

THE COMPARATIVE STUDY ON INDIVIDUAL GAME DECISION-MAKING BETWEEN UYGHUR AND HAN

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ABSTRACT

The cross-cultural researchers pointed out that the personality differences were the cultural differences in essence (Jones, 2008; Kopelman, 2008). Personality is the common kernel of human psychology, and there are also individual differences and group differences. The Uyghur nationality is the fifth largest minority in China which has its own long history, unique language, religious belief and customs. And the Han is the majority ethnic group in China. This study aims to investigate whether there are some differences in decision behaviors and strategies between Uyghur and Han individuals in game decision-making. Prisoner's Dilemma Game is one of the most widely used game decision-making paradigms, since the two-sides design of prisoner's dilemma could deeply display the influence of different presentation forms of similar game on cross-population or cross-cultural comparison. By using quantitative and qualitative methods, researchers investigated the behaviors of participants and their strategic choice in a static prisoner's dilemma game, and verified whether the framing effect existed in game decision-making. In addition, the study also adopted the The NEO - PI - R Chinese Revised Edition, which was an empirically-validated instrument for measuring the broad Big Five dimensions (extra-version, agreeableness, conscientiousness, neuroticism, and openness) of personality and most widely used as standard evaluation tool of personality in China (Dai et al., 2004). Finally, present study explained the impact of cultural differences on decision-making with personality as intermediate variable.

The Han and Uyghur participants have different cultural backgrounds, the former were natives of Han nationality settlements, but the latter were all natives of Urumqi (the provincial capital of XinJiang Uygur Autonomous Region). According to this, participants were 120 students (age range = 17 to 23 years; $M = 20.47$, $SD = 1.145$; 60 females and 60 males) who were given some credits for their participation. Han and Uyghur participants were occupied respectively half amount of the total. In addition, they were all graduated from their own national primary and middle schools, and all from middle class families. Participants signed a Consent Form before entering the lab. Then they were taken to separate rooms for behavior testing. Each participant would complete the NEO - PI - R Chinese Revised Edition and a demographic form which for collecting demographic variables after behavior testing. In this task each trial involved two players and each of them owned two kinds of cards. Participants were told that they would play a card-choose game against another randomly assigned participant, who seated in other room. In positive framing PD, players should choose one card from card A and B; and in the negative one, players should choose one from card C or D. Card A in positive

framing game, and card C in negative framing game mean cooperation or non-Nash equilibrium. Card B in positive framing game, and card D in negative framing game mean competition or Nash equilibrium. All participants were told that they could not be identified by the other player and they could earn more gifts by getting more scores. During each round, two participants would play the game simultaneously, but they would not know each other's choice immediately (static game paradigm). Researchers obtained the scores by two index, 'decision score' and 'strategy assortment'. The scoring method were also based on the past researches and game theories.

The results showed that: (1) There was a difference between Uyghur and Han nationalities in decision-making: Uyghur participants made more collective rational decisions than the Han participants in static game. Besides, the strategy analysis showed that the Uyghur participants mainly chose with the random perception strategies, along with fast frugal heuristics and reciprocal strategies, that is, the three non-rational strategies of mutual cooperation. Compared that, the Han participants mainly chose with the standard rational strategies and sequential elimination heuristic. (2) Uyghur participants' performance revealed framing effect in prisoner's dilemma game while that did not show among Han participants performances. Although the present research's results were different from the results from western researches which used Europeans as the participants (Sonnemans, Schram & Offerman, 1998), it had the cross-cultural consistency with the Islamic culture. In addition, researchers in this study put forward the fuzzy-trace theory and the prospect theory which could explain the phenomenon from two different cognitive views. Moreover, for the Han participants, the probabilistic mental model could be used to explain the lack of framing effect (Hoffrage & Reimer, 1991). (3) Uyghur and Han participants had significant differences in Extra-version and Neuroticism of personality dimensions. The regression analysis on personality scores and performance of prisoner's dilemma game showed that Extra-version and Neuroticism factor scores had better prediction in the collective rational decision-making among Uyghur and Han participants.

Also, this research found cultural factors could influence individual PD decision-making. Cultural factors, which act in several aspects, such as religion, play an important role in strategy of Uyghur and Han players' choices. Uyghur's religion was Islam, and Islam has an essential influence on their moral education (Li, 2003). In respect of reciprocity and share, especially fortune share, Islam emphasized that fortune master should share their property with relatives, orphans, and poor people. Also stingy people would be seriously punished in judgment day. The relationship between PD decision-making and personality was not steady but special in different culture backgrounds. It could be inferred that results of prisoners' dilemma were influenced by cultural factors through two aspects: one is personality which was under the influence of both genes and environment, and the other was values and morality. Behavior is not only likely to be a function of culture and but also the interaction between personality and the environment (Triandis & Suh, 2002). Besides, according to the personality factories, which was the core of culture difference (Dov, 2001), were highly related with social culture in this research. The factor of culture influenced personality through many ways, and its effects was considerable, which meaning that the cultural impact has interrelationship with the personality. From this study, it was clear that the unique

culture of Uyghur people formed their unique national characters. It was proved that different personality character of people from different cultural background would make different decisions. Accordingly, people with similar personality character always bring the same result. Besides, this study found that culture has effect of values and morality on the people. Particularly, its values and morality could influence people's willingness of trust and helping behaviors.

Overall, In prisoners' dilemma, researches have controlled the irrelevant variables very well, so it can be inferred that the faith of trust and reciprocity was very important. Present study through cross-culture comparison exposed new light on the impact of personality and culture on decision-making behavior. Two-side design helped to explore the relationship between personality and decision-making. The study could be improved upon by examining causal, rather than co-relational effects. Furthermore, this study also explained the relationship between civilized and geographical environments and personality, which was not only applied to explain the game decision performance of the Uyghur nationality, but also applied to partially explain causes of behaviors of religious fanatics and terrorists.

Keywords: Game decision-making, Cross-culture, Prisoner's dilemma, Personality, Culture-personality perspective