

# L2 Research on Clausal Comparatives in English: Positive and Negative L1-transfer

Fumio Mohri\*  
Kanako Maruo\*\*  
Rai Tei\*\*\*

## 1. Introduction

The question of how to properly capture the varied status of clausal comparatives in natural language has been an intensely debated topic in the syntactic and semantic literature. Mohri and Tei (2017) has brought forth a novel syntactic and semantic analysis in Japanese clausal comparatives and at the same time, also pointed out a similarity with Chinese comparatives. One of the long-standing debates over comparatives in Japanese lies in whether apparently clausal comparatives are genuinely clausal. Our basic stance is consistent with Beck et al (2004), Oda (2008) and Sudo (2009, 2014) in that Japanese, unlike Chinese, allows seemingly clausal comparatives, which in fact are not clausal, but in actuality, are the complex nominals that head relative clauses. Mohri and Tei shed light on the

---

\* 福岡大学人文学部准教授

\*\* 福岡大学言語教育研究センター講師

\*\*\* 福岡大学留学生別科講師

contrast in acceptability between ‘amount’ and ‘non-amount’ comparatives in (1), observed first by Ishii (1991), and claimed that Japanese relies on an alternative operation only available for non-amount comparatives to derive a relative clause.

- (1) a. John-wa [Mary-ga katta ]-yori **takusan-no** kasa-o katta  
John-Top[Mary-Nom bought ]-than many-Gen umbrella-Acc bought  
‘John bought more umbrellas than Mary bought.’  
b. ??John-wa [Mary-ga katta]-yori **nagai** kasa-o katta  
John-Top [Mary-Nom bought]-than long umbrella-Acc bought  
‘John bought a longer umbrella than Mary bought.’

This paper does not pursue the theoretical implication from Mohti and Tei (2017), but attempts to test our earlier analysis which included attention to how L2 English learners acquire language. It is well known in the literature that L2 learners can rely on three sources of linguistic knowledge: L2-input, L1-transfer and UG-based knowledge. The existence of L2-input is almost self-evident, because it is nearly impossible to acquire a target language without L2 exposure. Also, L2 acquisition is mediated by both positive and negative L1-transfers. For instance, it has been reported that English learners whose L1 have no articles show more patterns of article misuse than those with articles in their L1 (cf. Ionin 2003 and Ionin et al. 2008). The former case can be treated as a typical one induced by ‘positive’ L1-transfer, and the latter, the case induced by ‘negative’ L1-transfer. In contrast, what has been highly contentious is the issue of UG-based knowledge: To what extent L2 acquisition can proceed with the help

of UG-based knowledge, and can L2 learners access to UG in the process of acquisition? However, the UG relevant issues are beyond the scope of my paper to pursue. In this paper, rather, we focalize on the effect of L1-transfer, and analyze negative or positive L1-transfers observed in (clausal) comparative constructions in Japanese and Chinese.

## 2. Backgrounds

This section will be devoted to overviewing some cross-linguistic variations in comparatives and some pronounced approaches to them. It has been revealed through recent studies that comparative constructions have crosslinguistic variations across languages. Many languages including English have two kinds of comparative constructions: phrasal and clausal comparatives.

- (2) a. John is taller than Mary. (Phrasal Comparative)  
b. John is taller than Mary is (tall). (Clausal Comparative)

On the other hand, for example, Chinese only allows the standard of comparison to be phrasal, as in (3):

- (3) a. Mohri [bi Tei] xie le gengduode lunwen.  
Mohri than Tei write PT more paper  
'Mohri wrote more papers than Tei.'  
b. \*Mohri [bi Tei xie ] xie le gengduode lunwen.  
Mohri than Tei write write PT more paper  
'Mohri wrote more papers than Tei did.'

It is also noticeable that Japanese has only a phrasal comparative in adjectival predicates, as shown in the contrast between (4a) and (4b):

- (4) a. John-wa Mary-yori takai.  
John-Top Mary-than tall  
'John is taller than Mary.'
- b. \*John-wa Mary-ga takai-yori takai.  
John-Top Mary-Nom tall-than tall  
'John is taller than Mary is (tall).'

When adjectival predicates are used both in the matrix and embedded clauses, the sentence is utterly ungrammatical in Japanese. The English gradable predicate in (2b), *tall*, can remain there with contrastive stress. In Japanese, on the other hand, neither the deletion of the predicate nor stress suffices to save (4b). However, in Japanese, it is possible to construct a clausal *yor*i-complement as in (5). Note that unlike adjectival predicates like *takai* 'tall' in (4), the predicates, *keru* 'kick' and *nobiru* 'grow' have eventuality in their interpretations. This kind of predicate does not suffice to but are more likely to allow clausal comparison.

- (5) a. John-wa Mary-ga nobita yori (se-ga) nobita.  
John-Top Mary-Nom grew than (height-Nom) grew  
'John grew taller than Mary did/ grew.'
- b. John-wa Mary-ga ketta yori takusan booru-o ketta.  
John-Top Mary-Nom kicked than many ball-Acc kicked  
'John kicked more balls than Mary did/kicked.'

Most notably, acceptability fluctuates in accordance to the type of compared degrees. More specifically, ‘amount’ degree comparatives are relatively acceptable in Japanese, in contrast to the other types of comparatives (cf. Beck et al. 2004, Bhatt and Takahashi 2011, and many others).

- (6) a. John-wa Mary-ga katta yori takusan-no hon-o katta.  
 John-Top Mary-Nom bought than many-Gen book-Acc bought  
 ‘John bought more books than Mary did/ bought.’
- b. ??John-wa Mary-ga katta yori omosiroi hon-o katta.  
 John-Top Mary-Nom bought than interesting book-Acc bought  
 ‘John bought a more interesting book than Mary did/bought.’
- (Originally cited from Ishii (1991), but slightly changed)

For clarification, let us briefly touch upon the orthodox analysis of comparative morpheme with the examples (7).

- (7) a. John scored more goals than Bill did/ scored.  
 b. John kicked a longer ball than Bill did/ kicked.

Given the standard treatment, the comparative morpheme is a determiner of type  $\langle dt, \langle dt, t \rangle \rangle$ , which takes two sets of degrees and compares the maximal values of these two sets, as in (8).

- (8)  $[[\text{-er}]] = \lambda D. \lambda D' \max(D') > \max(D)$  (Hackle 2000:50)

Semantically, the comparative determiner requires two maximal degrees on a relevant scale to be compared. In order to yield such semantic calculation, we need to construct an appropriate syntactic structure, as shown in the LF structures (9a) and (9b).

- (9) a. [<sub>DegP</sub> -er than Op<sub>2</sub> Bill scored [<sub>d<sub>2</sub></sub>-many goals]]<sub>1</sub>[<sub>TP</sub> John scored [<sub>DP</sub> d<sub>1</sub>-many goals]]  
b. [<sub>DegP</sub> -er than Op<sub>2</sub> Bill kicked [a d<sub>2</sub>-long ball]]<sub>1</sub>[<sub>TP</sub> John kicked [<sub>DP</sub> a d<sub>1</sub>-long ball]]

The DegP, which is a generalized quantifier over degrees, undergoes movement, leaving a degree variable behind. Note also that a null operator Op is raised in the embedded clause to yield degree descriptions.

It is well known that Japanese comparatives show some unique characters that would fail to be explained with the analysis based on degree movement. To account for variation in comparatives across languages, Beck et al. (2004) propose a parameter that governs the presence /absence of degree movement, as follows:

- (10) Degree Abstraction Parameter (Beck et al. 2004: 325)

A language {does, does not} have binding of degree variables in the syntax.

Due to the negative setting of the parameter, Japanese does not have degree movement nor degree abstraction in syntax. In fact, some linguists, including Beck et al. and Oda (2008), have presented convincing evidence to contend

that degree arguments do not undergo movement in Japanese. However, we will not delve into the affirmative evidence brought forth there because it is not a primary purpose for this paper.

Here we will only outline the argument developed in Mohri and Tei (2017). Mohri and Tei, which is based upon the analysis of Sudo (2014), has argued that apparent clausal comparatives in Japanese are not in fact clausal, but the complex nominals that head relative clauses; the seemingly clausal look of a Japanese clausal comparative is analyzed as the result of syntactically deleting the head noun of the complex nominal complement of *yori*, leaving behind the relative clause. What makes our analysis crucially different from Sudo, however, is that the head (covert) nominals should be uniformly treated as ‘degree’ nominals; otherwise the gradable acceptability in (11) is dealt with as ‘subtle’ or ‘weak’ difference, or even must be ignored.

- (11) a. John-wa [Mary-ga katta ]-yori **takusan-no** kasa-o katta  
 John-Top [Mary-Nom bought]-than many-Gen umbrella-Acc bought  
 ‘John bought more umbrellas than Mary bought.’
- b. ??John-wa [Mary-ga katta ]-yori **takai** kasa-o katta  
 John-Top [Mary-Nom bought ]-than expensive umbrella-Acc bought  
 ‘John bought an expensive umbrella than Mary bought.’

Given Sudo’s deletion analysis as it is, the observed difference is not predictable because the underlying constructions before the deletion are both grammatically fine. On the other hand, given our analysis in which the deleted head nominals are degree nominals, the grammatical difference in (11) is a natural consequence, as shown below<sup>1</sup>:

- (12) a. John-wa [Mary-ga katta **honsuu** ]-yori **takusan-no**  
 John-Top[Mary-Nom bought number]-than many-Gen  
 kasa-o katta  
 umbrella-Acc bought  
 ‘(Lit.)John bought more umbrellas than the number of umbrellas  
 Mary bought.’
- b. John-wa [Mary-ga katta **nedan**]-yori **takai**  
 John-Top[Mary-Nom bought price ]-than expensive  
 kasa-o katta  
 umbrella-Acc bought  
 ‘(Lit.)John bought a more expensive umbrella than the price of the  
 umbrella Mary bought.’

Where does the degraded status of (11b) come from? We argue that it can be attributed to the failure with the syntactic derivation of the relative clause. Skipping all the technical details, we only sum up the descriptive facts we have overviewed, as follows:

	English	Japanese	Chinese
Adjectival Clausal Comparatives	○	×	×
Eventive Clausal Comparatives (Amount type)	○	○	×
Eventive Clausal Comparatives (non-Amount type)	○	×	×

Our primary argument in Mohri and Tei (2017) is that seemingly clausal comparatives in Japanese are in actuality relative clauses headed by

---

<sup>1</sup> We assume that degree nominals such as *nedan* ‘price’ and *honsuu* ‘number’ are a predicates of degrees. In addition to those nominals, degree nominals in Japanese are productively derived with the *sa*-suffix attached, as in (i):

(i) ‘interestingness’, *kasikosa* ‘smartness’, *umasa* ‘skillfulness’, *oisisa* ‘deliciousness’



syntactically deleted degree nominals (cf. Sudo 2014). The difference observed between Japanese and Chinese comparatives can simply be attributed to the availability of deletion operation of the head nominal. We have also proposed in the paper that the amount-typed clausal comparative in Japanese can rely on an alternative operation without degree operator movement. Along the line brought forth by Beck et al., we assume that there is no degree operator movement nor degree abstraction involved in Japanese (apparent) clausal comparatives and of course, in Chinese comparatives. In other words, Japanese and Chinese both lack those operations as UG options. Japanese has apparently clausal comparatives, which is not genuinely clausal, whereas Chinese does not even allow apparent clausal comparatives.

### 3. Tests

Our assumption is that Japanese and Chinese comparatives lack degree operator movement, namely, that there is no such an operation available as a UG option. Instead, Japanese relies on relative clauses with a peculiar operation involved. It can thus be said that apparent clausal comparatives in Japanese is only derived in appropriate situations in which the relevant operation works. Thus, with the theoretical implication in Mohri and Tei (2017) as the premise, we can infer three possibilities: (i) Both L1 Japanese learners and L1 Chinese learners fluctuate over the judgement for non-eventive clausal comparatives; (ii) L1 Japanese learners show higher percentage of acceptance for amount-typed comparatives than for non-amount-typed comparatives, because an alternative operation is expected to work as an available option for the former; (iii) L1 Chinese learners show a lower percentage of acceptance for any type of clausal comparatives across

the board.

We purposely collected low or intermediate English proficiency level subjects, because it is assumed that they have insufficient L2 input exposure. By doing so, we expected that the effect of L2-transfer could be reflected in their judgement.

### **3.1 Participants and tests**

Our investigation is not a full-fledged one, but remains an incremental step towards the next stage. If something positive which verifies the theoretical implication of Mohri and Tei (2017) emerges in the course of this investigation, a range of more sophisticated tests will be conducted in the next test.

The participants in this study were 43 Japanese college students and 41 Chinese students living in Japan. These participants answered 21 true/false questions. Most of the questions are judged truth, though some are tricky, but we involved obviously wrong sentences -- the ones that lack comparative morpheme. The questions we presented are three types: adjectival comparatives, eventive, amount-typed comparatives and eventive, non-amount-typed comparatives.

### **3.2 Result**

Our tests are straightforward and merely ask the subjects if the presented (grammatically correct) sentences are acceptable to them. Due to space limit and clarification, we only deduct the relevant examples in each category and denote the L2 learners's responses with percentages, and  $p$ -values that have come out via  $X^2$ . First of all, we scrutinize the test result for non-

eventive (adjectival) comparatives below in (13) and see whether there is a significant gap between sentence types, or between L1 Japanese and L1 Chinese.

- (13) a. John is smarter than Mary.  
       b. John is smarter than Mary is.  
       c. John is smarter than Kelly thinks Mary is.

(14) Adjectival comparatives

	(13a)	(13b)	(13c)
L1-Japanese	100% (44/44)	23% (10/44)	30% (14/44)
L1-Chinese	93% (35/38)	27% (10/38)	54% (21/38)

This type of comparative may be the most likely case for the subjects to make wrong judgement. Under the analysis, on which our argument has been built, that Japanese and Chinese both do not have degree movement as a UG option, this result may be a natural consequence. (13c) involves a long-distance movement of the degree operator, which is predicted to have led the subjects to their misjudgment. This test did not divide the subjects by their proficiency levels, but their proficiency is considered intermediate from the results of the VELEC Test<sup>2</sup> and relatively low or intermediate from their self-assessment. This level of proficiency is considered good enough for us to obtain a consequence of their limited exposure to L2 input. In other words, because they lack sufficient L2 input they can only judge those clausal

---

<sup>2</sup> The VELEC Test does not only calculate the proficiency for the examinees in the VELEC score but also in the estimated TOEIC score. It has been reported in Ishii (2016: 11) that the average TOEIC score of the students in the faculty that the Japanese subjects belong to is 406.8.

comparatives by using analogical reasoning by their L1 conventions.

Next, let us move on to another type of comparative, i.e., the eventive comparatives below in (15), where we have deducted the two phrasal comparatives, (15a) and (15d) and the two clausal comparatives, (15b) and (15c). What has followed *than* in (15a) is the agent nominal, Mary, while that in (15d) shows a relative clause, headed by the object argument. Note also that the clausal comparatives in (15b) and (15c) differ in that only the former has its object deleted. Here again, we scrutinize the subjects' responses to those examples and see whether a significant gap has been observed between sentence types, or between L1 Japanese learners and L1 Chinese learners.

- (15) a. John wrote a longer essay than Mary.
- b. John wrote a longer essay that Mary wrote.
- c. John wrote a longer essay than Mary wrote an essay.
- d. John wrote a longer essay than the essay Mary wrote.

(16) Eventive, Amount-typed Comparatives

	(15a)	(15b)	(15c)	(15d)
L1-Japanese	60% (26/43)	60% (27/42)	33% (14/42)	40% (16/42)
L1-Chinese	63% (25/38)	49% (19/38)	22% (8/37)	76% (27/38)

In Japanese, the clausal comparatives in (15b) and (15c) can be literally translated in Japanese: the Japanese counterparts to them both literally make sense, though the counterpart to (15c) sounds a bit awkward. On the other hand, the Chinese counterparts to them are both judged unacceptable.

Finally, we would like to see the test results of the eventive, non-

amount-typed comparatives, as shown below in (17). The following table is the test result to show the positive answers numerically.

- (17) a. John discovered a bigger diamond than Mary.
- b. John discovered a bigger diamond than Mary discovered.
- c. John discovered a bigger diamond than Mary discovered a diamond.
- d. John discovered a bigger diamond than the diamond Mary discovered.

(18) Eventive, non-Amount-typed Comparatives

	(17a)	(17b)	(17c)	(17d)
L1-Japanese	65% (28/42)	60% (25/42)	30% (14/42)	49% (20/42)
L1-Chinese	66% (25/38)	60% (22/38)	29% (11/38)	76% (28/38)

Unlike the phrasal comparatives in (17a) and (17d), Japanese as well lacks its counterparts to the clausal comparatives in (17b) and (17c). Also, unlike the case with the amount-typed clausal comparative, Mohri and Tei (2017) assume that this type of comparative does not allow an alternative operation without degree operator movement to take effect. If so, it is also predicted that more L1 Japanese learners have negatively reacted to (17b) and (17c) by using analogical reasoning produced by their L1 conventions. Thus, those sentences could be treated as the cases with a (negative) L1 transfer effect. Contrary to our predication, however, a significant difference could not be attested (see for the results of L1 Japanese the numerical differences between (15b) and (15c) on one hand and (17b) and (17c) on the other.

#### 4. Analysis

We have also conducted  $X^2$  on both groups' responses to each question in

order to see whether there are statistic differences. For the non-eventive adjectival comparatives in (13), both groups of English learners have shown highly significant drops of the acceptance rate for the clausal comparatives. Obviously, they are treated as the consequence to indicate that those learners negatively reacted to adjectival clausal comparatives. The statistic result for (13a) between the two groups only shows marginal significance ( $p = 0.58$ ). However, it is unexpected that both learners somewhat positively reacted to (13c) with a long-distance movement of the degree operator at work. It should also be noted that L1 Chinese subjects are more likely to accept (13c): a significant  $p$ -value ( $p=0.032$ ) has been attested.

Let us next turn to the eventive examples in (15) and (17). What is pronounced here is that both groups show significant drops in the acceptance rates for the phrasal comparatives between (13a) on one hand and (15a) and (17a) on the other hand. Though it is unclear where those drops stem from, the sentence structures are in fact slightly longer and may even have looked somewhat confusing to the English learners because a set of similar sentences are presented out of the blue. Rather, what should be more noteworthy here is that there is a relatively high acceptance of the clausal comparatives with the object arguments deleted in (15b) and (17b). It remains unclear why those with the object arguments deleted show higher acceptance rates than those with the object argument saturated for both groups. Note that there are significant drops from (15b) to (15c) and (17b) to (17c) for both groups. As one of the possible reasons, the learners may have parsed the embedded clauses in (15b) and (17b) as the relative clauses with the head nominals deleted. That the construction including a relative clause is more likely accepted is supported by the statistic results of

the L1 Chinese subjects for the phrasal comparatives in (15d) and (17d), i.e. 76% for both cases. However, it is also noteworthy that there is an attested significant gap between L1 Japanese subjects and L1 Chinese subjects for acceptance to those examples:  $p = 0.003$  for (15d) and  $p = 0.017$  for (17d). In fact, L1 Japanese subjects show relatively low acceptance rates for both (15d) and (17d). Though there is no clear reason, it could be due to the fact that the Japanese counterparts to (15d) and (17d) are mildly degraded; if the head nominal in the embedded clause is replaced by the expletive noun *no*, then the sentence sounds more natural. A further investigation will explore other possible perspectives.

As a consequence, it turned out that eventive clausal comparatives are relatively highly accepted by both groups (see in particular (15b) and (17b) for the clear comparison with the adjectival comparative in (13a)). In Japanese, unlike non-eventive (adjective) comparatives, eventive comparatives can yield apparent clausal comparatives by deleting the head nominal (cf. Beck et al 2004). On the other hand, Chinese does not allow clausal comparatives regardless of the types of comparatives. In our basic stance, their difference can simply be attributed to the availability of the deletion operation of the head nominal in their relative clauses. The test results indicate that a clause type, that is, the one apparently associated with a relative clause, and the one forming a complex nominal (only for L1 Chinese learners) have been highly accepted, as shown in (15b) and (17b), and (15d) and (17d). On the one hand, there was also a test result that did not back up our assumption. In Mohri and Tei (2017) we have brought forth a semantic operation available only for amount-typed comparatives. Unfortunately, we could not obtain a significant difference between (15b-c)

and (17b-c) for L1 Japanese learners.

## 5. Conclusion

This paper does not pursue the theoretical implication from Mohti and Tei (2017), but attempts to test our earlier analysis which included attention to how L2 English learners acquire clausal comparatives. Among the three sources of linguistic knowledge L2 learners can rely on, i.e., L2-input, L1-transfer and UG-based knowledge, we have focused upon L1-transfer observed in (clausal) comparative constructions in Japanese and Chinese. In Section 3 we inferred three possibilities as the theoretical implication in Mohri and Tei (2017), as follows:

- (19) a. Both L1 Japanese learners and L1-Chinese learners fluctuate over the judgement for non-eventive clausal comparative
- b. L1 Japanese learners shows higher percentage of acceptance for amount-typed comparatives than for non-amount-typed comparatives, because an alternative operation is expected to work as an available option for the former.
- c. L1 Chinese learners shows a lower percentage of acceptance for any type of clausal comparatives across the board.

The first inference (19a) seems to have been verified: both L1-Japanese and L1-Chinese learners showed significant drops for the acceptance rate from (13a) to (13b) and (13c). If this result is partly due to negative L1-transfer, it indirectly supports the assumption that Japanese and, of course, Chinese lack genuine clausal comparatives. On the other hand, (19b) and



(19c) cannot be verified. First, the data to verify (19c) was not obtained: there is a significant difference in acceptance rates between the adjectival comparatives and the others and no difference between the two types of eventive comparatives. Also, as for (19b), the statistic difference between the amount-typed and the non-amount-typed comparatives for L1 Japanese learners could not be observed, either. The test results so far do not verify our assumption that a semantic operation available only for the amount-types comparative should work. We will leave this issue open but intend to conduct a full-fledged test to address our limited understanding.

## Acknowledgements

We would like to thank Tim Cross and Stephen Howe for their comments on early versions of this paper. We are also grateful to Sachiyo Hayashi for her technical help with the data analysis. Needless to say, all remaining errors are mine. Finally, the research reported here is supported by the Ministry of Education, Culture, Sports, Science, and Technology (Grand-in -Aid for Scientific Research (C), No. 25370568).

## References

- Beck, Sigrid, T. Oda, and K. Sugisaki. 2004. Parametric variation in the semantics of comparison: Japanese vs. *English*. *Journal of East Asian Linguistics* 13: 289–344.
- Bhatt, R. and S. Takahashi. 2011. Reduced and unreduced phrasal comparatives. In *Natural Language and Linguistic Theory* 29(3): 581–620.
- Hackle, M. 2000. *Comparative quantifiers*. Ph.D. dissertation, MIT.
- Inonin, C. 2003. Article Semantics in Second Language Acquisition. Ph.D. dissertation, MIT.
- Inonin, T., Zubizarreta, L.M., Maldonado, B.S. 2008. Sources of Linguistic Knowledge in

- the Second Language Acquisition of English Articles. *Lingua* 118, 554–576.
- Ishii, K 2016/. Heisei 13-nendo/ 2014-nen Eigo Placement Test Kekka-no Bunseki (The Analysis of the 2014 Placemnet Test) In *Annual Review of Fukuoka University Language Learning and Teaching* 15: 9–22.
- Ishii, Y. 1991. Operators and empty categories in Japanese. Ph.D. dissertation, University of Connecticut, Storrs.
- Mohri, F. and R. Tei 2017. Degree Nominals in Japanese and Chinese Comparatives. In *MIT Working Papers in Linguistics* 85, ed. M.Y. Erlewine, 135–146.
- Oda, Toshiko. 2008. Degree constructions in Japanese. Ph.D. dissertation, University of Connecticut, Storrs.
- Sudo, Y. 2009. Invisible degree nominals in Japanese clausal comparatives. In *Proceedings of the 5th Workshop on Atlantic Formal Linguistics*, eds. R. Vermeulen and R. Shibagaki, Cambridge, MA: MIT Working Papers in Linguistics.
- Sudo, Y. 2014. Hidden nominal structures in Japanese clausal comparatives. *Journal of East Asian Linguistics* 24: 1–51.