AN AGENT ADVANTAGE
IN TAGALOG RELATIVE CLAUSE COMPREHENSION *

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Previous studies of Tagalog report that children were more successful at producing agent relative clauses than theme relative clauses. The current study documents a similar asymmetry in Tagalog-speaking children’s comprehension of relative clauses.

1. Introduction

A signature feature of Tagalog grammar is its Philippine-type focus system, in which a verbal affix signals the thematic role of the privileged syntactic argument (PSA), a nominal usually marked by the case prefix (focus marker) aŋ. In (1), the -um- infix in the verb indicates that the NP bearing the marker aŋ is the agent. In (2), on the other hand, the infix -in- indicates that the PSA is the patient/theme.

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(1) **AGENT FOCUS**
H<um>a~hábol aŋ laláke naŋ babáe.
<AF>IPFV~chase FOC man NFOC woman
‘The man is chasing a/the woman.’

(2) **THEME FOCUS**
H<in>a~hábol naŋ laláke aŋ babáe
<TF>IPFV~chase NFOC man FOC woman
‘A/The man is chasing the woman.’

These contrasts are also relevant to the syntax of relative clauses. As illustrated in (3) and (4), a PSA is relativizable.

(3) **AGENT RELATIVE CLAUSE WITH AGENT FOCUS**
laláke=ŋ [h<um>a~hábol naŋ babáe]
man=L <AF>IPFV~chase NFOC woman
‘(the) man who is chasing a/the woman’

(4) **THEME RELATIVE CLAUSE WITH THEME FOCUS**
babáe=ŋ [h<in>a~hábol naŋ laláke]
woman= L <TF>IPFV~chase NFOC man
‘(the) woman who a/the man is chasing’

In contrast, other arguments cannot be relativized, as shown in (5) and (6).

(5) **AGENT RELATIVE CLAUSE WITH THEME FOCUS**
?? laláke=ŋ [h<in>a~hábol aŋ babáe]
man=L <TF>IPFV~chase FOC woman
‘(the) man who is chasing the woman’

(6) **THEME RELATIVE CLAUSE WITH AGENT FOCUS**
* babáe=ŋ [h<um>a~hábol aŋ laláke]
woman= L <AF>IPFV~chase FOC man
‘(the) woman who the man is chasing’

While previous studies treat the pattern in (5) as ungrammatical (e.g. Aldridge 2004), it is apparently acceptable for many speakers, even though (3) is the preferred way to relativize an agent argument. It is not yet clear whether this is a dialectal difference or a generational difference.

Cross-linguistic research has shown that subject (agent) relative clauses are easier to produce, comprehend, and acquire than direct object (theme) relative

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1 List of abbreviations: AF = agent focus; FOC = focus marker; IPFV = imperfective; L = linker; NFOC = non-focus marker; TF = theme focus
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clauses in many languages, including Dutch (e.g. Frazier 1987), English (e.g. King and Just 1991; Diessel and Tomasello 2005), German (e.g. Schriefers, Friederici, and Kuhn 1995; Diessel and Tomasello 2005), French (Holmes and O’Regan 1981), Greek (Stavrakaki 2001), Hebrew (Friedmann, Belletti, and Rizzi 2009), Jakarta Indonesian (Tjung 2006), Japanese (e.g. Kawashima 1980; Ishizuka 2005; Miyamoto and Nakamura 2003), Korean (e.g. Cho 1999), Mandarin Chinese (e.g. Hsu, Hermon, and Zukowski 2009; Vasishth et al. 2013), Persian (Rahmany, Marefat, and Kidd 2011), and Swedish (Håkansson and Hansson 2000). But what about Tagalog?

Based on data from a picture-based elicited production task, Tanaka and colleagues (to appear) report that, although children and adults prefer theme focus patterns in basic clauses, children perform better on agent focus patterns when tested on relative clauses. However, we know from other studies, such as Gutierrez-Mangado & Ezeizabarrena (2012), that comprehension and production may yield different results. We therefore set out to investigate whether an agent advantage for Tagalog relative clauses also shows up in comprehension.

2. Method

2.1. Participants

Participants were 15 children (7 female; 8 male) from the age of 3;0 to 5;4 (mean age 4;3). We further divided the children into three age-related groups: three-year-olds (ages of 3;0–3;4, mean age 3;2, n = 3), four-year-olds (ages of 3;9–4;5, mean age 4;2, n = 7), and five-year-olds (ages of 4;8–5;4, mean age 5;0, n = 5). 15 adult speakers of Tagalog were also tested as control.

2.2. Materials

Test items contained a panel of two pictures, each illustrating a different version of the same action (e.g., a girl chasing a boy or a boy chasing a girl, as in Figure 1). The pictures were accompanied by an auditory description given in the form of either an agent relative clause or a theme relative clause.

We take no position here on the grammatical status of agent and theme arguments in the various focus patterns of Tagalog—a matter on which there is some disagreement in the literature. Fortunately, this issue is independent of the question of whether which relative clause pattern is easier to comprehend and/or produce.
If the participants heard the agent relative clause in (7) while viewing Figure 1, for example, the correct response was to select the girl in the picture on the left. In contrast, if they heard the theme relative clause in (8), they should select the girl in the picture on the right.

(7) laláke=ŋ [h<um>a~hábol naŋ babáe ]
man=L <AF>IPFV~chase NFOC woman
‘(the) man who is chasing a/the woman’

(8) babáe=ŋ [h<in>a~hábol naŋ laláke ]
woman=L <TF>IPFV~chase NFOC man
‘(the) woman who a/the man is chasing’

The same five verbs were used for both relative clause types (basáʔ ‘wet’, búhat ‘carry’, hábol ‘chase’, túlak ‘push’, yákap ‘hug’), giving us ten items in total. Because the verb is the disambiguating region for each relative clause (thanks to its focus affix), its occurrence was used as the starting point for measuring reaction time. In order to ensure comparability across test items, the stimuli were manipulated so that the onset of the verb always appeared at the 100 ms mark.

2.3. Procedure

With the use of four practice items, participants were first trained to select the character of their choice, and not the whole picture. The experiment with adults was carried out with the help of MouseTracker (Freeman and Ambady 2010), which recorded the movements of the computer mouse as participants used it to click on the character of their choice. The experiment with children involved a paper-and-pencil task, in which they were instructed to point at the character of their choice and then circle it with a pencil. We measured accuracy (i.e., the selection of the correct picture) for adults and children, as well as reaction times (i.e., how long it took to click on a character) for adults.
2.4. Analysis

We classified participants’ responses with the help of the answer types illustrated in Figures 2 and 3. For the agent relative clause ‘the girl who is chasing the boy’, for instance, the girl on the left in Figure 2 is coded as the target referent—the agent. Choice of the other girl (the theme) was categorized as a reversal error, as the thematic role of the girl is reversed (from agent to theme). Responses that involved pointing to one of the boys were coded as head errors since the head modified by the relative clause must be a girl.

![Figure 2. Response types for an agent RC ‘the girl who is chasing the boy’.

For theme relative clause items, the girl on the right in Figure 3 was coded as the target referent—the theme argument. Selection of the other girl, who is the agent of the chasing action, was categorized as a reversal error. Selection of a boy was coded as a head error.

![Figure 3. Response types for a theme RC ‘the girl who the boy is chasing’.
3. Results

3.1. Adults

Adults clicked on the target referent 96.47% of the time when the prompt was an agent relative clause, and 97.65% of the time when the prompt was a theme relative clause. There was no significant difference between the two relative clause types in this regard.

Reaction times were calculated based on the target responses and were measured in two different ways: how long it took for the participants to initiate mouse movement (initial times\(^3\)) and how long it took them to click (end times). Because the place in the picture where it was appropriate to click the mouse differed across the items, we also calculated normalized reaction times to average the distance between the initial location of the mouse and the location of the click.\(^4\) The mean values of these three measurements are shown in Table 1. No significant difference was found in any of these three measurements for the two types of relative clauses.

<table>
<thead>
<tr>
<th></th>
<th>Agent relative clauses</th>
<th>Theme relative clauses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial time</td>
<td>742</td>
<td>702</td>
</tr>
<tr>
<td>End time</td>
<td>3801</td>
<td>3898</td>
</tr>
<tr>
<td>Normalized reaction time</td>
<td>3142</td>
<td>3479</td>
</tr>
</tbody>
</table>

Table 1. Mean reaction times of adults (ms).

3.2. Children

Although three-year-olds and four-year-olds were generally poor at understanding either type of relative clauses, the data from five-year-olds showed a large advantage for agent relative clauses (72.4% correct) over theme relative clauses (28.6% correct). Figure 4 shows children’s accuracy rates by age group.

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\(^3\) The initial times prior to the verb onset at 100 ms were excluded as mouse movements during this period were not initiated with the intention of clicking.

\(^4\) Normalized reaction times were calculated as the duration between the initial time and the end time divided by the distance between the initial location of the mouse and the location of the click.
We also conducted an error analysis on the 5-year-olds’ responses based on the error categories outlined in section §2.4.

The most frequent non-target responses involved reversals in which the participants switched the thematic role of the relativized element. Crucially, this error occurred almost twice as often in theme relative clauses as in their agent counterparts (39.3% versus 20.7%). That is, more theme relative clauses were interpreted as if they were agent relative clauses than vice versa.

4. Discussion

In sum, our study found no asymmetry between agent relative clauses and theme relative clauses in adult comprehension; however, children showed better accuracy
in the comprehension of agent relative clauses. Moreover, their most common errors were reversals in which they switched the thematic role of the relativized element. This happened more frequently with theme relative clauses, which means that more theme relative clauses were turned into agent relative clauses than vice versa, pointing to an agent relative clause advantage.

It is not clear yet whether the results from adults truly show a genuine symmetry in the production and comprehension of Tagalog relative clauses, or whether the tasks were not sensitive enough to uncover a difference. For this reason, we are planning a comparative study of English and Japanese using the same materials to see whether our tasks uncover an agent advantage in languages that are known to have such an asymmetry. In addition, we are planning to use other experimental techniques, such as self-paced reading and eye-tracking, to measure the production and comprehension of Tagalog relative clauses by adults.

4.1. Another interpretation

Although we have tentatively concluded that children’s comprehension of Tagalog relative clauses manifest an agent advantage, there may be another way to explain our results. As noted in §1, many speakers apparently accept the relative clause pattern in (5), repeated as (9) below, despite claims to the contrary in previous research. That is, it is possible to relativize a non-PSA agent in a theme focus clause (Ceña and Nolasco 2011; Ceña and Nolasco 2012).

(9) ?? laláke=ŋ [h<in>a~hábol aŋ babáe ]
    man= L <TF>IPFV~chase FOC woman
    ‘(the) man who is chasing the girl’

Crucially, though, it is not possible to relativize a non-PSA theme in an agent focus clause. The following example repeats (6).

(10) * babáe=ŋ [h<um>a~hábol aŋ laláke ]
    woman= L <AF>IPFV~chase FOC man
    ‘(the) woman who the man is chasing’

This means that whereas the agent focus affix is an early and unambiguous cue of the thematic role of the relativized element (the ‘head’) of a relative clause, this is not true for the theme focus affix: relative clauses of this type could have a relativized agent or a relativized theme. In order to interpret these patterns, participants would have to wait until they encounter the other argument in the sentence in order to determine (from its case) whether it is the agent or the theme

5 We thank Henrison Hsieh, Aldrin Lee, and Chris Sundita for bringing this to our attention.
(aŋ would indicate a theme and nau an agent). By a process of elimination, they could then determine the status of the relativized element.

(11) a. NP [RC V-theme focus … aŋ NP … ]  
    head theme (the relativized argument must be the agent)

b. NP [RC V-theme focus … nau NP … ]  
    head agent (the relativized argument must be the theme)

This is obviously a costly procedure and it is tempting to think that it might help explain children’s difficulty with relative clauses whose verb carries theme focus. However, at least two considerations militate against this idea.

First, it is important to recognize that there is no direct evidence that the participants in our experiment have actually been exposed to a variety of Tagalog in which theme-focus verbs permit relativization of their agent argument. This matter requires further investigation. Second, the alternative explanation for our results fails to account for the finding by Tanaka and colleagues (to appear) that children also prefer agent relative clauses in production. There, the status of the head noun is known to the speaker from the outset, so there is no danger of confusion; yet, agent relative clauses are still preferred to theme relative clauses.

5. Conclusion

The findings from our comprehension study, along with the elicited production results from Tanaka et al. (to appear), indicate that there is an agent relative clause preference in Tagalog, at least for children, despite the well-documented preference for theme focus patterns in basic clauses. Further investigation is necessary in order to confirm that adults find both relative clause types equally easy to produce and understand. Future work also needs to address the relevance of these findings for two broader issues—the syntax of focus in Tagalog and the nature of the subject advantage in relative clauses that has been observed in so many different languages.

References


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