Chinese Relational Self-reference Effect

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ABSTRACT: The self of people with different cultures has significant differences. This paper uses the experiment research of the self-reference processing paradigm to explore whether the Chinese have relational self-reference effect, and also uses the internal design of 2×2×2 participants, and three variables, such as reference conditions, adjective valence and conformity to self. The results show that the response time of reference processing of relational self is significantly shorter than the reference processing time of generalized others, thus showing that the Chinese have relational self-reference effect.

Keywords: relational self; self-reference effect; relational self-reference effect

1 INTRODUCTION

Brewer & Sedikides, et. al.[1] first proposed the concept of relational self, and then Andersen & Chen, et. al.[2] further elaborated and researched the relational self, and proposed the triple self theory in recent years. The theory believes that the individual self construction consists of three components: individual self, collective self and relational self. Individual self is a perception of individual characteristics, states, behaviors and so on (for example, “I am noble”). Collective self highlights individuals and groups. Relational self highlights interpersonal relationship of individuals, which refers to a self that is related to a particular or multiple important others in a certain situation.

At home and abroad, a lot of researches have been done on individual self and collective self, but the research on relational self was insufficient, especially in China, the research on relational self was particularly insufficient.

Relational self refers to the self of sharing traits of individuals and intimate others (such as partners, good friends, and family members) and their relationships. Such self reflects the self associated with his or her important others. Relational self contains two meanings, one is the self-part shared by two relational par-

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Subsequently, extensive and in-depth researches on the self-reference effect prove the existence of self-reference effect. With the introduction of the relational self, does the relational self-reference effect exist? What is the relational self-reference effect?

According to the predecessors’ understanding of the self-reference effect, the relational self-reference effect refers to a phenomenon in which the processing effect is significantly better than other coding conditions when the processing materials (such as adjectives) are connected with the relational self. Specifically, compared with the non-relational self-reference processing (such as semantic processing, reference processing of generalized others and so on), the relational self-reference processing is more superior and the memory effect is better.

Does the relational self-reference effect of the Chinese exist? Is the relational self-processing better than the information of the non-relational self (such as the information of generalized others)? Is there a unique mechanism of the relational self-processing in the human brain?

Recent researches have found that culture has an important impact on the self-reference effect. Many countries and regions combine with the self-reference effect and local culture to carry out a large number of localized researches.

Under a cultural background of China that values collectivism and relationships, more localized researches are needed to explore the Chinese self in a comprehensive and in-depth manner. Therefore, this paper attempts to research the relational self-reference effect of the Chinese.

2 EXPERIMENT

2.1 Research purposes and assumptions

Research purposes are followings.

1. To research and discuss whether there is a relational self-reference effect through behavioral experiments.

2. To discuss whether there is an interaction between the relational self-reference processing and the corresponding adjective valence, adjective and individual self-compliance judgment and so on.

Research assumptions are followings.

1. There is a relational self-reference effect, that is, the relational self-reference processing time is shorter than the processing time of referring to the information about generalized others.

2. There is an interaction between the relational self-reference processing and the corresponding adjective valence, adjectives and individual self-compliance judgment. It is specifically manifested as follows, in the process of self-conformity reference processing of positive valence adjectives, its behavioral response is less time-consuming, and vice versa.

2.2 Classification of video data mining technology

2.2.1 The classification based on the field

The participants are 48 college students or graduate students from Hunan and Hubei. There are 20 male students and 28 female students, with an average age of 22.6. The participants are right-handed, healthy, with a normal vision or after correction. A certain amount of compensation will be given after completion of the experiment.

2.2.2 Materials

The experimental materials are selected from 84 double-word adjectives (these words can be used to describe people) in the Chinese Affective Words System (compiled by Luo Yuejia, et al.). 84 adjectives are randomly divided into three groups, with 28 words in each group. The factor analysis of multi-dependent variable and multi-independent variable is carried out for three groups of vocabulary. The results show that p values of the valence, arousal, familiarity, stroke number and word frequency of adjectives in each group are greater than 0.1 under various reference conditions, indicating that the adjectives in each group match well and there is no significant difference between the groups. That is, adjectives have achieved a good balance under the three reference conditions (mother, friend and generalized others) in terms of valence, arousal, familiarity, stroke number and word frequency.

Meanwhile, this experiment also balances the presentation orders of adjectives under various reference conditions with randomization. In addition, in order to avoid the primacy effect and recency effect, the practices of Yang Hongsheng et al. are also used for reference. Six adjectives (which are not listed in 84 adjectives) are respectively added before and after the vocabularies used for learning, which are used to judge for Zhu Rongji.

2.2.3 Design

The internal design of 2×2×2 participants is used, in which the intra-group variable 1 is reference conditions (relational self, generalized others).

The intra-group variable 2 is adjective valence (positive and negative), and the intra-group variable 3 is conformity judgment (conformity to reference objects, non-conformity to reference objects), and the dependent variable is the response time.

2.2.4 Procedure

The experimental operation is performed on a computer and all stimuli are presented with black words in the center of a screen under a gray background. During the experiment, the participants are told by the instructions on the computer screen that this experiment is a trial related to the response speed, and required to making an evaluation and response to
The average response time of the participant judgment under various conditions is shown in Table 1. The three coding conditions (mother, friend and generalized others) are followed by a double-word adjective (such as "careless") rendered for 2 seconds. The participants are asked to make a yes or no judgment on the corresponding adjectives according to the previous questions, and give an answer by pressing the corresponding keys on the keyboard.

If the participants believe that "***" is consistent with or more consistent with the adjective, then they will make a "yes" judgment, and the operation mode is to press "J" key; if the participants believe that "****" is inconsistent with or completely inconsistent with the adjective, then they will make a "no" judgment, and the operation mode is to press "F" key. The time interval from words rendering to the response of participants is recorded as the response time. The rendering time of each word is 2000ms, and the participants make response during this time. If the participants do not make response within 2 seconds, the word will disappear automatically and then enter the next trial. There is a time interval of 500ms between each trial. The three coding conditions (mother, friend and generalized others) randomly match with 28 adjectives, so that each participant performs 3×28=84 trials at the learning phase.

3 CONCLUSION

The variance analysis of repeated measures is used for internal variance analysis of three factors (reference objects, adjective valence and conformity judgment). The average response time of the participant judgment under various conditions is shown in Table 1.

Table 1. Reference processing response time and standard deviation of reference objects, valence and conformity to three factors

| Reference object   | Valence  | Conformity to reference objects | Non-conformity to reference objects |
|--------------------|----------|---------------------------------|-------------------------------------|
|                    | M        | SD     | M                  | SD      |
| Relational self    |          |        |                    |         |
| Negative           | 1051.26  | 229.37 | 919.94             | 188.44  |
| Positive           | 947.35   | 183.99 | 1096.51            | 182.31  |
| Generalized others |          |        |                    |         |
| Negative           | 1020.90  | 233.68 | 989.34             | 165.38  |

2. Second-order interaction test: (1) The interaction between the reference objects and the adjective valence is critically significant, F(1,47)= 2.74, p=0.105. Back testing shows that the difference between the response time of relational self under the condition of negative valence (M=999.31, SD=192.49) and the judgment time under the condition of positive valence (M=995.48, SD=170.00) is insignificant, t=1.31, p>0.05; the response time of generalized others under the condition of negative valence (M=1008.24, SD=186.51) is significantly shorter than the judgment time under the condition of positive valence (M=1053.32, SD=177.95), t=294, p=0.003. (2) The interaction between the reference objects and the conformity judgment is extremely significant, F(1,47)= 81.47, p=0.000. Back testing shows that, under the condition of conformity to reference objects, the difference between the response time of relational self (M=999.31,SD=192.94) and the judgment time of generalized others(M=995.48,SD=200.37) is insignificant, (t=0.16,p>0.05); under the condition of non-conformity to reference objects, the response time of relational self (M=1008.23, SD=173.91) is significantly shorter than the judgment time of generalized others (M=1053.32, SD=184.97), t=2.47, p=0.017. (3) The interaction between the conformity judgment and the adjective valence is insignificant, F (1,47)=0.01, p>0.05.

3. The third-order interaction between the reference objects, adjective valence and conformity judgment is significant, F(1,47)= 6.30, p=0.016. Simple effect analysis finds that: (1) Under the conformity condition in the conformity judgment, the simple main effect of the reference objects is insignificant, F(1,47)= 0.02, p>0.05; the simple main effect of the adjective valence is extremely significant, F(1,47)= 19.54, p=0.000. The response time under the condition of positive valence (M=958.70, SD=167.83) is significantly shorter than the judgment response time under the condition of negative valence (M=1036.08, SD=174.81) (MD=77.37); the interaction between the reference objects and the adjective valence is significant, F(1,47)= 3.84, p=0.05. The simple effect analysis finds that, under the condition of relational self, the response time under the condition of positive valence (M=947.35, SD=183.99) is significantly shorter than the judgment response time under the condition of negative valence (M =1051.26, SD=229.37), t=4.65, p=0.000; under the condition of generalized others, the response time under the condition of positive valence (M=970.06, SD=192.92) is significantly shorter than the judgment response time under the condition of negative valence (M=1020.90, SD=233.68), t=2.32, p=0.025. (2) Under the non-conformity condition in the conformity judgment, the simple main effect of the reference objects is significant, F(1,47)=6.10, p=0.025. The response time under the condition of relational self (M=1008.23, SD=173.91) is significantly shorter than the judgment response time under the condition
of generalized others (M=1053.32, SD=173.83) (MD=45.09); the simple main effect of the adjective valence is extremely significant, F (1,47)= 152.45, p=0.000. The response time under the condition of positive valence (M=1106.91, SD=182.40) is significantly longer than the judgment response time under the condition of negative valence (M=954.64, SD=163.83) (MD=152.27); the interaction between the reference objects and the adjective valence is insignificant, F(1,47) = 2.11, p=0.153.

4 DISCUSSION AND ANALYSIS

China has a unique culture compared to Western society. Many Chinese people regard their relatives and friends as a part of their own body or life. Self is often difficult to distinguish between relatives and friends, and even there is no mutual distinction. “Brothers are like hands and feet”, “Friends are like brothers”; “If I can exchange my life for the happiness of my children, I am willing to end my life immediately”, which can be seen everywhere in our culture. Relatives and friends represent the closest relationship of the Chinese people. So, is there a difference between the representation of relatives and friends and the representation of generalized others (familiar)? If there is a significant difference, it indicates that people have incorporated their important relationships into self-representation, so that we can analyze whether the Chinese have a relational self. This paper discusses the relational self of the Chinese by self-reference processing. The research results are as follows:

1. The main effect of the relational self-reference processing is significant. The response time of relational self-reference processing is significantly lower than the reference processing time of generalized others, thus showing that there is a relational self-reference effect, and also proving that the Chinese have a relational self. The main effect of whether adjectives conform to reference objects (conformity judgment) is extremely significant, and the judgment time of conformity to reference objects is significantly shorter than the judgment time of non-conformity conditions, showing that the Chinese are not good at rejection reaction in the evaluation of individuals. The main effect of adjective valence is insignificant, showing that people make a positive and negative evaluation in the evaluation of individuals, that is, the Chinese keep a modest thinking in the evaluation of others, who have strong dialectic thinking.

2. Through analysis of the second-order interaction: (1) the interaction between the reference conditions and the adjective valence is critically significant. Under the condition of relational self-reference, there is no difference in the individual response time to positive and negative valence adjectives; under the condition of generalized others, the individual response time to negative valence adjectives is significantly less than the judgment time of positive valence adjectives, which shows that people’s acceptance reaction to others is more difficult than rejection reaction. (2) The interaction between the reference objects and the conformity judgment is extremely significant. Under the condition of conformity to reference objects, the response time to the relational self is insignificantly different from the judgment time of generalized others; under the condition of non-conformity to reference objects, the response time to the relational self is significantly shorter than the judgment time of generalized others, which shows that people are difficult to make judgments about rejection to others. (3) However, the interaction of the conformity and non-conformity judgment for the reference objects and the adjective valence is insignificant. The interaction of the conformity judgment and adjective valence is insignificant, which is consistent with the experiment hypothesis.

3. The third-order interaction between the reference objects, adjective valence and conformity judgment is significant. Further analysis finds that:

(1) Under the condition of conformity judgment, the simple main effect of the reference object is insignificant; the simple main effect of the adjective valence is extremely significant, and the response time under the condition of positive valence is significantly shorter than the judgment reaction time under the condition of negative valence; the interaction of the reference object and the adjective valence is significant. A simple effect analysis shows that, under the condition of relational self, the response time under the condition of positive valence is significantly shorter than the judgment reaction time under the condition of negative valence; under the condition of generalized others, the response time under the condition of positive valence is significantly shorter than the judgment reaction time under the condition of negative valence.

(2) Under the non-conformity condition in the conformity judgment, the simple main effect of the reference objects is significant, and the response time under the condition of relational self is significantly shorter than that judgment response time of generalized others; the main effect of the adjective valence is extremely significant, and the response time under the condition of positive valence is significantly longer than the judgment response time under the condition of negative valence; the interaction between the reference objects and the adjective valence is insignificant. According to the above analysis, the experiment confirms that the Chinese have relational self-reference effect. Meanwhile, the judgment time under the condition of conformity to reference objects is significantly shorter than the judgment time under the condition of non-conformity to reference objects, showing that individual prefers to make a response and judgment of conformity to the individual in the process of reference processing. The main effect of adjective valence is insignificant. Further analysis finds that the interaction between the reference objects and the conformity
judgment is extremely significant. Under the condition of conformity to the reference objects, the difference between the response time of relational self and the judgment time of generalized others is insignificant; under the condition of non-conformity to the reference objects, the response time of relational self is significantly shorter than the judgment time of generalized others, which shows that people are difficult to make rejection judgments for generalized others. The third-order interaction between the reference objects, adjective valence and conformity judgment is significant, showing the interaction between three factors.

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