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The Acquisition of Passives by Thai Preschoolers

Kitima Indrambarya
Associate Professor of Linguistics, Faculty of Humanities, Kasetsart
University, Bangkok, Thailand
kitima.i@ku.th

Abstract

This study investigates how pre-school Thai children comprehend Thai short and long passives with adversative and non-adversative and action and psychological verbs. The results show that preschool children did not comprehend passives well, primarily because of the thematic role reversal in the subjects of passives and actives. Action verbs are acquired earlier and better than psychological verbs. Unlike previous studies of other languages, Thai children comprehend long passives better than short passives with most verb types.

Keywords

1   Introduction

The acquisition of the passive is a topic of much interest among linguists of first language acquisition. Passive sentences are different from active sentences in that the emphasis is on the action or the patient rather than an agent. Earlier researchers found that passive acquisition in English and some other Indo-European languages was delayed to 5–6 years of age and began with imitation followed by comprehension and production (Baldie 1976).

Maratsos et al. (1985) investigated how English-speaking children comprehended different types of verbs in passive sentences: action verbs such as *to kiss* and *to chase* and non-action verbs, or what will be referred to here as 'psychological verbs', such as *to see* and *to like*. It was found that while children performed very well in active sentences with both action and psychological verbs, their performances in passive sentences were different. Children performed better and earlier in passives with action verbs than in passives with psychological verbs. This asymmetry in the comprehension of action and psychological verbs in passive sentences is known as the Maratsos Effect.

Long passives, especially those with psychological verbs, have also been found to be problematic in various studies (Deen 2011, 162, 178, Liter and Lidz 2021, 513). Fox and Grodzinsky (1998) also proposed 'the theta-transmission model,' which predicted that, in action passives, a theta role is transmitted from a subject to the nominal within the 'by-phrase.' Psychological verbs, on the other hand, are intrinsically non-affecting and, hence, were semantically incompatible for the theta role assignment to the following 'by phrase,' e.g., *The bear was seen by children*. Psychological verbs are claimed not only to be acquired later than action verbs but also the only type of verb that is problematic for children in long passives.

Recent studies on English passives (e.g., O'Brien et al. 2006, Hirsch and Wexler 2006, Crain et al. 2009, Liter and Lidz 2021) found that children can acquire passives at an early age. O'Brien et al. (2006) pointed out that the addition of a third character in a Truth Value Judgement Task (TVJT) could eliminate difficulty in the comprehension of long, non-action passives and found that 3-year-old children could comprehend such passives. This finding overturned the earlier claim that child and adult language were different in this respect. However, Hirsch and Wexler (2006) and Liter and Lidz (2021) reported that the comprehension of long psychological passives (those with the by-phrase) remains difficult for children.

Passives have been found to be acquired early in other languages as well. Demuth (1989) found that in her naturalistic data of Sesotho children, those as young as 2–3 years old could comprehend and produce passives when they were exposed to them quite frequently. However, their use of naturalistic data was criticized and viewed simply as observation of the children's production abilities. Experimental data, on the other hand, is preferable as it better reflects children's linguistic competence. Later, Demuth, Moloi and Machobane (2009) performed three experimental studies which confirmed that children as young as 3 years old have knowledge of the passive. However, Sesotho children comprehended non-action passives at a rather low rate, just like their adult control group. Demuth et al. (2009) suggested that the low rate of

comprehension may be due to the difficulty in depicting non-action verbs in pictures (Deen 2011, 183).

Deen (2011, 156) points out that one confusing property of passives for children is the canonical relationship between the reversal of the word order and thematic roles between actives and passives. That is, in an active sentence, a subject is assigned an agent thematic role, and an object is a patient or a theme. In the process of acquiring long passives, a child must understand that a subject is assigned a theme or a patient and not an agent. In English, an agent appears within an oblique phrase headed by a 'by phrase'.

Although Thai passives do not have a 'by phrase' containing an agent, they are equally complex. A Thai active sentence consists of a transitive verb taking a nominative agent and an accusative patient, as in (1). In a corresponding passive sentence, the patient noun phrase in the active sentence becomes the patient subject of a derived intransitive passive verb *thùuk*, as in (2). This switching of roles from a patient object in an active sentence to a patient subject in a passive sentence could be problematic for Thai children.

(1)   *phûyĭŋ*   *yìk*   *dèk*
      woman   pinch   child
      agent   patient
      'A woman pinched a child.'

(2)   *dèk*   *thùuk*   *phûyĭŋ*   *yìk*   *long passive*
      child   pasv   woman   pinch
      patient   agent
      'A child was pinched by a woman.'

(3)   *dèk*   *thùuk*   *yìk*   *short passive*
      child   pasv   pinch
      Patient
      'A child was pinched.'

When the instigator of the action is present right after the passive verb in a long passive, as in (2), it is generally referred to semantically as an agent. When it is covert, the sentence is a short passive, as in (3).

In terms of functionality, passives are normally used to hide the identity of an agent, to emphasize a patient of an action or even to express an adversity. Interestingly, Thai has both adversative and non-adversative passives. Those that are 'adversative' employ unfavourable meanings inflicted by a certain action or experience on its patient. According to Prasithrathsint (2006), the

Thai passive construction reflects this split with the passive markers *thùuk* or *doon.* Prasithrathsint (2001, 2006) labels this type of passive construction 'an adversative passive construction' to reflect the negative effect on a patient. In other languages with adversative verbs, adversative passives are also in focus. In the acquisition of Japanese, for example, Sugisaki (1999a, 1999b) reported that children acquired the adversative gapless type of passives earlier than accusative-patient passives.

In short, the study of passive acquisition has mainly revolved around three main points: the acquisition of the passive of action and psychological verbs, that of short and long passives and that of adversative and non-adversative verbs. These three areas, however, have remained untouched in the study of acquisition of Thai passives specifically. Early studies of language acquisition in Thai in general were limited (e.g., Tuaycharoen 1984; Rungrojsuwan 2003), while most later studies extracted data from the well-known CHILDES database (e.g., Yangklang 2003; Chompoobutr 2007; Piyapasuntra 2009; and Ratitamkul 2010). Few experimental research studies of acquisition in young children, other than Pindabaedya (2017), Pindabaedya and Indrambarya (2018), and Indrambarya (2019), have been found, nor were more than a few studies on the comprehension of syntactic structure of Thai children found. Hence, in this study, steps were taken to observe and interview children in an effort to understand their acquisition of Thai passives.[1] More specifically, the study focuses on how preschool[2] Thai children in particular acquire these constructions.

My aim is to look at three areas related to children's comprehension of Thai passives: 1) action/psychological verbs vs. adversative/non-adversative verbs; 2) short and long forms; and 3) patient subjects. Specifically, this paper seeks to answer the following questions: 1) How well do children comprehend passives of adversative action verbs, non-adversative action verbs, adversative psychological verbs, and non-adversative psychological verbs? 2) Do children comprehend long or short passives better? And 3) Is agent-to-patient role switching in the subject position problematic for Thai children?

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1   The actual research consisted of two types of tasks: comprehension tasks and production tasks. Since no previous studies had been done on children's comprehension of syntactic structures, a great deal of detail on the methodology and results is worth presenting. However. the researcher decided to devote this paper solely to the comprehension of passives and to deal with the production of passives in a forthcoming paper.

2   "Preschool" generally refers to education in early childhood. "Preschool children" thus refers to children being educated in nursery school through kindergarten level 3, prior to primary school.

The study has the following hypotheses: 1) Children comprehend action verbs better and earlier than psychological verbs; 2) Children comprehend adversative verbs better and earlier than non-adversative verbs; 3) Children comprehend short passives better than long passives; and 4) Children have problems in identifying the affected person in the subject position.

This study contributes to experimental studies on child language acquisition in Thai as research in this area is still wide open for further study.

2　　Methodology

To test children's comprehension of passive sentences, this study used picture-based tests. Adversative and non-adversative verbs as well as action and psychological verbs were tested. All tested verbs were in semantically reversible passive sentences (i.e., sentences in which arguments can be reversed) to check children's ability to identify the affected person.

2.1　*Subjects*

The subjects in this study were 138 healthy Thai children who were reported to be normal children. They were in nursery school and kindergarten levels 1–3, and ranged in age from 2;03 to 6;03. They were divided into four age groups: age 2, 3, 4 and 5. Specifically, there were 27 children aged 2 (mean 2;07); 37 children aged 3 (mean 3;06); 36 children aged 4 (mean 4;04); and 38 children aged 5 (mean 5;36). Details are shown in Table 1. All children were granted written permission from their parents to participate in the study. Children who gave no responses to any of the test items were excluded.

TABLE 1　　Subjects in the study

Age groups	Gender		Total
	Male	Female	
Age 2 (2;03-2;11)	14	13	27
Age 3 (3;00-3;11)	15	22	37
Age 4 (4;00-4;11)	21	15	36
Age 5 (5;00-6;03)	17	21	38
Total	67	71	138

2.2 *Adult Subject Control Group*

As adult language is the target for the acquisition of child language, it is believed that children's development will move towards adult language. The study set up a control group of 16 adults, 8 males and 8 females, aged 34–66 years (mean 53.25).

2.3 *Test Tools*

The study was designed with the following dimensions: adversative action verb [+adversative, +action], 2) non-adversative action verbs [-adversative, +action], 3) adversative psychological verbs [+adversative, -action], and 4) non-adversative psychological verbs [-adversative, -action].

Twelve basic verbs which had animate arguments and were semantically reversible were selected. The researcher selected only tested verbs that were reversible because their two arguments could be either subject or object. When the roles of the two arguments were switched, their meanings changed, as shown in (4a) and (5a).

(4) a. *mɛ̂ɛ*   *yìk*   *lûuk*
         mother   pinch   offspring
         'A mother pinched her child.'

(5) a. *lûuk*   *yìk*   *mɛ̂ɛ*
         offspring   pinch   mother
         'A child pinched his mother.'

In Thai passive sentences, the affected noun phrase becomes a nominative patient, while a noun phrase signaling an instigator (agent/experiencer) of action appears right after the passive marker *thùuk*, as in (4b) and (5b).

(4) b. *lûuk*   *thùuk*   *mɛ̂ɛ*   *yìk*
         offspring   PASV   mother   pinch
         patient   agent
         'A child was pinched by his mother.'

(5) b. *mɛ̂ɛ*   *thùuk*   *lûuk*   *yìk*
         mother   PASV   offspring   pinch
         patient   agent
         'A mother was pinched by her child.'

It is important to see whether children understand the instigator of the action and the affected person. Thus, four common adversative action verbs were selected: *yìk* 'to pinch', *tii* 'to hit', *kàt* 'to bite', and *tὲʔ* 'to kick'. In addition, four non-adversative action verbs were chosen, two of them, *kɔ̀ɔt* 'to hug' and *hɔ̌ɔm* 'to kiss,' carrying favorable meanings, and two, *mɔɔŋ* 'to look' and *rîak* 'to call,' bearing neutral meanings. Since psychological verbs convey a mental state, four such verbs were carefully selected so as not to affect young children's feelings. Therefore, the verbs *krɔ̀ot* 'to anger' and *klua* 'to fear' were selected as the adversative psychological verbs, and the favorable verbs *rák* 'to love' and *khítthǐŋ* 'to think of' were chosen as the non-adversative psychological verbs. It should be noted that Thai psychological verbs are rarely used in passive form. All verbs and verb types in this study are shown in Table 2.

Each verb was depicted in a picture, with each picture showing one of six distinct events.

2.4   *Picture-based Comprehension Test*

For the comprehension test, the 12 verbs in Table 2 were paired up to make six sets. Each set comprised two verbs of the same type. Adversative action verbs were presented in two picture sets: Set 1 *tii* 'to hit' with *yìk* 'to pinch' as a distractor and Set 2 *kàt* 'to bite' with *tὲʔ* 'to kick' as a distractor. Non-adversative action verbs comprised two picture sets: Set 3 *kɔ̀ɔt* 'to hug' with *hɔ̌ɔm* 'to kiss' as a distractor and Set 4 *mɔɔŋ* 'to look' with *rîak* 'to call' as a distractor. Adversative psychological verbs comprised one picture set: Set 5 *krɔ̀ot* 'to anger' with *klua* 'to fear' as a distractor. Non-adversative psychological verbs comprised one picture set: Set 6: *rák* 'to love' with *khítthǐŋ* 'to think of' as a distractor.

TABLE 2   Verbs and verb types under study

Verb types	Action verbs [+actn]	Psychological verbs [-actn]
Adversative verbs [+advr]	*tii* 'to hit' *yìk* 'to pinch' *kàt* 'to bite', *tὲʔ* 'to kick'	*krɔ̀ot* 'to anger' *klua* 'to fear'
Non-adversative verbs [-advr]	*kɔ̀ɔt* 'to hug', *hɔ̌ɔm* 'to kiss' *mɔɔŋ* 'to look' *rîak* 'to call'	*rák* 'to love', *khítthǐŋ* 'to think of'

These six picture sets made up the comprehension test items. Each test item was constructed with a semantically reversible passive sentence with the commonly used passive marker *thùuk*. Verbs with reversible subjects were selected to test children's ability to identify the affected person and the agent/experiencer.

The test was designed to provide four choices of pictures rather than two to avoid 50/50 guesses. Each test item contained four pictures having two pairs of verbs with reversible subjects. For example, in Picture Set 2, *kàt* 'to bite' was paired with the verb *tèʔ* 'to kick', and there were two pictures with the verb *kàt* 'to bite' and another two with the verb *tèʔ* 'to kick', each with reversable subjects. Only one answer was correct. That is, picture D, *mɛɛw thùuk măa kàt* 'The cat was bitten by the dog' was the correct answer. The other three pictures labelled A, B, and C were distractors. Examples of picture tests are shown in Figure 1. The six sets of the comprehension test are shown in Table 3.

To investigate the children's comprehension of short and long passives, the picture test was designed to be accompanied by both short and long-form passive sentences, which are illustrated in Table 4.

Patient subjects and agent/experiencer roles were carefully designed. As shown in Table 4, most verbs were depicted using human figures. Only two adversative verbs contained non-human figures. Picture Set 2: *kàt* 'to bite' was depicted using familiar non-human figures, a cat and a dog, in the patient-agent pair, while Set 5: *kròot* 'to anger' contained a bear and a rabbit in the patient-experiencer pair. The researcher used non-human figures in adversative verbs to insulate children from possible imaginings of violence in real life.

Similarly, pairs of human figures were familiar to children, for example, the patient-agent role of a mother and a child in the adversative action verb set 1: *tii* 'to hit' and the non-adversative action verb set 3: *kɔ̀ɔt* 'to hug'. Other sets made use of nouns familiar to children: a man and a woman, and a boy and a girl.

FIGURE 1   Examples of comprehension test items: Set 2 'to bite' and Set 6 'to love'

TABLE 3   Tested verbs in the picture-based comprehension test

Verb types	Action verbs [+actn]	Psychological verbs [-actn]
Adversative verbs [+advr]	Set 1: *tii* 'to hit'	Set 5: *kròot* 'to anger'
	Set 2: *kàt* 'to bite'	
Non-adversative verbs [-advr]	Set 3: *kɔ̀ɔt* 'to hug'	Set 6: *rák* 'to love'
	Set 4: *mɔɔŋ* 'to look'	

TABLE 4   Test items in the comprehension test

Picture sets	Long passives	Short passives
Picture Set 1 (adversative action verb)	mɛ̂ɛ *thùuk* lûuk tii mother PASV offspring hit 'Mother was hit by her child.'	mɛ̂ɛ *thùuk* tii mother PASV hit 'Mother was hit.'
Picture Set 2 (adversative action verb)	*mɛɛw* *thùuk* *mǎa* kàt cat PASV dog bite 'The cat was bitten by the dog.'	*mɛɛw* *thùuk* kàt cat PASV bite 'The cat was bitten.'
Picture Set 3 (non-adversative action verb)	mɛ̂ɛ *thùuk* dèkphûuyǐŋ kɔ̀ɔt mother PASV girl hug 'Mother was hugged by the girl.'	mɛ̂ɛ *thùuk* kɔ̀ɔt mother PASV hug 'Mother was hugged.'
Picture Set 4 (non-adversative action verb)	*dèk-phûutʃaay* *thùuk* dèkphûuyǐŋ mɔɔŋ boy PASV girl look 'The boy was looked at by the girl.'	*dèk-phûutʃaay* *thùuk* mɔɔŋ boy PASV look 'The boy was looked at.'
Picture Set 5 (adversative psychological verb)	*mǐi* *thùuk* kratàay kròot bear PASV rabbit anger 'The bear was angered by the rabbit.'	*mǐi* *thùuk* kròot bear PASV anger 'The bear was angered.'
Picture Set 6 (non-adversative psychological verb)	*phûuyǐŋ* *thùuk* *phûutʃaay* rák woman PASV man love 'The woman was loved by the man.'	*phûuyǐŋ* *thùuk* rák woman PASV love 'The woman was loved.'

All subjects were asked one-by-one to participate in the comprehension test. Participants were asked to identify the pictures corresponding to the passive sentences they heard. There were no trials. The answers were all extemporaneous. Each verb was said twice; the first time in a long passive and the second time in a short passive (i.e., without an instigator of action). For example, in Set 1, two adversative action verbs *yìk* 'to pinch' and *tii* 'to hit' were paired to provide four choices. The researcher spoke the full passive version, i.e., *mêɛ thùuk lûuk tii* 'The mother was hit by her child' and waited for the subject to point at the picture he/she thought was correct. Then, the researcher spoke a second sentence having the same passive verb in the short passive form, i.e., *mêɛ thùuk tii* 'The mother was hit' and then waited for the subject to respond. Each subject needed to select one out of the four choices. Tokens were counted separately for the first and second responses. Participants who failed to respond to both short and long passives for all tests were excluded from the analysis. Data were also elicited from 16 adults. Both short and long passives were read to the adults in the same way.

2.6   *Analysis*

The responses of long passives (the first response) and those of short passives (the second response) were recorded, analyzed, and discussed. All tokens found in the study are shown. The numbers of correct answers, correct verbs with incorrect subjects, and incorrect verbs with correct and incorrect subjects were analyzed. The results will be presented following the answers to the questions which this study addressed.

Question 1: How well do children comprehend passive with adversative/non-adversative action/psychological verbs?

To find out how well children comprehend passives with the tested verbs, analysis was conducted in two steps. The first step was to find the correct verb percentage, and the second step was to find the accuracy rate percentage for both long and short passives. The correct verb percentage refers to the percentage of the answers with the correct verbs irrespective of whether the subjects were correct or incorrect. For each verb, the number of the correct verbs (with either correct or incorrect subjects) was divided by the number of participants and expressed as a percentage. This step enabled the researcher to see how well the children comprehended the different verbs and verb types in passive sentences.

The results of short and long passives with different verbs were combined to yield the average correct verb percentages of the various verb types. Then,

the correct verb percentages of children in different age groups with the tested verbs were shown in Figure 2.

Next, the accuracy rate (i.e., the percentage of correct answers) was calculated. For each verb, the number of the correct verbs with the correct patient subject was divided by the total number of the correct verbs and was expressed as a percentage. This enabled the researcher to see how well the participants of the different age groups comprehended passive sentences with different types of verbs.

Question 2: Do children comprehend long or short passives better?

To find out whether children comprehended long or short passives better, the average accuracy rates for long and short passives with different verb types were compared for each age group. The results of the adult control group were compared with those of the children.

Question 3: Is agent-patient subject switching problematic for children?

To find out whether agent-patient role switching was problematic for Thai children, the numbers of correct and incorrect answers were investigated by calculating the percentages of each type of answer. If the score for correct verbs with incorrect subjects was higher than other incorrect answers, then it would show that Thai children had problems with affected subjects in passive sentences.

3 Results

This section will be divided into four subsections: 1) number of tokens, 2) comprehension of passives with different verb types, 3) short and long passives, 4) comparison with adult control group, and 5) patient-agent role reversal.

3.1 *Number of Tokens*

Out of 138 participants, 2 children gave no responses in any of the tests and were excluded from the analysis. Therefore, altogether, 136 subjects provided the data for the study. For each test set, one token per participant was recorded. With 6 sets of the picture test, 1,632 tokens were expected. However, there were 5 tokens missing in the long passives, making 811 tokens. In short passives, 3 tokens were missing, leaving 813 tokens. Altogether there were 1,624 tokens, as shown in Table 5.

In long passives, 4 tokens were missing in the 3-year-old participants: 1 from the adversative action verb *kàt* 'to bite', 2 from the adversative psychological verb *kròot* 'to anger,' and 1 from the non-adversative psychological verb *rák* 'to love,' all of which were from different participants. One token from a 4-year-old

TABLE 5 Number of passive tokens

Forms of responses	Ages	Adversative action verbs		Non-adversative action verbs		Adversative psychological verbs	Non-adversative psychological verbs	Total tokens
		'to hit'	'to bite'	'to hug'	'to look'	'to anger'	'to love'	
Long passives	2 yrs	27	27	27	27	27	27	811
	3 yrs	36	35	36	36	34	35	
	4 yrs	36	36	36	36	36	35	
	5 yrs	37	37	37	37	37	37	
	Total	136	135	136	136	134	134	
Short passives	2 yrs	27	27	27	27	27	27	813
	3 yrs	36	36	36	36	35	35	
	4 yrs	36	36	36	36	36	35	
	5 yrs	37	37	37	37	37	37	
	Total	136	136	136	136	135	134	
TOTAL		272	271	272	272	269	269	1,624

child was missing from the non-adversative psychological verb *rák* 'to love'. In short passives, 2 responses were given by subjects who had not responded to long passives: one for the adversative action verb 'to bite' and the other for the adversative psychological verb *kròot* 'to anger'. However, another 3 participants remained silent: one was a 3-year-old child who remained silent for the adversative psychological verb *kròot* 'to anger'. The other two were children aged 3 and 4 who were silent for both long and short passives of the non-adversative psychological verb *rák* 'to love'.

3.2 *Comprehension of Passives with Different Verb Types*

To see how well children comprehended passives, both the correct verb percentage and the accuracy rate percentage were investigated. Prominence in the patient-agent superior role in action verbs will also be discussed.

3.2.1 The Correct Verb Percentage

First, the correct verb percentage was employed to help us understand whether children selected the correct verbs. Table 6 shows that the correct verb percentage for different verb types was at a satisfactory rate, ranging from 76.12% to 85.45%, with the highest scores on adversative action verbs. Overall, children did very well in selecting the correct verbs, at 81.77%, demonstrating that children were able to identify the correct verbs in passive sentences.

Figure 2 presents a closer look at the correct verb percentage of all the tested verbs by comparing children of different ages. Children aged 5 performed best with scores between 89.19–100% in action verbs and 82.43–90.54% in psychological verbs. For most verbs, the correct verb percentage tended to increase with children in older age groups, especially for the verb 'to look'. With action verbs, the correct verb percentage fell at the age of 4 for the verbs *kàt*

TABLE 6   Correct verb percentage of different verb types

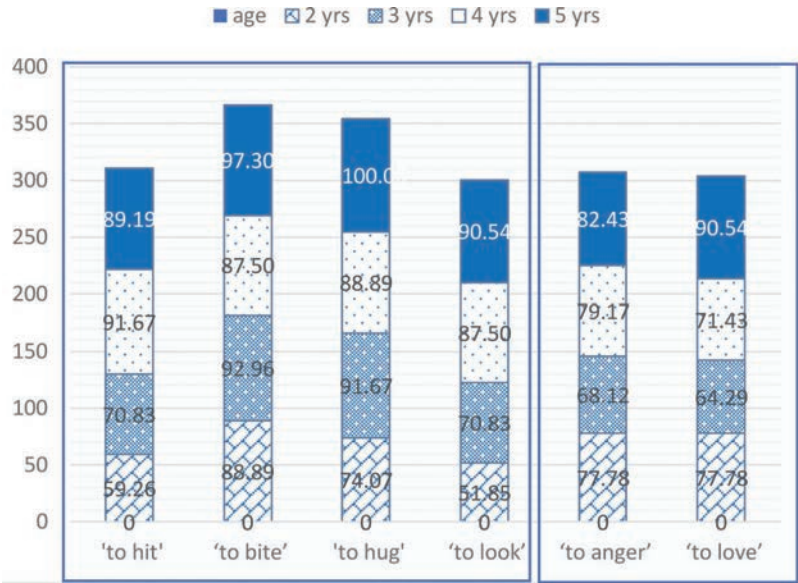| Types of Verbs	Total
Adversative action verbs	85.45
Non-adversative action verbs	83.27
Adversative psychological verbs	76.95
Non-adversative psychological verbs	76.12
All verbs	81.77

FIGURE 2   Correct verb percentage of different verbs by age

'to bite' and *kɔ̀ɔt* 'to hug' and rose to the highest scores for children aged 5.
However, the correct verb percentage of the verb *tii* 'to hit' dropped slightly at
the age of 5. As for psychological verbs, the percentage of right verbs dropped
at the age of 3 and went up at the ages of 4 and 5.

   The correct verb percentage increased with higher age groups. The higher
percentage of correct verbs in older age groups shows that the children were
able to interpret the pictures and understood the verbs quite well at the ages
of 4 and 5 years old.

3.2.2   Accuracy Rate Percentage

Even though children performed quite well in selecting the correct verbs at
81.77%, the accuracy rate in selecting the correct answer was only 60.62%, as
is seen in Table 7 showing the accuracy rate percentage for the various verb
types. Of all four types of verbs, the children scored the highest (64.24%) with
non-adversative action verbs, followed by adversative action verbs (63.79%),
adversative psychological verbs (56.04%), and non-adversative psychological
verbs (50.00%), respectively. The accuracy rate of action verbs was 64.01%;
this was higher than that of psychological verbs, which was 53.04%. The
accuracy rate of adversative verbs (61.40%) was slightly higher than that of
non-adversative verbs (59.82%).

TABLE 7   The accuracy rate percentages of different types of verbs

Types of verbs	Accuracy rate percentage
Adversative action verbs	63.79
Non-adversative action verbs	64.24
Adversative psychological verbs	56.04
Non-adversative psychological verbs	50.00
Action verbs	64.01
Psychological verbs	53.04
Adversative verbs	61.40
Non-adversative verbs	59.82
All verbs	60.62

A more detailed look at the accuracy rate percentage of all the tested verbs in children of different age groups is given in Figure 3. The verb *kɔ̀ɔt* 'to hug' had the highest accuracy rate and the verb *rák* 'to love' had the lowest accuracy rate. With action verbs, children of the 5-year-old group scored best, with the highest score of 83.33% for the verb *tii* 'to hit' and the lowest score (70.15%) for the verb *mɔɔŋ* 'to look'. With respect to psychological verbs, on the other hand, children scored best (61.40%) at the age of 4 on the verb *krɔ̀ot* 'to anger' and at the age of 5 on the verb *rák* 'to love' (56.72%).

The accuracy rate tended to increase with children in older age groups, despite some fluctuation. However, among the action verbs, the accuracy rate fell at the age of 3 for the verbs *mɔɔŋ* 'to look' and rose at the ages of 4 and 5. As to the psychological verbs, the accuracy rate of the verb *rák* 'to love' dropped in children aged 4 and rose again in children aged 5. However, the accuracy rate fluctuated for the verb *krɔ̀ot* 'to anger', which dropped at ages 3 and 5. According to Figure 3, children aged 2 scored between 47.62–65.00%. Children aged 3 scored between 43.14% and 68.18%. The scores of children aged 4 and 5 were in the ranges of 44.00–70.31% and 56.72–83.33%, respectively. Children scored the highest for each verb type at the age of 5, except for the adversative psychological verb *krɔ̀ot* 'to anger'.

If we look at the scores of children who gave correct answers in both long and short forms of passives, we see similar results, as shown in Table 8. Out of 1,624 tokens from 136 participants, 251 correct answers (15.46%) for all tested verbs in both responses were found. The verb *kɔ̀ɔt* 'to hug' (22.79%) ranked the
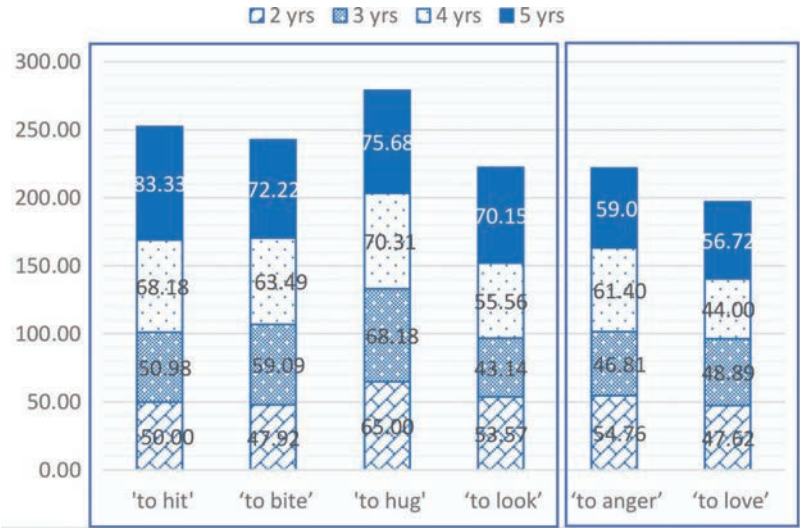
FIGURE 3   Accuracy rate percentages of different verbs by age

highest for correct answers, followed by the action verbs *tii* 'to hit' (19.49%), *kàt* 'to bite' (18.45%), *mɔɔŋ* 'to look' (11.03%), and then the psychological verbs *kròot* 'to anger' (10.78%) and *rák* 'to love' (10.07%). Moreover, the number of correct answers increased with older age groups. The verb *kɔɔt* 'to hug' stood

TABLE 8   Percentages of correct answers in both long and short passives

ages	*tii* 'to hit' (272)	*kàt* 'to bite' (271)	*kɔɔt* 'to hug' (272)	*mɔɔŋ* 'to look' (272)	*kròot* 'to anger' (269)	*rák* 'to love' (268)	Total (1,624)
2 yrs (324)	2.21 (6)	2.58 (7)	3.68 (10)	1.10 (3)	1.86 (5)	2.24 (6)	11.42 (37)
3 yrs (426)	2.94 (8)	4.43 (12)	5.88 (16)	1.10 (3)	1.86 (5)	2.24 (6)	11.74 (50)
4 yrs (430)	6.62 (18)	4.80 (13)	5.88 (16)	3.68 (10)	3.72 (10)	1.87 (5)	16.74 (72)
5 yrs (444)	7.72 (21)	6.64 (18)	7.35 (20)	5.15 (14)	3.35 (9)	3.73 (10)	20.72 (92)
Total (1,624)	19.49 (53)	18.45 (50)	22.79 (62)	11.03 (30)	10.78 (29)	10.07 (27)	15.46 (251)

out with the highest number of correct answers as early as 2 and 3 years old. At ages 4 and 5, the highest number of correct answers was to the verb *tii* 'to hit', with *kɔ̀ɔt* 'to hug' having the second highest number of correct answers, followed by *kàt* 'to bite'. The action verb *mɔɔŋ* 'to look' and the psychological verbs had the lowest numbers of correct answers.

3.3 *Short and Long Passives*

To answer the third question on how children performed with short and long passives, the accuracy rate of each of the four types of verbs in short and long forms, together with action and psychological verbs and adversative and non-adversative verbs, was recorded, compared, and discussed. In this subsection, the accuracy rate of the adult control group is shown and compared with that of the children.

Table 9 shows that the average accuracy rate of short and long passives among all the verb types (63.24%) was higher than that of short passives (58.02%). Comparing the four types of verbs investigated, children performed better with the long passives of the non-adversative action verbs (71.93%) and of the adversative psychological verbs (69.31%). On the other hand, children performed better with the short forms of the adversative action verbs (68.09%) and the non-adversative psychological verbs (53.47%).

Considering action and psychological verbs, the accuracy rate was higher in the long forms for both action verbs and psychological verbs, as shown in Table 10.

Similarly, Table 11 reveals that the accuracy rates of adversative and non-adversative verbs were higher in the long forms of passives.

Comparing long and short passives among children of different ages, Figure 4 shows that children aged 2 and 3 performed better with long passives in all verb types except for those with non-adversative psychological verbs.

TABLE 9　Accuracy rate percentages of different verb types in short and long form

Accuracy rate percentages	Tokens	Long form	Short form
Adversative action verbs	543	59.39	68.09
Non-adversative action verbs	544	71.93	56.44
Adversative psychological verbs	269	69.31	43.44
Non-adversative psychological verbs	268	46.60	53.47
Total for all verbs	1,624	63.24	58.02

TABLE 10   Accuracy rate percentages of action and psychological verbs in short and long
form

Accuracy rate percentages	Tokens	Long form	Short form
Action verbs	1087	65.65	62.39
Psychological verbs	537	57.84	48.31

At age 4, children performed better with long passives except for those with adversative action verbs. At age 5, children performed better with long passives with non-adversative action verbs and adversative psychological verbs, and better with short passives with adversative action verbs and non-adversative psychological verbs.

As seen in Figure 4, children scored higher in short passives only at the ages of 4 – 5 with adversative action verbs, and at the ages of 2, 3, and 5 with non-adversative psychological verbs.

3.4   *Comparison with the Adult Control Group*
All 16 adults participating in the study as a control group identified the correct verbs in the passive sentences garnering 192 tokens, as shown in Table 12.

The adults' performance on the test in Table 13 shows an accuracy rate of 98.44%. The only error adults made was on the long form of non-adversative psychological verb *rák* 'to love.' Three adults got the wrong patient subject reducing in the accuracy rate in the long form of *rák* 'to love' to 81.25%, and the total average accuracy rate to 90.63% for the non-adversative psychological verb *rák* 'to love'.

The children's comprehension of long passives was then compared with that of the adults. All adults answered correctly for all verb types except for the non-adversative non-action verb *rák* 'to love', in which wrong subjects were chosen.

TABLE 11   Accuracy rate percentages of adversative and non-adversative verbs in short and
long form

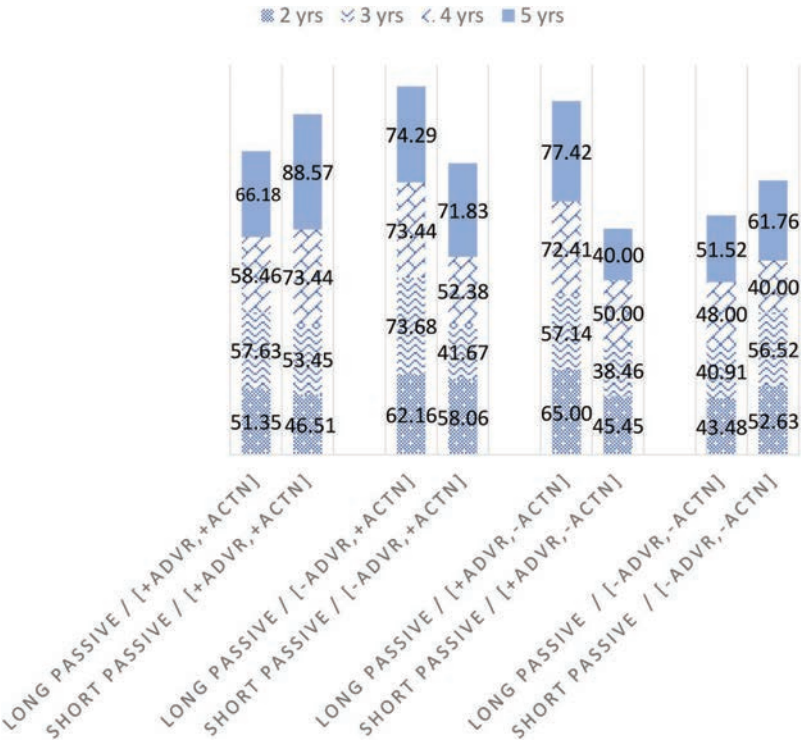| Accuracy rate percentages	Tokens	Long form	Short form
Adversative verbs	812	62.42	60.41
Non-adversative verbs	812	64.05	55.52

FIGURE 4   Accuracy rate percentages in long and short passives with different verbs
            by age

Figure 5 compares the adults' accuracy rate percentage with that of the children. The non-adversative psychological verb *rák* 'to love' was the verb on which the children performed the poorest, with a 50% accuracy rate. This verb was also the only verb for which the adults' accuracy rate dropped below 100% to 90.63%.

3.5   *Patient-agent Role Reversal*

The percentages of all answers for different verb types were investigated to see whether children had problems with a patient subject. Table 14 shows that of all the 1,624 tokens, 49.57% were correct answers, followed by correct verbs with incorrect subjects (32.20%), incorrect verbs with incorrect subjects (10.16%) and incorrect verbs with correct subjects (8.06%), respectively. As shown, correct verbs with incorrect subjects garnered the second highest number of answers, though non-adversative psychological verbs saw equal numbers of correct answers and incorrect answers with correct verbs but incorrect subjects. Children did have trouble identifying the patient subjects.

TABLE 12   Adults' correct verb percentage of different verb types

Verbs	Tokens	Long form	Short form	Total
All verb types	192	100.00	100.00	100.00

4   Discussion

This section will discuss 1) comprehension of passives of different verb types, 2) prominent patient-agent role, 3) comprehension of short and long passives, and 4) problems with patient-agent role reversal.

4.1   *Comprehension of Passives of Different Verb Types*
Although children were able to recognize all the verbs in the test at an early age, they had trouble identifying subjects of passive verbs. The average accuracy rate of 60.62% shows that preschool children did not fully comprehend

TABLE 13   Adults' accuracy rate percentages of different verb types in short and long forms

Verbs and verb types	Tokens	Long form	Short form	Average
Adversative action verbs	64	100.00	100.00	100.00
tii 'to hit'	32	100.00	100.00	100.00
kàt 'to bite'	32	100.00	100.00	100.00
Non-adversative action verbs	64	100.00	100.00	100.00
kɔ̀ɔt 'to hug'	32	100.00	100.00	100.00
mɔɔŋ 'to look'	32	100.00	100.00	100.00
Adversative psychological verb *krɔ̀ot* 'to anger'	32	100.00	100.00	100.00
Non-adversative psychological verb *rák* 'to love'	32	81.25	100.00	90.63
Total for all verbs	192	96.88	100.00	98.44
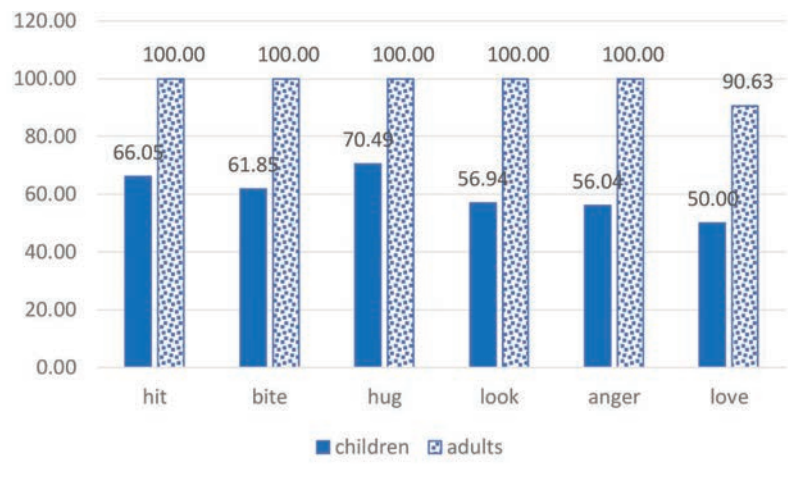
passives. While the accuracy rate percentage of all subtypes of action verbs was obviously higher than chance, that of psychological verbs (53.04%) was only marginally higher than chance. Children's performance with a non-adversative psychological verb was only 50% chance.

At the age of 5, children were able to comprehend passives with action verbs, with accuracy rates at a satisfactory level of between 70-80%. At the same age, children had much lower accuracy rates of 56–59% with psychological verbs. As hypothesized, children comprehended passives with action verbs much better and earlier than psychological verbs, confirming Maratsos et al.'s (1985) findings. As for adversative and non-adversative verbs, the results show that children comprehended adversative verbs relatively better than non-adversative verbs. The results are in line with the acquisition of Japanese adversative passives in Sugisaki (1999a).

The non-adversative psychological verb *rák* 'to love' was found to be the most difficult for children. Evidence could be seen not only in the low accuracy rate for the verb *rák* 'to love', but also from in the missing answers of two participants who kept silent all through the long and short passives of this verb. Moreover, this type of verb also caused confusion in adults. Passives with the verb *rák* 'to love' was the only verb eliciting wrong answers in adults.

Among the action verbs, one might wonder which verb would be easiest to understand. In fact, the accuracy rates for these verbs, shown in Table 15, proved interesting. For adversative action verbs, the accuracy rate of the verb *tii* 'to hit' (66.05%) was higher than that of *kàt* 'to bite' (61.85%). Despite being verbs of the same type, the accuracy rates for the two verbs were quite different.

TABLE 14   Percentages of all answer patterns for passives

Verb types	Correct verbs		Incorrect verbs		Total
	Correct subject	Incorrect subject	Correct subject	Incorrect subject	
Adversative action verbs	54.51 (296)	30.94 (168)	7.18 (39)	7.37 (40)	100 (543)
Non-adversative action verbs	53.49 (291)	29.78 (162)	7.54 (41)	9.19 (50)	100 (544)
Adversative psychological verbs	43.12 (116)	33.83 (91)	10.03 (27)	13.01 (35)	100 (269)
Non-adversative psychological verbs	38.06 (102)	38.06 (102)	8.96 (24)	14.93 (40)	100 (268)
Long passives	51.54 (418)	29.96 (243)	7.52 (61)	10.97 (89)	100 (811)
Short passives	47.60 (387)	34.44 (280)	8.61 (70)	9.35 (76)	100 (813)
All verbs	49.57 (805)	32.20 (523)	8.06 (131)	10.16 (165)	100 (1,624)

Of all action verbs, the non-adversative action verb *kɔ̀ɔt 'to hug'* had the highest accuracy score (70.49%), while the verb *mɔɔŋ* 'to look' has the lowest accuracy score (56.94%). Note the difference in the nature of the two non-adversative action verbs; while the verb *kɔ̀ɔt 'to hug'* is semantically favorable, the verb *mɔɔŋ* 'to look' is merely neutral.

The higher accuracy rates in the action verbs *tii* 'to hit' and *kɔ̀ɔt 'to hug'* provide a curious case. The researcher suspects that the cause of the differences in each pair may lie in the prominence of the superior-inferior role of a patient subject and the agent instigator of the action, which will be discussed in the next subsection.

4.2   *Prominent Patient-agent Role*

Recall that in action verbs, both human and non-human figures of patient-agent pairs were all familiar to the children. The patient-agent roles in (6) and (8) were the roles of a mother and a child while those of (7) and (9) were the role of a cat and a dog, and of a boy and a girl. Consider (6)-(9).

TABLE 15   The accuracy rate percentages of action verbs

Types of verbs	Total
Adversative action verbs	63.79
(set 1) *tii* 'to hit'	66.05
(set 2) *kàt* 'to bite'	61.85
Non-adversative action verbs	64.24
(set 3) *kɔ̀ɔt* 'to hug'	70.49
(set 4) *mɔɔŋ* 'to look'	56.94
Action verbs	64.01

Adversative action verbs in picture sets 1–2

(6) **mɛ̂ɛ**   *thùuk*   **lûuk**   *tii*   *superior patient-agent role*
      mother   PASV   offspring   hit
      patient   agent
      'The mother was hit by her child.'

(7) *mɛɛw*   *thùuk*   **mǎa**   *kàt*   *equal patient-agent role*
      cat   PASV   dog   bite
      patient   agent
      'The cat was bitten by the dog.'

Non-adversative action verbs in picture sets 3–4

(8) **mɛ̂ɛ**   *thùuk*   **dèkphûuyǐŋ**   *kɔ̀ɔt*   *superior patient-agent role*
      mother   PASV   girl   hug
      patient   agent
      'Mother was hugged by the girl.'

(9) **dèkphûutʃaay** *thùuk* **dèkphûuyǐŋ**   *mɔɔŋ*   *equal patient-agent role*
      boy   PASV   girl   look
      patient   agent
      'The boy was looked at by the girl.'

The verb *tii* 'to hit' in sentence (6) and the verb *kɔ̀ɔt* 'to hug' in (8) contained the superior role of the mother who was affected by her child. Therefore, it is a superior-inferior relation. The verbs *kàt* 'to bite' in (7) in 'the cat was bitten by the dog' and *mɔɔŋ* 'to look' in (9) in 'the boy was looked at by the girl', involved patient-agent roles of socially equal status.

The higher accuracy rates for the verbs *tii* 'to hit' in (6) and *kɔ̀ɔt* 'to hug' in (8) suggests that the children may have perceived a prominence in the superior-inferior patient-agent role relation. The pairs *mɛ̂ɛ* 'mother' – *lûuk* 'offspring, child' in (6) and *mɛ̂ɛ* 'mother'- *dèkphûuyǐŋ* 'girl' in (8) are familiar to children, especially *mɛ̂ɛ* 'mother', one of the very first words acquired by Thai children (Rungrojsuwan 2003). Generally, a mother and child are closely attached, with the mother's attitudes and behavior affecting the child's behavior. It might be possible that children felt in control in the prominent mother-child connection in the passive sentences, e.g., a child was the one who hit his/her mother, a girl was the one who hugged her mother. This prominence might yield a higher accuracy rate. The study thus invites further examination of the prominence role in superior-inferior patient and agent relations.

4.3   *Comprehension of Short and Long Passives*

Comparing short and long forms of passives, this study found that children comprehended long passives better among all action and psychological verbs, and adversative and non-adversative verbs. That is, long passives, overall, had a higher average accuracy rate than short passives. Children comprehended short passives better only with adversative action verbs and non-adversative psychological verbs.

This result contradicts previous studies of English passives and other languages, which found that short passives were acquired before long passives and that children tended to have problems with long passives (cf. Hirsch and Wexler 2006; Crain et al. 2009; Liter and Lidz 2021).

Passive sentences are not prevalent in the everyday speech of Thai communities. Children are, thereby, less exposed to passive sentences than to active sentences. However, in Thai, passive sentences are generally associated with negative action and hence, a passive construction with adversative action verbs would be familiar to both children and adults.

Short passives are generally viewed as basic, with their single actants, and could therefore be relatively easy to comprehend. With adversative action verbs, this makes it especially straightforward to identify the one who is affected. For example, in 'The mother was hit' and 'The cat was bitten', one knows that the mother was the one who was hit and the cat was the one that was bitten since there is only one actant. Therefore, short passives of adversative action verbs

were easier to comprehend. In long forms of passives, children need to identify two actants, a patient and an agent; therefore, it could be more difficult.

Non-adversative action verbs might not appear in passive sentences as often as adversative action verbs. It could then be difficult for children to grasp what happened when the former do appear. The addition of an 'agent' noun in long passives would make the sentences 'The girl was hugged by her mother' and 'The woman was looked by the man' easier to comprehend.

Similarly, psychological verbs are not usually present in the passive construction. It would then be hard for children to interpret passive sentences with adversative psychological verbs, such as 'a bear was angered', with only one actant. Therefore, the addition of an experiencer noun to the adversative psychological would make the sentence more readily understood, as in 'a bear was angered by a rabbit.'

Surprisingly, children were able to comprehend the non-adversative psychological verb 'to love' with short passives. This is surprising because, generally, non-adversative psychological verbs like 'to love' rarely appear in the passive construction, and when two actants co-occurred in the passive construction with non-adversative verbs, both children and adults got confused in identifying the affecter and the experiencer, as was the case with *phûutʃaay thùuk phuuyǐŋ rák* 'A man was loved by a woman'. They needed to figure out which was the affected patient and which one the experiencer of the psychological verb. However, here, the absence of an experiencer in the non-adversative psychological verb *rák* 'to love' made the sentence less complex with only one actant: *phûutʃaay thùuk rák* 'A man was loved'. That actant must be the patient subject. That is why short passives got a higher accuracy rate.

When comparing the children with the adult participants, a few observations were made. First, half of the adults took slightly longer to answer when dealing with the psychological verbs *kròot* 'to anger' and *rák* 'to love', as well as the verb *kàt* 'to bite' with non-human figures. A brief interview after the test revealed that some adult participants found it hard to identify the cat and a dog in the picture of 'the cat was bitten by the dog'. With the psychological verbs, it took some participants more time to identify the signals for love, missing, anger, and fear depicted in the pictures. This could be a drawback of our picture test.

4.4 *Problems with Patient-agent Role Reversal*

Although children were able to comprehend the action in the situation, they nevertheless got confused at times and mismatched an agent or an experiencer with an affected patient. For example, in the picture of a cat bitten by a dog, some children mistook the affected dog for the affected cat. In an example with the verb *rák* 'to love', some children mistook the experiencer man for

the affected woman in the picture of 'the woman was loved by the man'. Thai children clearly have trouble identifying the subject in passive sentences. That is, they struggled with the patient role switching to become subject of the passive. The picture-based comprehension test helped the researcher identify this problem.

5   Conclusion

This preliminary research on the acquisition of passives in preschool children reveals that preschool children had not fully acquired Thai passives. Although children can identify the verbs in passives well at an early age, they have trouble identifying the patient subject of passive sentences with all types of verbs. The patient-agent role switching in passive and active sentence relations remains problematic for Thai preschool children.

Children found passives with action verbs easier to comprehend than psychological verbs. This study found that children comprehended passives with action verbs at a satisfactory rate by the age of 5. However, at this same age, children still struggled with passives with psychological verbs. Active verbs are acquired earlier than psychological verbs. Children comprehended adversative verbs better than non-adversative verbs. Passives with psychological verbs were found to be difficult for Thai children to comprehend. Unlike previous passive studies in other languages, Thai long passives with various verb types were mostly found to be easier to comprehend. Only adversative action verbs and non-adversative psychological verbs were found to be comprehended better with short passives.

Thai passives are generally associated with adversative action verbs. Children then found it easy to understand short passives of adversative action verbs in which the patient subject was the only focus. The addition of an agent noun phrase makes a sentence more complex, potentially confusing them. Passives in Thai are less frequent with other types of verbs. Thus, the presence of an agent noun phrase in a long passive could facilitate children's comprehension of an unfamiliar passive. Passives with psychological verbs are not frequent in Thai and hard to understand. Psychological passives with adversative verbs are easier than those with non-adversative verbs. Non-adversative psychological verbs in passive sentences are the most difficult for children for various reasons. First, passives with psychological verbs are uncommon, and non-adversative psychological passives are rarely found. Second, they are hard to process. Lastly, the presence of two actants in long passives would make the sentences even more complex and more difficult to imagine.

As a preliminary study on the acquisition of passives in Thai, this study provides substantial answers as to how children comprehend these constructions. However, the study is not without limitations. In a picture-based test, it is difficult to depict psychological verbs. The psychological verbs selected were rather small in number. The study contains variations of both human and non-human figures, and of both superior-inferior roles and equal roles in patient and agent relationships. Subsequent future studies using different methodologies may shed more light on these areas.

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