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Perspective-Taking and Comprehension of Passive Sentences by Japanese-Speaking Children

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This study demonstrates that children's difficulties in the interpretation of passives are attributed to their perspective-taking ability. Thirty-six Japanese preschool children participated in act-out sentence comprehension tasks. They were asked to manipulate two toy animals to demonstrate the meaning of two types of stimulus sentences: Type I had the child's toy, whose reference involved the child's actual name (e.g., Jun-kun no neko *"Jun's cat") encoded as grammatical subject, while Type II had the child's toy encoded as non-subject. Since passive structures take the perspective of the patient-denoting subject NP, it is assumed that only Type I passives have the perspective that matches that of the child.*

The results show that children's performance on passives was significantly better in Type I than in Type II sentences. But this difference was not observed for active sentences. For those who showed (nearly) perfect performance on active sentences, only Type I passives were equally well understood. These results strongly suggest that perspective-taking difficulties mask children's true competence on passives and that even 6-year-olds may not yet have attained the full perspective-taking ability required for comprehension of passive sentences.

KEY WORDS: language acquisition; cognitive development; passive; Japanese.

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INTRODUCTION

A number of experimental studies have reported the poor performance in the comprehension of passives by young children. In particular, passive sentences containing reversible verbs are often misinterpreted as if they were active sentences, even by 5- or 6-year-old children who speak English (e.g., Baldie, 1976; Sudhalter & Braine, 1985; Turner & Rommetveit, 1967b) and Japanese (Hakuta, 1982; Sano, 1977), among other languages. The plausible conclusion drawn here is that the acquisition time of passives is relatively late (e.g., Borer & Wexler, 1987). However, analyses on children's spontaneous speech have revealed that even 2-year-old children who speak English produced passives (Budwig, 1990; Snyder & Stromswold, 1997). Similarly, in the longitudinal study of a Japanese-speaking child by Okubo (1967), the Japanese passive morpheme was found to be used by the child at the age of 2;5. In addition, children's productive passivization of novel verbs (Pinker, Lebeaux, & Frost, 1987; Tomasello, Brooks, & Stern, 1998) and their increasing use of passive sentences in response to increasing input frequency (Baker & Nelson, 1984) are considered to be the manifestation of children's linguistic competence of passives. Thus, the question arises: Why do children often fail to demonstrate their syntactic knowledge of passives in comprehension tasks?

In making a distinction between linguistic competence and linguistic performance, the latter is likely to override the former in experimental situations, and the exclusion of performance factors often discloses early syntactic knowledge (Crain & Fodor, 1993; Crain & Thornton, 1998; Hirsh-Pasek & Golinkoff, 1996; Otsu, 1994). The performance aspects involve the development of a variety of cognitive domains. Among those closely related to language development, some may be specific to certain structures or certain languages. In this regard, perspective-taking plays a great role in the comprehension of passive sentences in Japanese.

Passive Construction and Perspective

The function of passivization is to foreground a logical object and, at the same time, to de-emphasize a logical subject into the background. Syntactically, this is represented as the promotion of the former (direct object $\rightarrow$ subject) and demotion of the latter (subject $\rightarrow$ oblique).[2] According to these changes of grammatical relations associated with particular thematic roles, passives are taken to mark the perspective of a patient-denoting sentence subject.

[2] These observations are based on general agreement with regard to the status of a passive sentence as a counterpart of an active sentence, and not on the recent transformational grammar approach, in which active and passive structures are independently assumed at d-structure. Also, ergative languages manifest different syntactic operations for antipassivization, and therefore remain outside the scope of the present study.

Kuno and Kaburaki (1977) and Kuno (1978, 1987) explain this syntactic and pragmatic function of passives in light of the empathy perspective. The following examples are from Kuno (1987, p. 203), who focuses on English passives, but his observations are also applicable to Japanese passives, which are extensively discussed in Kuno (1978).[3]

(1) a. Then John hit Bill.
b. Then John hit his brother. (where his brother = Bill)
c. Then Bill was hit by John.
d. ?? Then his brother was hit by John. (where his brother = Bill)

Although the above four sentences denote the same event, they differ from each other in where the speaker's perspective is placed. In an active sentence such as (1a), the speaker's perspective is neutral because there is no lexical or structural indication that the speaker of the sentence utters it from the point of view of John or Bill. Although (1b) is also active, this sentence contains the expression "his brother" used to refer to Bill, which suggests that the characterization of Bill is dependent on John. Thus, our perspective in (1b) is closer to John rather than Bill. Then, consider passive sentences like (1c). Kuno (1987) posits that the perspective suggested by passives is that described by the sentence subject, assuming the following constraint on perspective empathy:

(2) Ban on conflicting empathy foci: A single sentence cannot contain logical conflicts in empathy relationships (Kuno, 1987, p. 207).

Put simply, (2) states that a single sentence may take only one perspective. Following this, (1d) is crucial for seeing how the perspective is realized in passives. As in the case of (1b), "his brother" suggests John's perspective. But there is no other lexical expression explicitly conflicting with this perspective in (1d). This leaves a possibility that the marginality of this sentence must be rooted in passive voice. If we consider that the perspective suggested by passivization is that of a sentence subject (i.e., Bill), the marginality of (1d) is accounted for as a violation of (2), since the sentence involves both John's and Bill's perspectives.[3]

[3] Structurally, Japanese has two types of passives: the direct passive, which is discussed in the next section, and the indirect passive, which has no active counterpart and often has an adversative meaning (e.g., Tsujimura, 1996). I have only considered the former type of passive in this study.

[4] A reviewer has pointed out that there is no evidence that active sentences are perspective-neutral and that the contrast between (1b) and (1d) may be due to constraints on anaphora (e.g., Williams, 1997). However, as in the following examples, sentences involving first person pronouns also show the same kind of contrast.

(i) a. I criticized Mary.
b. Mary criticized me.
(ii) a. ??Mary was criticized by me.
b. I was criticized by Mary.

Assuming that Kuno's observation correctly captures the cognitive processes underlying passivization, it follows that children need to adjust their perspectives to the sentence subject for the comprehension of passives.[5] If they fail in this, it is plausible that they may have difficulty understanding passive sentences. In traditional experiments on sentence comprehension, stimulus sentences are usually given in isolation, where there is no opportunity for contextual inferences about perspectives. Under such circumstances, if children's capacity for perspective-taking is not fully developed, then they can be expected to perform poorly, even though they have mastered the structural properties of passives. In order to examine this possibility, experimental situations were created to help control children's perspective in sentence comprehension tasks.

METHOD

Subjects

The subjects were 36 Japanese-speaking preschool children whose ages ranged from 3;5 to 6;11 (mean age, 5;0). All of them were short-term visitors to Honolulu, where the experiment was carried out, and had no exposure to languages other than Japanese. They were divided into two age groups of equal size. The younger group consisted of 3- and 4-year-olds (mean age, 4;3; age range, 3;5 to 4;10), and the older group of 5- and 6-year-olds (mean age, 5;7 age range, 5;0 to 6;10).

Materials and Procedure

The subject's task was to manipulate two toy animals in order to demonstrate the meaning of eight active and eight passive sentences containing

In the active pair in (i), a first person pronoun, whose perspective is easiest for the speaker to adopt, can be used naturally either as subject or as direct object. This suggests that either the subject-perspective or the object-perspective can freely be taken in active sentences, although it may well be easier to empathize with the referent of the subject, as Kuno and Kaburaki (1977) have proposed. In the passive sentences, on the other hand, a first person pronoun may be used as subject but not as the oblique agent. This is to be expected, because the first person pronoun requires a high degree of empathy, but as Kuno and Kaburaki (1977) note, "it is next to impossible for the speaker to empathize with the referent of the *by*-passive agentive" (pp. 647–648). Conflicting empathy foci (the subject versus the first person pronoun) therefore arise in (iia), making the sentence marginal.

[5] While the acquisition of passives is often discussed in this vein (e.g., Clark, 1990), classical experiments such as Baldie (1976) and Turner and Rommetveit (1967a) seem to have failed to find the effects of perspective-taking on the production tasks of English passives.

reversible verbs. The following procedure was taken to facilitate the child's taking the perspective of one of the two toys.

First, of two toy animals (Dog and Cat), one was referred to as the child's toy by using the child's actual name in genitive case (possessive) + the animal's name as in (4).[6]

(4) Jun-Kun-no neko
Jun-Mr.-Gen cat
"Jun's cat"

The phrase in (4) can be used to mean either "your cat" or "Jun's cat." The literal meaning is the latter, but only the former interpretation is possible when the addressee's name is Jun, because the second person (addressee) is often referred to by his or her name in Japanese.[7] The other toy was simply referred to by the animal's name.

Second, the child's toy was placed in front of him or her, and he or she was urged to hold this toy only. The other toy was placed opposite the child, although at a reachable distance, and he or she was told to move it when necessary. Before each sentence was given, the two toys were returned to their original positions.

After a brief practice session in which the child was asked to act out intransitive sentences, two types of stimulus sentences were tested. Type I sentences are those that contain the child's toy as sentence subjects, while Type II sentences contain the child's toy as non-subjects. As shown in the following examples, both active and passive sentences were tested in the two types.

Type I Active: The child's toy encoded as subject
Jun-kun-no neko-ga inu-o oshi-mashi-ta.
Jun-Mr.-Gen cat-Nom dog-Acc push-Pol-Pst
"Jun's cat pushed a dog."

Type II Active: The child's toy encoded as non-subject
Inu-ga Jun-kun-no neko-o oshi-mashi-ta.
dog-Nom Jun-Mr.-Gen cat-Acc push-Pol-Pst
"A dog pushed Jun's cat."

Type I Passive: The child's toy encoded as subject
Jun-kun-no neko-ga inu-ni os-are-mashi-ta.
Jun-Mr.-Gen cat-Nom dog-Obl push-Pass-Pol-Pst
"Jun's cat was pushed by a dog."

[6] The following abbreviations are used: Nom, nominative; Acc, accusative; Gen, genitive; Obl, oblique; Pol, polite verb ending; Pst, past tense; Pass, passive.

[7] Hereafter, the literal meaning is shown in parentheses in the gloss.

Type II Passive: The child's toy encoded as non-subject
Inu-ga Jun-kun-no neko-ni os-are-mashi-ta.
dog-Nom Jun-Mr.-Gen cat-Obl push-Pass-Pol-Pst
"A dog was pushed by Jun's cat."

Although Japanese allows relatively free word order, all sentences above follow the canonical word order of Japanese, SXV (X = non-subject). Case particles are used to represent grammatical relations; the subject is marked by nominative case marker *ga,* and the direct object by accusative *o.* Type I and Type II active sentences are structurally identical, but a Type I active has the child's toy as a sentence subject bearing an agent role, while a Type II active has it as a direct object bearing a patient role. The Japanese passive is morphologically marked by *-(r)are* attached to a verb, and a "by-phrase" is marked by oblique case *ni.* The subject is followed by the "by-phrase," which is in turn followed by a passive verb. In a Type I passive, as in the case of a Type I active, the child's toy is encoded as subject, but here the subject bears a patient role, and the other toy marked by oblique bears an agent role. A Type II passive has the same structure as a Type I passive, but the child's toy is encoded as non-subject.

A total of 16 sentences were tested: Each pattern had four tokens. All sentences contained reversible action verbs randomly chosen from: *osu* "push," *butsu* "hit," *naderu* "pat," and *oikakeru* "chase." The experiment was conducted by a native speaker of Japanese, using natural speed, with no particular emphasis (e.g., indicated by intonation or pause) on the child's toy or the other toy. When the child seemed to have missed the sentence, or asked for a repetition, the same sentence was provided once again. Although a few children needed a repetition, they eventually acted out without hesitation. The experiment was carried out individually, and each session lasted approximately 15 minutes.

Scoring and Analyses

For scoring, the child's response was regarded as correct when he or she showed the correct agent/patient relationship of the two toys depicted in a stimulus sentence, even if a particular action (e.g., pushing, hitting) was not clearly demonstrated. Correct responses for each child were counted as scores and analyzed descriptively to provide an overview. For inferential statistics, a $2 \times 2 \times 2$ (3-way) repeated-measures analysis of variance (ANOVA) was performed, with the alpha level set at .05. The between-subjects variable was the age group with two levels (Younger and Older). The two within-subjects variables were perspective (Type I: Subject-perspective and Type II: Non-subject perspective) and voice (Passive and Active).

The children's responses were also examined to see whether they exhibited certain performance patterns. In the act-out type experiment, children's egocentric behavior is often observed (e.g., Bever, 1970; Hayashibe, 1975). For example, the child himself or herself might be involved in the event described by the stimulus sentences, or the child might give a certain fixed thematic role to a particular toy regardless of the type of stimulus sentences. In addition to these cases, I have also examined the children's canonical strategy (or perceptual strategy) (e.g., Bever, 1970) manifested as an agent-patient interpretation for any NP-NP-V sequence in Japanese. For example, as Hayashibe (1975) observed, Japanese-speaking children often treat the first NP in a sentence as an agent and the second one as a patient, even for a scrambled sentence (i.e., OSV). This strategy is attributed to the children's over reliance on a canonical matching pattern between syntactic phrases and thematic roles, and it has been pointed out that this overrides the children's linguistic competence (Otsu, 1994). Since these patterns were rooted in non-linguistic extraneous factors, they were excluded from the main data and noted for further analysis.

RESULTS

All children completed the entire experimental session. Seven children exhibited the performance patterns described in the previous section. These children's performances are summarized in Table I.

Table I. Performance Patterns Attributed to Non-Linguistic Extraneous Factors

	Passive		Active	
	Type I	Type II	Type I	Type II
Pattern I: child's toy as agent				
Expected scores	0	4	4	0
YT (4;0)	0	3	4	1
AM (4;10)	0	4	4	0
Pattern II: child's toy as patient				
Expected scores	4	0	0	4
KT (4;1)	4	0	0	4
TK (4;5)	4	0	0	4
RS (4;6)	4	0	1	4
Pattern III: first NP as agent				
Expected scores	0	0	4	4
TN (4;6)	0	0	4	4
YH (4;7)	0	0	3	4

Three performance patterns were observed. The children's toy was almost consistently treated as an agent in Pattern I, and as a patient in Pattern II. In Pattern III, the first NPs of stimulus sentences were treated as an agent (i.e., canonical strategy). The expected scoring for these patterns are also shown in the table together with the children's actual performance.[8] Note that no child showed egocentric behavior by performing himself or herself as either the agent or the patient of the action they acted out: all children tried to manipulate the two toys. As shown in Table I, all pattern users were in the younger group, and their performances were excluded from the data. This leaves 29 children (mean age, 5;2) for further analysis: 11 children in the younger group (mean age, 4;3; are range, 3;5 to 4;10) and 18 children in the older group (mean age, 5;8; age range, 5;0 to 6;10).

Descriptive statistics for these subjects are summarized in Table II. The children performed better on active sentences than on passive sentences, and they performed better on Type I sentences than on Type II sentences. These are visually shown in Fig. 1, where the scores for each sentence pattern are converted into percentages. The children performed correctly roughly 70% of the time or more on Type I active and passive sentences, whereas they performed very poorly on the Type II passive.

Inferential statistics investigate the effects of perspective (Type I: Subject-perspective and Type II: Non-subject perspective), voice (Passive and Active), and age group (Younger and Older). The results of a 3-way repeated-measures ANOVA revealed that the main effect of age group was significant, $F(1,27) = 6.732$, $p = .015$, reflecting the fact that the older group performed better than the younger group. This is consistent with previous studies (Hakuta, 1982; Sano, 1977) in which the children's performance on the comprehension of passive sentences became better with age. The main effect of voice was significant, $F(1,27) = 32.909$, $P < .001$, because the children performed better on active sentences than on passive sentences. The main effect of perspective was also significant, $F(1,27) = 23.588$, $P < .001$. This is because scores on Type I sentences were better than those on Type II sentences. Crucially, the interaction effect of voice $\times$ perspective was also found to be significant, $F(1,27) = 11.836$, $P = .002$. As shown in Fig. 2, this indicates that the children performed better on Type I passives than on Type II passives but that their performance on the two types of active sentences was not significantly different.

[8] The criteria for a pattern user is to exhibit more than six responses out of eight tokens consistent with a particular pattern and less than two responses inconsistent with it. For example, the first child YT (age 4;0) is included in Table I, because he missed only one point in the Type II passive as a perfect user of Pattern 1, and he scored only one point in the Type II active, which was inconsistent with that pattern.

Table II. Summary of Descriptive Statistics

	Passive				Active			
	Type I		Type II		Type I		Type II	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Younger Group	2.73	1.10	1.27	0.79	3.09	1.04	2.91	1.14
Older Group	3.39	0.70	1.94	1.35	3.67	0.77	3.39	0.85
Total	3.14	0.92	1.69	1.20	3.45	0.91	3.21	0.98

DISCUSSION

In the experiment, the children were supposed to have taken the perspective of their toy or at least have made their perspectives closer to that of their toy, and this effect was obvious in their interpretations of passive sentences. Considering that the perspective in passives is that of a sentence subject, I believe that the children's better performance on Type I passives is a result of being free from shifting perspective. Having already taken the perspective of the toy that matches the sentence subject, the child does not have to shift perspective. For Type II passives, on the other hand, the child must shift perspectives from his or her toy encoded as nonsubject, because this does not match the sentence subject, to the other toy. This gives the child an extra burden, causing processing problems if the child's capacity of perspective-taking is not fully developed. The results suggest that even 6-year-olds may not yet have attained the full perspective-taking ability required for the comprehension of passives in experi-

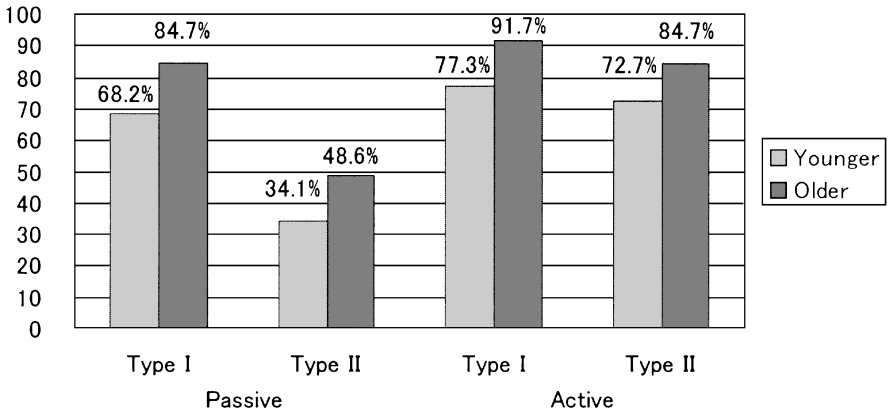

Fig. 1. Mean percentage of correct responses.

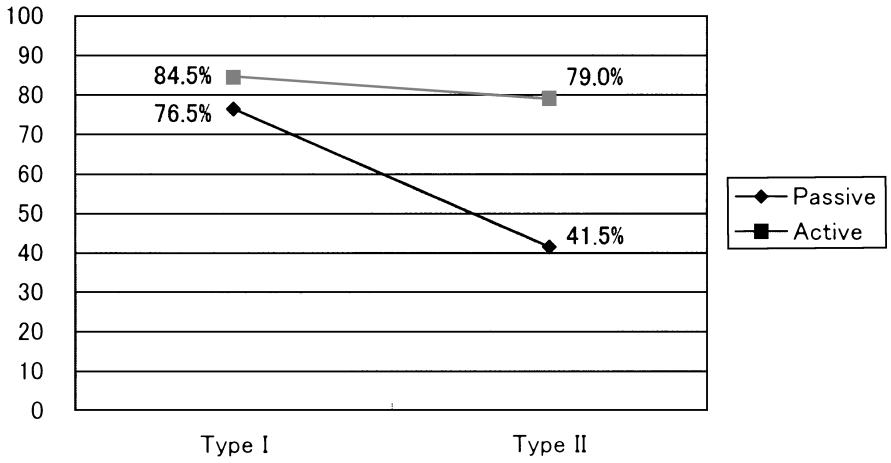

Fig. 2. Mean percentage of correct responses of two types of sentences.

mental situations.[9] This is compatible with the results of inferential statistical analysis, which revealed that the three-way interaction effect (i.e., age group $\times$ voice $\times$ perspective) was not significant ($F(1,27) = .022$, $P = .882$).

Although a particular perspective had also been provided for active sentences by using the children's names, this did not influence their performance on active sentences. This is because active voice, unlike passive, does not structurally require any particular perspective; therefore, the child is not required to shift perspective for the correct interpretation of either the Type I or Type II active. Even if the perspective-taking ability is not developed, this does not cause any problems for the correct interpretation of active sentences.

Children's performance on Type I passives suggests that the linguistic competence on passives is certainly available even for the children in the younger group. At the same time, however, some children in this group are likely to be perplexed by their names used in stimulus sentences and may not attend to the grammatical relations or voice. This is demonstrated by the pattern users who exhibited three types of strategies implemented throughout the experiment.

While Pattern III in Table I is widely attested as a result of the canonical pattern in the child's native language (Bever, 1970; Slobin & Bever, 1982)

[9] The perspective-taking typically discussed in language acquisition studies is the one involved in the interpretation of deixis (see Forrester, 1996, for summary), whereas the perspective-taking I deal with in this study is motivated by syntactic constructions where grammatical relations, case, and thematic roles interact with each other. Perspective-taking, of necessity, seems to vary across the cognitive domains, the levels of representation, and the types of task.

and is not peculiar to this experiment, Patterns I and II may be due to children's egocentricity. Their propensity to take the perspective of their toy may be so strong that they might always associate the toy with a particular role, regardless of sentence types. Pattern I suggests that the children always looked at the scene from the point of view of their toy by associating an action with it. On the other hand, it is not clear why some children treated their toy as patient (Pattern II). Assuming the children's egocentricity, it seems to be more natural for them to associate an action with the toy on which their perspective is placed, but Pattern II indicates the opposite situation.[10]

Non-verbal variables might also be involved in the experiment. One may argue that Pattern II and the children's better performance on Type I passive, where the child's toy is patient in both cases, is due to the non-verbal biases. But, remember that the child's toy was placed closer to him or her, and the child held this toy before the stimulus sentences were given. I believe that this might bias the child toward treating his or her toy as agent, but not as patient, although it is impossible to determine whether this is true because of the small number of pattern users. In any case, in order to act out the Type I passive correctly, the child must grab the other toy, and make it act on the child's toy. The possible bias is thus against the Type I passive, which in turn supports the opinion that the results are due to the children's linguistic competence on passives.

In this experimental study, there must be some other performance factors, such as the children's inattention and insufficient memory, that impedes children's access to their linguistic knowledge, because their performance on active sentences was not perfect. In order to neutralize the effects of these variables, I focused on children who had (nearly) perfect performance on active sentences. Among 29 subjects considered for the statistical analysis, 10 children performed perfectly on active sentences and 12 children were correct on seven active sentences out of eight tokens. As there was no significant effect of the encoded position of the child's toy on their interpretation of active sentences, these 22 children were regarded as nearly perfect or perfect performers on active sentences and were assumed to be free from performance factors other than perspective-taking.

[10] Interesting results are reported in Kim, O'Grady, & Cho (1995), who investigated the role of discourse context in children's interpretations of SOV and OSV active in Korean (see Otsu, 1994, for an earlier experiment in Japanese). They found that for the interpretation of scrambled sentences (i.e., OSV active), the children benefited from the discourse context where the fronted O was mentioned before the stimulus sentence was given, whereas the same condition for the canonical SOV often led the 4-year-olds (among seven age groups) to misinterpret the first NP as patient. Similar results were obtained in the replication study in Japanese (Suzuki, 1997), in which some 4- and 5-year-olds were more likely to treat the previously mentioned subject in SOV active as patient.

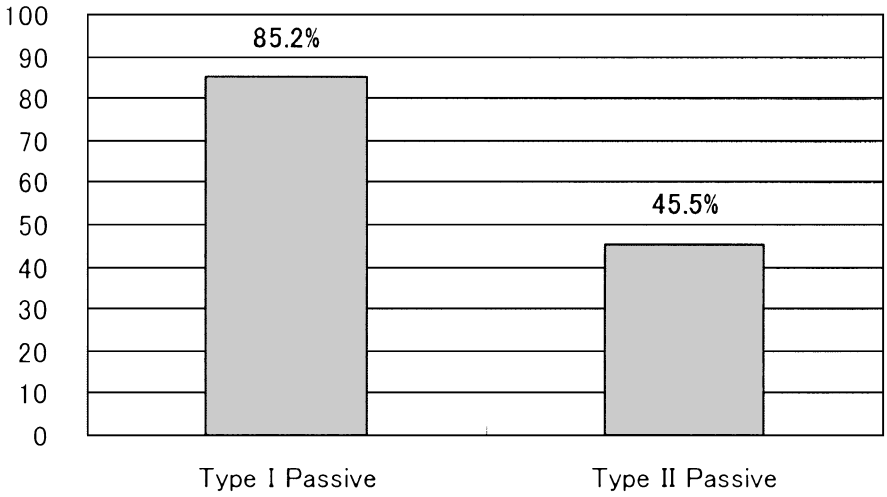

Fig. 3. Mean percentage of correct responses on passive sentences by the children who showed (nearly) perfect performance on active sentences.

Their performance on passives is shown in Fig. 3, which indicates that when their perspective was on the subject (Type I passive), the percentage of correct responses reached 85.2%, as opposed to below-chance level performance on Type II passives. Considering that the criterion for nearly perfect performance is seven correct out of eight, or 87.5%, we could say that passives and actives were equally well understood by these children when the burden of shifting perspective was reduced.

CONCLUSION

The reason for children's poor performance on passive comprehension has always been mysterious. Although young children spontaneously utter passive constructions, they often fail to demonstrate their comprehension abilities in experimental situations. In this study, I argued that perspective-taking ability was closely related to children's interpretation of Japanese passives. The experimental manipulation revealed that even 6-year-olds may not yet have attained the full perspective-taking ability required for the comprehension of passive sentences in Japanese, but that much younger children can correctly interpret Japanese passives when they take the appropriate perspective. Thus, the difficulties in the comprehension of passive sentences by Japanese-speaking children lie in their immature perspective-taking ability.

REFERENCES

Baker, N. D., & Nelson, K. E. (1984). Recasting and related conversational techniques for triggering syntactic advances by young children. *First Language, 5,* 3–22.

Baldie, B. J. (1976). The acquisition of passive voice. *Journal of Child Language, 3,* 331–48.

Bever, T. (1970). The cognitive basis for linguistic structure, In J. Hayers (Ed.), *Cognition and development of language* (pp. 279–362). New York: John Wiley & Sons.

Borer, H., & Wexler K., (1987). The maturation of syntax, In T. Roeper & E. Williams (Eds.), *Parameter setting* (pp. 123–172). Dordrecht: Reidel.

Budwig, N. (1990). The linguistic marking of nontypical agency: An exploration into children's use of passives. *Linguistics, 28,* 1221–1252.

Clark, E. (1990). Speaker perspectives in language acquisition. *Linguistics, 28,* 1201–1220.

Crain, S., & Fodor, J. D. (1993). Competence and performance in child language, In E. Dromi, (Ed.), *Language and cognition: A developmental perspective (*pp. 141–171). Norwood, NJ.: Ablex Publishing.

Crain, S., & Thornton R. (1998). *Investigations in universal grammar: A guide to experiments on the acquisition of syntax.* Cambridge, MA: MIT Press.

Forrester, M. A. (1996). *Psychology of language: A critical introduction.* London: Sage.

Hakuta, K. (1982). Interaction between particles and word order in the comprehension and production of simple sentences in Japanese children. *Developmental Psychology, 18,* 62–76.

Hayashibe, H. (1975). Word order and particles: A developmental study in Japanese. *Descriptive and Applied Linguistics, 8,* 1–18.

Hirsh-Pasek, K., & Golinkoff, R., (1996). *The origins of grammar: Evidence from early language comprehension.* Cambridge, MA: MIT Press.

Kim, S., O'Grady, W., & Cho, S. (1995). The acquisition of case and word order in Korean: A note on the role of context. *Language Research, 31,* 687–695.

Kuno, S. (1978). *Danwa no bunpo [Discourse grammar].* Tokyo: Taishukan.

Kuno, S. (1987). *Functional syntax: Anaphora, discourse and empathy.* Chicago: University of Chicago Press.

Kuno, S., & Kaburaki, E. (1977). Emphaty and syntax. *Linguistic Inquiry, 8,* 627–672.

Okubo, A. (1967). *Yoji gengo no hattatsu [Child language development].* Tokyo: Tokyodo.

Otsu, Y. (1994). Early acquisition of scrambling in Japanese. In T. Hoekstra & B. Schwartz, (Eds.), *Acquisition studies in generative grammar* (pp. 253–264). Amsterdam: John Benjamins.

Pinker, S., Lebeaux, D., & Frost, L. (1987). Productivity and constraints in the acquisition of passive. *Cognition, 26,* 195–267.

Sano, K. (1977). An experimental study on the acquisition of Japanese simple sentences and cleft sentences. *Descriptive and Applied Linguistics, 10,* 213–233.

Slobin, D., & Bever, T. (1982). Children use canonical schemas: A crosslinguistic study of word order and inflections. *Cognition, 12,* 229–265.

Snyder, W., & Stromswold, K. (1997). The structure and acquisition of English dative constructions. *Linguistic Inquiry, 28,* 281–317.

Sudhalter, V., & Braine, M. (1985). How does comprehension of passives develop? A comparison of actional and experimental verbs. *Journal of Child Language, 12,* 455–470.

Suzuki, T. (1997). The effects of discourse context on children's interpretations of Japanese noncanonical sentences. In D. R. Yoshimi and M. K. Plumlee (Eds.), *The life of language, the language of life: Selected papers from the first college-wide conference for students in languages, linguistics, and literatures* (pp. 29–36). University of Hawaii at Manoa: National Foreign Language Resource Center.

Tomasello, M., Brooks, P. J., & Stern, E. (1998). Learning to produce passive utterances through discourse. *First Language, 18,* 223–237.

Tsujimura, N. (1996). *An introduction to Japanese linguistics.* Cambridge, MA: Blackwell.

Turner, E. A., & Rommetveit, R. (1967a). Experimental manipulation of the production of active and passive voice in children. *Language and Speech, 10,* 169–180.

Turner, E. A., & Rommetveit, R. (1976b). The acquisition of sentence voice and reversibility. *Child Development, 38,* 649–660.

Williams, E. (1997). Blocking and anaphora. *Linguistic Inquiry, 28,* 577–628.