamero, Okan, & Maldonado, 2015; Jung et al., 2013).

Nevertheless, knowledge on how personality factors of the decision maker influence self–other discrepancies in decision making under risk is limited. Identifying these stable individual differences can contribute to further understanding and predicting human decision making (Mcelroy, Seta, & Waring, 2007). Although a number of individual personality factors may modulate the degree of self–other discrepancies in decision making, self-esteem is expected to be particularly important (Wray & Stone, 2005). However, despite the significance of self-esteem, to date, only one study has investigated its effect on self–other discrepancies in decision making. Wray and Stone (2005) found that low self-esteem (hereafter LSE) and high self-esteem (hereafter HSE) individuals both show self–other decision-making discrepancies in romantic relationship situations, but the discrepancies are more notable for LSE than for HSE individuals. What about self–other decision-making differences for LSE and HSE individuals in risky monetary situations? Risky decision-making for monetary gains and losses represents different psychological processes and may involve separate neural structures (Levin et al., 2012). Kahneman and Tversky (1979) demonstrated that people show different risk preferences for gains and losses. Therefore, by using a novel task (i.e., the cups task) that can separate risky decision-making for gains and losses (Levin et al., 2012; Weller, Levin, Shiv, & Bechara, 2007), we aim to investigate the impact of self-esteem on self–other discrepancies in decision making under

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risk.

Self-esteem is typically considered to be the degree to which an individual values and accepts himself or herself (Rosenberg, 1965). Self-esteem is a crucial determinant of how people respond to positive and negative events (Brown & Dutton, 1995). Josephs, Larrick, Steele, and Nisbett (1992) found that LSE individuals were more risk-averse than HSE individuals in monetary gain situations. However, when decision outcomes were withheld from the participants to eliminate the threat to self-esteem, no risk-taking discrepancies were observed in the self-esteem function. Landau and Greenberg (2006) revealed that HSE individuals were more risk-seeking than LSE individuals in self-esteem-relevant scenarios (e.g., giving a commencement speech at the college graduation). Some researchers showed that in monetary loss situations, LSE individuals made more risk-seeking decisions than HSE individuals (Mcelroy et al., 2007).

The *resource model* provides a plausible explanation of the reviewed findings. This model assumes that self-esteem positively correlates with an individual's overall store of affirmational resources or positive self-views, which can be recruited to cope with the threatening implications of a poor choice and reinstate overall self-esteem (Landau & Greenberg, 2006). HSE individuals possess abundant and accessible affirmational resources and can cope with threat more easily. Thus, they are less defensive in response to potential or actual threats to their self-esteem in contrast to LSE individuals, who have relatively fewer affirmational resources and thereby tend to be more defensive (Steele, Spencer, & Lynch, 1993). Therefore, we predict that HSE and LSE individuals have different responses to the positive (gain) and negative (loss) frames.

A positively framed decision involves choosing between a sure gain and a risky gamble. Therefore, the self-protectiveness trait of LSE individuals will lead them to choose the sure gain to minimize the possibility of failure, whereas the self-enhance trait of HSE individuals will lead them to choose the gamble for an opportunity of a larger payoff. However, when faced with a choice framed in terms of losses, LSE individuals may choose the risky loss that provides the possibility of avoiding threats to their self-esteem because the sure loss is threatening, which represents a failure (Josephs et al., 1992). In contrast, HSE individuals, and are thus not concerned about threats to their self-esteem, will be more likely to choose the sure loss.

In addition, based on the *risk-as-feelings hypothesis* (Hsee & Weber, 1997; Loewenstein, Weber, Hsee, & Welch, 2001), in risky situations, individuals highly depend on their subjective feelings toward risk when deciding for themselves. When making risky decisions for others, they may base their decisions partly on their own feelings. However, individuals may have difficulty fully considering another person to have feelings as strong as theirs. Specifically, people show less affective engagement when deciding for others than themselves (Albrecht, Volz, Sutter, Laibson, & Von Cramon, 2010). Altogether, we hypothesize that LSE individuals may be more risk-averse in gain situations and more risk-seeking in loss situations when deciding for themselves than for others, whereas HSE individuals may be more risk-seeking in gain situations and more risk-averse in loss situations when deciding for themselves than for others.

2. Methods

2.1. Participants

In the first phase of the study, 626 undergraduate students (353 females, age range 18 to 29 years, mean ± SD = 20.51 ± 1.97 years) were recruited to complete the Rosenberg Self-Esteem Scale (RSES, Rosenberg, 1965). The RSES comprises 10 items, each is coded from 1 (strongly disagree) to 4 (strongly agree). Given that a previous study (Zhou & Wang, 2005) reported a low correlation between the eighth item ("I wish I could have more respect for myself") and the other items of RSES among Chinese participants, we calculated the correlations between the eighth item and the other items as well as the total score of RSES in the present study, and found that the eighth item also has a low correlation with other items and total score of RSES (i.e., the correlation coefficients are all < 0). Therefore, we followed the procedure in some previous studies (Li, Zeigler-Hill, Luo, Yang, & Zhang, 2012; Li et al., 2012), in which the eighth item was excluded when computing the total score of RSES. In this study, the Cronbach's alpha is 0.84. Based on their scores on the RSES, individuals who scored in the top 15% of the distribution ($N = 94$) were classified as the HSE group, and those who scored in the bottom 15% of the distribution ($N = 94$) were classified as the LSE group.

In the second phase of the study, we pseudo-randomly selected 60 HSE and 60 LSE individuals as the potential participants from the corresponding group. In this procedure of pseudo-random selection, we excluded 34 HSE and 34 LSE individuals by matching the gender of the potential participants. Due to one HSE and two LSE individuals declined to participate in the subsequent experiment, and thus 59 HSE and 58 LSE participants were invited to participate in the subsequent experiment. Data from seven HSE participants and six LSE participants were excluded from the analyses because they doubted that the decisions for another person were real on the post-experiment self-report questionnaire. The remaining 52 HSE participants (26 females, age range 19 to 25 years, mean ± SD = 21.40 ± 1.64 years) and 52 LSE participants (28 females, age range 19 to 24 years, mean ± SD = 21.25 ± 1.53 years) were included in the data analysis. All participants were right-handed, with normal or corrected-to-normal vision. The written informed consent was obtained from all participants involved in this study.

2.2. Experimental task and procedure

We used a modified version of the cups task (Weller et al., 2007), which included gain (e.g., Fig. 1A) and loss (e.g., Fig. 1B) domains (for more details, see Zhang, Liu, Chen, Shang, & Liu, 2017).

Choices were presented in four blocks (two blocks for oneself and two blocks for the other). The presentation order of these blocks was counterbalanced across participants. At the start of each block, an instruction indicating decisions for oneself or decisions for the other was presented for 5000 ms (Fig. 1C). The instruction was presented only at the first trial in each block. Each trial began with a fixation point varying randomly from 600 to 1000 ms. Afterwards, sure and risky options were simultaneously shown on the screen asking participants to choose by pressing the number key "3" to select the option displayed on the left side of the screen, or pressing the number key "4" to select the option displayed on the right side of the screen. Here, two options (sure and risky) were randomly presented on the left or right side of the screen in every trial. These alternatives remained on the screen until the participants made a choice. Following their responses, each trial ended with a blank screen that varied randomly from 800 to 1200 ms. Within each block, 40 trials were presented in a pseudo-random order. Each participant performed 160 total trials (for more details, see Zhang et al., 2017).

A gender-neutral name ("ZhengLi"; in Chinese, both females and males can have this name) was used to refer to the other and minimize the potential effects of gender on decision propensities. We informed the participants that another person had been randomly chosen from the subjects of another experiment whom they would never meet.

Before the start of the experiment, participants were given an initial cash endowment of ¥25 so that they could pay any eventual losses at the end of the experiment. They were told that one trial from the self trials would be randomly selected by a computer at the end of the experiment, and a gain or loss from the selected trial would be added to or subtracted from the initial endowment, and a payment would be made according to their actual choice during the experiment. This procedure ensured that participants would independently evaluate every choice because they were unaware of which trial would be chosen (De Martino, Camerer, & Adolphs, 2010). A show-up fee of ¥20 was also