

Effects of event structure on referential choices: The Incompleteness Effect in Mandarin

Background: Studies have shown that factors related to event structure, such as imperfective vs. perfective aspect, impact subsequent referential choices (e.g., English: Grüter, Rohde, & Schafer, 2017; Japanese: Ueno & Kehler, 2016). For instance, Grüter et al. (2017) had native (L1) English-speaking adults write continuations for one-sentence stories containing an imperfective vs. perfective verb, e.g., *John was handing a book to Bob* vs. *John handed a book to Bob*. Participants' continuations referenced the main-clause subject significantly more often after imperfective-verb prompts than after perfective-verb prompts, thereby suggesting that their referential choices were affected by grammatical aspect. The present study on Mandarin, a language with a rich aspectual system (e.g., Smith, 1997), examines whether a very different aspect distinction impacts L1-Mandarin adults' subsequent continuation choices.

Some Mandarin monoclausal sentences are unable to stand alone because they fail to guarantee a proper temporal reference even when an aspect marker is present (Tsai, 2008). Lu (1986) dubbed this phenomenon the *Incompleteness Effect* (IE). To L1-Mandarin speakers, (1a) with the progressive aspect marker *zai* feels 'complete' whereas (1b) with the durative aspect marker *-zhe* feels 'somewhat incomplete'. Tsai (2008) observed that Mandarin has various ways to neutralize IE in sentences like (1b), two of which are illustrated in (2): IE is avoided in (2a) by adding a 'coordinating conjunct' containing a second Asp(ect)P(hrase) *xie-zhe baogao* 'write-DUR report' predicating the same subject and in (2b) by attaching the adjunct *kan-zhe* 'watch-DUR' to the main clause containing the VP *xie baogao* 'write report' sharing the same subject. We hypothesize that what unites these two strategies exemplified in (2) is that they add information about the subject. No study has experimentally tested whether adding information about the subject is a way that L1-Mandarin adults continue sentences to avoid IE. Moreover, previous research on event structure affecting subsequent referential choices in other languages has looked at how people continue sentences with imperfective vs. perfective aspect, whereas here our focus is on how people continue sentences with two imperfective markers, namely *zai* vs. *-zhe*.

The study: This research investigates, in a novel, written sentence-continuation task, whether L1-Mandarin adults are more likely to add information about the mentioned subject following an IE prompt sentence (incomplete) than following a non-IE prompt sentence (complete). The experiment has a 2 × 2 design, crossing IMPERFECTIVE MARKER (*zai* vs. *-zhe*) and CONTINUATION PROMPT (*ranhou* 'and then' vs. null). Critical items—see (3)—start with an NP subject followed by an AspP headed by either *zai* (complete) or *-zhe* (incomplete), in turn followed by either the coordinating conjunction *ranhou* 'and then' or nothing (Ø); these two continuation types were chosen because each easily allows both topic continuations and non-topic continuations (Casentini & Conti, 2023; Zhang, 2013). The stimuli comprise 24 critical items (4 conditions × 6 tokens, Latin-squared) and 24 fillers. Continuations are coded based on whether or not they contain information about the given subject in the prompt (see actual examples in (4)). We predict that compared to complete *zai*-sentence prompts, incomplete *-zhe*-sentence prompts will induce significantly more "same-subject continuations" in order to cancel IE.

Results & conclusion—see Figure 1: Results from 80 L1-Mandarin adults show that despite an (expected) overall strong preference for same-subject continuations, *-zhe*-trials (incomplete) nevertheless elicited significantly more same-subject continuations than did *zai*-trials (complete) in both prompt conditions (*ranhou* 'and then': *-zhe*, 90% vs. *zai*, 80%, $p < .05$; null: *-zhe*, 91% vs. *zai*, 68%, $p < .001$). These findings show that L1-Mandarin speakers' continuations were influenced by IE, confirming that (a) IE is indeed shaped by morphosyntactic constraints (i.e., *zai* vs. *-zhe*), and (b) adding more information about the subject can be a strategy to cancel IE.

- (1) a. Akiu **zai** kan dianshi
Akiu PRG watch TV
'Akiu is watching TV.'
- b. % Akiu kan-**zhe** dianshi
Akiu watch-DUR TV
Intended meaning: 'Akiu is watching TV.'
(adapted from Tsai, 2008, p. 676, (4a–b))
- (2) a. Akiu **yibian** kan-zhe dianshi, **yibian** xie-zhe baogao.
Akiu on.the.one.hand watch-DUR TV on.the.other.hand write-DUR report
'Akiu is watching TV and writing the report at the same time.'
- b. Akiu kan-zhe dianshi xie baogao
Akiu watch-DUR TV write report
'Akiu is watching TV and writing reports at the same time.'
(adapted from Tsai, 2008, p. 676, (2a) & (3a))
- (3) Prompt-sentence types (4 conditions, $k = 6$ each)
- a. Xiaoli **zai** he-cha + {ranhou / \emptyset }
Xiaoli PRG drink-tea and.then / \emptyset
'Xiaoli is drinking tea {and then / \emptyset }'
- b. Xiaoli he-**zhe** cha + {ranhou / \emptyset }
Xiaoli drink-DUR tea and.then / \emptyset
'Xiaoli is drinking tea {and then / \emptyset }'
- (4) Examples of how continuations were coded (both in the null prompt (\emptyset) condition)
- a. Xiaoli **zai** chi-jiaozi + **Xiaowang zai he-tang**
Xiaoli PRG eat-dumpling Xiaowang PRG drink-soup
'Xiaoli is eating dumplings. Xiaowang is eating soup.'
- b. Xiaoli chi-**zhe** jiaozi + **he-zhe-tang**
Xiaoli eat-DUR dumpling drink-DUR-soup
'Xiaoli is eating dumplings while eating soup.'

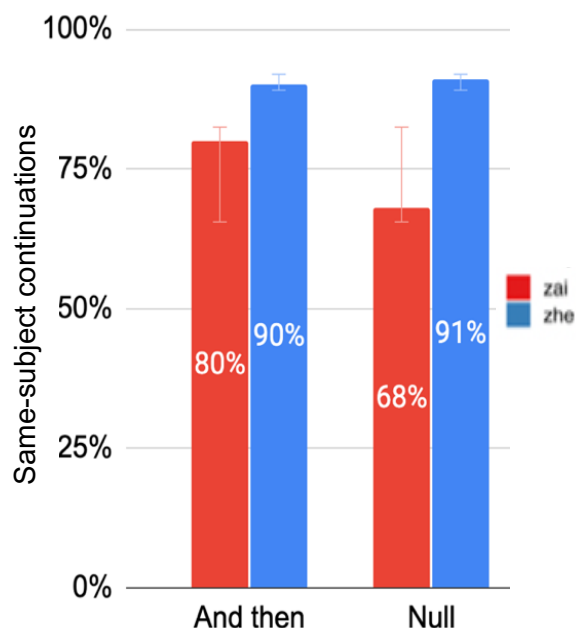


Figure 1. 'Same-subject' continuations (proportion) in the sentence-continuation task.

Response ~ Aspect * Prompt +
(1 + Aspect * Prompt | Participant) + (1 | Item).

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