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# L1 Influence in Interpreting Complement Tense
# by L1 Japanese Learners of English *

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キーワード： second language acquisition, sequence of tense, first language transfer

　日英語の間接話法の時制解釈は、主節が過去の場合、従属節が現在及び過去の両方の場合において異なることが指摘されてきた。例えば、従属節が状態動詞の過去形の場合、英語では、従属節の示す事態が発話時に先んずる解釈（過去移動解釈）と、従属節の事態が発話時と同時になる解釈（同時解釈）の両方があるが、日本語では同時解釈は見られない。そのため、英語の第二言語学習において、日本人学習者は間違いを起こしやすいと考えられるが、この間違いが実際に見られるのかどうか、また間違いが学習の経緯と共にどのように変化するのかについては、十分に研究がされているとは言えない。先行研究（Okuwaki, 2005）では日本人大学生の発話を分析し、学習初期には従属節中の動詞の誤用が見られるが、学習が進むに従い間違いがなくなることを示し、動詞形態素の習得が可能であると結論づけている。しかし、従属節が現在の場合や、口頭産出以外のデータについては分析されていない。そこで本研究では、学習レベルの異なる成人日本人学習者（16 名）について、主節が過去で、従属節が現在と過去の両方の場合について多肢選択文法性判断テストを行い、英語母語話者と比較した。その結果、以下の 3 点が明らかになった。1 点目は、学習レベルが上級の学習者は、英語母語話者と変わらない解釈を示したことである。このことから、日英語の従属節の習得は可能であることが示唆されるが、この結果は異なるタスクで調査した先行研究と一致している。2 点目は、学習レベルが中級の学習者は、従属節が現在の場合のみ、英語母語話者と異なる解釈を示したことである。これは母語の影響とは考えにくく、主節が現在、従属節が過去という文のインプット不足によるものと思われる。3 点目は、英語母語話者は、従属節中の動作動詞（過去進行形）を、状態動詞（過去形）程、二重アクセス解釈を持たないとして強く否定しなかったことである。これは、語彙アスペクトによって英語母語話者の時制解釈に差があることを示唆していると思われる。

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## 1 Introduction

First time Tampa *have* a tornado *come* to. *Was* about seven forty-five. Bob *go* to work, n I *was* inna bathroom and …a…tornado *come* *shake* everything. Door *was* flying open. I *was* scared.…Hana *is* a little dog. French poodle. I call Baby. Anyway, she never *wet* bed, she never *wet* anywhere. But she *was* so scared an cryin, *run* to the bathroom, *come* to me.

(L1 Japanese speaker with 28 years of immersion in English in U.S., from Kumpf, 1984)


This excerpt is from the speech of a first language (L1) Japanese speaker of second language (L2) English who had lived in the U.S. for 28 years. She was talking about a frightening experience when a tornado hit Tampa. Despite long-term exposure to English, incorrect use of verb forms is found in her speech. On the one hand, she correctly used copula *be* in past tense forms; on the other hand, she incorrectly used thematic verbs in uninflected forms. Thus, it has been pointed out that L2 learners optionally produce inflected forms, and many studies have examined the development of verb tense morphology (Stauble, 1984; Lardiere, 1998). However, most such studies investigated its distribution in oral production, and little attention has been given to its interpretation. The present study investigates the interpretation of past tense complement verbs in indirect speech sentences by adult Japanese learners of English (JLEs), and discusses whether differences of morphological realization between English and Japanese are influential.

This paper is organized as follows. Section 2 explains the differences of morphological realization of tense in complement clauses between English and Japanese. Section 3 reviews previous studies and suggests the need to investigate the interpretation of past tense morphology, and Section 4 presents research questions. In Section 5, the interpretation of past tense morphology by the JLEs is investigated in an acceptability judgment task, and Section 6 presents the results. Section 7 discusses whether the JLEs have a different understanding from native speakers of English. The paper concludes by suggesting that to which the JLEs' different knowledge can be attributed.


## 2 The temporal interpretation in English and Japanese

One of the salient differences in morphological realization of tense between English and Japanese is observed in a present tense complement clause embedded to a past tense matrix (a Present under Past construction), and a past tense complement clause embedded to a past tense matrix (a Past under Past construction) in indirect speech. Figure 1

illustrates temporal locations of the complement clause of these constructions in relation to the matrix clause event time (MC) and the utterance time (UT) on a time axis. For example, in an English Present under Past construction, (1a) *John said that Mary is in Tokyo*, the time of Mary's being in Tokyo encompasses the time of John's saying and the utterance time. This is called a double access reading. By contrast, in its Japanese equivalent, (1b) *John-wa Mary-ga Tookyoo-ni i-ru to it-ta*, the time of Mary's being Tokyo overlaps only the time of John's saying, and not the utterance time. This is called a simultaneous reading. Thus, English and Japanese show a stark contrast in the interpretation of Present under Past constructions. This contrast is also observed in Past under Past constructions. In (2a) *John said that Mary was in Tokyo,* the time of Mary's being in Tokyo either precedes the time of John's speaking to denote a past shifted reading (2a-1), or it overlaps the time of John's speaking to have a simultaneous reading (2a-2). In the latter reading, the matrix clause and complement clause have the same past tense morphology to denote the same event time. In other words, English seems to have a rule in which a past tense complement verb in a past tense matrix should be treated as if it is semantically empty. This rule is known as sequence of tense (Comrie, 1985) (henceforth SOT), which is inherited from Latin to English (Ogihara, 1996, p.71). The SOT is also found in Dutch and Spanish, but not in Japanese, Russian or Polish (Kusumoto, 1999; Matsuo, 2006). In fact, a Japanese Past under Past construction, (2b) *John-wa Mary-ga Tookyoo-ni i-ta to it-ta*, has only a past shifted reading as in Figure 1. It should be noted here that the SOT is observed only when the complement clause contains a simple past form of a stative verb or a past progressive form of an eventive verb. When the complement clause contains a simple past form of an eventive verb, the past shifted reading arises as in (3a) *John said that Mary won the prize*. In this way, English and Japanese Present/Past under Past constructions have different interpretations.

The reason why English and Japanese have different temporal interpretations is syntactically explained in Stowell (1996) and Nakamura (1999). Stowell proposes two functional categories called Zeit Phrase (ZP) between Tense Phrase (TP) and Verb Phrase (VP) as in (4). The external ZP (PRO-ZP) denotes the reference time (RT) and the internal ZP denotes the event time (ET), while Tense decides which of these two times comes first. The matrix PRO-ZP refers to the UT, whereas the embedded PRO-ZP refers to the matrix ET controlled by the temporal argument of the matrix VP.

### Figure 1. Readings of complement clauses in English and Japanese

| CC | English | Japanese |
|---|---|---|
| Present<br>ST/EV | (1a) John said that Mary *is* in Tokyo.<br>(John said that Mary *is* crying.)<br><br>>>>>>>>>>>>>>>>> (double access)<br>past ———MC———UT———> future<br>(said) | (1b) John-wa Mary-ga Tookyoo-ni *i-ru* to it-ta.<br>   John-Top Mary-Nom Tokyo-Loc be-Nonpst<br>   Comp say-Pst<br><br>>>>>> (simultaneous)<br>past ———MC———UT———> future<br>(said) |
| Past<br>ST/EV | (2a) John said that Mary *was* in Tokyo.<br>(John said that Mary *was* crying.)<br><br>1) >>>> (past shifted)<br>   2)>>>>(simultaneous) : SOT<br>past ———MC———UT———> future<br>(said) | (2b) John-wa Mary-ga Tookyoo-ni *i-ta* to it-ta.<br>   John-Top Mary-Nom Tokyo-Loc be-Pst Comp<br>   say-Pst<br><br>(3b) John-wa Mary-ga shou-wo *tot-ta* to it-ta.<br>   John-Top Mary-Nom prize-Acc get-Pst Comp<br>   say-Pst<br><br>>>>> (past shifted)<br>past ———MC———UT———> future<br>(said) |
| Past<br>EVP | (3a) John said that Mary *won* the prize.<br><br>>>>> (past shifted)<br>past ———MC———UT———> future<br>(said) | |

*Note.* This figure is compiled from Enç (1987) and Okuwaki (2005). MC= matrix clause, UT=utterance time, >> represents the period denoted by the complement clause, CC=complement clause, ST=stative verb, EV=eventive verb (present/past progressive tense), EVP= eventive verb (simple past tense)

(4)

```
                    TP
RT(=UT) → ZP      T'
        PRO
             T      ZPi   ← ET
           PAST      
                    Z'
                Z      VP
               ed
        controller→ Zpi    VP
                    e
```
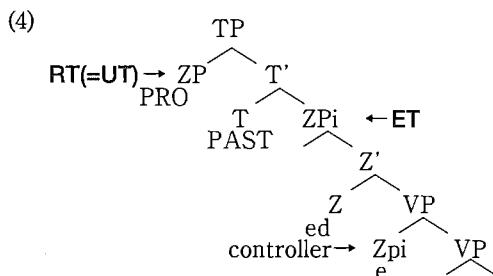
Stowell maintains that English past tense morphology (-ed) and its variants are past polarity items (*PPIs*), which should be in the domain of the semantic past in Tense, name-

ly, *PAST.* Following Stowell's analysis, Nakamura (1999) explains the difference between English and Japanese complement clauses. He asserts that a *PPI* and *PAST* exist in the matrix and complement clauses respectively in (2a-1). This makes the complement event; *Mary's being in Tokyo,* anterior to the matrix event; *John's saying* to have the past shifted reading. By contrast, in (2a-2), *PAST* exists only in the matrix clause, not in the complement clause. Accordingly, two *PPIs* receive the same index from the matrix *PAST* to denote the simultaneous reading.

(2)   a. 1) John *said* that Mary *was* in Tokyo.   (past shifted reading)

         *PASTi PPIi*     *PASTj PPIj*

      2) John *said* that Mary *was* in Tokyo.   (simultaneous reading)

         *PASTi PPIi*          *PPIi*

Similarly, Nakamura maintains that English present tense morphology is an anti-past polarity item *(anti-PPI)*, which can not be in the domain of *PAST.* As a result, the *anti-PPI* is outside the scope at LF, leaving a copy in its original position, to denote the double access reading as follows.

(1)   a. John *said* [that Mary *is* in Tokyo].

        *PASTi PPIi*        *anti-PPI*

      [that Mary *is* in Tokyo] John *said* [that Mary is in Tokyo].

         *anti-PPI*         *PASTi PPIi*
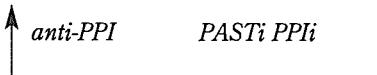
As for Japanese, Nakamura argues that the Japanese past tense marker, *-ta,* and the non-past tense marker, *- (r) u,* are polarity items, as are their English equivalents. However, the Japanese *(anti-) PPIs* differ from their English equivalents in terms of the licensing domain; the Japanese embedded *(anti-) PPIs* are always locally licensed, whereas their English equivalents are not, as we have seen in (2a). In fact, the *PPI* in (2b) and (3b) is always licensed by the embedded *PAST,* not by the matrix *PAST.* Accordingly, (2b) and (3b) denote the past-shifted reading. Thus, Stowell and Nakamura suggest that Japanese *(anti-) PPIs* have a smaller license domain than English *(anti-) PPIs* do. This contrast is also observed in the domain of negative polarity items *(NPIs).* English *NPI, any,* is not necessarily locally licensed as in (5), whereas, its Japanese equivalent, *shika,* is

always locally licensed as in (6) and (7). Thus, Nakamura attributes the difference of temporal interpretations between English and Japanese to the licensing conditions of *(anti-) PPIs.*

(5)    I do not think [he had any money].

(6)    *Watashi-ha [Taro shika kita-to] omowanai.

       I-Top Taro only come-Pst Comp think-Neg-Nonpst

(7)    Watashi-ha [Taro shika konakatta to] omou.                (Nakamura, 1999, p. 93)

       I-Top Taro only come-Neg-Pst Comp think-Nonpst

Though Stowell and Nakamura offer a clear explanation about the interpretation of complement tense, they do not investigate the contrast of lexical aspect of the complement verbs (stative vs. eventive) in it. For example, the SOT occurs when the complement clause contains a past tense form of a stative verb, not an eventive verb. Matsuo (1998) attributes this to the different nature of stative and eventive verbs, suggested by Enç (1991, quoted in Matsuo). Enç proposes that an eventive verb has a spatio-temporal variable, while a stative verb does not. This variable is bound by a past tense, but not by a present tense. Accordingly, eventive verbs behave differently from stative verbs when they appear with a present tense. For example, (8), the sentence containing a stative verb, *knows*, is true "if the situation it describes holds at the time of evaluation". By contrast, (9), the sentence containing an eventive verb, *sings*, is not true even if Sally sings at the time of evaluation unless she sings habitually.

(8)    Sally knows the answer.

(9)    Sally sings.                                              (Matsuo, 1998, p.11)

Matsuo asserts that the different nature of eventive and stative verbs affects the occurrence of the SOT. When the SOT occurs, the complement tense is semantically null (a null present tense). She postulates that the null present tense has the same characteristics as the present tense and it cannot bind the variable of an eventive verb. As a result, when the null present tense exits, the eventive verb changes from a simple form to a progressive form, which does not have the variable, and the simultaneous reading arises.

## 3 Previous studies

### 3. 1 Okuwaki (2005)

　　To the best of the author's knowledge, there are few studies on the acquisition of past tense morphology by adult JLEs. Okuwaki (2005) investigated the distribution of past tense verbs in embedded clauses in the speech of 20 JLEs. Their accuracy rate in producing past tense verbs in complement clauses increased from 57% to 84% when their proficiency levels had risen. In addition, the advanced JLEs' accuracy rate kept over 80% irrespective of the clause types (complement clauses vs. relative clauses). As a result, Okuwaki concluded that there is no L1 transfer on the acquisition of tense in embedded clauses. However, there seem to be further points which need to be clarified. Firstly, whether JLEs have the same knowledge as NSEs in other tasks should be investigated. It could be possible for JLEs to be successful in an oral production task, but not in an interpretation task. Secondly, she only investigated Past under Past/Present constructions. However, it has been pointed out that English Present under Past constructions also have different interpretations from Japanese equivalents (as in Figure 1). Therefore, Present under Past constructions need to be studied more extensively.

### 3. 2 Okuma (2007)

　　Okuma (2007) investigated the interpretation of Past/Present under Past constructions by JLEs in a sentence-matching task and a cloze task (as in Table 1). Participants were guided to judge whether each stimulus from (a) to (c) is compatible with the given sentence (10) in the sentence-matching task. (A), (b) and (c) denote the utterance time reading, simultaneous reading, and double access reading, respectively. The participants were asked to change verbs from base forms to correct forms in the cloze task. The results showed that the intermediate JLEs have different knowledge from the NSEs, but it disappeared as their proficiency rose in the sentence-matching task. By contrast, the advanced JLEs showed different knowledge from the NSEs, overgeneralizing the SOT rule on Present under Past constructions in the cloze task. In both tasks, no L1 transfer was observed. From these results, she concluded that the morphological difference between English and Japanese might be influential during the initial stages of development, but not during later stages. However, Okuma had two shortcomings in its methodology for the sentence-matching task. Firstly, the task tended to major the participants' preference among the three readings from (a) to (c), and not their sense of grammar. As a matter of

Table 1. Tasks in Okuma (2007)

| Task | Stimuli example | |
|---|---|---|
| Sentence matching task | | |
| (10) Mary said that her grandfather is sick. | | |
| | (a) Her grandfather is sick now. | -2, -1, 1, 2 |
| | (b) Her grandfather was sick at the time she said it. | -2, -1, 1, 2 |
| | (c) Her grandfather has been sick since the time she said it. | -2, -1, 1, 2 |
| Written production task | | |
| (11) Yesterday Mary caught a bad cold. According to the doctor, it will take at least a week for her to recover. So, when I met our teacher a moment ago, I told her that Mary _____ ( be ) sick. | | |

fact, the NSEs showed a statistically significant preference for the utterance time reading and the simultaneous reading to the double access reading though all three readings should be compatible with the given sentence. Secondly, some of the stimuli to denote the double access reading were not appropriate. For example, (c) *Her grandfather has been sick since the time she said it* was used to denote the double access reading. However, the double access reading does not indicate when the event has started, accordingly, *since the time she said it* was not necessary for the stimulus. For these two reasons, the sentence matching task in Okuma (2007) may not have majored the participants' interpretations accurately. These methodological drawbacks seem to be improved in the present study.

## 4 Research questions

English and Japanese show a contrast in interpretation of tense in Present/Past under Past construction (as discussed in section 2). If JLEs with lower levels of proficiency tend to transfer the Japanese syntactic and semantic representation of tense onto English, it would be problematic. In the present study, the following research questions are addressed:

RQ1. Do JLEs have different temporal interpretations from NSEs?
    2. If they do, is it traceable to the L1?

These questions will be tested by an experiment in the next section.

## 5 Experiment

### 5. 1 Participants

16 adult JLEs participated in the experiment. 14 of them were engaged in part/full-time translation/interpretation work in Japan, while the remaining 2 were university students. All the JLEs had started studying English at age 12-13 years in junior high schools in Japan. Prior to the experiment, the JLEs were asked to take an English proficiency test (Oxford Placement Test by University of Cambridge Local Examinations Syndicate 2001) and divided into two proficiency groups, an advanced group (JA) and an intermediate group (JI), consisting of 8 JLEs (see Table 2). An independent samples t-test shows a statistically significant difference in the OPT scores between the JA and JI groups: $t$ (14) = 5.43, $p$ = < .001. 8 native speakers of English (3 British, 2 American, 2 Irish, 1 Kenyan) also participated in the experiment as a control group (N). 6 of them were English teachers in Japan, while the remaining 2 were university students.

### 5. 2 Stimuli

Each stimulus consists of a sentence which gives a context and a pair of indirect speech sentences, (a) and (b) as in (12). The paired sentences contain either present tense verbs (PRES) or past tense verbs (PAST) in the complement clauses, and one of them is appropriate to the given context. In (12), for example, (a) is fully appropriate to the context, while (b) is not. The participants were asked to judge whether the paired sentences were compatible with the context. They used a 4-point Likert scale from -2, -1, +1, +2, where -2 represents 'very odd' and +2 represents 'fully appropriate'. When they could not judge the sentences, they were guided to choose "don't know".

There are three types of the contexts, namely, double access reading (DA), past shifted reading (PS) and simultaneous reading (SI) (as in Table 3). The complement verbs in the stimuli are either simple present/past tense forms of stative verbs (ST) or

Table 2. Participants

| Group[a] | Age | OPT score/60 | | SD |
|---|---|---|---|---|
| | | M | Range (%) | |
| N | 20's-40's | - | - | - |
| JA | 23-40's | 49.6 | 45-55 (75-92) | 3.42 |
| JI | 18-40's | 40.0 | 34-43 (57-72) | 3.66 |

*Note.* [a]*n* = 8 for each group, OPT=Oxford placement test

Table 3. Number of the stimuli

| Tense | Reading | Complement verb | CON | Japanese readings | Possible L1 transfer |
|---|---|---|---|---|---|
| PRES (!PAST) | DA | ST | 1 | SI | Exist |
| | | EV | 2 | | |
| PAST (!PRES) | PS | ST | 3 | PS | - |
| | | EV | 4 | | |
| | SI | ST | 5 | PS | Exist |
| | | EV | 6 | | |

*Note.* PRES=present tense verbs, PAST=past tense verbs
    A mark (!) indicates an inappropriate sentence for the given context.
    DA=double access reading, PS=past shifted reading, SI=simultaneous reading
    ST=stative verbs, ET=eventive verbs, -= not exist

present/past progressive forms of eventive verbs (EV). There are 6 conditions from CON1 to CON6, and each condition consists of three stimuli. (12) is an example of CON1, and other examples are given in Table 7 in Appendix. The total number of the stimuli is 50, including 10 distracters, and 18 of them are relevant to this study.

(12)  I met Mary last year in Tokyo. She got a job and still lives there. When my friend called me last night,...

    (a) I said that Mary lives in Tokyo.                    -2, -1, +1, +2  don't know

    ! (b) I said that Mary lived in Tokyo.                   -2, -1, +1, +2  don't know

    *Note.* A mark (!) indicates an inappropriate sentence for the given context.

## 6 Results

### 6. 1 Group results

### 6. 1. 1 Between-group analyses

Figure 2 and Table 4 present means of acceptability rates of the stimuli. A one-way ANOVA (a between group analysis) found a significant difference in interpreting the PRES in CON1 among the three groups, $F (2, 21) = 3.88$, $p < .05$. A further analysis (multiple comparisons using the Bonferroni Test) showed a significant difference between the N and JI groups at 5 percent level, while no significant difference exists between other group combinations. Similarly, there was a significant difference in interpreting the !PAST in CON1 among the three groups, $F (2, 21) = 3.89$, $p = < .05$. A further analysis showed a significant difference between the N and JI groups at 5 percent level, while no significant difference exists between other group combinations.

Figure2. Comparison of means in each condition
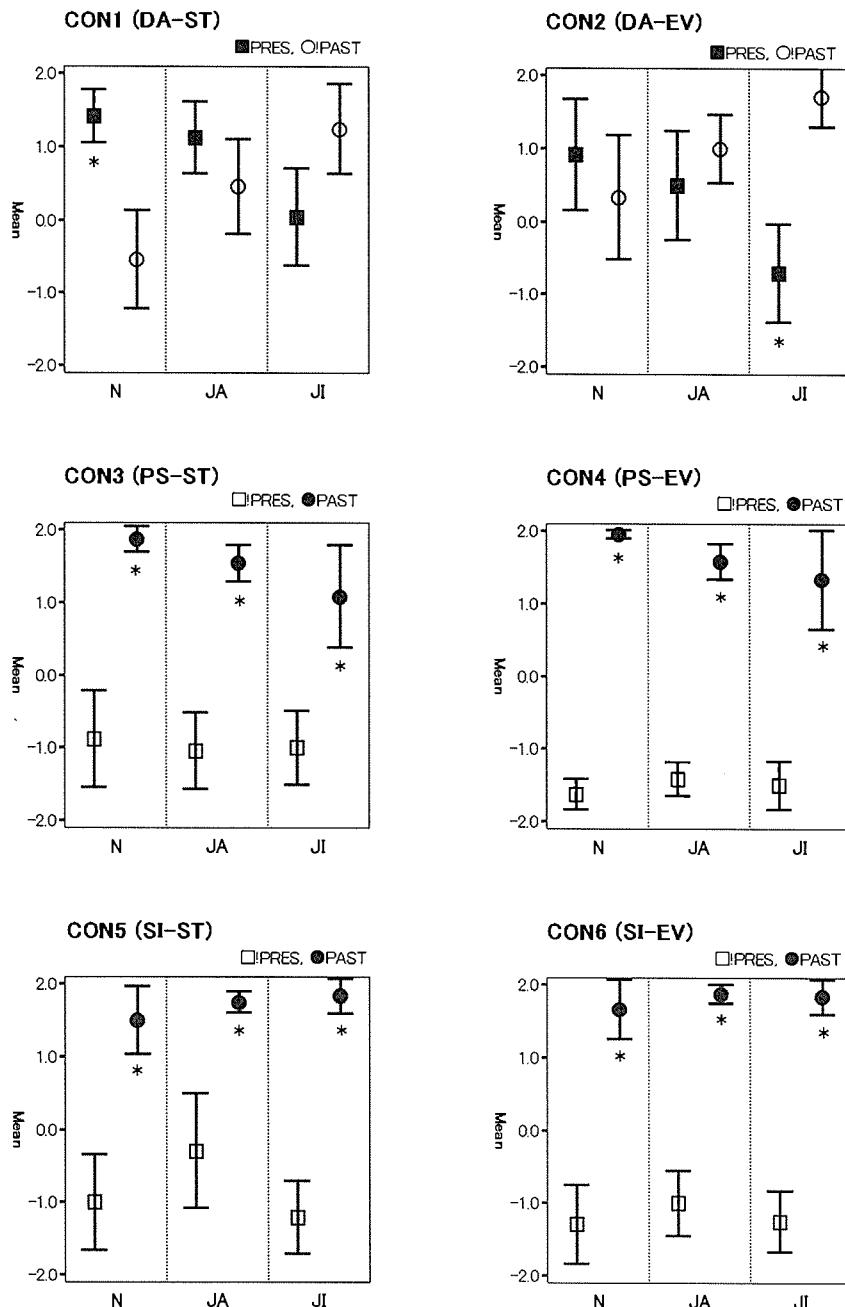


**Note.** A star mark (*) indicates a significant difference in the acceptability rates between PRES and PAST. An error bar indicates the range of ± 0.5 *SD*.

Table 4. Means and standard deviations in the task

| Con | Reading-verb | Stimuli | N (SD) | JA (SD) | JI (SD) |
|-----|-------------|---------|---------|---------|---------|
| 1 | DA-ST | PRES | 1.42 (0.73) | 1.13 (0.98) | 0.04* (1.33) |
|   |       | !PAST | -0.54 (1.35) | 0.46 (1.30) | 1.25* (1.22) |
| 2 | DA-EV | PRES | 0.92 (1.51) | 0.50 (1.50) | -0.71 (1.35) |
|   |       | !PAST | 0.33 (1.71) | 1.00 (0.93) | 1.71 (0.82) |
| 3 | PS-ST | !PRES | -0.88 (1.33) | -1.04 (1.05) | -1.00 (1.02) |
|   |       | PAST | 1.88 (0.35) | 1.54 (0.50) | 1.08 (1.41) |
| 4 | PS-EV | !PRES | -1.63 (0.42) | -1.42 (0.46) | -1.50 (0.67) |
|   |       | PAST | 1.96 (0.12) | 1.58 (0.50) | 1.33 (1.37) |
| 5 | SI-ST | !PRES | -1.00 (1.32) | -0.29 (1.58) | -1.21 (1.01) |
|   |       | PAST | 1.50 (0.94) | 1.75 (0.30) | 1.83 (0.47) |
| 6 | SI-EV | !PRES | -1.29 (1.09) | -1.00 (0.89) | -1.25 (0.85) |
|   |       | PAST | 1.67 (0.82) | 1.88 (0.25) | 1.83 (0.47) |

*Note.* *p < .05

By contrast, the three groups did not significantly differ from each other in CON2 though the given context in CON2 denoted the double access readings as that in CON1. This is due to the fact that the N group strongly accepted the PRES in CON1 ($M$= 1.42), whereas, they did not in CON2 ($M$= 0.92). In addition, the N group showed larger *SD* in CON2 (*SD*= 1.51) than in CON1 (*SD*= 0.73). The reason of this contrast between CON1 and CON2 may be attributable to the lexical aspect of the verb. The present progressive forms of eventive verbs, such as *reading a book* and *playing the piano*, denote durative but temporally bounded actions, which are unlikely to continue in the future. By contrast, the simple present forms of stative verbs, such as *live* and *be sick*, denote states which are likely to continue for some time in the future. This result seems to present that stative verbs with simple present are more likely to have the double access reading than eventive verbs with present progressive, which is not pointed out in previous literature, including Matsuo (1998).

### 6. 1. 2 Within-group analyses

A paired-sample t-test was conducted to compare the acceptability rates of the PRES and PAST within the groups. The acceptability rates of the !PRES and PAST in CON3-6 were significantly different from each other at 5 percent level for all groups (as a star mark (*) indicates in Figure 2). By contrast, the acceptability rates of the PRES and !PAST in CON1 and CON2 did not always differ from each other. For example, the N group's acceptability rate of the PRES was different from that of the !PAST in CON1, $t$ (7) = 2.89,

$p$< .05, while it was not in CON2. Similarly, the JA group's acceptability rates did not differ in both CON1 and CON2, and JI group's acceptability rates did not differ in CON1.

As for the differences in acceptability rates of stative and eventive verbs, namely: CON1 vs. CON2, CON3 vs. CON4, and CON5 vs. CON6, all pairs were not significantly different from each other for the JA and JI groups. Only the N group was significantly different in acceptability rates of the PAST between CON1 and CON2, $t$ (7) = -3.11, $p$ <.05. No interaction between tense (PRES/!PAST) and readings (CON1/2) was found in a two-way ANOVA.

## 6. 2 Individual results

The individual results were analyzed to see whether the group results reasonably reflect the individual behaviors. Table 6 shows the number of participants who performed consistently in all stimuli of each condition. The participants were considered to be consistent when they gave negative scores, namely, -1 or -2, for inappropriate sentences to the contexts, and positive scores, namely, +1 or +2, for appropriate sentences in the stimuli. The number of consistently accurate participants increased as the proficiency rises. Accordingly, the individual results support the group results.

Table 6. Number of individual participants who are consistently accurate in the task

| Con | Reading-verb | Stimuli | N (%) | JA (%) | JI (%) |
|-----|-------------|---------|--------|---------|---------|
| 1 | DA-ST | PRES | 5 (63) | 4 (50) | 2 (25) |
| | | !PAST | 3 (38) | 2 (25) | 1 (13) |
| 2 | DA-EV | PRES | 5 (63) | 4 (50) | 1 (13) |
| | | !PAST | 3 (38) | 1 (13) | 0 (0) |
| 3 | PS-ST | !PRES | 5 (63) | 3 (38) | 3 (38) |
| | | PAST | 7 (88) | 6 (75) | 5 (63) |
| 4 | PS-EV | !PRES | 6 (75) | 6 (75) | 6 (75) |
| | | PAST | 8 (100) | 6 (75) | 7 (88) |
| 5 | SI-ST | !PRES | 5 (63) | 4 (50) | 4 (50) |
| | | PAST | 6 (75) | 8 (100) | 6 (75) |
| 6 | SI-EV | !PRES | 6 (75) | 3 (38) | 5 (63) |
| | | PAST | 7 (88) | 8 (100) | 7 (88) |

*Note. n* = 8 for each group

## 7 Discussion

In this section, two research questions in section 4 are discussed.

### 7. 1 Do JLEs have different interpretation from NSEs?

The JI group seemed to have different knowledge in interpreting the !PRES and PAST in CON1 than the N group, while the JA group showed the same interpretation as the N group. As for other conditions, both the JA and JI groups seemed to have the same knowledge as the N group. From these findings, I conjecture that JLEs' deviate knowledge disappears as their proficiency goes up to attain the same knowledge levels as NSEs. In other words, the morphological differences discussed in section 2 may be influential for JLEs at the initial stage of development but not for the JLEs in this study, who had learned English for at least 6 years in junior and senior high schools in Japan. As far as the interpretation task is concerned, the morphological differences seem to be acquirable for JLEs. This result is compatible with Okuwaki's (2005) finding in the speech production data and Okuma's (2007) result in the sentence-matching task.

### 7. 2 Is the JLEs' interpretation attributable to Japanese?

The JI group showed different knowledge of the double access reading in CON1 from the N group. However, this may not be attributable to the morphological differences between English and Japanese. This is because the JI group did not strongly accept the reading which exists both in English and Japanese, namely, CON3 and CON4. Nor did they strongly reject the reading which exists only in English, namely, CON5 and CON6 (as in Figure 1 and Table 4). From these results, the deviate interpretations of the JI group can not be traced to the L1. It is assumed that levels of L2 input, rather than the morphological differences between the L1 and the L2, are more influential for their interpretation. The JI group seem to overgeneralize the SOT rule which they had learned in high schools on Present under Past construction, which they had probably only come across quite rarely. Accordingly, they accept the !PAST and reject the PRES in CON1 and CON2 (as Figure 2 shows).

## 8 Conclusion

The present study aims to investigate whether JLEs have different temporal interpretations of English indirect speech and whether their interpretation can be traced to the L1. Adult JLEs with different levels of proficiency were compared with NSEs in interpreting present and past tense complement verbs embedded to past tense matrixes, and three findings were obtained. Firstly, the advanced JLEs did not show a different interpretation

from the NSEs. JLEs seem to be successful in restructuring their L1 knowledge to obtain native-like competence, as suggested in Okuwaki (2005). Secondly, the intermediate JLEs overgeneralized the SOT rule on present tense complement verbs in past tense matrixes. This may not be attributable to the L1, but to the lack of the L2 input. Finally, the NSEs did not reject past progressive eventive verbs as strongly as simple past stative verbs in double access contexts. This seems to suggest that the lexical aspect of the complement verbs affects NSEs' temporal interpretation.

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# Appendix

## Table 7. Stimuli examples

| Stimuli examples | | |
|---|---|---|
| **CON 1 (DA-ST)** | | |
| (12) I met Mary last year in Tokyo. She got a job and still lives there. When my friend called me last night,... | | |
| (a) I said that Mary lives in Tokyo. | -2, -1, +1, +2 | don't know |
| ! (b) I said that Mary lived in Tokyo. | -2, -1, +1, +2 | don't know |
| **CON 2 (DA-EV)** | | |
| (13) My brother bought a book today and he has been reading it for hours. So when my mother asked me a moment ago,... | | |
| (a) I said that he is reading a book. | -2, -1, +1, +2 | don't know |
| ! (b) I said that he was reading a book. | -2, -1, +1, +2 | don't know |
| **CON 3 (PS-ST)** | | |
| (14) I had a terrible cold last night. I'm fine now, but I could not finish my homework. So I went to my teacher before the class, and... | | |
| ! (a) I told her that I am sick. | -2, -1, +1, +2 | don't know |
| (b) I told her that I was sick. | -2, -1, +1, +2 | don't know |
| **CON 4 (PS-EV)** | | |
| (15) Many people still remember the morning when the Great Hansin Earthquake hit Kansai region in 1995. When I asked it to my aunt in Kobe last month,... | | |
| ! (a) she told me that she is cooking in the kitchen. | -2, -1, +1, +2 | don't know |
| (b) she told me that she was cooking in the kitchen. | -2, -1, +1, +2 | don't know |
| **CON 5 (SI-ST)** | | |
| (16) Tim is good at planning surprise parties. He secretly bought a present for his grandmother last week. And when she came home yesterday,... | | |
| ! (a) he announced that he has a present for her. | -2, -1, +1, +2 | don't know |
| (b) he announced that he had a present for her. | -2, -1, +1, +2 | don't know |
| **CON 6 (SI-EV)** | | |
| (17) Yesterday I was late for work because of a traffic accident. So I called my boss and,... | | |
| ! (a) I said that I am heading toward the office. | -2, -1, +1, +2 | don't know |
| (b) I said that I was heading toward the office. | -2, -1, +1, +2 | don't know |

*Note.* A mark (!) indicates inappropriate sentences for the given contexts. (This mark is not presented to the participants in the task.)