

Topicalization from Adjuncts in English vs. Chinese vs. Chinese-English Interlanguage

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1. Introduction

While there has been a substantial amount of nonnative language (L2) research on island constraints, so far it has focused exclusively on *wh*-questions (e.g., Adolsari, 2015; Bley-Vroman, Felix, & Ioup, 1988; Johnson & Newport, 1991). In particular, there have been no L2 studies as of yet on island constraints for topicalization. Nor has there been any previous L2 research testing for island constraints in both the target language and the native language (L1). The aim of the current study is to address these gaps in the research by testing L1-Chinese L2ers of English for sensitivity to adjunct island effects in both their L2 English and their L1 Chinese.

2. Background

2.1. Topicalization in English

English allows both short-distance and long-distance topicalization, as illustrated below, where topicalizing the NP *that building* results in a grammatical sentence whether it is extracted from the matrix clause in (1) or the complement clause in (2).

(1) That building_i, they will demolish ___i.

(2) That building_i, I am upset [that they will demolish ___i].

However, there are some well-known constraints on topicalization in English. For instance, English topicalization is subject to the Adjunct Island Constraint (Huang, 1982), which dictates that nothing be extracted from an adjunct clause. This

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explains why (3) is ungrammatical despite the fact that it differs from (2) by just one word.

(3) * That building_i, I am upset [because they will demolish ___i].

The key difference between the two sentences is that topicalization from the *because*-adjunct in (3) violates the Adjunct Island Constraint, whereas there is no such prohibition on extraction from the complement clause in (2).

2.2. Topic Structures in Chinese

In contrast to English (which has been described as a subject-prominent language), Chinese is a topic-prominent language (Li & Thompson, 1981). As such, it makes more frequent use of topic structures¹ than English does. There is currently no consensus with regard to the status of island constraints on topic structures in Chinese, but some apparent violations are acceptable while others are not. For example, Huang, Li, and Li (2009) have observed that (4) is acceptable despite the fact that the NP *Lisi* in the topic position is coindexed with an empty category in the embedded adjunct clause.

(4) Lisi_i, [yinwei ___i piping-le Zhangsan], (suoyi) meiren yao ta.
 Lisi because criticize-LE Zhangsan so nobody want him
 ‘(As for) Lisi_i, because [he]_i criticized Zhangsan, nobody wants him.’
 (Huang et al., 2009, p. 209, (47))

It is not simply the case, however, that all sentences that appear to violate island constraints are permitted in Chinese. In fact, native speakers of Chinese reject (5) despite its similarity to (4). Note that the two sentences are identical except that the empty category is located in a subject position in (4) and in an object position in (5).

(5) * Lisi_i, [yinwei Zhangsan piping-le ___i], (suoyi) meiren yao ta.
 Lisi because Zhangsan criticize-LE so nobody want him
 ‘(As for) Lisi_i, because Zhangsan criticized [him]_i, nobody wants him.’
 (adapted from Huang et al., 2009, p. 209, (47))

Huang et al. (2009) explain this asymmetry by proposing that an empty pronoun is available in the subject gap position in (4) but not in the object gap position in (5). From this they conclude that the NP *Lisi* is base generated in topic position in (4) and that it is only in (5) that movement of *Lisi* has occurred. If this proposal is correct, it means that only (5) contains a true island violation. Huang et al. attempt to account for the distribution of empty pronouns in Chinese by appealing to Huang’s (1982, 1984) Generalized Control Rule (GCR), which states that an

¹ We use “topic structures” here because the term “topicalization” implies movement.

empty pronoun must be coindexed with the structurally closest nominal. This explanation works nicely for sentences such as (4) and (5) because the GCR allows an empty pronoun in the gap position to be coindexed with an NP in the topic position in (4) but prohibits such coindexation in (5) due to the presence of the intervening NP *Zhangsan*.

However, this analysis cannot account for all similar sentence types in Chinese. For example, (6) is acceptable in Chinese even though there is an intervening nominal (*wo* ‘I’) between the object gap and the NP in the topic position. Sentences such as these are problematic for Huang et al.’s analysis and highlight the need for further research in this area.

- (6) *Zheme wanpi de haizi*, [*wo zhao-bu-dao [yuanyi shouyang ___i]*
 so naughty DE child I cannot-find willing adopt
de ren].
 DE person
 ‘Such a naughty child_i, I cannot find anybody willing to adopt [him_i].’
 (Xu & Liu, 2003, p. 133, (15b))

2.3. Previous Quantitative Research on Island Constraints in Chinese

Unfortunately, there has been very little quantitative research on island constraints in Chinese. The one quantitative study we were able to find was conducted by Myers (2012); he administered a 32-item non-contextualized acceptability judgment task (AJT) to 20 native speakers of Chinese to test their sensitivity to adjunct island effects.² The 16 critical sentences relevant to the present study all contained a topic NP that was the antecedent of an empty object in adjunct clauses introduced by *yinwei* (‘because’) or *ruguo* (‘if’). The participants were asked to read each sentence and make a binary yes/no judgment about its acceptability.

An example sentence from Myers’ study is provided in (7).

- (7) *Na-fen zuoye*_i, *Lisi shuo ta* [*yinwei xie-le ___i*], *jiu*
 that-CL homework Lisi say he because write-ASP then
kan baozhi.
 read newspaper
 ‘That assignment_i, Lisi said [because he wrote ____i], he would read the newspaper.’
 (adapted from Myers, 2012, p. 450, (9a))

Because there is at least one intervening nominal (*ta* ‘he’ and *Lisi*) between the object gap and the NP in topic position (*na-fen zuoye* ‘that assignment’), one might expect this sentence to be ungrammatical, parallel to (5). According to Huang et al.’s (2009) account, the topic NP cannot have been base generated in

² Other items tested for coordinate structure effects.

the topic position in either of these sentences. Instead, it must have *moved* there from the adjunct clause, and so (7) should thus be an adjunct island violation.

However, the participants in Myers' study accepted this type of sentence (i.e., with an adjunct clause introduced by *yinwei* 'because' or *ruguo* 'if') 69.4% of the time, indicating that they did not find it ungrammatical. This empirical result challenges Huang et al.'s (2009) analysis and suggests that Chinese lacks adjunct island effects, at least in these types of sentences.

3. The Present Study

The aim of the present study is to test L1-Chinese L2ers of English for adjunct island effects in both their L2 English and their L1 Chinese. The experimental tasks were designed to address the research questions in (8):

- (8) a. Do L1-Chinese L2ers of English show evidence of adjunct island effects in their L1 Chinese?
 b. Can they (come to) show evidence of adjunct island effects in their L2 English?
 c. What role does English proficiency play?

4. Method

4.1. Participants

A total of 23 adult L1-Chinese L2ers of English participated in the study, but three of these participants were identified as outliers and excluded from the analyses (see §5.1 below). The 20 L1-Chinese speakers who were retained ranged in age from 21 to 40 with a mean of 27; their mean score from a 50-item English cloze test (Brown, 1980) was 31.2, indicating that they were rather advanced learners of English (see Table 1). Their mean age at the time of their first English classes was 10.4, and the mean number of years they had spent in predominantly English-speaking countries was 2.8.

Table 1. Participant background information after removing outliers.

Group	<i>n</i>	Age at Time of Testing			Cloze Score		
		<u>Mean</u>	<u>SD</u>	<u>Range</u>	<u>Mean</u>	<u>SD</u>	<u>Range</u>
L1-Chinese	20	27.0	4.5	21–40	31.2	7.0	19–46
L1-English	27	24.0	7.1	19–53	43.3	4.2	29–48

Twenty-nine L1-English speakers also completed the experimental tasks; of these, two were identified as outliers and removed from the study (see §5.1). The remaining 27 L1-English speakers ranged in age from 19 to 53 with a mean of 24. Their mean cloze test score was 43.3, and an independent samples *t*-test ($t = -6.59$, $df = 32.27$, $p < .001$) revealed that this was significantly higher than the mean score for the L1-Chinese speakers. (None of the L1-English speakers reported learning Mandarin or any other variety of Chinese during childhood.)

4.2. Acceptability Judgment Tasks

Contextualized acceptability judgment tasks (AJTs) were administered to the participants to test for adjunct island effects. There were both English and Chinese versions of the task, which were close translations of each other. The variables ‘word order’ (canonical; topic structure) and ‘clause type’ (complement; *because/yinwei*-adjunct) were crossed in a 2×2 factorial design modeled on Sprouse, Wagers, and Phillips (2012). The stimuli were distributed across four lists in a Latin square design, each with 20 critical items ($k = 5$ per condition) and 45 fillers. An example sentence in each of the four critical conditions is given in (9). Note that it is only the [+Topic, +Adjunct] condition that violates the Adjunct Island Constraint (in English, at least).

(9) Critical Conditions

- a. Condition A: [-Topic, -Adjunct]
‘But I was happy that Mrs. Taylor praised that student.’
- b. Condition B: [-Topic, +Adjunct]
‘But I was happy because Mrs. Taylor praised that student.’
- c. Condition C: [+Topic, -Adjunct]
‘But that student, I was happy that Mrs. Taylor praised.’
- d. Condition D: [+Topic, +Adjunct]
* ‘But that student, I was happy because Mrs. Taylor praised.’

The filler sentences were estimated to have roughly the same level of complexity as the critical sentences. Approximately half of the fillers were grammatical, while the other half were ungrammatical. An example of each type of filler sentence is provided in (10) and (11).

(10) Grammatical Fillers

- a. Relativization ($k = 10$)
‘That is the sweater that David bought.’
- b. Indirect question ($k = 5$)
‘But I don’t know who baked that cake.’
- c. Left-dislocation + indirect question ($k = 5$)
‘But that door, I don’t know who shut it.’
- d. Left-dislocation + adjunct clause ($k = 5$)
‘But those people, I am happy because David invited them.’

(11) Ungrammatical Fillers

- a. Relativization + resumptive pronoun ($k = 10$)
* ‘Those are the people that David disturbed them.’
- b. Indirect question + *wh*-island violation ($k = 5$)
* ‘But those dishes, I don’t know who washed.’
- c. Unrelated NP in the topic position ($k = 5$)
* ‘But that package, I don’t remember who delivered the car.’

Each critical/filler sentence was preceded by a short passage designed to create a felicitous context for a topic structure. An example of a critical stimulus from the English AJT is provided in (12).

(12) Example Target Stimulus

David is telling us that Mrs. Taylor praised some of her students today. First he points at one student and says, ‘That student, she didn’t praise.’ Then he points at another student and says...

‘But that student, I was happy that Mrs. Taylor praised.’

Participants were asked to rate the sentence following each context passage using a four-point Likert scale ranging from ‘very unnatural’ to ‘very natural.’ There was also a fifth option, labeled ‘X,’ that could be selected if they were unable to rate the sentence because of, e.g., unfamiliarity with one or more of the words in it. It is important to offer such an additional option so that lower-level L2ers are not forced to answer at random. However, the ‘X’ option was selected only six times on the English AJT, accounting for about 0.02% of all responses given by the L1 and L2 participants, and only one of those was for a critical trial. The ‘X’ option was never chosen on the Chinese AJT.

4.3. Procedure

Participants were tested individually in a quiet room at the University of Hawaii. The L1-Chinese speakers first completed the English AJT, which was followed by the Chinese AJT and finally the English cloze test. The tasks were administered to all the L2ers in this order so that their responses on the Chinese AJT could not influence their performance on the English AJT. The procedure was identical for the L1-English speakers (except that they were not asked to complete the Chinese AJT!). There was also a short language background questionnaire, in the form of an online survey, that the participants completed before the experimental session. The entire session, including a short debriefing after the tasks had been completed, usually took 60–75 minutes for the L1-Chinese speakers and 45–60 minutes for the L1-English speakers.

5. Results

5.1. Removing Outliers

Prior to analyzing the data, steps were taken to identify and remove outliers. Participants whose accuracy on the fillers was more than two standard deviations below the mean were flagged as outliers. Four participants were identified for potential exclusion using this criterion. Subsequent analyses revealed that one was an L1-Chinese speaker with a strong ‘yes’ bias on the English AJT, scoring 100% on the grammatical fillers and 0% on the ungrammatical fillers. Another L1-Chinese speaker had a strong ‘no’ bias on the Chinese AJT, scoring 20% on

the grammatical fillers and 80% on the ungrammatical fillers. The two remaining outliers were L1-English speakers with moderate ‘no’ biases on the English AJT: On the grammatical fillers, both scored 52%; on the ungrammatical fillers, one scored 95% and the other scored 100%. These four participants were excluded from all further analyses. An additional L1-Chinese speaker was removed from the study because her differences-in-differences score (described below in §5.3) on the critical items from the Chinese AJT lay outside the 95% confidence interval. The result of these exclusions was that 20 L1-Chinese speakers and 27 L1-English speakers were included in the analyses (as summarized in Table 1).

5.2. Descriptive Statistics

The first two research questions asked whether the participants showed evidence of adjunct island effects on the English and Chinese versions of the AJT. To begin to answer these questions, the participants’ responses were converted to *z*-scores following Sprouse et al. (2012) to minimize scale bias, and the mean ratings for each critical condition were calculated using R software (R Core Team, 2015). The *z*-scores were calculated for each participant individually using their responses to all 65 stimuli so that the scores would reflect their full range of responses on the task. The mean *z*-score ratings for each of the four critical conditions are shown below in Table 2. One initial observation that we can make at this point is that the [–Topic] conditions (i.e., the ones with canonical word order) tended to receive the highest ratings, while the [+Topic, +Adjunct] condition (i.e., the one with the potential adjunct island violation) tended to receive the lowest ratings.

Table 2. Mean *z*-score ratings by group.

Group	–Topic	–Topic	+Topic	+Topic
	–Adjunct	+Adjunct	–Adjunct	+Adjunct
L1-English speakers on the English AJT	0.72	0.53	–0.18	–0.76
L1-Chinese speakers on the English AJT	0.38	0.38	0.00	–0.49
L1-Chinese speakers on the Chinese AJT	0.80	0.56	0.22	–0.01

5.3. Differences-in-Differences Scores

Next, differences-in-differences (DD) scores (Maxwell & Delaney, 2003) were used to measure the strength of the adjunct island effect. The DD scores were calculated, as schematized in (13), by finding the difference between the mean *z*-scores for the [+Topic] conditions (13a), and then subtracting from that the difference between the mean *z*-scores for the [–Topic] conditions (13b).

(13) Procedure for Calculating DD Scores Using Mean Ratings

- a. $D1 = [+Topic, -Adjunct] - [+Topic, +Adjunct]$
- b. $D2 = [-Topic, -Adjunct] - [-Topic, +Adjunct]$
- c. $DD = D1 - D2$

DD scores provide a convenient way to measure the strength of island effects both for participants and for groups. Positive DD scores indicate a superadditive interaction between the variables ‘word order’ (canonical; topic structure) and ‘clause type’ (complement; adjunct). In other words, a positive DD score occurs when the difference between the mean ratings for the two [+Topic] conditions (with the potential adjunct island violation in the [+Topic, +Adjunct] condition) is greater than the difference between the mean ratings for the two [-Topic] conditions. This is exactly the kind of superadditive interaction that indicates the presence of an island effect because it cannot be explained by the mere sum of the processing costs of going from [-Topic] to [+Topic] word order and going from a [-Adjunct] clause to a [+Adjunct] clause. The greater the value of the DD score, the stronger the island effect. Conversely, DD scores that hover around zero indicate the absence of island effects, and negative DD scores indicate an unexpected interaction between the variables ‘word order’ and ‘clause type’ that cannot be explained by island effects. The mean DD scores for each group and task are provided in Table 3.

Table 3. Mean DD scores for critical trails from the AJTs.

Group	Mean DD Score
L1-English speakers on the English AJT	0.39
L1-Chinese speakers on the English AJT	0.49
L1-Chinese speakers on the Chinese AJT	0.00

The L1-English speakers and the L1-Chinese speakers both had positive DD scores on the English AJT, which suggests the presence of an island effect. By contrast, the L1-Chinese speakers had a DD score of 0.00 on the Chinese AJT, indicating that in their native language they are not sensitive to the potential adjunct island effects (which suggests the absence of an adjunct island effect).

However, the mean values alone are not enough to give us an adequate feel for the distribution of the data. To get a better sense of the range of response patterns on the AJTs, a plot showing the distribution of DD scores for each group and task was generated, as seen in Figure 1.

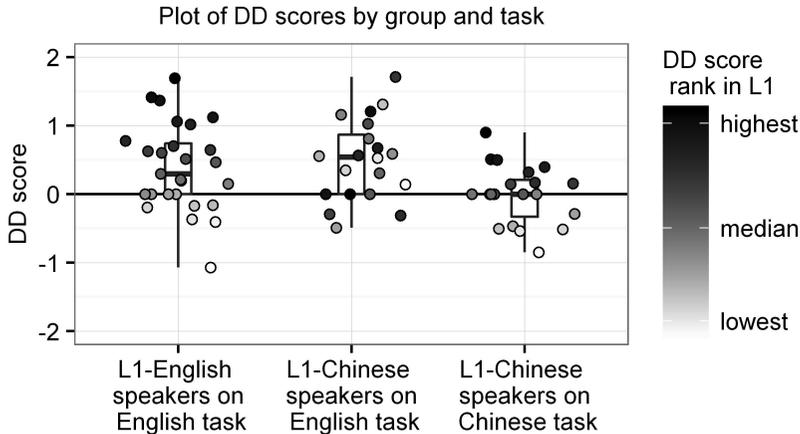


Figure 1. Plots showing the distribution of DD scores by group and task. The thick horizontal line in each boxplot represents the median for that group, the upper and lower ‘hinges’ of the box represent the first and third quartiles, and the ‘whiskers’ represent the 95% confidence interval.

On the English AJT, the bulk of the participants’ DD scores was positive for both the L1-English speakers and the L1-Chinese speakers; this is consistent with them being sensitive to adjunct island effects on the English AJT. By contrast, the DD scores for the L1-Chinese speakers on the Chinese AJT were clustered around zero, indicating the absence of an island effect.

The circles in the plot represent the DD scores of individual participants, and the shade of each circle indicates the rank of that participant’s DD score when tested in his or her L1. The darkest of the circles identifies the participant with the highest DD score, while the lightest circle identifies the participant with the lowest DD score. By comparing the arrangement of the circles for the L1-Chinese speakers on the English AJT vs. the Chinese AJT, we can see that their responses did not pattern in the same way on the two tasks. The participants with the highest DD scores on the Chinese AJT did not have the highest DD scores on the English AJT, nor did the participants with the lowest DD scores on the Chinese AJT have the lowest scores when tested in English.

5.4. Linear Mixed-Effects Models

To provide more robust evidence for the presence or absence of adjunct island effects, the z -scores were further analyzed using linear mixed-effects models following Sprouse et al. (2012) with ‘word order’ (canonical; topic structure) and ‘clause type’ (complement; adjunct) as fixed factors and with participant and item as random factors. All p -values were estimated using the lmerTest package in R. Separate analyses were performed for the L1-English speakers on the English AJT,

the L1-Chinese speakers on the English AJT, and the L1-Chinese speakers on the Chinese AJT, as shown in Table 4.

Table 4. Measures of statistical significance for linear mixed-effects models.

	L1-English group on the English AJT	L1-Chinese group on the English AJT	L1-Chinese group on the Chinese AJT
Main effect of ‘word order’	t = -11.57, p = 0.000*	t = -3.66, p = 0.001*	t = -4.54, p = 0.000*
Main effect of ‘clause type’	t = -5.97, p = 0.000*	t = -2.49, p = 0.024*	t = -3.57, p = 0.002*
Interaction of ‘word order’ and ‘clause type’	t = -3.04, p = 0.006*	t = -2.70, p = 0.012*	t = -0.29, p = 0.772

Note. Asterisks indicate *p*-values that are significant at (at least) the .05 level.

The main effects for both ‘word order’ and ‘clause type’ were significant at (at least) the .05 level for all groups on both versions of the AJT. Crucially for the present study, a significant interaction between ‘word order’ and ‘clause type’ was observed for the L1-English speakers on the English AJT ($p < .01$) as well as for the L1-Chinese speakers on the English AJT ($p < .05$), *but not for the L1-Chinese speakers on the Chinese AJT* ($p > .05$). These results indicate that both groups show evidence of adjunct island effects on the English AJT, but that the L1-Chinese speakers did not exhibit adjunct island effects when tested in their native language.

5.5. Interaction Plots

The interactions between the variables ‘word order’ and ‘clause type’ are presented visually in Figure 2. Parallel lines indicate absence of island effects; nonparallel lines that have a significantly larger difference between the [+Topic] conditions than the [-Topic] ones indicate presence of an island effect. Note that the *p*-values on the plots are the significance value of the interaction between ‘word order’ and ‘clause type’ from the linear mixed-effects models. Figure 2 shows that on the English AJT, the L1-English and L1-Chinese speakers evince island effects, but the L1-Chinese speakers do not exhibit any such effect on the Chinese AJT. These observations are compatible with the analysis of the mean DD scores and the linear mixed-effects models.

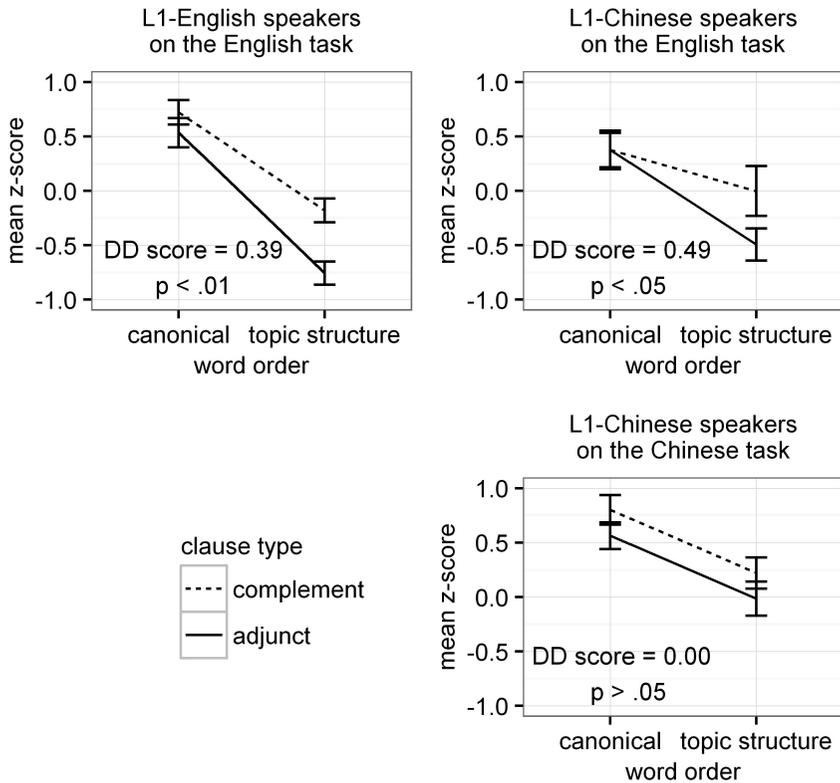


Figure 2. Interaction plots for the L1-English and L1-Chinese groups on the AJTs using mean z-scores. Error bars represent confidence intervals.

5.6. Proficiency

The third research question asked whether L2 English proficiency influences sensitivity to violations of the Adjunct Island Constraint in English. To generate an estimate of each L1-Chinese speaker's English proficiency, Rasch analysis was performed on the raw scores from the cloze test using Winsteps software (Linacre, 2014). Because Rasch analysis converts raw scores from ordinal data to log odds units (i.e., logits) on a common interval scale (Bond & Fox, 2015), the person estimates generated in Winsteps provide a more accurate measure of each participant's English proficiency than the raw scores from the cloze test. The advantage of converting the data to an interval scale is that it corrects for the fact that a difference of, say, five points in raw scores at the extremes of the distribution corresponds to a greater difference in proficiency than a difference of five points at the middle of the distribution.

A simple linear regression analysis was performed to assess the relationship between the strength of the L1-Chinese speakers' island effects in English, as

measured by their DD scores from the English AJT, and their level of English proficiency, as measured by their logit scores from the cloze test data. The results of this analysis ($R^2 = 0.001$, $p > .05$) indicate that there was not a statistically significant relation between the two sets of values. Figure 3 provides a visual representation of the relationship between the DD scores and the logit scores. The shallow slope of the regression line, coupled with the sizeable portion of data points lying outside the shaded confidence region, also helps to illustrate the lack of a significant relationship between the strength of the L2ers' adjunct island effects and their English proficiency.

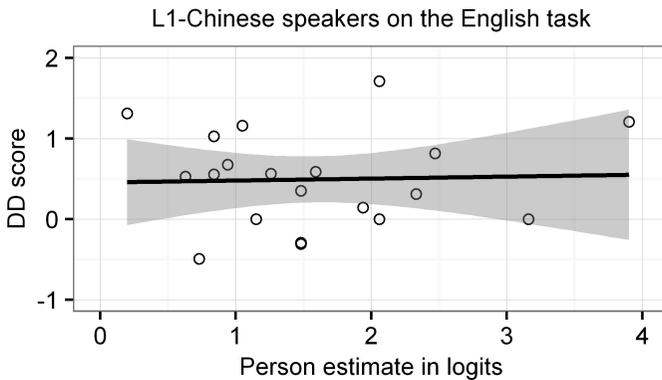


Figure 3. Scatterplot showing the relation between the L1-Chinese speakers' DD scores from the English AJT and their person estimates in logits from the cloze test. The shaded region represents the 95% confidence interval.

6. Discussion

The present study investigated whether adult L1-Chinese L2ers of English are sensitive to adjunct island effects in both their L1 Chinese and their L2 English. A group of L1-English speakers also served as native-speaker controls. AJTs were administered to the participants to test for the presence or absence of adjunct island effects for topic structures in English and Chinese, and a cloze test was also included as an independent measure of English proficiency.

The first step in analyzing the data was to ascertain whether the L1-English and L1-Chinese speakers demonstrated sensitivity to adjunct island effects on the English AJT. Here the results present a clear picture. Analysis of participant responses using linear mixed-effects models revealed a statistically significant interaction between the variables 'word order' (canonical; topic structure) and 'clause type' (complement; adjunct) for both the L1-English speakers ($p < .01$) and the L1-Chinese L2ers of English ($p < .05$). These findings indicate that the drop in acceptability of going from the [-Topic] word order to the [+Topic] word order was greater when the embedded clause was [+Adjunct]—thereby resulting in an adjunct island violation—than when the embedded clause was [-Adjunct].

This type of superadditive interaction indicates the presence of an island effect. Other available sources of evidence, such as the relative slopes of the lines in the interaction plots and the fact that the majority of the participants had positive DD scores, further support the conclusion that the L1-English speakers and the L1-Chinese L2ers were sensitive to adjunct island effects on the English AJT. These findings are compatible with other research that has found evidence for the presence of island constraints for *wh*-questions in L1 and L2 English (e.g., Adolsari, 2015; Bley-Vroman et al., 1988; Sprouse et al., 2012).

The second step was to establish whether the L1-Chinese L2ers were sensitive to adjunct island effects in their native language. Careful examination of the data indicates that the L1-Chinese speakers did not show evidence of island effects on the Chinese AJT. For one thing, analysis with linear mixed-effects models did not reveal a significant interaction between the variables ‘word order’ and ‘clause type’ ($p > .05$). Furthermore, the lines on the interaction plot were virtually parallel, and the average DD score was 0.00. The absence of a superadditive interaction between ‘word order’ and ‘clause type’ indicates that the L1-Chinese speakers were not sensitive to what would be adjunct island effects in their native language.³

Taken together, the findings from the English and Chinese AJTs indicate that the L1-Chinese speakers have managed to develop a sensitivity to adjunct island effects in English even though no evidence was found for any such effects in their L1 Chinese. In fact, it appears that these participants have overcome a poverty-of-the-stimulus (POS) problem in their L2 acquisition of English because this phenomenon meets all the criteria for an L2 POS problem (Schwartz & Sprouse, 2000): (a) the effect is not present in the L1, (b) it is not taught explicitly in the L2 classroom, and (c) it cannot be picked up from target-language input alone using domain-general operations. These findings therefore challenge the claim that child L1 acquisition and adult L2 acquisition are fundamentally different (e.g., Bley-Vroman, 1990, 2009) and are consistent with the hypothesis that a domain-specific cognitive system constrains adult L2 acquisition (e.g., Schwartz & Sprouse, 1996, 2013).

There are a number of possible directions for future research that are worth considering. First, it would be a good idea to recruit L2ers with a wider range of proficiency levels; all of our participants were relatively advanced. This might increase the chances of finding a significant relationship between the participants’ DD scores and proficiency estimates, if one exists. It would also be instructive to investigate the L2 development of sensitivity to adjunct island effects, which was beyond the goals of the current study. Another way to expand on this study would be to test L2ers with other L1s, such as Japanese and Korean, to explore whether the findings reported here can be generalized to those populations as well.

³ Huang & Li (1996) claimed that animacy of the topic NP can influence the acceptability of topic structures in Chinese, but additional analysis of the critical Chinese sentences (12 of 20 with inanimate topics) using linear mixed-effects models indicated that animacy of the topic NP did not make a statistically significant contribution to the variance ($p > .05$).

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