A Study of Processing Refusal Situation for Chinese Old People

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Abstract: The paper is to investigate the processing of five situations by old Chinese people. By using questionnaire and interview for five different situations, we found that there are different responses to process the refusal situations. The elder old people have the tendency to refuse in more diplomatic way; while the relative young old people tend to refuse in a direct way. The findings are discussed in terms of counterfactuality theory, which might be beneficial for understanding pragmatic ability of old people.

1. Introduction
Philosophers have long been fascinated by counterfactuals. Ever since Plato and Aristotle established the epistemological status of counterfactual speculation in the field of philosophy, it is held that counterfactual thinking is one of the most essential skills that human beings are obliged to cultivate in order to survive in society (Su, 2004), there have been sprouting studies dealing with counterfactuals in the field of logic. In the seventeenth century, Leibniz becomes the first philosopher using the concept of “possible world” to assign the truth value for counterfactual conditionals. Up to now, Material Implication Theory is getting more support.

Material Implication Theory originates from ancient Greek Stoics. In modern times, Fillenbaum(1974) treats material conditionals as the standard logical counterpart of “if... then” patterns with its essence being truth-functional logic, like other logical connectives. Material Implication Theory holds that the true value of a conditional sentence is determined by its constituent propositions with no need to take the correlation between the antecedent and consequent into consideration. However, a problem arises in the application of this theory. For example, when interpreting the conditional sentence in which protasis and apodosis are irrelevant to each other in “If the man is a scientologist, then London is the capital of England” (Santamaria et al, 2005), it is impossible to give a reasonable truth value based on natural language. Furthermore, the theory of material implication also stipulates that when the true value of antecedent is false, no matter the consequent is true or false, the conditional sentence is always true. However, as for the case of counterfactual conditional sentences, the protasis must be contrary to the fact as required, thus always being false. Accordingly, all the composite counterfactual propositions are judged as false, which is obviously inconsistent with human’s intuitive understanding. Being blind to the relationship between protasis and apodosis contributes to the weak explanatory power of this theory.

The philosophical studies mentioned above treat natural language as a logical calculus, as if the sentences occur in vacuum, which certainly cannot satisfy the main functions of sentences in actual communication. Moreover, language understanding is a far more complex process. It is influenced by not only the internal factors of language structure, but also the external factors, such as pragmatics and context. All of them play a part in the process of utterance understanding. The philosophical tradition also exerts a tremendous impact on the formal linguistics during this period. Saeed (1997), a formal linguist, holds that “English sentences might be translated into a logical metalanguage, the predicate logic, and this logic can be given a denotational semantics via model theory.”
In terms of the propositional truth-value, few researches have been found specializing in the study of propositional truth-value of counterfactual conditionals for old people. Nevertheless, some researchers mention that non-factual refusal conditionals themselves do not have truth-value in a logical way, and the truth-value of non-factual conditionals depend on the truth-value of the consequent, which is the main clause (Li, 2009; Yang, 2015). The old people with different age gap (i.e. five year gap) needs to be investigated with different situations.

2. Processing of Refusal Conditionals

2.1. Participants

Twenty-four healthy old people from three age groups (i.e. 60-65 age, 65-70 age and 70-75 age) participated in the ERP experiment (11 female, 13 male, mean age is 68.46 years, SD = 2.13). They were all native speakers of Mandarin Chinese, right handed with a normal or corrected-to-normal vision, having no neurological, psychiatric or cognitive disorder. None of them took part in any tests related to the study. They knew nothing about the purpose of the study.

2.2. Material

Five different refusal situations are given for the participants, which are listed below.

- **Situation 1**: Being a college student, you attend classes regularly and take good notes. Your classmate often misses a class and asks for the lecture notes. Your classmate says: "Oh no, we have an exam tomorrow, but I don't have the notes from last week. Could I borrow yours?" How will you refuse the request?

- **Situation 2**: You are about to leave your office. Your boss stops you and invites you to go to his house warming party. As you cannot go, you decline his invitation. He says: "Oh incidentally, we are going to have a house warming party next Saturday. My wife and I would be very pleased if you could come" How will you refuse?

- **Situation 3**: You are the director of a language institute. One of your teachers asks to speak to you in private. The teacher says: "As you know, I have been here just over a year now, and I know you’ve been pleased with my work. I really enjoy working here, but to be quite honest, I really need an increase in pay." How will you refuse?

- **Situation 4**: One day your friend invites you to go to see a movie, but you don’t want to go with him. How will you refuse the invitation?

- **Situation 5**: You are an assistant to a Professor. At the end of the office hours, you are going to leave. The Professor asks if you can stay and help him /her to correct students' papers which are almost 100, but you decline his/her request. If you don’t mind, I’d like you to spend an extra hour or two so that we can finish up with this work. How will you refuse?

2.3. Procedure

Participants were seated comfortably in a dim light sound-attenuated chamber. After attentively reading one situation after another, they were instructed to judge what responses they would make. The responses are rated by directness or not basing on their intuition with 7 ratings, where 1 is the least direct refusal rating, 7 is the most diplomatic rating.

2.4. Results and Discussion

As showed in table 1, old people have different type of justification, which is consistent with Yang’s finding (2015). Yang put forward that there is hypothetical probability to consider when dealing with counterfactual subordinators. According to different degrees of hypothetical probability, counterfactual subordinators can be ordered as a continuum from the highest probability to the lowest probability, which is "yaoshi", "yao", "jiaru", "ruoshi", "tangruo", "jiashi", "tangshi", "tangsh", "sheruo", indicating that when a subordinator ranks more posterior in the list, the scenario with that subordinator is less possible to happen and there are more chances to be used in counterfactual hypotheses.
Table 1 Response to refusal situations

| Type of justification          | Status of Judgment |
|-------------------------------|--------------------|
|                               | Correct | Incorrect |
|                               | Class    | Collection | Class | Collection |
| Addition-subtraction          | 67       | 76         | 1     | 0          |
| Number                        | 9        | 26         | 0     | 1          |
| One-to-one correspondence     | 4        | 6          | 0     | 1          |
| Quantity term                 | 11       | 13         | 0     | 0          |
| Irrelevant                    | 22       | 6          | 30    | 15         |
| Total                         | 113      | 127        | 31    | 17         |

However, Lv (1982) believes that different degrees of conditional subordinators are supposed to exist in classical Chinese, for example, “xiangshi” is more likely to be applied to counterfactual hypotheses than “shi”, “ling” or “she”, but when it comes to modern vernacular Chinese, the relationship between subordinators and counterfactuality is not significant as such. Jiang (2000) agrees with Lu’s opinion, holding that in spite of the fact that the relation between hypotheticality power and counterfactuality is of direct proportion, still it is not the degree of hypotheticality but the context that necessarily plays an important part in deciding counterfactuality. Moreover, with the development of modern Mandarin, some of the subordinators exemplified by Yang (2015) might no longer be used by most people nowadays and two more popular hypothetical subordinators “ruguo” and “jiashhe” should be added to the list (Ren et al, 2018).

3. Conclusion
To sum up, we can conclude from the analysis of above data, that no matter which refusal situations are assigned to, one point is certain that old people show different degrees of refusal ratings, depending on their age difference. Chinese old people with different age show a clear mechanism tendency to move from higher refusal counterfactuality to lower scales, with the evidence of showing the mixing results of direct refusal or diplomatic refusal.

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