(In)Alienable Possession in Mandarin Relative Clauses

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Abstract

Inalienable possession differs from alienable possession in that, in the former – e.g., kinships and part-whole relations – there is an intrinsic semantic dependency between the possessor and possessum. This paper reports two studies that used acceptability-judgment tasks to investigate whether native Mandarin speakers experienced different levels of interpretational costs while resolving different types of possessive relations, i.e., inalienable possessions (kinship terms and body parts) and alienable ones, expressed within relative clauses. The results show that sentences received higher acceptability ratings when body parts were the possessum as compared to sentences with alienable possessum, indicating that the inherent semantic dependency facilitates the resolution. However, inalienable kinship terms received the lowest acceptability ratings. We argue that this was because the kinship terms, which had the [+human] feature and appeared at the beginning of the experimental sentences, tended to be interpreted as the subject in shallow processing; these features contradicted the semantic-syntactic requirements of the experimental sentences.

1 Introduction

Possessive relations are fundamental in human languages because they associate nouns to express specific relationships. Questions around the alienability between the possessor and the possessum in possessive relations has garnered considerable attention in linguistics (Vergnaud and Zubizarreta, 1992). Such alienability can be categorized in several ways. Semantically, when a possessive relation is inalienable, there is an inherent dependency between the possessor and possessum, which does not exist in the case of alienable possessions (Vergnaud and Zubizarreta, 1992). Typical examples of inalienably possessed nouns include kinship terms and body parts; for example, *Mary's brother* and *Mary's hand*, respectively. The family relation and whole-part relation are often considered intrinsic and cannot be transferred. In contrast, an alienable possession, such as *Mary's desk*, does not present such an inherent semantic dependency between the two nouns, and this type of possessive relation needs to be acquired, and can be transferred (Seiler, 1983). Several languages have distinct morphological markings of alienable and inalienable possessions (Dixon, 2000; Meyerhoff, 2002; Gebregziabher, 2012), and various syntactic structures have been proposed for them (Alexiadou, 2003). While Mandarin does not make such distinctions through morphology, some syntactic and pragmatic distinctions between these two classes of possessions exist in it (Hsu and Ting, 2006).

Normally, in Mandarin, the possessor precedes the possessed noun, and they are linearly close to each other; for example, in *laoban de gebo* ('boss's arm'), *laoban* ('boss') is the possessor, and the next noun to appear, *gebo* ('arm'), is the possessum. However, in Mandarin possessive relative clauses (PRCs), as shown in (1), the possessum and possessor are *not* adjacent. PRCs therefore provide us with a useful opportunity to examine the processing cost of resolving different types of possessions, because readers must resolve such a long-distance association to arrive at the possessive relationship between the two nouns.

(1) Fangzi/Fuqin/Gebo bei daitu
house/father/arm PASS criminal
jizhong de laoban hen shengqi.
shot DE boss very angry
'The boss whose house/father/arm was shot by the criminal was angry.'

Moreover, the possessor-possessum position is reversed in (1); i.e., the possessum appears before the possessor. It is expected that when readers encounter a kinship term or a body part, they may

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expect a possessor later in the sentence, and therefore, the inherent semantic dependency should facilitate the resolution of inalienable possessions. In contrast, an alienable possessum may not enjoy this facilitation, because the association between the possessor and the alienable possessum is not inherently salient, and this may result in a greater processing load when resolving the possessive relation becomes necessary in a later phase of sentence comprehension.

Following a review on previous studies about possessive relations and possessive structures in Mandarin (Section 2), we present two experiments (Section 3) in which an acceptability-judgment task (AJT) is used to measure the acceptability of Mandarin PRCs with three different types of possessums: alienable possessums, kinship terms, and body parts. Our results partially support the hypothesis that the inherent semantic dependency of the inalienable possessions facilitate the integration of the possessor-possessum relations, reflected by the higher acceptability of the body parts as the possessum than the alienable noun as the possessum. However, the other inalienable condition, kinship terms as the possessum, received unexpected low ratings. Section 4 briefly concludes this paper, and includes some possible explanations of its unexpected findings.

2 Alienable and Inalienable Possessions in Mandarin

While Mandarin does not require overt morphological markings on (in)alienability, contrasts between alienable and inalienable possessions are reflected at the syntactic, semantic, and discourse levels (Landau, 1999; Hsu and Ting, 2006). In this section, three examples are used to illustrate some of such differences: *de* omission, semantics in the *ba*-construction, and discourse-contextual demands.

Mandarin uses a particle, *de*, to link two nouns to form certain semantic associations, and possessive relation is one of them (Li and Thompson, 1989; Hsu, 2009; Li, 2012). Example (2) is an alienable possessive phrase, and (3) is an inalienable one. When two nouns express a family relation and the possessor is a pronoun, the particle *de* can be omitted, e.g., (2). However, omitting the particle *de* may be ungrammatical if the relation is alienable and when the phrase is presented in isolation, as shown in (3). While kinship relations seem to consistently allow the *de* omission and to enjoy a special status in possessive phrases in the literature, the above-mentioned contrast between (2) and (3) does not always hold. For example, when the inalienable possession is evaluated within context, as shown in example (4), the omission vs. non-omission of *de* does not influence its acceptability.

(2) wo (de) baba
I DE father
'my father'

(3) wo *(de) zhuozi
I DE desk
'my desk'

(4) Wo (de) xuexiao zhengzai juxing
I DE school currently hold
yanjiang bisai.
speech contest
'My school is holding a speech contest.'

The term alienability implies a property or entity that can be conveyed from one individual to another. Putting alienable and inalienable possessions in the *ba*-construction, which often involves a meaning related to disposal, highlights these differences around transferring possession, as well as how such differences of (in)alienability affect sentence acceptability. In (5), the *wallet* originally belonged to *Zhangsan*, establishing an alienable possessive relation, and after a giving event, the possession of the *wallet* is transferred to *Lisi*. In contrast, inalienable possessive phrases exhibit more resistance to transferring possession via the *ba*-construction. For example, sentence (6) is grammatical, only in specific circumstances whereby *Zhangsan*'s sending of his brother to *Lisi* makes sense. Importantly, in this case, the kinship is not actually transferred; that is, the brother is still *Zhangsan*'s. Body parts, on the other hand, cannot be accepted under normal conditions, leading to the unacceptability of (7). [1]

(5) Zhangsan ba qianbao songgeile Lisi.
Zhangsan BA wallet give-ASP Lisi
'Zhangsan has given (his) wallet to Lisi (as a gift).'

[1] "?" indicates that a sentence sounds odd, and "*" indicates that a sentence is ungrammatical.

(6) Zhangsan ba didi songgeile Lisi.
Zhangsan BA brother give-ASP Lisi
'Zhangsan has given (his) brother to Lisi.'

(7) *Zhangsan ba gebo songgeile Lisi.
Zhangsan BA arm give-ASP Lisi
'Zhangsan has given (his) arm to Lisi.'

The effect of (in)alienability on sentence acceptability can also be observed at the discourse level. The semantic distinction between inalienable and alienable possessive nouns is that the former implies a specific possessor in the interlocutors' common ground, whereas the latter does not necessarily trigger such a possessive association, and can stand alone. For example, (8) is acceptable even though it is not specified whose plant it is. In contrast, (9) and (10) are less acceptable if the possessors are not indicated in the discourse.[2]

(8) Zhiwu bei taiyang shaisile。
plant PASS sun burn-die-ASP
'The plant was killed by the sun.'

(9) ?Sunnv bei taiyang
granddaughter PASS sun
shaishangle。
burn-hurt-ASP
'(Someone's) granddaughter was sunburnt.'

(10) ?Gebo bei taiyang shaishangle。
arm PASS sun burn-hurt-ASP
'(Someone's) arm was sun-burnt.'

To summarize, inalienable and alienable possessions trigger different syntactic, semantic, and discourse requirements and these can affect the acceptability of sentences. Nouns related to kinship terms and body parts often trigger a possessive dependency and increase contextual demands, whereas typical nouns allowing alienable possessions behave differently. The following section presents two AJT experiments using Mandarin PRCs to test the effects of (in)alienability on sentences' acceptability.

[2]An anonymous reviewer pointed out that if sentence (9) is used in a conversation, it sounds acceptable because a rational/cooperative listener will assume the speaker to be the possessor. We agree with this observation, and with the same reviewer's observation that in future research, it would therefore be worthwhile to design dialogues with multiple agents expressing sentences like (8) to (10), and use them to investigate people's understandings of them. Here, we originally intended to argue that sentences like (9) and (10) are less acceptable when no possessor can be associated with the subject.

3 Experiments

3.1 Experiment 1

3.1.1 Participants and Procedure

Our participants in Experiment 1 were Mainland Chinese college students studying in Hong Kong, all of whom were native speakers of Mandarin. Their average self-rated Mandarin proficiency on a scale of 1 to 7 (with 1 = 'not fluent at all', and 7 = 'extremely fluent') was 6.75. Attention filters were included in the experiment to ensure that the participants understood the task and finished it conscientiously. Of the initial pool of 114 participants, 17 failed the attention filters, leaving 97 participants' data for analysis.

The participants rated the acceptability of the sentences on a 5-point Likert scale, ranging from 1 as 'totally unacceptable' to 5 as 'totally acceptable'. The data were collected using an online questionnaire platform.

3.1.2 Materials

Mandarin PRCs were adopted as the basis for our investigation of the cost of the possessor-possessum integration among three different possessive conditions. In the PRCs used in Experiment 1, the possessum was at the beginning of the realtive clause, and the possessor – immediately following the relativizer particle *de* – was the head noun of the relative clause, locating at the end of the relative clause. The possessor also served as the matrix subject of the experimental sentence. Because the possessor and the possessum were not adjacent, the participants reading these sentences needed to form long-distance associations. Example (11) consists of one set of the experimental conditions, in which Condition A is the alienable condition, and Conditions B and C are inalienable ones, for kinship terms and body parts, respectively. In addition, a short context sentence was provided before each of the PRC target sentences, to help them read more naturally. In all, Twenty-four sets were constructed and were distributed into four lists [3]; each participant only read one condition from each set.

[3]Because filler items from other studies were included, there were four lists instead of three.

(11) (Context) In this extremely hot weather,

a. Zhiwu bei taiyang shaisi de
plant PASS sun burn-die DE
A-Yong gandao shifen shangxin.
A-Yong feel very sad
'A-Yong, whose plant was killed by the sun, felt very sad.'

b. Sunnv bei taiyang
granddaughter PASS sun
shaishang de A-Yong gandao
burn-hurt DE A-Yong feel
shifen shangxin.
very sad
'A-Yong, whose granddaughter was sunburnt, felt very sad.'

c. Gebo bei taiyang shaishang de
arm PASS sun burn-hurt DE
A-Yong gandao shifen shangxin.
A-Yong feel very sad
'A-Yong, whose arms were sunburnt, felt very sad.'

It has been argued that sentences with higher complexity are likely be harder to process, and consequently, readers tend to rate their acceptability as lower (Chomsky and Miller, 1968; Fanselow and Frisch, 2006). Our items were designed to be completely uniform in their structural complexity. Yet, as compared to inalienable possessions, alienable ones may be more costly to integrate, as doing so calls for the possessor to acquire the possessor-possessum relations (Alexiadou, 2003). Therefore, we predicted that the inalienable conditions (Conditions B and C) would receive higher AJT ratings than the alienable one (Condition A).

3.1.3 Results

The mean rating and standard deviation (SD) for each condition are listed in Table 1. Condition C, in which the body parts were the possessed nouns, received the highest mean acceptability rating. Condition A, the alienable condition, was rated as less acceptably on average than Condition C was. But surprisingly, the other inalienable condition, Condition B, received the lowest acceptability rating. The results of the three conditions are visualized in Figure 1, in which the box represents 50% of the central data, and the line inside it representing the median. The whiskers are the range of the data excluding outliers, which are indicated by the small black dots. The three large black dots are the average ratings of each condition. The colored dots are the average ratings by item. The lines connecting the colored dots indicate that items are from the same sentence set.

Condition	Mean	SD
A(alienable nouns)	4.07	1.22
B(kinship terms)	3.36	1.44
C(body parts)	4.43	0.87

Table 1: Average ratings and standard deviations for each condition.

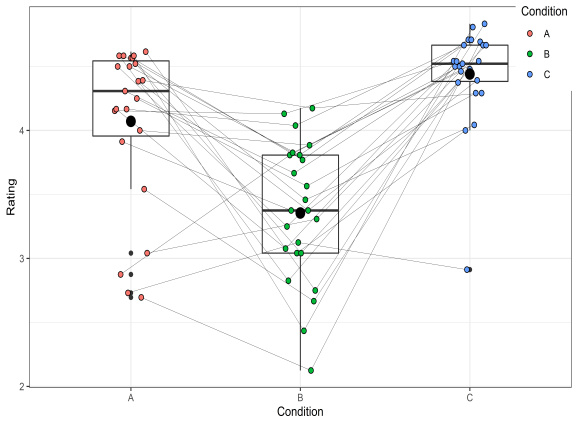

Figure 1: Ratings for different conditions, Experiment 1.

To test whether the differences among the conditions were significant, a cumulative link mixed model was fit using the clmm() function in the ordinal package in R. The outcome variable was RATING, and the predictor was CONDITION, which had three levels: Condition A, Condition B, and Condition C. The random variables were PARTICIPANT and ITEM, including varying intercepts. A pairwise post hoc analysis showed that the differences among the conditions were significant (Table 2).

To summarize, the inalienable condition in which body parts were the possessed nouns being rated highest, and was significantly higher than the alienable condition.

However, the kinship-terms condition's rating

Contrast	Estimate	SE	*z*.ratio	*p*.value
A – B	-1.397	0.125	-11.166	<.0001
A – C	0.837	0.133	6.297	<.0001
B – C	2.235	0.136	16.395	<.0001

Table 2: Contrasts among conditions; Model: Rating ~Condition + (1|Participant) + (1|Item)

was significantly lower than that of the other two conditions. We wonder whether this was because some kinship terms used in the materials, such as, *zhier* ('brother's son'), and *waisun* ('daughter's son'), are not as frequently encountered in day-today Madnarin speech as the other kinship terms. Specifically, the occurrence of the kinship terms in the BCC corpus (http://bcc.blcu.edu.cn/; Mean: 34086, Range: 2555-144007) was also markedly lower than those of the alienable nouns (Mean: 584435, Range: 3067-172563), and body parts (Mean: 45939, Range: 10875-232015). Hence, we balanced both the frequencies of words across the three conditions, and then conducted another round of AJT, as reported below.

3.2 Experiment 2

3.2.1 Participants and Procedure

Sixty-six college students from Mainland China who had not participated in Experiment 1 were recruited for Experiment 2. All self-reported Mandarin as their native language. The procedure of this AJT experiment was the same for Experiment 1, except that, after the participants finished the experiment *per se*, we interviewed some of them who had given low ratings to most of the Condition B items (kinship terms).

3.2.2 Materials

Experiment 2's materials were similar to those of Experiment 1, except in the following two respects. First, some of the critical words (i.e., the possessum) were changed to maintain a balance counts of strokes across conditions (Range and Mean for each condition: A: 9-22, 14.63; B: 5-26, 14.54; C: 8-28 16.67) and the frequencies of words (Range and Mean for each condition: A: 3067-172563, 51034; B: 4331-144007, 38814; C: 10152-232015, 61621; frequency is according to the BCC corpus). Second, to lower processing demand, the predicate of each experimental sentence was shortened, from 16 characters (as in Experiment 1), to 14 characters (the separate context sentences were unaffected). For example, *gandao* ('feel') in (11) was dropped, and the sentence remained grammatical.

3.2.3 Results

The results of Experiment 2 closely replicated the findings in Experiment 1. That is, body parts as the possessed nouns (Condition C) received the highest rating (Mean = 4.15, SD = 1.03), the alienable possession (Condition A) was rated lower (Mean = 3.85, SD = 1.13); and the kinship terms as the possessum (Condition B) once more received the lowest rating (Mean = 3.16, SD = 1.27). The clmm() model and pairwise comparisons again showed the differences among conditions were significant (*ps* < .0001).

Importantly, the group variance of the kinship-terms condition was also the largest, which is another repetition of the findings of Experiment 1. To ensure that this unexpected result did not arise because a few items received extremely low ratings while others were acceptable, we looked for systematic differences among the average ratings for each item.[4] However, this item-by-item analysis revealed no such differences. Indeed, among the 24 kinship terms we tested, 21 received average ratings lower than 3.5, as against overall average ratings for the alienable-nouns and body-parts conditions of 3.85 and 4.15, respectively. Specifically, the majority of kinship terms used as the possessum were rated as 'probably unacceptable' or 'not sure'.

We also conducted individual-level analysis, which revealed that not all participants assigned low ratings to Condition B. That is, a subset of them consistently rejected Condition B, while another tended to find its items acceptable. Therefore, we decided to reexamine the results in terms of the participants' *tendency* to accept items in each condition. In Experiment 2, all participants read eight sentences from each condition, and we deemed them to have rejected a given condition if they rated at least six out of the eight as '1-totally unacceptable' or '2-probably unacceptable'. Conversely, if a participant rated six out of the eight sentences in a condition as '4-probably acceptable' or '5-totally acceptable', they were counted as accepting that condition. Other cases were classified as 'not sure'. Table 3 summarizes the numbers and percentages of participants who rejected, accepted, or were unsure about each condition. No participants consistently rejected Condition A or Condition C, and indeed, the majority of them consistently accepted these two conditions. But twelve participants consistently rejected Condition B. For that reason, we conducted a post-experiment interviews with these 12 participants. Data from the interviews will be presented and dis-

[4] This was done at the suggestion of an anonymous reviewer. We appreciate this advice.

Condition	Rejecting	Accepting	Not Sure
A	0 (0.00)	34 (51.52)	32 (48.48)
B	12 (18.18)	20 (30.30)	34 (51.52)
C	0 (0.00)	50 (75.76)	16 (24.24)

Table 3: Numbers and percentages (in parentheses) of participants rejecting and accepting each condition.

cussed in the next section.

4 Discussion and Concluding Remarks

Our study sought to explore whether different types of possessive relations affect the integration of long-distance dependency in Mandarin relative clauses. This study supports the (in)alienablity effect in some respects. The fact that our participants gave their highest acceptability ratings to PRCs with body parts as their possessed nouns suggests that inherent part-whole association facilitates the resolution of the possessor-possessum relations inside of relative clauses. In other words, when readers encounter a term for a body part, they expect to find a possessor in the sentence to fulfill the semantic dependency. Thus, Condition C of body parts being rated more acceptable than the inalienable Condition A was consistent with our prediction, and supports the idea that inherent semantic association facilitates the resolution of long-distance dependency.

When we consider subtypes of alienable possessive relationships, however, we found some unexpected results. Given the operation of (in)alienability effects in the resolution of long-distance dependency, it would be reasonable to predict that kinship terms as the possessed nouns should also receive ratings higher than those in the alienable condition, just as we found with nouns in the condition of body parts. However, our results contradicted this prediction: Condition B received the lowest ratings. This may be related to an essential characteristic of Condition B: that both the possessor and possessum are humans, unlike in the other two conditions in which the possessum is inanimate. The same [+human] feature may interfere with the resolution of 'who did what to whom' in a relative clause that contains multiple animate references (Mak et al., 2002; Gordon et al., 2001, 2002). Moreover, kinship terms in our experimental items appear at the beginning of the clause, which tends to be regarded as the subject in shallow processing (Christianson et al., 2001; Qian et al., 2018; Ferreira et al., 2002). Coupled with the [+human] feature, the clause's initial position gives the kinship term great salience, but as the sentence unfolds, it turns out that it is possessed by the head noun and is not the subject of the sentence. This contradiction requires a proper reanalysis of thematic roles, resulting in a demand of additional processing demand, and therefore lower ratings of acceptability ratings.

Interview comments made by those Experiment 2 participants who rated Condition B as having low acceptability supported these views. As Table 3 shows, twelve participants consistently rated PRCs with kinship terms as the possessum as unacceptable. When we asked them why, one participant commented that she rated sentences like (12) low because their meanings did not correspond to her expectations: since it was the *qinqi* ('relative') who was hit, it should be that *qinqi* rather than the other person (*Laofeng*) should be sympathized with. Another participant reported that she found such sentences illogical because they mixed important information from the insignificant nouns. These comments support our conjecture that the two human nouns in Condition B require readers to decide whether the main event is expressed by the possessum or the possessor, complicating the comprehension process for the sentence as a whole. It is important to note that these concerns could not arise in the other two conditions because the possessed nouns were inanimate, and thus did not fit the descriptions of the predicate.

(12) Qinqi bei meiti dashang de
relative PASS press hit-hurt DE
Laofeng shiren tongqing.
Laofeng evoke sympathy
'Laofeng, whose relatives were hit and hurt by the press, evoked sympathy.'

Some participants seemed to adopt the 'good-enough' processing strategy (Qian et al., 2018) when they rated the sentences;[5] therefore, the additional processing efforts required by items in Condition B rendered them unable to comprehend such sentences. One participant reported that

[5]One anonymous reviewer suggested that we conduct a follow-up study in which the level of processing (shallow or deep) is manipulated by including a secondary task. We appreciated this suggestion very much, and plan to conduct an eye-tracking experiment in which the participants answer comprehension questions, designed to trigger different levels of processing, after reading the sentences.

PRCs with kinship terms as the possessum were too challenging for him to process, so he just rated them as 'unacceptable' and admitted that if he had spent more time reading such sentences, he would have understood them. We did not ask our participants to answer comprehension questions in this AJT paradigm, but it is possible that their processing was shallow (Sanford and Graesser, 2006). It would be intriguing to examine if, when a deep comprehension processing is forced, participants' ratings for the PRCs with kinship terms as the possessums would be higher. Further studies could explore this possible phenomenon by modifying our tasks, e.g., by including comprehension questions or asking the participants to 'think aloud' while making the judgements.

Notably, our findings that the body-parts condition was rated the highest, then the alienable possessions, and then the kinships, are consistent with the frequency results of a corpus study on the Mandarin passive construction with retained objects (PCRO) (Yue and Wu, 2019). PCROs with body parts, alienable possessions, and kinship terms as the retained objects are illustrated in (13-15):

(13) Ta bei daduanle biliang.
he PASS hit-broken-ASP nose
'His nose was broken (by someone).'

(14) Ta bei ren touzoule
He PASS someone steel-away-ASP
qianbao.
wallet
'His wallet was stolen by someone.'

(15) Ta bei ren qiangle laogong.
she PASS people rob-ASP husband
'Her husband was taken away from her by someone else.'

In a PCRO, the subject and the retained object formed a possessive relationship, and like the PRC structure in our study, the possessor and possessum are not adjacent to each other. The results of corpus analyses (Yue and Wu, 2019) show that body parts are the most common retained objects, accounting for 41.7% of all 422 instances, whereas typical nouns as the alienable possessums made up 29.8% of the data. Although kinship terms are allowed in possessive phrases, there were only nine instances found in the corpus, making up 1.9% of the PCROs found in the corpus. Yue and Wu (2019) argued from a cognitive perspective that the possessive relationship needs to have inferential accessibility, and that retained objects should be included in the semantic framework of the subject. The animacy and the cognitive prominence of the kinship terms both make it difficult for them to be the objects of PCROs. This idea echoes our suggestions that the [+human] feature and the clause-initial position of kinship terms seem to increase PRCs' processing loads.

This leaves one to wonder if the (in)alienability effect would come into force for kinship terms if the [+human] feature were controlled in the alienable and inalienable conditions. Lin (2007) developed a self-paced reading experiment using human nouns as the possessums for both the inalienable condition (16a) and the alienable condition (16b), and showed that the reading time for the head nouns of the inalienable condition (16a) was significantly faster than that for the alienable condition (16b). This finding supports the facilitation by inherent inalienable semantics.

(16) a. Fuqin bei jingcha zhuazou
father PASS police take
de zongcai xiande shifen
DE boss appear very
huangzhang.
nervous
'The boss whose father was taken by the police appeared very nervous.'

b. Yuangong bei jingcha zhuazou
employee PASS police take
de zongcai xiande shifen
DE boss appear very
huangzhang.
nervous
'The boss whose father was taken by the police appeared very nervous.'

It is important to bear in mind that our findings were based on two AJT experiments. Although people's explicit judgments can reflect the processing difficulties of sentences to some extent (Chomsky and Miller, 1968; Fanselow and Frisch, 2006), it would be worthwhile in the future to use online methods, such as the self-paced reading paradigm and eye-tracking technology, to measure readers' reaction times and eye-gaze patterns when processing PRCs. We also assumed that readers would search for a possessor when they found the inalienable possessum at the beginning of the sentence.

That means a gap would be detected as long as readers encountered the first noun in the two inalienable conditions. Several following-up questions could usefully be asked about this presumably detected gap. For instance, do readers start searching for potential fillers for this gap as soon as they detected it? Would this gap results in a temporary slowdown in reading times, due to the unit being unresolved and needing to be held in mind? Does early preparation for a filler-gap dependency facilitate the processing of the latter part of the sentence? Because answering them will require fine-grained and region-specific data, we leave these questions to our future research.

To conclude, our results demonstrate the following effects of (in)alienability on sentence acceptability. First, semantically inherent whole-part relationships facilitate the resolution of the long-distance dependency between the possessor and possessum in PRCs. Second, the fact that the kinship terms, despite also forming alienable possessions, received the lowest acceptability ratings in both our AJT experiments suggests that the [+human] feature and/or the salient syntactic position led to considerable confusions when the readers only adopted shallow processing. Previous research has found that when the possessed nouns are human nouns for both the inalienable and alienable conditions, the former has a processing advantage (Lin, 2007). Thus, future studies could explore more types of possessive relationships in different syntactic structures, as well as using different experimental paradigms to test the (in)alienability effects on sentence comprehension and processing.

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