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AGENTIVITY OF PASSIVES AND INCHOATIVES
IN SECOND LANGUAGE LEARNERS OF ENGLISH AND KOREAN

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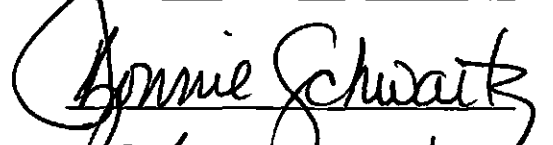
We certify that we have read this dissertation and that, in our opinion, it is satisfactory in scope and quality as a dissertation for the degree of Doctor of Philosophy in Second Language Acquisition.

DISSERTATION COMMITTEE



Chairperson









To my father

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When I read someone's dissertation, I used to skip his or her acknowledgement. However, one day, I started reading the acknowledgements of dissertations, imagining what the authors must have gone through and paying respect to their work. I hoped that I would be able to write my acknowledgement like them. Now, I am happy and grateful that I am able to write the acknowledgement for my dissertation.

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ABSTRACT

Second language (L2) learners' overpassivization of unaccusatives such as ‘*the accident was happened’ have been widely investigated. One popular account claims that L2 learners lexically causativize unaccusatives and then syntactically passivize them. This study suggests an alternative possibility: Passive unaccusatives may be caused by learners' confusion in the agentivity of passives and inchoatives. This study therefore explores whether L2 learners know the distinction between passives and inchoatives in terms of agentivity.

a. The window was broken. (passive)

b. The window broke. (inchoative)

Unlike inchoatives, passives imply the agent even if not expressed in the syntax.

This dissertation includes two studies: the English as a foreign language (EFL) and the Korean as a foreign language (KFL). Each study includes three experiments: a movie judgment tasks, and two written acceptability judgment tasks—one with sentences and one with question-answer mini-dialogues. The EFL study tested 148 L2 learners of English in Korea and 42 native speakers of English. In the KFL study, the participants were 117 L2 learners of Korean in the U.S. and 64 native speakers of Korean. In the movie test, participants viewed an animation with one of the context types (animate, inanimate, and no agent) and read a passive/inchoative sentence describing the movie and then judge how well the sentence describes the movie. The sentence test investigated

how well the participants know that *by the agent*-phrases (with an animate or inanimate agent) sound natural only with passives, not inchoatives, but that *by itself*-phrases sound natural with only inchoatives, not passives. The Q&A test examined whether passive and inchoative *why*-questions expect different types of answers (purpose, animate-cause, and inanimate-cause).

The results of the EFL study showed that L2 learners have knowledge of constructional meanings of passives and inchoatives but did not show their knowledge when there was no agent in context given as a stimulus for conceptualization. In the KFL study, L2 learners showed native-like knowledge of the passive and the inchoative in Korean. The results suggests that L2 learners' overpassivization can be caused by their incomplete knowledge of constructional meanings.

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CHAPTER 1

INTRODUCTION

This study aims to obtain a better understanding of second language (L2) learners' acquisition of argument structure. It is situated in the context of learnability in second language acquisition. Learnability in the acquisition of argument structure is one of the main issues that second language researchers have paid special attention to (Balcom, 1997; Bley-Vroman & Joo, 2001; Bley-Vroman & Yoshinaga, 1992; Inagaki, 1997; Joo, 2003; Ju, 2000; Juffs, 1996; Mazurkewich, 1984; Montrul, 1997; Sawyer, 1995; Sorace, 1995; White, 1995; Whong-Barr & Schwartz, 2002; Yuan, 1999). Much of this research has mainly discussed whether L2 learners can distinguish non-alternating verbs from alternating verbs in alternations such as the dative alternation, the locative alternation, the causative-inchoative alternation, and so on, or whether they have knowledge of the distinctive constructional meaning of each argument structure in the alternations. However, the findings are inconsistent and, in some studies, contradictory. We still do not have a clear picture of how L2 learners learn argument structure. This chapter briefly introduces the rationale of this dissertation. First, it discusses learnability issues in the acquisition of argument structure. Then, the main research topic will be introduced.

1.1 The learnability issue in the acquisition of argument structure

This dissertation does not aim to validate or support a particular theory but to observe second language learners' interlanguage development empirically. However, to

a great extent, the study derives its basic concepts from Pinker's (1989) work on the learnability of argument structure.

Pinker (1989) discusses a learnability issue that he calls "Baker's paradox," which asks how children succeed in the acquisition of argument structure without "negative evidence"—evidence about ungrammaticality. This learning paradox begins with the existence of "negative exceptions"—exceptions that never alternate although they are expected to—in constructional alternations such as dative alternations or locative alternations (e.g., *John gave a painting to the teacher!*/**John donated a painting to the hospital; John poured water into the glass!*/**John filled water into the glass*). Children produce these ungrammatical sentences by using a verb in a construction that they have never heard with the verb before (e.g., "I filled salt into the bear," from Bowerman, 1982). They have no way of knowing that the negative exceptions are ungrammatical without negative evidence, which could be provided through parents' feedback or instruction on children's ungrammatical utterances. However, research on parental feedback shows that parents do not necessarily correct children's ill-formed utterances, and children do not seem to rely on negative evidence even if parents correct them (Brown & Hanlon, 1970; Hirsh-Pasek, Treiman, & Schneiderman, 1984). It is mysterious how children overcome such incorrect overgeneralizations of argument structures regardless of unavailability of negative evidence.

Regarding the learnability paradox in the acquisition of argument structure, Pinker (1989) argues that L1 learners constrain the application of the alternation rules using semantic criteria: (a) broad-range rules and conflation classes constraining the selection of argument structure and (b) narrow-range rules and conflation classes that

characterize verb classes and distinguish non-alternating verbs from alternating verbs.

Broad range rules and conflation classes are related to a construction's meaning.

For example, the locative verb *load* can have two different constructions as in (1).

(1) a. John loaded hay onto the truck.

b. John loaded the truck with hay.

According to Pinker (1989), the meanings of the two constructions are not the same. The meanings of *load* as in (1a) and *load* as in (1b) are “to cause X to go into or onto Y” and “to cause Y to change state by means of putting X into or onto it,” respectively. These meanings are referred to as the *thematic core* or *constructional meaning* of the locative, and verbs with the same thematic core will form a class called a *broad conflation class*. In Pinker's theory, each argument structure has one or more thematic cores, which is defined as “a schematization of a type of event or relationship that lies at the core of the meanings of a class of possible verbs” (Pinker, 1989, p. 73). When *load*'s thematic core changes from “to cause X to go into or onto Y” into “to cause Y to change state by means of putting X into or onto it” by broad range rules, the argument structure is also transformed from *John loaded apples into the cart* into *John loaded the cart with apples*. This explains how locative verbs' structures can alternate. However, in order to decide which verbs take only one or both locative constructions, one must have knowledge of the *narrow conflation class* as well. Narrow conflation classes are subclasses of a broad conflation class consisting of verbs with shared specific semantic structures. For instance, *load*, *pack*, and *stock* consist of one narrow conflation class, and they share narrow-range

semantic constraints: “A mass of a size, shape, or type defined by the intended use of a container is put into the container, enabling it to accomplish its function.” The use of a verb’s argument structure can be generalized only within the same narrow conflation classes that consist of verbs with similar lexical representations, which means that *pack* and *stock* also allow both constructions like *load*. The non-alternating verbs *pour* and *fill* do not allow alternation because they do not belong to the same narrow range conflation class as *load*.

Both broad-range and narrow-range constraints help L1 learners overcome overgeneralization errors. Broad semantic constraints are considered to be language universal, whereas narrow semantic constraints are considered to be language specific. This study asks whether L2 learners acquire language universal broad-range semantic constraints of the passive and the inchoative, and/or language specific properties of the morphological system affecting the constructions. In this study, Pinker’s narrow range semantic constraints are not the main issue but are also investigated briefly. Ultimately, this dissertation will contribute to the SLA field by obtaining a better understanding of these questions: (a) whether L2 learning is constrained in a similar way to L1 learning and (b) what the role of the first language is in interlanguage development.

The target phenomena in this dissertation are the passive and the inchoative.

- (2) a. The window broke. (inchoative = anti-causative)
- b. *The window broke by the thief. (inchoative = anti-causative)
- c. The window was broken. (passive)
- d. The window was broken by the thief. (passive)

The sentences in (2a) and (2c) are similar in that (i) they express change of state, the window's being broken; (ii) the theme, *the window*, is in the subject position; and (iii) the agent is not expressed. However, only the passive (2c) has a linguistically implied agent.¹ The question arises as to how L2 learners can know that inchoatives and passives are different in terms of agentivity, especially on the assumption that negative evidence is not available. From input, learners learn that the agent can be omitted in passive sentences, so they know that both sentences (2c) and (2d) are acceptable. However, they may not notice the absence of inchoative sentences including an agent, as in (2b). This raises a learnability issue of how learners could come to know that inchoatives are agentless, which is a non-obvious semantic property, and therefore disallow inchoatives with an agent, as in (2b).

This kind of learnability issue is also found in other alternations. For example, in locative alternations introduced earlier, only a sentence with a ground object, *the truck* as in (1b), conveys a holistic interpretation, which means that the truck is *fully* loaded.

- (1) a. John loaded hay onto the truck.
- b. John loaded the truck with hay.

This holism effect is not easy to learn, since the sentences (1a) and (1b) are both acceptable. Language users will hear either of the sentences in a similar context. It raises an interesting question of whether L2 learners can acquire knowledge of the holism effect without instruction, which has been studied by researchers in second language acquisition

¹ An implied argument in the passive is not always an agent. However, in this study, the target verbs are unaccusatives that participate in the causative-inchoative alternation and can form the passive. In the passive of these unaccusatives, the implied argument is an agent.

(Bley-Vroman & Joo, 2001; Choi & Lakshmanan, 2002; Joo, 2003). Such studies have contributed to understanding the learnability issue in SLA. As in the holism effect of locatives, the learnability issue in inchoatives and passives is worth investigating as well. Since the agentivity issue of passives vs. inchoatives is not what L2 learners learn in the classroom, it enables us to observe whether L2 learners come to have knowledge from natural input. This study will ultimately shed light on the learnability issue not only in the acquisition of argument structure but also in general SLA.

1.2 L2 learners' overgeneralized passives

One motivation for this study is to understand the reason for L2 learners' overpassivization of unaccusative verbs as in (3) (Balcom, 1997; Hirakawa, 1995; Ju, 2000; Oshita, 2000; Yip, 1995; Yuan, 1999; Zobl, 1989). This will be called 'Type I overpassivization.'

(3) Type I overpassivization

- a. *The most memorable experience of my life was happened 15 years ago.
- b. *My mother was died when I was just a baby. (Zobl, 1989, p. 204)

(4) a. It happened 15 years ago.

- b. My mother died when I was a baby.

Happen and *die* are non-alternating unaccusative verbs that allow only an inchoative-intransitive structure as in (4), but L2 learners sometimes mistakenly passivize the verbs

as in (3). Interestingly, learners of various L1 backgrounds and of various proficiency levels produce the same type of errors. Most researchers argue that passive unaccusatives are created by overgeneralizing lexical causativization (Balcom, 1997; Hirakawa, 1995; Ju, 2000; Montrul, 1997, 2001c; Yip, 1994, 1995). In this account, L2 learners lexically causativize unaccusatives and then syntactically passivize them. So, they create a causative verb *die* from the inchoative-intransitive *die* and make it transitive, which enables them to produce a sentence like “*John died George.” And then this can be passivized, which leads learners to produce a sentence like “*George was died (by John).” This account would be plausible if over-causativized active unaccusatives “*John died George” are also accepted or produced by those who accept or produce overgeneralized passives “*George was died (by John)” (Ju, 2000). However, overgeneralized causative sentences like “*John died George” have seldom been reported in the literature. Lack of over-causativized unaccusatives makes this account weak. Why would L2 learners accept or produce non-targetlike passive sentences “*George was died (by John)” more than non-targetlike causative-transitive sentences “*John died George”?

This dissertation will suggest and investigate an alternate possibility: Passive unaccusatives may be caused by L2 learners’ confusion between passives and inchoatives in the knowledge of constructional meanings (the broad-range semantic constraints). To be more specific, L2 learners may extend the constructional meaning of passives to that of inchoatives. They may know that passives and inchoatives both express changes of state, but not that only passives have a causer or an agent implied. In the lexical causativization account, learners’ overpassivization is related to their limited knowledge of verb classes or narrow-range semantic constraints, in that they causativize non-

alternating verbs like *happen* and *die*. However, in this study's alternate account, overpassivization is seen as a lack of distinction between passives and inchoatives in terms of the presence of an implicit argument, which is included in the language universal broad-range semantic constraints.

Another issue that has been overlooked in previous studies is whether L2 learners' overpassivization extends to other verbs, especially causative verbs that can be used transitively and intransitively as in (5).

- (5) a. Transitive/causative: John broke the window.
b. Intransitive/inchoative: The window broke.

The research literature primarily uses 'overpassivization' to refer to cases when overuse of the passives results in ungrammatical sentences: non-alternating unaccusatives' passives such as *happen*, *die*, etc, which I call Type I overpassivization. However, in principle, learners may also be overusing the passive even where it does not result in ungrammaticality: alternating unaccusatives such as *break*, *open*, *melt*, etc. L2 learners may passivize alternating unaccusatives when an inchoative sentence sounds more natural to native speakers. For example, they may say "the window was broken" when "the window broke" would be more natural. That can also be viewed as overpassivization, even though it is not ungrammatical. I will call this Type II overpassivization for clarity. Type I overpassivization is ungrammatical, so it will be seen as an error. However, Type II is not ungrammatical, and it reveals itself as an unusual tendency to overproduce. It would be interesting to know whether L2 learners

also produce Type II overpassivization, which is to use passive sentences where native speakers would use intransitive/inchoative sentences. If so, I would argue that learners' unaccusative passives, both in Type I and Type II, are caused by a lack of distinction between passive and inchoative structures.

1.3 Summary

This dissertation investigates whether L2 learners have acquired knowledge of the inchoative-passive distinction in terms of agency and whether their overpassivization is more widespread than what researchers have reported thus far. I attempt to test whether the alternate account of L2 learners' overpassivization is plausible. This study includes two comparisons: (a) native speakers of English vs. Korean-speaking learners of English and (b) native speakers of Korean vs. English-speaking learners of Korean. These comparisons will show the bi-directional learning of two languages indirectly. Direct comparison is not possible due to a lack of comparable proficiency measures between the two languages. Another reason that these languages cannot be investigated together in one experiment is because they have different morphological systems. Korean passives and inchoatives are morphologically marked, unlike in English. Two languages with different language specific properties enable us to study the role of the first language in the acquisition of the second language. However, the different morphological systems require slight modifications in specific research questions and experimental design, even though the main research questions and experimental design are the same in both comparisons.

This dissertation is organized as follows. Chapter 2 introduces previous studies related to the distinction between inchoatives and passives. Chapter 3 provides a brief description of the causative-inchoative alternation and the distinction between inchoative and passive constructions in English and Korean. Chapter 4 reports on the English as a foreign language (EFL) study and Chapter 5 the Korean as a foreign language (KFL) study. Chapter 6 is for discussion. In Chapter 7, this dissertation ends with concluding remarks.

CHAPTER 2

PREVIOUS STUDIES

2.1 L1 studies

The distinction between passives and inchoatives has been researched in several L1 studies (Bowerman, 1991; Roeper, 1987; Verrips, 1998). These studies show that L1 children do not make a clear distinction between passives and inchoatives. Based on her diary notes of her daughters' spontaneous data, Bowerman (1991) reports that her children did not make a clear distinction between passives and inchoatives. Her daughters produced passives for spontaneous events for which adults typically use inchoatives.

- (6) a. E 5;2 Grasshoppers just jump in the grass so they can be hided.
- b. E 6;1 Do you wan to be died? (=Do you want to die? In a fantasy game in which people die unless they take a certain medicine.)
- c. E 7;2 I wanta walk on a volcano, but one that's already been fired. I don't want to walk on one that's going to fire (=erupt; note change to a more appropriate verb form in the second sentence.)
- d. C 6;9 They're not bloomed. (Looking at cut flowers with buds that never developed.) (p. 19)

Bowerman's daughters did not limit inchoatives to spontaneous events, either. She reported that her daughters used inchoatives even when they focused on what happens to the theme and left the agent out of perspective, where adults would prefer passives.

- (7) a. C 2;3 It blowed up (=inflated. Right after F inflated a beachball for C.)
b. C 3;9 And then the cookie swallowed and (then) went down down down. (Telling a story about the adventures of a cookie.) (pp. 24-5)

Oblique agent phrases 'by the agent' in inchoatives also suggest children's incomplete knowledge about the difference between passives and inchoatives.

- (8) a. C 7;6 How come these two broke? By who? (Holding pieces of a construction toy)
b. E: It scrunched up from² Brandon and Barclay. (pp. 24-5)

The results of experimental studies also support the idea of children's extension of passives to inchoatives (Roeper, 1987; Verris, 1998). Roeper (1987) found in his picture identification experiments that three-year-old English-speaking children had not acquired the distinction between passives and inchoatives, whereas six- and seven-year-olds had. The young children had knowledge of neither the implied agents of passives nor the agentlessness of inchoatives. He conducted a picture identification test to a group of five three-year-olds and one 2.9-year-old and a group of sixteen six- and seven-year-olds. The purpose of the experiments was to test the children's knowledge of implicit

² Children use 'from' for 'by' at the early stage of development of passives (Bowerman, 1991).

thematic roles, whether an implicit argument is an agent or a theme. He included 24 sentences of 4 types: (a) normal transitive passives, (b) alternating unaccusatives'³ passives, (c) alternating unaccusatives' inchoatives, and (d) normal transitive actives.

- (9) a. Normal transitive passives: the elephant is being pushed.
b. Alternating unaccusative passives: the ship is being sunk.
c. Alternating unaccusative inchoatives: the ship is sinking.
d. Normal transitive actives: the elephant is pushing.

(from Roeper, 1987, p. 339)

(9a) and (9b) are passive sentences and (9c) an inchoative sentence. In the experiment, the teacher read a sentence and children marked one of three picture choices for the sentence. The three types of pictures were:

- (10) a. Agent and theme involved in an action (e.g. someone cooks food)
b. Just one agent or a theme (e.g., food is cooking) involved in the action
c. The mentioned noun involved in no action (e.g., food) (from Roeper, 1987, p. 330)

Six- and seven-year-olds were 96% correct in identifying an implicit agent in normal transitive passives as in (9a), but three-year-olds were only 40% correct. That is, the older group chose a picture with an agent pushing the elephant and the theme 'the elephant' being pushed when they heard the sentence (9a), whereas more than half of the

³ Roeper (1987) uses the term 'ergatives' for alternating unaccusatives and Verrips (1998) 'anticausatives.'

younger group chose a picture only with the theme 'the elephant' pushing or being pushed or involved in no action⁴. Interestingly, however, in alternating unaccusative passives as in (9b), even the younger group showed a high percentage of correctness in identifying an implied agent. Other interesting results were found in inchoatives. The older group knew that alternating unaccusatives do not have implied agents in inchoative sentences as in (9c), but the younger group did not. For example, the older group knew that the sentence (9c) *the ship is sinking* expresses the ship's sinking without any agent and chose a picture only with the theme, *the ship*. However, the younger group preferred the picture with an agent and the theme, *the ship*, when they heard the same sentence. Since the sentences include only one noun as in (9), Roeper expected a bias toward single-object pictures like (10b). However, he found that the children preferred sentences including agents in general, which means that they chose double-object pictures like (10a). This means that the young group did not have knowledge of the distinction between passives and inchoatives in terms of agentivity.

In the same vein, Verrips (1998) also investigated the distinction of passives from inchoatives in terms of the presence of an implicit argument. She conducted experiments to 6 age groups of 24 Dutch children between 4;1 and 6;9. In Dutch, *why*-questions refer to the purpose of the agent performing the activity in passives, but to the cause of a

⁴ It is not clear in Roeper's (1987) paper what pictures he used in these experiments. He provided an explanation like (10), but no example pictures. In particular, it is unclear what the b-type picture for "the elephant is being pushed" would be: whether the elephant would be being pushed or would be pushing. If the picture illustrated the elephant pushing, the results would mean that the young group had not acquired the passive construction itself. In other words, they would take (9a) *the elephant is being pushed* as the same as (9d) *the elephant is pushing*. If the picture illustrated the elephant being pushed, the results would mean that the young group did not have knowledge of the existence of an implied agent in passives. In other words, they would accept (9a) when the elephant is being pushed without an agent. However, here again, it is questionable whether that could be illustrated. How could we draw a picture of an elephant being pushed without showing an agent?

process in inchoatives since there is no agent. This contrast is exemplified in the following (from Verrips, p. 55)

(11) Q: *Waarom werd de boter gesmolten?* ‘Why was the butter being melted?’

(passive question)

a. A: *Omdat hij een ei wilde bakken* ‘Because he wanted to bake an egg’

(purpose).

b. A: **Omdat het in de zon lag* ‘Because it was lying in the sun’ (cause).

(12) Q: *Waarom smolt de boter?* ‘Why did the butter melt?’ (inchoative question)

a. A: **Omdat hij een ei wilde bakken* ‘Because he wanted to bake an egg’

(purpose).

b. A: *Omdat het in de zon lag* ‘Because it was lying in the sun’ (cause).

In the experiment, the researcher told a story with pictures, which showed a rabbit’s activities. The story contained a cue for a purpose reading and a cause reading, and the subjects were asked two inchoative and two passive questions. For example, a story is about a rabbit’s egg-frying, which includes a cue for the purpose reading ‘to cook for his family’ and a cue for the cause reading ‘the rabbit’s hit caused the egg to break.’ The subjects were supposed to give an appropriate answer to the question: for inchoative questions as in (12), the subjects were expected to give a cause-reading answer (12b), and for passive questions as in (11), a purpose-reading answer (11a).

The results show that the children mostly produced purpose answers for both passive and inchoative questions (58% for inchoative questions and 77% for passive questions), which means that the children understood passives and inchoatives as including implicit external arguments. Another interesting finding is that there is no age difference in this respect. The older children were as likely as the younger ones in producing purpose answers to both types of questions. Verrips argues that the children allow a passive representation for inchoative verbs, especially high transitive verbs in which an animate agent acts on an inanimate theme resulting in a visible change of state. However, she did not provide an explanation for the learnability issue, how children come to have an adult-like representation for inchoatives in the course of development. Regardless of their different methodologies, the results in the L1 studies mentioned above (Bowerman, 1991; Roeper, 1987; Verrips, 1998) are in the same vein: they showed children's lack of distinction between passives and inchoatives in terms of agentivity.

2.2 L2 studies

In SLA, researchers have had great interest in the causative-inchoative alternation especially as regards the distinction between (a) the two types of intransitives—unaccusatives and unergatives and (b) overpassivization and overcausativization of intransitive-only verbs (Balcom, 1997; Hirakawa, 1995; Ju, 2000; Montrul, 1997, 2001c; Yip, 1994, 1995). Most studies suggest that L2 learners make a distinction between unaccusative intransitive verbs and unergative intransitive ones, since they tend to passivize unaccusative verbs more often than unergative verbs (Moore, 1993). Another general finding is L2 learners' preference for passives rather than inchoatives.

Researchers observed that L2 learners reject inchoatives and prefer passives for alternating unaccusative verbs such as *break* (Hirakawa, 1995; Montrul, 1997; Yip, 1995).

One of the major findings is that L2 learners overpassivize non-alternating unaccusatives as in (13a) and unergatives as in (13b), and overcausativize non-causative transitive verbs as in (14a) and unergatives as in (14b).

(13) Type I overpassivization

- a. *The accident was happened.
- b. *The baby was cried.

(14) Overcausativization

- a. *He happened the accident.
- b. *The dentist cried a child (from Matsunaga, 2005, p. 79)

However, overpassivization of alternating unaccusatives as in (15), which I call Type II overpassivization, has not been directly studied but observed in several of those studies. (Ju, 2000; Matsunaga, 2005; Montrul, 1997, 1999).

(15) Type II overpassivization

- a. The window is broken. (in contexts where adult native speakers of English would say “The window broke.”)

Little attention has been paid to this Type II overpassivization, since it is grammatical unlike Type I overpassivization. However, Type I and Type II may both be prevalent in L2 data, and Type II may stay longer than Type I in L2 interlanguage. Therefore, I suggest that Type II overpassivization is worth investigating and it may be able to suggest a new perspective for L2 learners' overpassivization in general. This part includes 4 sections. Section 2.2.1 gives an overview of L2 studies on the preference of passives to inchoatives. Section 2.2.2 reviews previous L2 studies on Type I overpassivization and Section 2.2.3 on Type II. Section 2.2.4 discusses productivity of argument structure and the role of L1. The last section recapitulates the remaining questions.

2.2.1 Do L2 learners accept passives and inchoatives of alternating unaccusative verbs?

Researchers have reported that L2 learners of English prefer passives more than inchoatives of alternating unaccusatives such as *break*. Hirakawa (1995) reported that Japanese-speaking learners of English accepted passives but did not fully accept inchoatives. In her L2 English study, Montrul (1997) also found that Spanish speakers preferred periphrastic *get*-passives e.g., “The vase got broken” to simple intransitives e.g., “The vase broke.” Similarly, Yip (1995) reported that Chinese learners of English rejected inchoatives and “corrected” them into passives instead.

Regarding L2 learners' rejection of inchoatives, two explanations have been provided: (a) a lack of overt morphology with causative verbs in English might block inchoatives (Montrul, 2001a, 2001b; Yip, 1995) or (b) the causative is more primitive than the inchoative (Kellerman, 1978). Montrul (1997, 1999, 2001b) claimed that

learners reject the inchoative because it is not marked by any overt morphemes. She showed that her Spanish-speaking learners of English accepted the inchoative *get* construction but not the zero-derived inchoative. However, Kellerman (1978) proposed that the difficulty lies at the lexico-syntactic level. He reported that Dutch learners of English rejected inchoative *break*, even though Dutch requires zero morphology in the causative/inchoative alternation as in English. He proposed that inchoatives with only a theme are semantically more marked than the causative variants with an agent and a theme and that L2 learners might therefore find causatives easier than inchoatives. However, his account does not explain the difficulty of the inchoative over the passive but only the difficulty of the inchoative over the causative-transitive. For this reason, the first account, the morphological account, seems to be more convincing.

This dissertation will contribute to a better understanding of L2 learners' rejection of inchoatives. The two languages in this study are contrastive in this respect. English does not have any morphological marking distinguishing causative-transitives from inchoative-intransitives. Korean requires either a causative or an inchoative morpheme to participate in the causative-inchoative alternation. This study may reveal whether L2 learners reject inchoatives because of lack of morphological marking or because of semantic markedness.

2.2.2 What causes Type I overpassivization?

Type I overpassivization and overcausativization of intransitive verbs—non-alternating unaccusatives and unergatives—have been reported in a number of SLA studies. It has been questioned whether these errors are universal or dependent on the

native language. Type I overpassivization has been widely observed in L2 English by native speakers of Spanish (Montrul, 1997), Japanese (Hirakawa, 1995), Korean and Chinese (Balcom, 1997; Ju, 2000; Yip, 1995) suggesting its universality. Such errors are also found in other L2s: L2 Spanish (Montrul, 1997) and L2 Japanese (Hirakawa, 2001). A corpus study by Oshita (2000) supports the universality, reporting that L2 learners of various L1 backgrounds produced Type I overpassivization and furthermore concluded that it is not caused by L1 transfer.

There are two major accounts of Type I overpassivization: (a) the NP-movement account (Balcom, 1997; Zobl, 1989) and (b) the overcausativization account (Balcom, 1997; Hirakawa, 1995; Ju, 2000; Montrul, 1997, 2001c; Yip, 1994, 1995). Proponents of the NP-movement account, Zobl (1989) and Balcom (1997), assume that L2 learners' overgeneralized passives are derived from the similarity of unaccusatives and passives in that they both have a logical object, lack a logical subject at D-structure, and prepose the logical object at S-structure. They argue that L2 learners extend the passive to the unaccusative and put *be* in unaccusative intransitives to mark the NP movement of the logical object to the subject position syntactically. Learners may reject unaccusative intransitives because their theme subject (or the logical object) is not in its canonical position and there is no verbal morphology to mark the movement, but accept overpassivized unaccusatives because they have *be* signaling the change in grammatical relations. Furthermore, supporting Marantz (1984), Zobl (1989) claimed that unaccusative intransitives are not derived from their transitive counterparts, since his data from spontaneous writing did not include overgeneralizations such as (16).

(16) **crops damaged* (from Zobl, 1989, p. 217).

However, Balcom (1997) did find non-targetlike intransitives such as (16) in her data from her grammatical judgment task and cloze test and argued that lexical rules of transitive/intransitive alternation are productive and are generalized in both directions. She argues that passive unaccusatives might be transitivized via causativization before passivization. This argument goes with other accounts, which will be introduced below.

The other major account of Type I overpassivization is that passive unaccusatives are created through overgeneralizing lexical causativization (Balcom, 1997; Hirakawa, 1995; Ju, 2000; Montrul, 1997, 2001c; Yip, 1994, 1995). Yip (1995) argued that learners treat non-alternating unaccusatives and unergatives as underlying transitives and passivize them. Montrul (1997) also claimed that L2 learners of English have a default transitive template for all verbs at the early stage, which makes it possible to passivize any verb. As Ju (2000) pointed out, in order to support this hypothesis, L2 learners who accept Type I passivization **The rabbit was disappeared* should not reject overcausativization **The magician disappeared the rabbit*.

No previous studies reported that L2 learners reject or accept the overgeneralized passive (Type I) all the time. We do not know when they reject or accept it. Studies on Type II overpassivization may allow us a glimpse into this hidden area.

2.2.3 What causes Type II overpassivization?

Type II overpassivization is not ungrammatical but is non-targetlike. In a pioneering study, Ju (2000) investigated Type II overpassivization of alternating

unaccusatives as well as Type I overpassivization of non-alternating unaccusatives. She hypothesized that L2 learners would passivize unaccusatives more in externally caused events than in internally caused events. Thirty-five Chinese learners of English were asked to read a pair of sentences and choose the more grammatical form (either active or passive) in the second sentence as in (17) and (18).

(17) Heavy trucks put more and more pressure on the bridge. (externally caused)
It (broke/was broken) gradually.

(18) The wooden bridge was very old. (internally caused)
It (broke/was broken) gradually. (from Ju, 2000, p. 96)

As she predicted, L2 learners preferred the passive form *was broken* in (17) and the simple intransitive form *broke* in (18). Based on her findings, she argues that learners tend to passivize unaccusatives more frequently when they are able to conceptualize an agent or cause in discourse as in (17). This study suggests that agentivity plays a role in both types of L2 learners' overpassivization.

In the same vein, Matsunaga (2005) also investigated not only non-alternating unaccusatives but also alternating accusatives. Instead of Ju's forced-choice task that does not reveal learners' grammaticality judgments, Matsunaga conducted an acceptability judgment task and a translation-based production task comparing simple intransitive verbal forms and *be*-passives/*get*-passives in passive contexts and non-passive contexts. Passive contexts are intended to lead to uses of passive forms and non-

passive contexts to uses of simple intransitive forms. She found that both Spanish-speaking and Japanese-speaking L2 learners distinguish non-passive contexts from passive contexts. However, the two groups showed different results. Like native speakers of English, in the acceptability task, Spanish-speaking advanced learners accepted simple intransitive verbal forms more in non-passive contexts than in passive contexts, and passive forms more in passive contexts than in non-passive contexts. Spanish low-level learners and Japanese advanced/low learners treated both forms equally regardless of context or accepted passive forms more than simple intransitives in general. In the translation-based production task, all groups produced more passive forms in passive contexts than in non-passive contexts and more simple intransitive forms in non-passive contexts than in passive contexts.

The studies reviewed in this section showed that L2 learners are selective in accepting and producing passives and inchoatives depending on context. Although L2 learners distinguish unaccusatives from unergatives, they still overproduce passives. This may be because broad-range semantic constraints override narrow-range semantic constraints or because L2 learners have incomplete knowledge of broad-range semantic constraints—constructional meanings of the passive and the inchoative.

2.2.4 Productivity of argument structure and the role of L1

L2 learners' overgeneralization errors in the acquisition of argument structures have been extensively reported. Hirakawa (1995) reported that her Japanese-speaking learners of English failed to reject non-alternating unaccusatives in transitive sentences and unergatives in transitive sentences. Examples of production data follow:

(19) Non-alternating unaccusatives in transitive sentences.

- a. *He appeared the rabbit.
- b. *The volunteers happened many place.
- c. *The impact perished the dinosaurs.
- d. *He was emerging the snake.
- e. *We human beings occur natural disasters (from Lee, 2006, p. 183).

(20) Unergatives in transitive sentences.

- a. *The poison nearly died the dog (from Lee, 2006, p. 183).
- b. *Peter bled the man (Juffs, 1996).

Overgeneralized use of transitive-only verbs in intransitive sentences are less often reported. Montrul (1999) reported that her L2 learners of Spanish accepted transitive-only verbs in an intransitive sentence.

(21) Transitive verbs in intransitive sentences.

- a. *El cuadro pinto. "The picture painted."

These errors show that learners alternate transitive and intransitive productively and the alternation is bi-directional.

The role of learners' first language in the acquisition of argument structure is not clear, since L1 children show similar developmental errors in the use of argument

structure as L2 learners (Yip, 1995; Zobl, 1989). However, an L1 transfer effect has been observed as well. In Montrul's studies (1997, 2001b), Spanish-speaking learners of English showed a clear L1 effect but Turkish-speaking learners of English did not. For example, Spanish-speaking learners rejected zero-derived inchoatives and instead accepted the inchoative *get* construction (e.g., the window got broken), which could be because Spanish inchoatives have a reflexive clitic *se*. However, an L1 effect among Turkish-speaking learners was not clear. Turkish has two types of causative patterns, (a) an anticausative pattern requiring an inchoative morpheme (=the pure causative verb group in this study), such as *open*, *close*, and *break* and (b) a causative pattern (=the pure inchoative verb group in this study) requiring a causative morpheme, such as *sink* and *melt*. However, Turkish-speaking learners of English did not treat the anticausative patterned verbs differently from the causative patterned verbs in acquiring English alternating unaccusatives. Montrul (1997, 1999) also reported that (a) the English-speaking L2 learners of Spanish incorrectly rejected inchoatives with the reflexive marker *se* and incorrectly accepted zero-marked inchoatives in Spanish and that (b) Turkish-speaking learners of Spanish performed better in accepting the reflexive marker *se* as their L1 marks intransitives of the anticausative patterned verbs morphologically. In the Turkish study, she found that English speakers were less accurate than Spanish speakers in learning morphological causatives and inchoatives in Turkish, suggesting that L2 learners who have similar morphemes in their L1 and L2 transferred their L1 knowledge to L2 learning. She interpreted these results as evidence of L1 influence.

Unlike Montrul, Kim (2004) did not find morphology-based or class-based L1 transfer effects but pattern-based L1 transfer in her study of the causative-inchoative

alternation. Her subjects were Korean-speaking learners of English whose L1 also has the causative and the anticausative patterns like Turkish. Her subjects did not distinguish the causative pattern from the anticausative pattern in acquiring the causative-inchoative alternations in English. Instead, she found pattern-based transfer, meaning that L2 learners assume that the existence of patterns or constructions that their L1 is also available in L2. In short, even though L2 learners' overpassivization is universal, different L1 transfer effects have been found.

2.2.5 Remaining questions

Previous studies have left questions to be explored further: (a) Why do L2 learners show a tendency to accept the passive but reject the inchoative?; (b) Do L2 learners who accept the overgeneralized passive of non-alternating unaccusatives also accept their erroneous causative?; (c) Why do L2 learners accept or reject non-targetlike passives?; (d) To what degree do language-universal principles govern the acquisition of the causative-inchoative alternation and the passive?; and (e) To what degree does the L1 influence the L2 acquisition of the causative-inchoative alternation and the passive? These questions will be explored in my study.

CHAPTER 3

LANGUAGE ANALYSIS

The target constructions are the inchoative and the passive. In order to understand the relationship between the inchoative and the passive, we need to understand the causative-inchoative alternation, a kind of transitivity alternation. First, I will discuss the linguistic analyses of the causative-inchoative alternation, the passive, and the inchoative in English. Introduction to the correspondent structures in Korean will follow.

3.1 English

The causative-inchoative alternation in English is exemplified by the following (Levin & Rappaport-Hovav, 1995b, p. 79):

(22) a. Pat broke the window. (causative-transitive)

b. The window broke. (inchoative)

(23) a. Antonia opened the door. (causative-transitive)

b. The door opened. (inchoative)

The same form of these verbs can be used transitively and intransitively, but the constructional meanings are different: In a causative-transitive sentence, the verb's rough meaning is 'cause to V-intransitive'; in an inchoative-intransitive sentence, it conveys an

inchoative meaning—‘come to be in the state lexicalized by the verb’ (Levin & Rappaport-Hovav, 1995b). In other words, inchoatives describe a change of state.

There are three groups of intransitive verbs involved in the causative-inchoative alternation in English: alternating unaccusative (=ergative, anticausative), non-alternating unaccusative, and non-alternating unergative verbs. Levin and Rappaport-Hovav (1995b) show that the concept of internal/external causation is a key to these classifications.

(24) Three groups of verbs involved in the causative-inchoative alternation

- a. Alternating unaccusatives: Unaccusatives denoting an externally caused change of state allow the alternation (e.g., *bake, blacken, break, close, cook, cool, dry, freeze, melt, open, shatter, thaw, thicken, whiten, widen*).
- b. Non-alternating unaccusatives: Unaccusative verbs of existence and appearance do not allow the alternation (e.g., *appear, arise, emerge, exist, flourish, thrive*, etc.).
- c. Unergatives: Unergatives denoting an internally caused change of state do not allow the alternation (e.g., *cry, laugh, speak*, etc.).

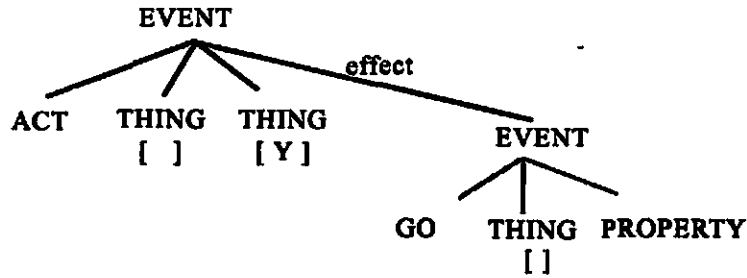
As stated earlier, inchoative and passive constructions are similar: The subject is a theme, not an agent, which, in mainstream generative grammar, means that the subject is the internal argument of the verb in the underlying structure of both constructions. However, inchoatives differ from passives in that they are formed at the lexical level. Passives are formed at the syntactic level. To be more exact, verbal passives are formed at the syntactic level.

There are two kinds of passives: adjectival and verbal passives (Embick, 2004). For example, *the door is closed* has two readings: (a) a verbal passive reading: It encodes eventivity and agentivity, meaning the door is closed by someone's action; and (b) an adjectival passive reading: It denotes a state of the door without an implication of agent, meaning that the door is in the state of being closed. In other words, the adjectival passive *closed* is like adjectives such as *happy*. Adjectival passives are close to verbal passives in containing the same morpheme *-en/ed* and to inchoatives in lacking agentivity, so they do not sound natural with an oblique agent 'by the agent.' In this dissertation, "passive" is restricted to verbal passives.

The agentivity of the passive and the lack of agentivity of the inchoative are supported by linguistic analysis. Levin and Rappaport-Hovav (1995) suggest that verbal passives include the agent in the argument structure, even though it is not expressed in the syntax. It contrasts with inchoative verbs in that the external cause of a causative-transitive verb is bound or suppressed in the lexicon and the verb becomes an intransitive before it projects from the lexical semantic representation onto the argument structure. Baker, Johnson, and Roberts (1989) also argue that "implicit arguments of passives are syntactically active" (p. 219). They follow Jaeggli (1986) in arguing that the external thematic role is assigned to passive morphology and a passive verb absorbs it. Its "absorption" prevents a passive verb from assigning objective Case.

Likewise, Pinker's semantic representation (1989) shows the differences between the passive and the inchoative in terms of agentivity. First, look at the causative-inchoative representations of change of state verbs.

(25) a. Representation for the causative (Pinker, 1989, p. 223)

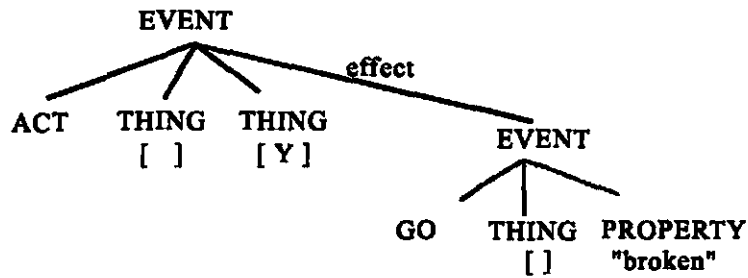


b. Representation for the inchoative (Pinker, 1989, p. 191)



The representation of the causative as in (25a) includes the event involving one **THING** is embedded as an effect of an agent acting on that thing, and another **THING**, an actor or a causer. On the other hand, the representation for the inchoative as in (25b) contains an event involving only one **THING**. The sole argument of **GO**, ‘**THING []**’ is the theme. The second argument of **GO** is **PROPERTY**, which means the event makes the theme be in a property. For example, the representations for *break* are shown in (26).

(26) a. Representation for causative *break* (Pinker, 1989, p. 198)

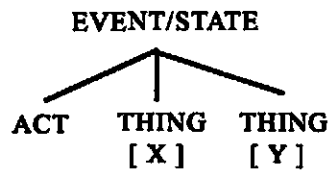


b. Representation for inchoative *break* (Pinker, 1989, p. 191)

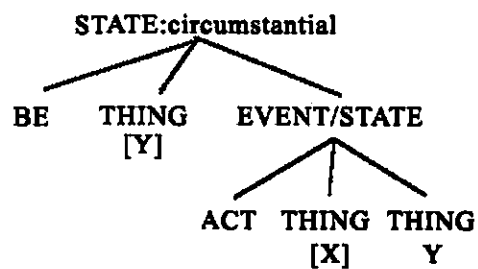


The broad-range rule of passivization is shown in (27). It shows that the passive has an agent in the representation unlike the inchoative (25b).

(27) a. Representation for the active (Pinker, 1989, p. 239)



b. Representation for the passive



The passive represents a circumstantial state, which means that circumstance predicated of the theme is the same as the one expressed by the active form. In the active (27a), ACT has two arguments, an agent [x] and a theme [y]. When it passivizes, the whole ACT event in (27a) goes to the slot for EVENT/STATE in the circumstantial state structure. Therefore, the argument 'THING [x],' the agent, remains in the passive representation. It shows that only the passive contains the agent in its semantic representation.

The presence of an agent in the argument structure of passives is supported by the following examples. A passive sentence sounds natural with a *by* phrase or a purpose clause, but an inchoative sentence does not.

- (28) a. The window was broken by Pat.
b. The window was broken to rescue the child.

- (29) a. *The window broke by Pat.
b. *The window broke to rescue the child.

(Levin & Rappaport-Hovav, 1995a, p. 109)

An inchoative can be used with *by itself* meaning ‘without outside help’ showing lack of agentivity, but a passive cannot (Shin, 1999).

- (30) a. The door opened by itself.
b. *The door was opened by itself.

These linguistic facts suggest an alternate account of L2 learners’ overpassivization. L2 learners may not know that the agent of causative-transitive verbs is absent at the lexical level in the corresponding inchoative verb. Instead, the learners postpone the suppression of the agent and suppress it at the syntactic level as they do in the passive, which makes the inchoative’s representation the same as the passive’s. In other words, L2 learners extend the representation of the passive to the one of the inchoative, and their representation of the inchoative incorrectly includes an agent.

3.2 Korean

Korean also has a causative/inchoative alternation resembling its English counterpart. However, unlike English, verbs involved in the alternation in Korean are formed by adding overt morphemes. The English alternating verbs use the same form in both transitive and intransitive constructions. However, in Korean, some verbs are pure inchoative verbs and require a causative suffix to make them causative-transitive verbs; other verbs are pure causative verbs and need an inchoative suffix to make them inchoative-intransitive verbs. There are also verbs that use an identical form in both constructions, but the number is very limited.

Pure inchoative verbs are causativized by adding one of the causative morphemes, *i/hi/li/ki/wu/kwu/chwu*, to the verb stem, depending on the preceding phoneme of the morpheme. However, this morphological causativization is not as productive as long-form causatives in Korean. Long-form causatives, often called syntactic causatives, are fully productive and are formed by attaching the adverbializer *-key* and the verb *ha-ta* after a predicate—e.g., *Yongho-ka ku way-lulu cwuk-key hay-ss-ta*. (Yongho-NM the bird-ACdie-AD do-PST-DC) ‘Yongho caused the bird to die.’

(31) Causativization of pure inchoative verbs

- a. Elum-i nok-ass-ta. (inchoative)
Ice-NM melt-PST-DC⁵
‘The ice melted.’

⁵ Abbreviations: AC-accusative particle, AD-adverbializer, CAUS-causative suffix, DC-declarative sentence-type suffix, INCHO-inchoative suffix, INF-infinitive suffix, NM-nominative particle, PAS-passive suffix, PL-plural suffix, PST-past tense and perfect aspect suffix, TC-topic-contrast particle.

b. John-i elum-ul nok-y-ess-ta. (morphological causative)
 John-NM ice-AC melt-CAUS-PST-DC

‘John melted the ice.’

c. John-i elum-ul nok-key hay-ss-ta. (syntactic causative)
 John-NM ice-AC melt-AD do-PST-DC

‘John made the ice melt.’

In contrast to pure inchoatives, pure causative verbs need an inchoative morpheme to become inchoative verbs. There are two types of inchoative morphemes: (a) the infinitive suffix *-e/-a* plus the inchoative morpheme *ci-* ‘become,’ and (b) *i/hi/li/ki*⁶. One of the morphemes is attached to a causative verb stem to make the verb’s inchoative counterpart.

(32) Anti-causativization of pure causative verbs: *-e ci*

a. John-i khep-ul kkay-ss-ta.
 John-NM cup-ACC break- PST-DC

‘John broke the cup.’

b. Khep-i kkay-e cy-ess-ta.
 Cup- NM break-INCHO-PST-DC

‘The cup broke.’

⁶ The vowel *i* in *i/hi/li/ki* or *ci* turns to *y* before the vowel *e* in casual speech (Sohn, 1999, p. 368).

(33) Anti-causativization of pure causative verbs: *i*

a. John-i mun-ul yel-ess-ta.
John-NM door-ACC open-PST-DC
'John opened the door.'

b. Mun-i yel-y-ess-ta.
Door-NM open-INCHO-PST-DC
'The door opened.'

Whereas the lexical formation with *-e/-a ci-* is productive, the one with *i/hi/li/ki* is not and is limited to a small number of verbs such as *cep-ta/cep-hi-ta* 'fold', *yel-ta/yel-li-ta* 'open', *tat-ta/tat-hi-ta* 'close', *kal-ta/kal-li-ta* 'sharpen', etc.

When an active sentence turns into its passive one in Korean, the verb is morphologically marked, and the theme becomes the subject receiving the nominative particle. The new subject is usually placed at the beginning of the sentence. The agent may be expressed using a locative/goal particle, such as *kkey* 'by [human, deferential],' *eykey* 'by [animate, formal],' *hanthey* 'by [animate, informal],' or *ey* 'by [animal, inanimate]' (Sohn, 1999).

(34) a. swunkyeng-i ku totwuk-ul cap-ass-ta. (active)
Police-NM the thief-AC catch-PST-DC
'The police caught the thief.'

b. ku totwuk-i swunkyeng-hanthey cap-hy-ess-ta (passive)
 the thief-AC police-by catch-PAS-PST-DC

‘The thief was caught by the police.’

c. thayphung-i ku sem-ul hwipssul-ess-ta. (active)
 typhoon-NM the island-AC devastate-PST-DC

‘The typhoon devastated the island.’

d. ku sem-i thayphung-ey hwipssul-ly-ess-ta. (passive)
 the island-NM typhoon-by devastate-PAS-PST-DC

‘The island was devastated by the typhoon.’ (from Sohn, 1999, p. 368)

However, some verbs do not allow those *by*-particles in their passive passives. If those particles are used with the verbs, they would be interpreted as locative or goal. When locative or goal interpretation is not natural, the sentence becomes unnatural as in (35a). Instead, *ey uyhahy(se)* or *ey uyhay(se)* ‘by, owing to, in accordance with’ (i.e., locative particle *ey* + *uyhata* ‘depend, follow’ + conjunctive suffix *-(e)se* ‘and’) is used as in (35b) (Sohn, 1999, p. 370).

(35) a. *mun-i ku namca-hanthey yeol-ly-ess-ta. (passive)
 Door-NM the man-by open-PAS-PST-DC

‘The door was opened by the man.’

- b. mun-i ku namca- *ey uyhayse* yeol-*ly*-ess-ta. (passive)
 Door-NM the man-by open-PAS-PST-DC
 ‘The door was opened by the man.’

Verbs that allow a locative/goal particle also permit the connectives *ey uyhahy(se)* or *ey uyhay(se)* ‘by, owing to, in accordance with,’ which makes the sentence formal. So, the connectives are used more in writing or in translation.

- (36) ku totwuk-i swunkyeng- *ey uyhayse* cap-*hy*-ess-ta (passive)
 the thief-AC police-by catch-PAS-PST-DC
 ‘The thief was caught by the police.’

Like inchoatives, morphological passives in Korean are formed through suffixation, and the morphemes are even the same as inchoative ones: (a) the infinitive suffix *-e/-a* plus the inchoative morpheme *ci-* ‘become’ and (b) *i/hi/li/ki* (O’Grady, 1991; Sohn, 1999).

- (37) a. John-i mun-ul yel-ess-ta.
 John-NM door-AC open- PST-DC
 ‘John opened the door.’

- b. Mun-i John-eyuyhay yel-*ly*-ess-ta.
 Door- NM John-by open-*PAS*-PST-DC
 ‘The door was opened by John.’

omitted. For pure causative verbs, it is impossible to distinguish passives from inchoatives without contextual cues.

The next question would be whether the passive has a linguistically implied agent in Korean and whether the inchoative lacks a linguistically implied agent in Korean. We can test this with a *by* phrase or a purpose clause as in English.

(40) a. Elum-i John-eyuyhay nok-y-e cy-ess-ta. (passive)
 Ice-NM John-by melt-CAUS-*INF* *become*-PST-DC
 ‘The ice was melted by John.’

b. ?Elum-i cecello nok-y-e cy-ess-ta. (passive)
 Ice-NM by itself melt-CAUS-*INF* *become*-PST-DC
 ‘The ice was melted by itself.’

c. Elum-i cecello nok-ass-ta. (inchoative)
 Ice-NM by itself melt-PST-DC
 ‘The ice melted by itself.’

When *John-eyuyhay* ‘by John’ is added, the passive (40a) sounds natural; when *cecello* ‘by itself’ is added, the passive (40b) does not sound as natural as the passive (40a). On the other hand, the inchoative (40c) with *cecello* ‘by itself’ is very natural. This shows that agentivity of the passive and the inchoative in Korean is similar to that in English. In the pure causative verb group, the passive and the inchoative cannot be distinguished.

The sentences (39c) and (39d) show that the passive/inchoative form is fine both with *John-eyuyhay* 'by John' and with *cecello* 'by itself.'

(41) a. ?Mwul-ul mantul-lyeko elum-i nok-y-e cy-ess-ta. (passive)
 Water-AC make-to ice-NM melt-CAUS-*INF* become-PST-DC
 'The ice was melted to make water.'

b. *Mwul-ul mantul-lyeko elum-i nok-ass-ta. (inchoative)
 Water-AC make-to ice-NM melt-PST-DC
 'The ice melted to make water.'

c. ?John-i Mwul-ul mantul-lyeko elum-i nok-y-e cy-ess-ta.
 John-NM Water-AC make-to ice-NM melt-CAUS-*INF* become-PST-DC
 DC
 'The ice was melted for John to make water.' (passive)

b. *?John-i Mwul-ul mantul-lyeko elum-i nok-ass-ta.
 John-NM Water-AC make-to ice-NM melt-PST-DC
 'The ice melted for John to make water.' (inchoative)

The passive of *nokta* 'melt' with a purpose clause (41a) does not sound good; the inchoative with the same clause (41b) suffix is unacceptable. The inchoative shows agentlessness in both the *by* phrase test and the purpose clause test. However, the passive

shows agentiveness only in the *by* phrase test. The passive even with an explicit agent does not sound natural with a purpose phrase as in (41c). Agentivity in the Korean passive does not seem to be as clear as or as strong as that in the English passive.

The whole picture of Korean causatives, inchoatives, and passives is unclear because of overlapping uses of the morphemes. The passive suffix *-i* and its allomorphs *-hi*, *-li*, *-ki* are used not only as a causative suffix but also as an inchoative suffix. Another morpheme *ci-* functions not only as an inchoative morpheme but also as a passive morpheme. In general, syntactic differences help us to distinguish passives from causatives. A passive verb appears with a subject and a goal/agentive as an intransitive verb, but a causative verb appears as a transitive with a subject and an object or a ditransitive with a subject, a goal, and an object (from Sohn, 1999, p. 367):

(42) a. Ai-tul-eykey pihayngki-ka po-y-ess-ta. (passive)

child-PL-to plane-NM see-PAS-PST-DC

‘The plane was seen by (lit. ‘to’) the children.’

b. Na-nun ai-tul-eykey kulim-ul po-y-ess-ta. (causative)

I-TOP child-PL-to picture-AC see-CAUS-PST-DC

‘I showed a picture to the children.’

However, there are also ambiguous sentences as in (43) (from Sohn, 1999, p. 367). This sentence does not provide syntactic cues to distinguish whether it is a passive or a causative.

(43) Emeni-nun aki-eykey son-ul cap-hy-ess-ta.

Mother-TOC child-by/to hand-AC hold-PASS/CAUS-PST-DC

i. 'Mother was caught by her hand by the child.'

ii. 'Mother caused the child to hold her hand.'

3.3 Comparison of Korean and English

English and Korean differ in how the passive and the inchoative are marked.

English inchoatives do not require any morphemes, whereas English passives are marked morphologically and syntactically. Korean inchoatives and passives have complex morphology. Korean has two classes of verbs involved in the causative-inchoative alternation. In Korean, pure causative verbs use the identical form for both passives and inchoatives, which makes no clear distinction between them. Pure inchoative verbs have different forms for passives and inchoatives, like in English.

Table 1

Comparison of English and Korean

	English	Korean	Korean
		Pure causatives	Pure inchoatives
Causative	No morpheme	No morpheme	Causative morphemes (i/hi/li/ki/wu/kwu/chwu)
Inchoatives	No morpheme	Inchoative morphemes (i/hi/li/ki or ci-)	No morpheme
Passives	Passive morpheme (-en/ed)	Passive morpheme (i/hi/li/ki or ci-)	Passive morpheme (ci-)

Korean-speaking learners of English may reject either a causative form or an inchoative form in English, since they would expect an overt morpheme for any derivation. However, it may not be too difficult for them to come to realize that no morpheme is needed both for the causative and for the inchoative. On the other hand, English-speaking learners of Korean would have great difficulty in figuring out different morphological requirements for pure causative and pure inchoative verbs in Korean.

In addition to these superficial differences, L2 learners need to acquire constructional meanings for each construction, aspects of which is claimed to be language universal but might not be. The constructional meanings of the inchoative seem to be the same both in English and in Korean, lacking agentivity. However, the Korean

passive does not show agentivity as strong as the English one. The large picture of interaction and intervention between the two languages will be investigated in this dissertation.

CHAPTER 4

English as a foreign language study

4.1 Introduction

This study aims to explore whether English L2 learners know the distinction between the passive and the inchoative in terms of agentivity. Its secondary goal is to test an alternative account of why L2 learners produce erroneous passive unaccusatives. This study proposes that overpassivization may stem from confusion between passive and inchoative constructions caused by their inherent similarities. L2 learners may extend the representation of the passive to the inchoative. As a result, they may not know that the inchoative's semantic representation does not include an implicit argument. The three experiments in this study were conducted through the Internet. Participants visited the test site and took the three tests consecutively.

This chapter includes 7 sections. First, research questions and hypotheses will be presented. Section 4.4, 4.5, and 4.6 discuss the three experiments, respectively. The conclusion section closes this chapter.

4.2 Research questions

This study asks the following questions:

(44) Primary research questions

- a. Do Korean learners of English know that the passive has a linguistically implied agent in English?
- b. Do Korean learners of English know that the inchoative lacks a linguistically implied agent in English?
- c. Do Korean learners of English accept zero-marked alternating unaccusatives in English?
 - i) Do Korean learners of English reject the inchoative of the English verbs that belong to the pure causative group in Korean?
 - ii) Do Korean learners of English accept the inchoative of the English verbs that belong to the pure inchoative group in Korean?
 - iii) Do Korean learners of English accept the passive of the English verbs?

(45) Secondary research questions

- a. Do Korean learners of English accept the inchoative and the passive?
- b. Do Korean learners of English prefer the passive to the inchoative?
- c. Do Korean learners of English distinguish intransitive-only verbs from transitive-intransitive alternating verbs?
- d. Do Korean learners of English overcausativize intransitive-only verbs such as *he disappeared himself* or *don't giggle me*?

- e. Do Korean learners of English make both Type I and Type II overpassivization?
- f. Do Korean learners of English with a high level of proficiency have more native-like performance than those with a low level of proficiency in the experiments?
- g. What is the role of L1 in the acquisition of the constructional meanings of the passive and the inchoative?

4.3 Hypotheses and predictions

Regarding the major research questions presented in (45), hypotheses have been formulated and will be tested in the experiments.

Table 2

Hypotheses for the primary research questions in the EFL study

Research questions	Hypotheses
a. Do Korean learners of English know that the passive has a linguistically implied agent in English?	Hypothesis 1. Korean EFL learners would know that the passive has a linguistically implied agent in English, since it is language universal.
b. Do Korean learners of English know that the inchoative lacks a linguistically implied agent in English?	Hypothesis 2. Korean EFL learners would <i>not</i> know that the inchoative lacks a linguistically implied agent in English, since they extend the passive's representation to the inchoative's.

<p>c (i). Do Korean learners of English accept the inchoative of the English verbs that belong to the pure causative group in Korean? (see Table 3)</p>	<p>Hypothesis 3. Korean EFL learners would reject the morphologically simple inchoative form of the pure causative group verbs in English, since those verbs in Korean require an inchoative morpheme.</p>
<p>c (ii). Do Korean learners of English accept the inchoative of the English verbs that belong to the pure inchoative group in Korean? (see Table 3)</p>	<p>Hypothesis 4. Korean EFL learners would accept the morphologically simple inchoative form of the pure inchoative group verbs in English, since those verbs in Korean require no morpheme.</p>
<p>c (iii). Do Korean learners of English accept the passive of the English verbs?</p>	<p>Hypothesis 5. Korean EFL learners would accept the morphologically marked passive forms in English, since the passive in Korean requires a morpheme.</p>

Table 3

Predictions for Korean speaking learners of English

Korean	English	Causative- transitive	Inchoative- intransitive	Passive
Pure	<i>break, open,</i>	Accept	Reject	Accept
Causative	<i>bend, tear,</i>			
Verb Group	<i>close, shake,</i> <i>fold</i>			
Pure	<i>melt, roll,</i>	Reject	Accept	Accept
Inchoative	<i>dry, empty,</i>			
Verb Group	<i>burn, stop,</i> <i>turn</i>			

This EFL study includes 3 experiments, which participants took consecutively without stopping. All participants took all the 3 experiments. For easy understanding, this chapter is organized by experiments. Each section for the experiments will provide description of the research method, the report and discussion of the results and the summary of the main findings.

4.4 Experiment 1: The movie judgment task

4.4.1 Introduction

The movie judgment task tests whether the existence of an agent in a movie context affects the subjects' rating of the appropriateness of the passive and the inchoative in English. This section reports on the first experiment of the EFL study and its results.

4.4.2 Verbs in the study

The target verbs used in this study are alternating or causativizable unaccusative verbs, which are divided into two subclasses according to the morphological features of their correspondent Korean verbs.

Table 4

Pure Causative Verb Group requiring an inchoative morpheme

English	Korean transitive No morpheme	Korean intransitive Inchoative morphemes
break	kkayta	kkaycita
open	yelta	yellita
bend	hwita	hwie cita
tear	ccieta	ccickita
close	tatta	tathita
shake	huntulta	huntullita
fold	cepta	cephita

Table 5

Pure Inchoative Verb Group requiring a causative morpheme

English	Korean transitive Causative morphemes	Korean intransitive No morpheme
melt	nokita	nokta
roll	kwullita	kwuluta
dry	mallita	maluta
empty	piwuta	pita
burn	thaywuta	thata
stop	seywuta	seta
turn	tollita	tolta

Distractors included unaccusatives and unergatives that are intransitive only in English but are alternating verbs in Korean. Unaccusatives *happen* and *appear* and unergatives *die* and *sleep* are originally intransitives in Korean that require a causative morpheme to make them transitive.

Table 6

Non-alternating unaccusatives and unergatives in English

English	Korean transitive	Korean intransitive
happen	nayta	nata
appear	nathanayta	nathanata
kill/die	cwukita	cwukta
sleep	caywuta	cata
sit	kellita	ketta

4.4.3 Method

In the movie judgment task, participants watched an animation clip on a computer, which showed an event that could be described with one of the target verbs. Each verb was presented in three different animated events: (a) an event with an animate agent, (b) an event with an inanimate agent such as an object, machine, or natural force, and (c) an event without any agent. Each animation was presented with one of the two types of sentences, a passive sentence without a ‘by the agent’ phrase⁷ or an inchoative sentence. Subjects were asked to judge whether the sentence described the animation well and sounded natural.

For example, *break* was presented in three animation clips as in (46). Each animation is presented with one of the sentences as in (47). The verb *break* had 6 conditions in total (see Figure 1).

⁷ One of the limitations in this task is that some verbal passives (e.g., The chalk was broken) are the same as their adjective versions, since ‘by the agent’ is omitted. However, there was no way to distinguish them while keeping the sentences simple and consistent throughout the task. To view all the test sentences, see the Appendix.

(46) a. Animate agent context: A man broke a piece of chalk.

b. Inanimate agent context: A ball fell off the table and hit the chalk on the floor. As a result, the chalk was broken.

c. No agent context: A piece of chalk fell off the table and broke.

(47) a. The chalk was broken.

b. The chalk broke.

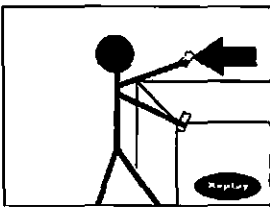
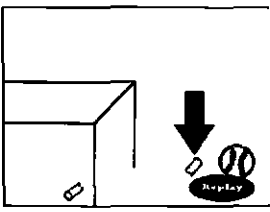
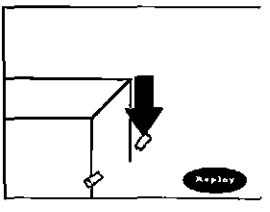
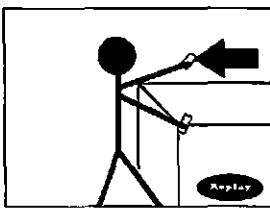
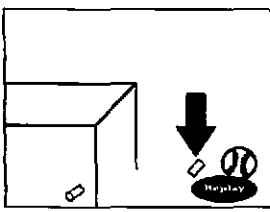
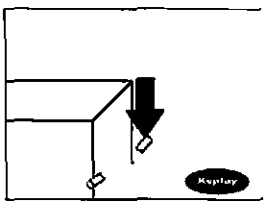
	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the ball</i>	Context with no agent
Passive sentence	<p>a.</p>  <p>The chalk was broken.</p>	<p>b.</p>  <p>The chalk was broken.</p>	<p>c.</p>  <p>The chalk was broken.</p>
Inchoative sentence	<p>d.</p>  <p>The chalk broke.</p>	<p>e.</p>  <p>The chalk broke.</p>	<p>f.</p>  <p>The chalk broke.</p>

Figure 1. Conditions in the movie task.

In the animation with the agent ‘the man,’ the passive sentence *the chalk was broken* is expected to sound more natural, whereas in the animation without an agent, the inchoative sentence *the chalk broke* is expected to sound more natural. The inanimate agent context lies between the animate agent context and the no agent context. The agency of the inanimate agent context is assumed to be weaker than that of the animate agent context but stronger than the no agent context, to a degree that depends to some extent on how participants perceive the ball in terms of agency. To sum up, the test includes a set of six items for each verb (3 clips x 2 sentences): animate-inchoative, animate-passive, inanimate-inchoative, inanimate-passive, no agent-inchoative, and no agent-passive (animation-sentence).

At the beginning of each animation, a red arrow pointing to a theme (e.g., a piece of chalk for Figure 1) appears and disappears in 0.25 seconds. It appears again at the end of each animation and remains on the last scene. This technique is based on an idea in Tomlin (1995, 1997) and provides a suitable context for the passives. In my prior pilot testing, native speakers of English had given low scores for passive sentences in the movie with an animate agent, which is supposed to be natural. They seemed to prefer active sentences to passive sentences in general. In his movie tests, Tomlin added an arrow pointing at a theme in order to induce the production of passive sentences. He showed the arrow two times, at the beginning and again 75 ms before the action when language users start their conceptualization. Instead, I introduced an arrow pointing at the theme at the beginning and at the end. The addition of the red arrow in each animation substantially improved English native speakers’ acceptability scores of passive

sentences in the subsequent pilot test, although some participants said they found the red arrow distracting.

The test items (14 verbs x 6 conditions = 84 test items) were divided into three versions of the test (28 test items per version), since there might otherwise be a training effect from recurrent exposure to the same verb in different conditions.⁸ Participants viewed a passive sentence with one of the three contexts and an inchoative sentence with one of the three contexts. For example, version 1 includes (a) and (e), version 2 (b) and (f), and version 3 (c) and (d) in Figure 1. The division also enabled the shortening of the length of the test. Participants were randomly assigned one of the three test versions. Each participant judged 48 test items including 28 test items and 20 distractors.

Participants were instructed to watch the animation movie on each web page by clicking the start button. They were allowed to review it by clicking the replay button, if needed. After watching it, they were asked to read and judge the sentence below the movie. Below the sentence, there was a scale ranging from 1 to 5, which said “totally unnatural” and “totally natural,” respectively. If the sentence went very well with the movie in English, they were to check the “5” radio button; if the sentence did not sound natural with the movie in English, they were to check the “1” radio button. Each page showed one test item: a movie, a sentence, and a scale. When participants pressed the submit button, they continued to the next test item.

⁸ I am indebted to Benjamin Bergen for this suggestion.

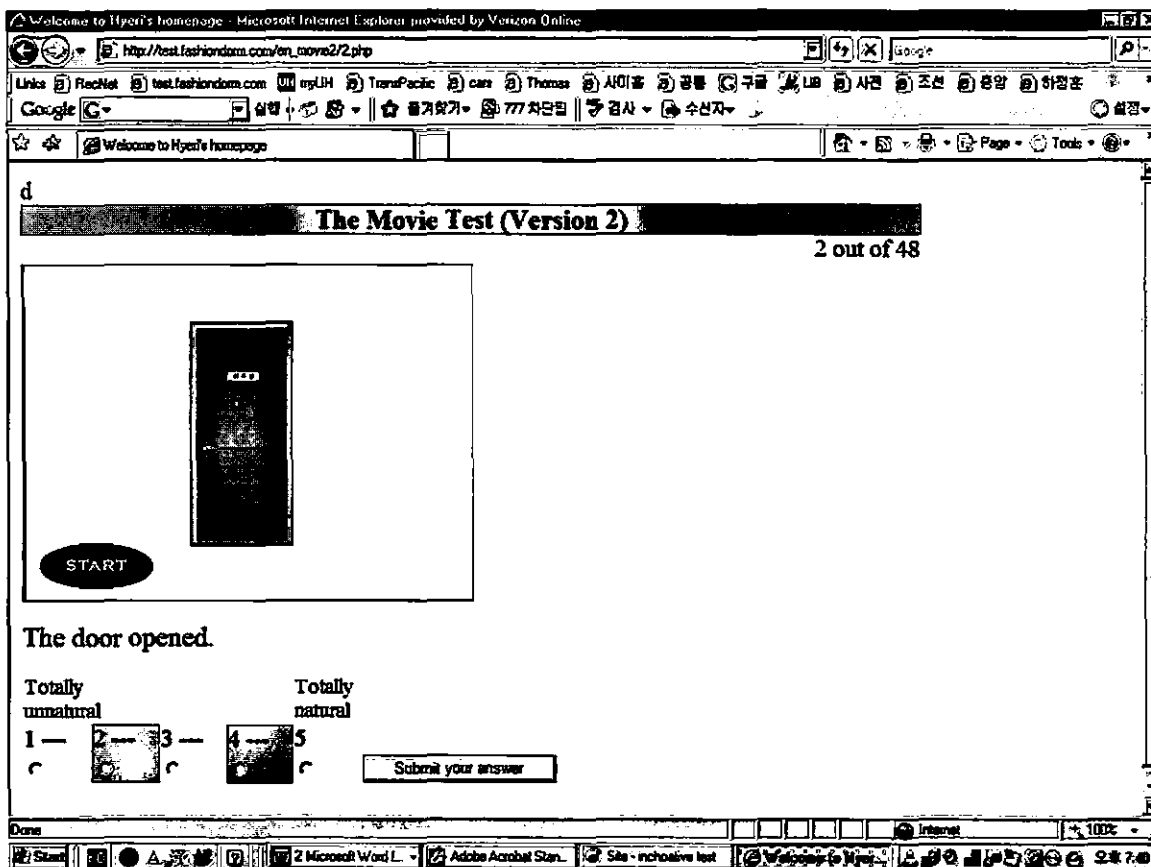


Figure 2. The movie task.

4.4.4 Participants

The participants were 77 intermediate and 71 advanced L2 learners of English in Korea and 42 native speakers of English. The native speakers of English (EN group) were all from the U.S. mainland and were recruited through college instructors or through advertisements on the Internet. Their nativeness was judged by the results of a cloze test. Only native speakers who scored 43 or above out of 50 on the cloze test⁹ were included. Participants who finished the experiments too fast or who responded only to one test item were excluded for analysis.

⁹ This cloze test was first used and validated in Brown (1980).

The Korean EFL learners were university students from three institutions in Korea: Ewha Woman's University, Seoul Women's University, and Seoul State University. They were recruited through their teachers. Volunteers for the study received a \$5 gift certificate to watch a movie, buy a book, or eat at a restaurant, when they signed up. Not all participants had TOEFL scores, so the results of the cloze test were used to divide them into low and high groups. Participants were asked to take the cloze test at the beginning of the experiment. They were instructed to fill in each blank with an appropriate word but were allowed to leave blanks unanswered. Some participants did not try the cloze test, and they were excluded from the analysis. Participants who answered at least 3 words were included. Participants with 18 points or above out of 50 were classified into the high EFL group; those with 17 points or below into the low EFL group. The average score for the high group was 29.8 out of 50 and was 7.6 out of 50 for the low group.

Table 7

The number of participants for each form who were included for analysis

	Test form A	Test form B	Test form C
EN group	18	15	17
High EFL group	26	29	27
Low EFL group	18	30	35

4.4.5 Hypotheses

The detailed hypotheses are presented in (48). Table 8 shows an idealized pattern of expected acceptability scores from native speakers of English.

(48) Hypotheses

- a. Does the EFL group know that the passive has an implied agent in English?
If yes, when passive sentences are presented, their acceptability scores will be higher in contexts with an animate agent than in contexts with no agent.

- b. Does the EFL group know that the inchoative does not imply an agent in English?
 - i) If yes, when contexts with no agent are presented, their acceptability scores will be higher in inchoative sentences than in passive sentences.
 - ii) If yes, when inchoative sentences are presented, acceptability scores will be higher in contexts with no agent than in contexts with an animate agent.

Table 8

Expected acceptability scores of native speakers of English in the movie task

Expected	Passive	Inchoative
Animate agent		
Inanimate agent		
No agent		

Note. Ha: Hypothesis a; Hb-i: Hypothesis b-i; Hb-ii: Hypothesis b-ii

4.4.6 Results

This section reports on the results of the EFL movie task. The EFL data are presented in comparison with the native data and were statistically analyzed. The first Section 4.4.6.1 discusses the reliability and validity of the movie task. The following three subsections report the results of the three tasks. Section 4.4.6.2 presents descriptive statistics and Section 4.4.6.3 the results of a statistical analysis. Section 4.4.6.4 compares the results of the two EFL proficiency groups, low and high. Lastly, Section 4.4.6.5 reports the results by verb groups.

4.4.6.1 Reliability and validity

Before reporting on the results, the reliability and validity of the movie task in the experiment need to be discussed. In order to show the internal consistency of the test, reliability coefficients among the verbs for each condition type (2 sentence types x 3 context types) were measured using Cronbach's alpha. Cronbach's alpha increases when the items are highly correlated. In this experiment, high reliability means that the participants rated similarly within each condition for all verbs. For example, if a participant judged 5 for a passive sentence and an animate agent context of the verb *break*, he or she would also judge 5 for that condition of the verb *open*.

Reliability coefficients for each group are presented in Table 9. Both groups showed very high reliability.

Table 9

Reliability of the measures for the EFL movie task

Group	Number of conditions	Number of items	reliability
EN group	6 (2 sentence types x 3 context types)	14	0.95
EFL group	6 (2 sentence types x 3 context types)	14	0.97

4.4.6.2 Descriptive statistics

First, how to interpret the results of this task should be discussed. This task is not a grammatical judgment task, since the target test sentences are grammatical. It aims to test how natural each sentence would be in a given context, for example, when an inchoative sentence is expected to be more natural when there is no agent in the movie than when there is an animate agent in the movie. However, this does not mean that it would be false or ungrammatical to use the inchoative sentence in the context of the movie that shows an agent. Rather, the claim is that a passive with a linguistically implied agent would provide a better or more complete description when there is obviously an agent shown in the movie. An inchoative sentence in the agent-existing movie would give less information than is appropriate¹⁰. Therefore, care should be taken in interpreting the results of this task. Rather than absolute grammaticality or truthfulness, relative appropriateness between the passive and the inchoative in the same context should get paid attention to.

¹⁰ This is related to the Gricean Maxim of Quantity or informativeness (R. Schmidt, March 18, 2008).

Means and standard deviations of acceptability scores of the 14 experimental verbs were calculated for each condition: 2 sentence types x 3 context types. The descriptive statistics of the movie task are presented in Tables 10 and 11. The results of the EN group need to be discussed first. As expected, acceptability scores of the EN group were relatively high (above 3 out of 5), since this task did not include ungrammatical sentences. Participants were supposed to judge whether each grammatical sentence was appropriate in the context described in the movie. They rated between 3 and 4 on average, which resulted in small differences in the comparisons among conditions. Although a dichotomy between what is acceptable and what is unacceptable is not clearly observed in the results, a pattern of increases and decreases can be seen.

The EN group rated passive sentences with an animate agent in the context higher than the ones with an inanimate agent or with no agent. As agentivity in context decreases, the averages of acceptability scores go down (see Figure 3 and compare Table 12). The opposite pattern is observed in inchoative sentences. The average of inchoative sentences is 3.60 with an animate agent, 4.24 with an inanimate agent, and 4.61 without an agent in context. As agentivity weakens, the averages of acceptability scores go up.

The EFL group is similar to those of the EN group. In inchoative sentences, the contexts with no agent were rated higher than the ones with an animate agent. The pattern of acceptability scores increases as agentivity decreases. Passive sentences in the contexts with an animate agent were accepted higher than the ones with no agent, showing knowledge of agentivity in the passive. On the other hand, there are also differences between the results of the EN group and the EFL group. The EFL group

rated passives with an inanimate agent slightly higher than the ones with an animate agent, which is the opposite in the EN group. Another difference is a low acceptability of inchoative sentences in general in the EFL group. Inchoative sentences with no agent were highly accepted by the EN group, but the EFL group did not rate this condition as high as the EN group.

Tables 12 and 13 show whether the pattern of results is consistent with the hypotheses. The patterns of acceptability scores in the EN group are expected and meet all the hypotheses. In the results of the EFL group, only hypothesis Hb-ii is confirmed even though the average of inchoatives with no agent was low. The highest average for the inchoative was 3.41 when inchoatives were presented in the movie with no agent. That was lower than the lowest average for the passive, which made hypothesis Hb-i disconfirmed. When no agent was shown in the movie, inchoatives were expected to be more natural than the passive. However, that was not found in the results of the EFL group because of low acceptance of inchoatives in general. Hypothesis Ha is not fully supported either because of higher acceptance of the passive in the inanimate-agent existing movie than for the passive in the animate-agent existing movie. Still, the EFL group accepted passive sentences with an agent higher than the ones without agents, showing knowledge of agentivity.

Table 10

Descriptive statistics for the EN in the movie task

Sentence type	Context type	<i>M</i>	<i>SD</i>	<i>n</i>
passive sentence	animate agent	4.52	0.89	236
	inanimate agent	4.29	1.04	230
	no agent	3.45	1.45	234
	Total	4.09	1.24	700
inchoative sentence	animate agent	3.60	1.37	230
	inanimate agent	4.24	1.09	234
	no agent	4.61	0.90	236
	Total	4.16	1.21	700
Total	animate agent	4.07	1.24	466
	inanimate agent	4.27	1.07	464
	no agent	4.03	1.34	470
	Total	4.12	1.22	1400

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

Table 11

Descriptive statistics for the EFL group in the movie task

sentence	context	<i>M</i>	<i>SD</i>	<i>n</i>
passive sentence	animate agent	4.12	1.38	671
	inanimate agent	4.16	1.31	716
	no agent	3.61	1.60	684
	Total	3.97	1.45	2071
inchoative sentence	animate agent	2.48	1.64	716
	inanimate agent	2.83	1.70	684
	no agent	3.41	1.63	672
	Total	2.89	1.70	2072
Total	animate agent	3.27	1.73	1387
	inanimate agent	3.51	1.65	1400
	no agent	3.51	1.62	1356
	Total	3.43	1.67	4143

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

Table 12

Acceptability scores of the EN group in the movie task

Expected	Passive	Inchoative
Animate agent	4.52	3.60
Inanimate agent	4.29	4.24
No agent	3.45	4.61

Note. Ha: Hypothesis a; Hb-i: Hypothesis b-i; Hb-ii: Hypothesis b-ii

Table 13

Acceptability scores of the EFL group in the movie task

Expected	Passive	Inchoative
Animate agent	4.12	2.48
Inanimate agent	4.16	2.83
No agent	3.61	3.41

Note. Ha: Hypothesis a; Hb-i: Hypothesis b-i; Hb-ii: Hypothesis b-ii

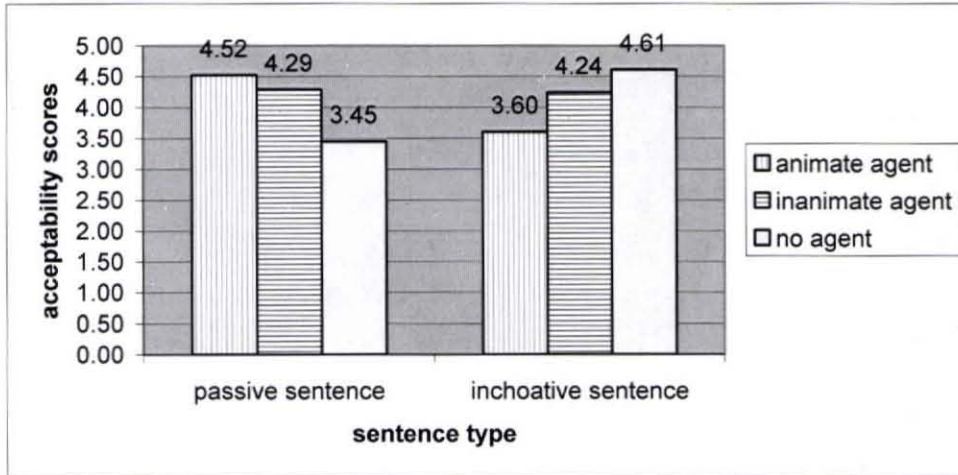


Figure 3. The EN group: Averages of each condition in the movie task.

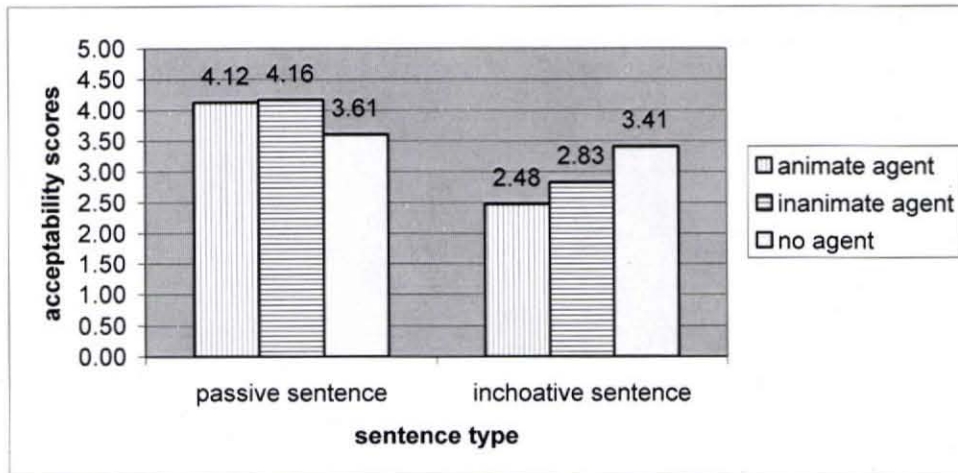


Figure 4. The EFL group: Averages of each condition in the movie task.

Figures 3 and 4 show the patterns of acceptability scores more clearly. As a whole, the degree of acceptance of passive sentences decreases as agentivity weakens in both groups, while the acceptance of inchoative sentences rises as agentivity lowers. Compared with those of the EN group, there are some interesting differences in the results of the EFL group. First, the differences between the highest and the lowest

averages in each sentence type are smaller in the EN group than in the EFL group, which indicates less clear distinctions in the EFL group in terms of agentivity. Another interesting finding is that the EFL group rated inchoative sentences lower than passive sentences. Their acceptance of inchoative sentences is lower than that of the EN group. It could be interpreted that the EFL group has not fully learned inchoative sentences or that they prefer passive sentences to inchoative ones.

4.4.6.3 Analysis of statistical significance

Statistical analysis is needed in order to verify the significance of the results. A univariate General Linear Model (GLM) was conducted for statistical analysis. The dependent variable is acceptability scores, and the independent variables are (a) sentence type (passive, inchoative) and (b) context type (animate, inanimate, no agent). A 2 x 3 factorial design was useful in examining the effect of each independent variable and the interaction effects of independent variables. The alpha decision level was set at .05. However, it was divided by 12, the number of two-way ANOVAs in the whole study in order to avoid a type I error, and therefore .004 is the alpha decision level for each ANOVA.

Regarding the use of ANOVAs, there are four issues to be pointed out. First, the data in these studies were not always normally distributed (which is an assumption of ANOVAs). This is mainly attributable to the nature of participants in that the participants were not randomly selected but came from “intact” groups who are expected to have similar knowledge about the target structures (i.e., native speakers or L2 learners of similar proficiency). However, because the participants were randomly assigned to

one of the three test forms with a different set of test items, the chances of normality were increased. Second, another assumption of ANOVAs that was violated is that the cells will have equal variances. A third issue is that the *n*-sizes for the groups were not equal, though they were comparable. Generally, ANOVA is “robust” to violations of these assumptions when there is a large number of participants in each group (Hatch & Lazaraton, 1991).

The last issue is the existence of "repeatedness" in the design, even though this study does not use repeated-measure ANOVAs. The scores in two cells (or conditions) out of a verb's six cells are from one participant (2 x 3). For example, participant A might be randomly assigned to test form A and have one item with the passive sentence in an animate-agent context and another item with the inchoative sentence with no agent context; participant B might be randomly assigned to test form B and have one item with the passive sentence in an inanimate-agent context and another item with the inchoative sentence with an animate-agent context; participant C might be randomly assigned to test form C and have one item with the passive sentence in no agent context and another item with the inchoative sentence with an inanimate-agent context. Unfortunately, there was no way to systematically account for this. Therefore, it is assumed that the scores in each cell are independent. As a result, care should be taken in interpreting the results of the studies in this dissertation.

In the results of the EN group, the main effect for context is statistically significant in the analysis of variance (Table 14). This means that the acceptability scores of the EN group vary depending on context. However, in the case of the EFL

group, the main effects for both sentence and context are significant (Table 15). Both groups show a significant effect for the interaction.

In order to know how important each variable is, measures of strength of association η^2 were calculated. In the EN data, 12 % of the variability in the data is accounted for by the interaction. The independent variables had little effect on the dependent variables. On the other hand, in the EFL data, the most important variable is sentence. This means that their judgment scores varied mostly depending on the sentence. It seems to result from the EFL groups' higher acceptability of passive sentences over inchoative sentences.

Table 14

The EN group: Results of two-way ANOVA in the movie task

Source	SS	df	MS	F	η^2
Sentence	1.57	1	1.57	1.20	0.000
Context	15.17	2	7.58	5.80*	0.007
Sentence * Context	254.90	2	127.45	97.51*	0.122
Residual (error)	1822.09	1394	1.31		
Total	2093.36	1399			

* $p < .004$

Table 15

The EFL group: Results of two-way ANOVA in the movie task

Source	SS	df	MS	F	η^2
Sentence	1164.59	1	1164.59	485.13*	0.101
Context	37.42	2	18.71	7.79*	0.003
Sentence * Context	398.52	2	199.26	83.00*	0.034
Residual (error)	9931.23	4137	2.40		
Total	11561.66	4142			

* $p < .004$

The significant interaction effect in both ANOVAs indicates that the effect of context is dependent on the choice of sentence, but not as a consistent effect for context across sentences. Figures 5 and 6 show different patterns of interaction between groups. Whereas the EN group does not distinguish sentence types when there is an inanimate agent, the EFL group does not discern sentence types when there is no agent.

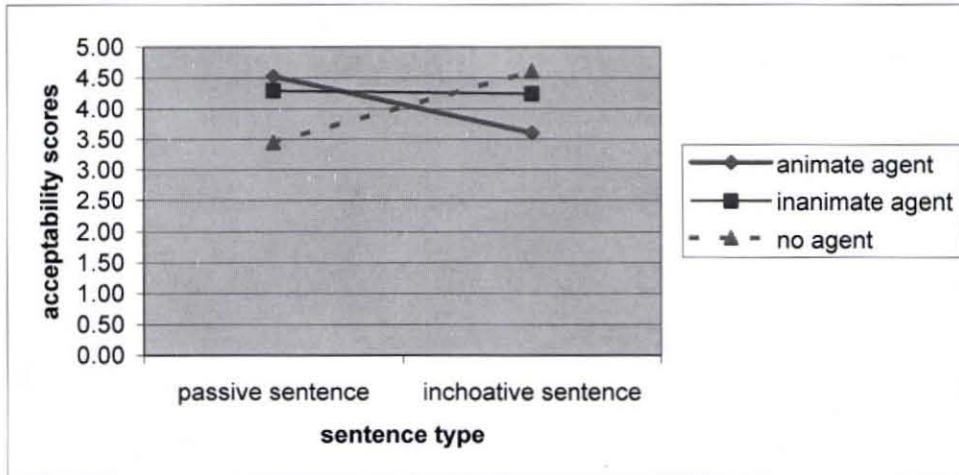


Figure 5. The EN group: Interaction effect in the movie task.

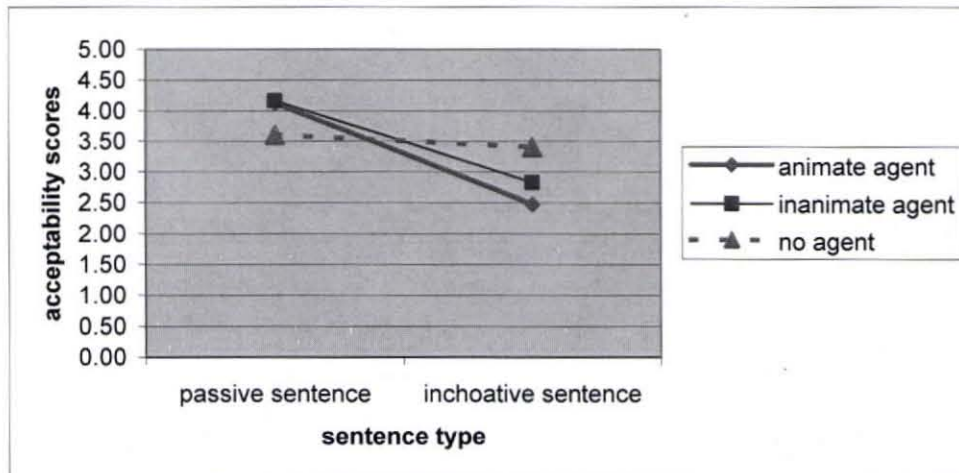


Figure 6. The EFL group: Interaction effect in the movie task.

4.4.6.4 Comparison of high and low EFL groups

The EFL group consists of two proficiency subgroups: high and low, but their comparison was not included in the statistical analysis since the two groups showed similar results. This section compares the results of the two subgroups without statistical analysis. As shown in Figures 7 and 8, the overall results are similar between the two

subgroups. In both EFL subgroups, passive sentences were rated higher than inchoative sentences when there is an agent regardless of animacy, which is also similar to the EN group. However, when no agent is present in context, neither EFL subgroup distinguished passive and inchoative sentences clearly. Moreover, they rated passive sentences higher than inchoative sentences in the no agent context, which is different from the EN group. The average of passive sentences with no agent is 3.48 and that of inchoative sentences is 3.42 in the high proficiency group; in the low proficiency group the average of passive sentences with no agent is 3.74 and that of inchoative sentences is 3.39. Another difference is the range. The lowest average of the high group is 2.23 (inchoative sentence x animate agent) and the highest 4.26 (passive sentence x animate agent); The lowest average of the low group is 2.74 (inchoative sentence x animate agent) and the highest 4.13 (passive sentence x animate agent). The ranges of averages are 2.03 and 1.39, respectively. With trivial differences, the results of the low proficiency and the high proficiency group are congruent.

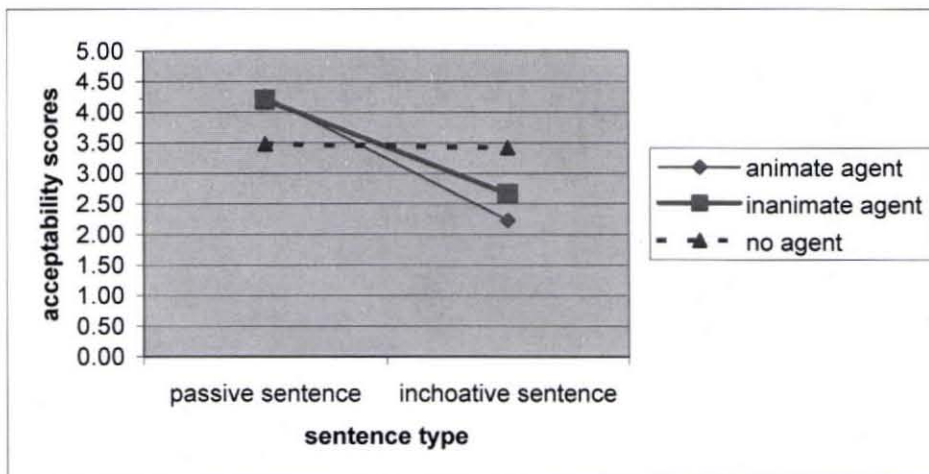


Figure 7. The High EFL group in the movie task.

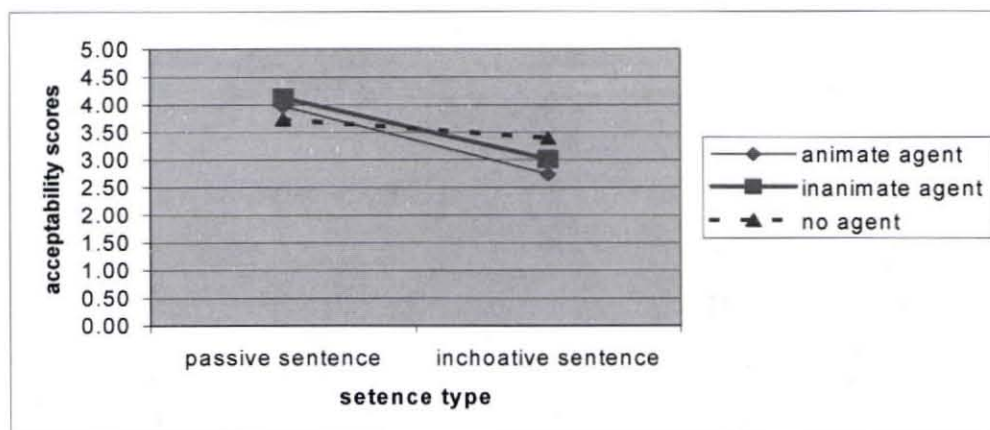


Figure 8. The Low EFL group in the movie task.

4.4.6.5 L1 transfer effect: The results by verb group

The experimental verbs are divided into two groups in Korean: (a) the pure causative verb group requiring an inchoative morpheme to be an inchoative verb, such as *break, open, bend, tear, close, shake, fold*, and (b) the pure inchoative verb group requiring a causative morpheme to be a causative verb, such as *melt, roll, dry, empty, burn, stop, turn*. In English, there is no difference in the forms of both verb groups. It would be worthwhile to investigate whether there is an L1 transfer effect in learning English verbs.

When passive sentences were presented, there seemed to be no crucial differences between the two verb groups in the EFL group and between the EFL group and the EN group (Figures 9 and 10, respectively). However, in inchoative sentences, the EFL group showed differential acceptability between the two verb groups (Figure 11). They rated inchoative sentences of the causative verb group high with an animate or inanimate agent and low with no agent. This contrasts with the EN group (Figure 12). This may be because of the argument structure of the causative verb group in Korean. Verbs in the

causative verb group include an agent or a causer in the argument structure in Korean, so the Korean EFL learners would automatically think of an agent when they use the corresponding verbs in English. This may be viewed as L1 transfer. If the same logic is applied, passive sentences of the inchoative verb group should have been rated higher in no agent contexts than in agent contexts, since the argument structure of the inchoative verb group does not include an agent in Korean. In the inchoative verb group, agent contexts would have been rated lower than no agent contexts regardless of sentence type. However, the EFL group did not rate agent contexts low in passive sentences of the inchoative verb group. The EFL group did not distinguish the verb groups in passive sentences.

As for morphology, L1 transfer effects were not shown. If differences in the morpheme system affect L2 learning, the EFL group should have rejected inchoative sentences of the causative verb group and/or passive sentences of the inchoative verb group. However, no rejection was observed.

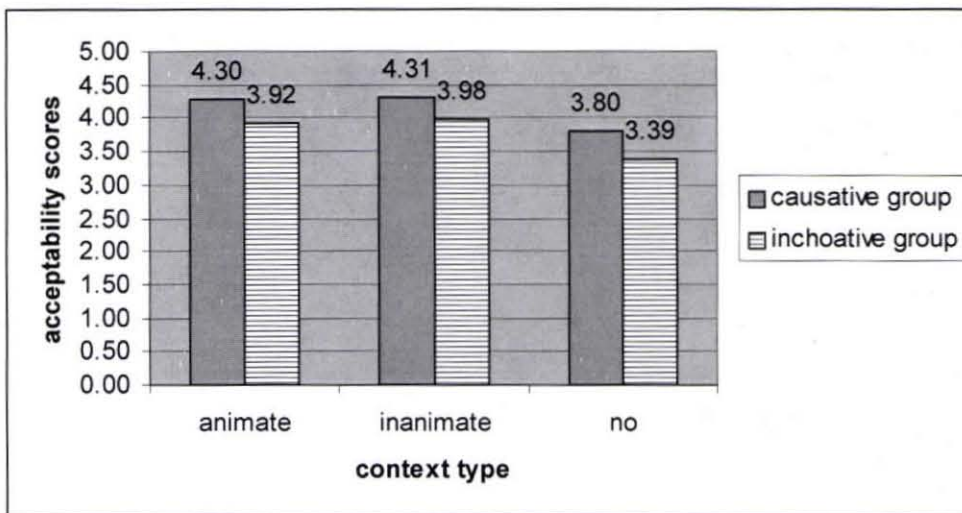


Figure 9. Passive sentences of the EFL group in the movie task.

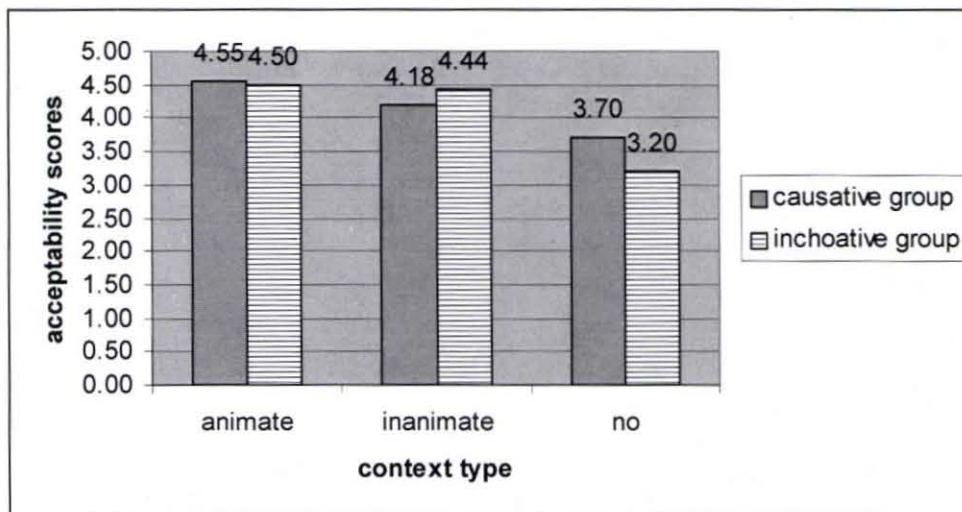


Figure 10. Passive sentences of the EN group in the movie task.

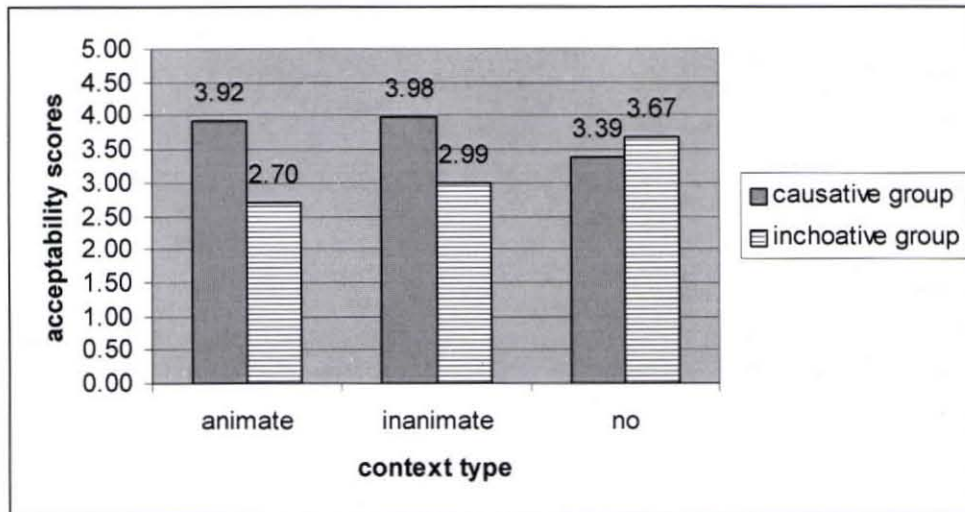


Figure 11. Inchoative sentences of the EFL group in the movie task.

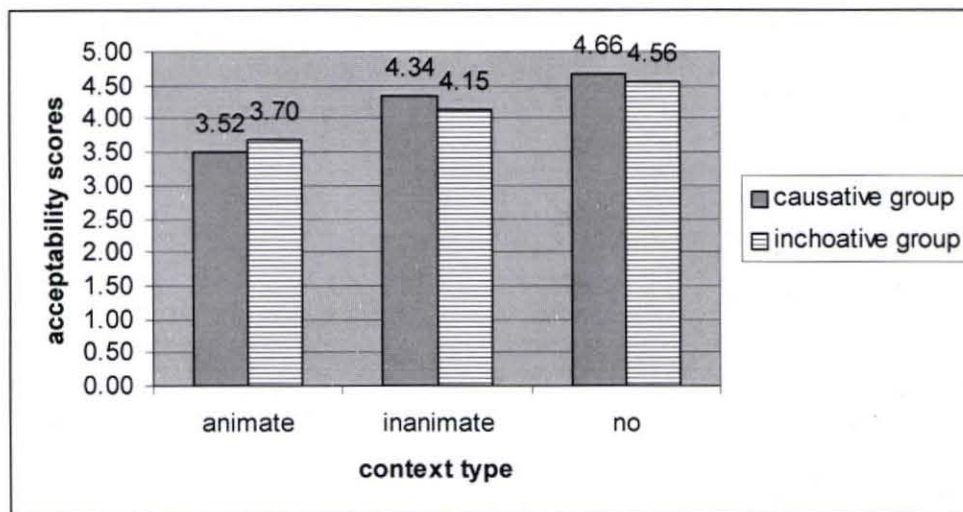


Figure 12. Inchoative sentences of the EN group in the movie task.

4.4.7 Discussion

The EFL group showed knowledge of constructional meanings of the passive and the inchoative in English. They rated passive sentences higher when there was an agent shown in the movie than when there was no agent shown in the movie, indicating that

they know that the passive has a linguistically implied agent in English. They also showed their knowledge of the inchoative's agentlessness, rating the inchoative higher in a no-agent context than in an agent-existing context. However, they did not distinguish the passive from the inchoative when there was no agent in the movie. This was because of the EFL learners' low acceptance of the inchoative. As found in previous research, the EFL group did not like the inchoative in English. They may not know that the alternating-unaccusatives used in this experiment allow both the causative-transitive and the inchoative-intransitive. Another possibility is a lack of morphology in the English inchoative that marks a theme Subject. This will be discussed in detail in Chapter 6.

In terms of morphology, there was no L1 transfer effect. It was hypothesized that the EFL learners would reject the inchoative of the English verbs that require an inchoative morpheme in Korean but accept the inchoative of the English verbs that do not require any morpheme in Korean. However, the EFL group did not distinguish the two groups of verbs in English. In the comparison of the verb groups, the EFL group interestingly distinguished the causative verb group from the inchoative verb group in judging the inchoative in English. The inchoative of the causative verb group were accepted highly regardless of the context type (see Figure 11). That could be seen as an L1 transfer effect, but it should be observed in the results of the other experiments.

One of the most interesting findings is that the results of this experiment showed that the EFL group made Type II overpassivization. When no agent was involved in the event of the movie, the EFL group rated the passive and the inchoative to a similar degree. This could mean that they think both sentences are possible when they do not observe an agent in the context. For example, they could say either "the window was broken" or

“the window broke” when there is no agent observed in a context. However, native speakers of English would use “the window broke” in that context. Compared to native speakers of English, the EFL learners would overuse the passive.

4.4.8 Summary

In summary, the EN group and the EFL group both showed differential acceptability of passive and inchoative sentences depending on agentivity in context. In the case of passive sentences, they accepted passive sentences in contexts with an animate agent higher than the ones in contexts with no agent, showing knowledge of agentivity. On the other hand, the EFL group did not rate inchoative sentences high even in contexts with no agent, which is contrary to the EN group. In the following, the hypotheses of the movie task are repeated here and which hypotheses are accepted is indicated.

(48) Hypotheses

- a. Does the EFL group know that the passive has an implied agent in English?
If yes, when passive sentences are presented, their acceptability scores will be higher in contexts with an animate agent than in contexts with no agent.
→ ACCEPTED
- b. Does the EFL group know that the inchoative does not imply an agent in English?
 - i) If yes, when contexts with no agent are presented, their acceptability scores will be higher in inchoative sentences than in passive sentences.
→ NOT SUPPORTED

ii) If yes, when inchoative sentences are presented, acceptability scores will be higher in contexts with no agent than in contexts with an animate agent.

→ ACCEPTED

4.5 Experiment 2: The sentence task

4.5.1 Introduction

Like the movie task, the sentence acceptability judgment task tests the appropriateness of passives and inchoatives with or without the oblique agent 'by the agent' and the acceptability knowledge of the causative-inchoative alternation. It means that this experiment investigates not only L2 learners knowledge of the broad-range constructional meanings of the passive and the inchoative but also their knowledge of the narrow-range semantic constraints, that is, whether a verb can causativize or passivize. In this section, the hypotheses and the method of this experiment will be explained. Then, the results will be reported.

4.5.2 Verbs in the study

The experimental verbs are the same as the ones used in the EFL movie task. See section 4.4.2. The only difference is that this experiment used less number of verbs. Two verbs, *turn* and *fold*, were excluded to shorten the length of the experiment. The experimental verbs were: (a) the pure causative verb group requiring an inchoative morpheme to be an inchoative verb, such as *break*, *open*, *bend*, *tear*, *close*, *shake*, and (b) the pure inchoative verb group requiring a causative morpheme to be a causative verb, such as *melt*, *roll*, *dry*, *empty*, *burn*, *stop*.

4.5.3 Method

The acceptability judgment task included grammatical and ungrammatical sentences of passives and inchoatives with or without the *by* phrase in order to find out whether L2 learners know the distinction between passives and inchoatives in terms of agentivity. There are three types of *by* phrases: animate agent such as ‘by the man,’ inanimate agent such as ‘by the wind’, and no agent ‘by itself.’ The test includes a set of six items for each verb (3 phrases x 2 sentences): animate-inchoative, animate-passive, inanimate-inchoative, inanimate-passive, no agent-inchoative, and no agent-passive (phrase type-sentence). They are exemplified below:

(49) Test sentences

- a. The window was broken by a thief. (animate-passive)
- b. The window was broken by strong wind. (inanimate-passive)
- c. *The window was broken by itself. (no agent-passive)
- d. *The window broke by a thief¹¹. (animate-inchoative)
- e. *The window broke by strong wind. (inanimate-inchoative)
- f. The window broke by itself. (no agent-inchoative)

As distractors, the instrument also included grammatical and ungrammatical sentences of non-alternating unaccusatives and unergatives, which should show the subjects’ knowledge of the narrow-range semantic constraints of the causative-inchoative alternation.

¹¹ This sentence is acceptable if ‘by a thief’ is interpreted as ‘next to a thief.’ However, the EN group did not interpret it as ‘next to a thief.’

(50) Distractors

- a. The accident happened yesterday.
- b. *The car happened the accident yesterday.
- c. *The accident was happened yesterday.

As in the movie task, the test items (12 verbs¹² x 6 conditions = 72 test items) were divided into three forms of the test (24 test items per version). Participants judged a passive sentence with one of the three phrase types and an inchoative sentence with one of the three phrase types. Each participant randomly took one of the three versions that included 48 test items (24 test items and 24 distractors).

¹² Two verbs, *turn* and *fold*, were excluded in the sentence judgment test and the Q&A test to shorten the length of the test.

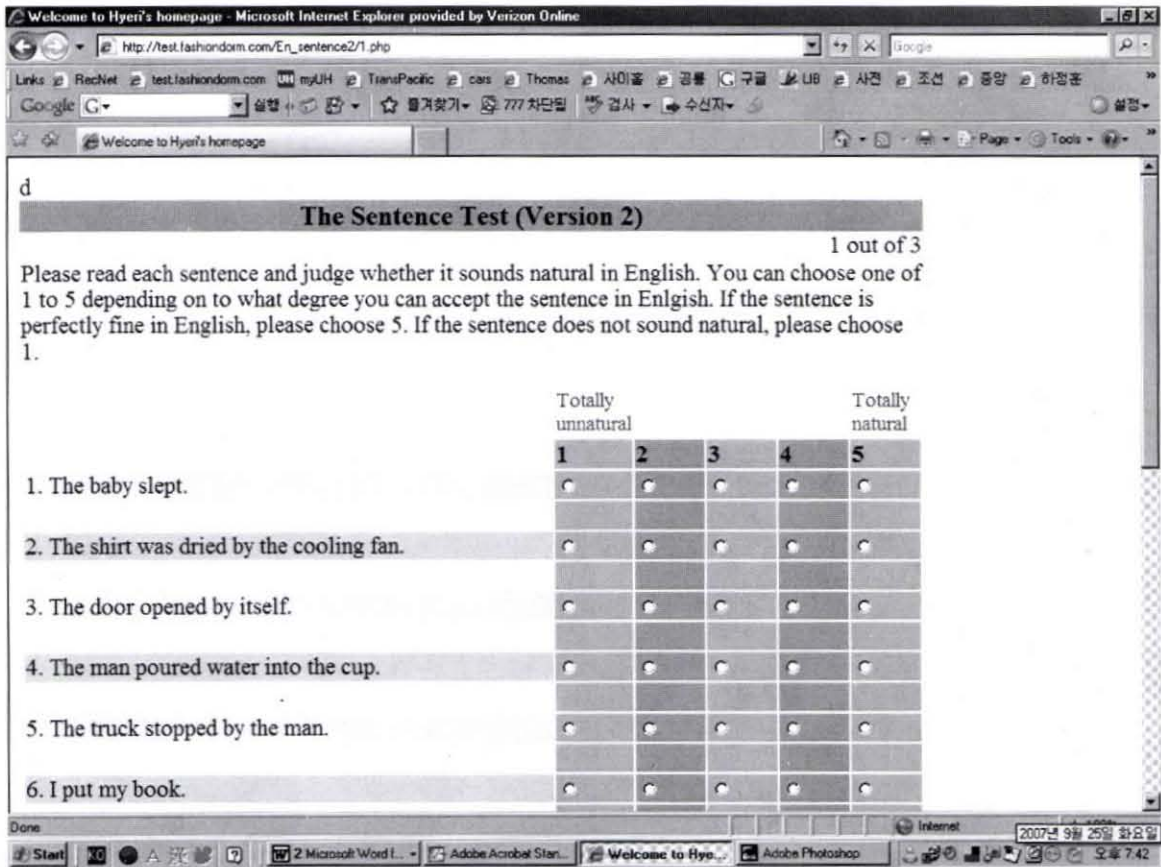


Figure 13. The sentence acceptability judgment task.

4.5.4 Participants

The participants in the sentence task were the same as those in the movie task: 77 intermediate and 71 advanced L2 learners of English in Korea and 42 native speakers of English. See Section 4.4.4 for details.

4.5.5 Hypotheses

The sentence task examines whether participants accept a passive sentence or an inchoative sentence depending on the agentivity in sentences. There are three types of *by* phrases representing agentivity: animate agent such as 'by the man,' inanimate agent

such as 'by the wind,' and no agent 'by itself.' Each phrase is tested in each sentence type. The detailed hypotheses are presented in (51).

(51) Hypotheses

- a. Does the EFL group know that the passive has an implied agent in English?
 - i) If yes, acceptability scores of passive sentences will be higher in sentences with an animate agent e.g., 'by the man,' than in sentences with no agent, e.g., 'by itself.'
 - i) If yes, when sentences include an animate agent, e.g., 'by the man,' acceptability scores will be higher in passives than in inchoatives.

- b. Does the EFL group know that the inchoative does not imply an agent in English?
 - i) If yes, acceptability scores of inchoative sentences will be higher in sentences with no agent 'by itself' than in sentences with an animate agent, e.g., 'by the man.'
 - ii) If yes, when sentences include no agent 'by itself,' acceptability scores will be higher in inchoatives than in passives.

Table 16 shows expected acceptability scores for ideal native speakers of English in the sentence task. The range of expected scores is larger here than in the movie task, since this task includes ungrammatical as well as grammatical sentences, whereas the movie task only includes grammatical sentences.

Table 16

Expected acceptability scores of native speakers of English in the sentence task

Expected	Passive	Inchoative
Animate agent		
Inanimate agent		
No agent		

Note. Ha-i: Hypothesis a-i; Ha-ii: Hypothesis a-ii; Hb-i: Hypothesis b-i; Hb-ii:

Hypothesis b-ii

4.5.6 Results

The sentence task is also an acceptability task. The variables in this task are the same as those in the movie task. The primary difference is that the variable agentivity is included in sentences rather than in animations. Each section reports on the results of the sentence task in the following order: (a) introduction of hypotheses, (b) descriptive statistics, and (c) statistical analysis. After the report as a whole, the results are reported by proficiency group and by verb group. Section 4.5.7 and 4.5.8 provide a discussion and a summary, respectively.

4.5.6.1 Reliability and validity

Like the movie test, reliability coefficients among the verbs for each condition type (2 sentence types x 3 context types) were measured using Cronbach's alpha. Reliability coefficients for each group are presented in Table 17. Both groups showed very high reliability.

Table 17

Reliability of the measures for the EFL sentence task

Group	Number of conditions	Number of items	reliability
EN group	6 (2 sentence types x 3 context types)	12	0.96
EFL group	6 (2 sentence types x 3 context types)	12	0.98

4.5.6.2 Descriptive statistics

The results are reported descriptively first in Tables 18 and 19. Overall, the hypotheses set in (51) are confirmed. Tables 20 and 21 show the same patterns of increases and decreases of acceptability scores as in Table 16. In the results of both groups, passive sentences with an animate agent 'by the man' phrase were rated high and the ones with the no agent phrase 'by itself' were rated low in both groups confirming Hypothesis a-i. As for inchoative sentences, acceptability scores increased as agency decreased, consistent with Hb-i. In passive sentences with an animate agent phrase 'by

the man,' the EFL group reached the same acceptability scores as the EN group. However, the EFL group did not rate passive sentences with 'by itself' as low as the EN group did. Passive sentences with 'by itself' are ungrammatical sentences, and the EN group rated them low here (average: 2.17). However, the average of the EFL group is 3.00. As a whole, the notable difference between the two groups is the low acceptability of inchoative sentences with the no agent phrase 'by itself' in the EFL group. Inchoative sentences with 'by itself' are grammatical so that acceptability score of the EN group is 4.01 on average. On the other hand, the score of the EFL group is 2.91 suggesting they did not regard the sentences as grammatical¹³. Because of the low acceptance, Hypothesis Hb-ii was not supported. In the EFL group, inchoatives with 'by itself' were rated lower than passives with 'by itself' in contrast to the prediction and the results of the EN group. Preference of passives over inchoatives in the EFL group is consistent with the results of the movie task.

¹³ In the EN data, the lowest average for ungrammatical sentences was 2.17 out of 5. The EFL group was also able to rate around 2 for ungrammatical distractors in this experiment. So they would be reasonable to consider a rating of around 2 to indicate definite unacceptability. However, the design of these experiments focus on differences among types and conditions, not absolute ratings.

Table 18

Descriptive statistics for the EN group in the sentence task

Sentence type	Phrase type	<i>M</i>	<i>SD</i>	<i>n</i>
passive sentence	animate agent	4.49	1.02	209
	inanimate agent	3.80	1.51	208
	no agent	2.17	1.47	208
	Total	3.49	1.67	625
inchoative sentence	animate agent	1.63	1.27	208
	inanimate agent	2.01	1.46	208
	no agent	4.01	1.49	204
	Total	2.54	1.75	620
Total	animate agent	3.06	1.84	417
	inanimate agent	2.91	1.73	416
	no agent	3.08	1.74	412
	Total	3.02	1.77	1245

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

Table 19

Descriptive statistics for the EFL group in the sentence task

Sentence type	Phrase type	<i>M</i>	<i>SD</i>	<i>n</i>
passive sentence	animate agent	4.49	1.11	592
	inanimate agent	4.15	1.45	592
	no agent	3.00	1.77	592
	Total	3.88	1.60	1776
inchoative sentence	animate agent	1.94	1.53	592
	inanimate agent	2.14	1.63	592
	no agent	2.91	1.79	592
	Total	2.33	1.70	1776
Total	animate agent	3.22	1.85	1184
	inanimate agent	3.14	1.84	1184
	no agent	2.96	1.78	1184
	Total	3.11	1.83	3552

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

Table 20

Acceptability scores of the EN group in the sentence task

Expected	Passive		Inchoative
Animate agent	4.49	← Ha-ii	1.63
Inanimate agent	3.80	Ha-i	2.01
No agent	2.17	Hb-ii	4.01

Note. Ha-i: Hypothesis a-i; Ha-ii: Hypothesis a-ii; Hb-i: Hypothesis b-i; Hb-ii:

Hypothesis b-ii

Table 21

Acceptability scores of the EFL group in the sentence task

Expected	Passive		Inchoative
Animate agent	4.49	← Ha-ii	1.94
Inanimate agent	4.15	Ha-i	2.14
No agent	3.00	Hb-ii	2.91

Note. Ha-i: Hypothesis a-i; Ha-ii: Hypothesis a-ii; Hb-i: Hypothesis b-i; Hb-ii:

Hypothesis b-ii

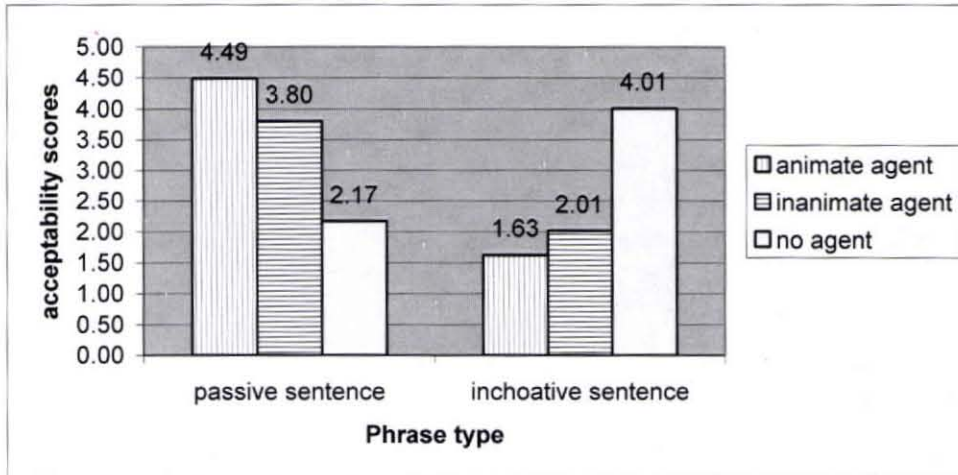


Figure 14. The EN group: Averages of each condition in the sentence task.

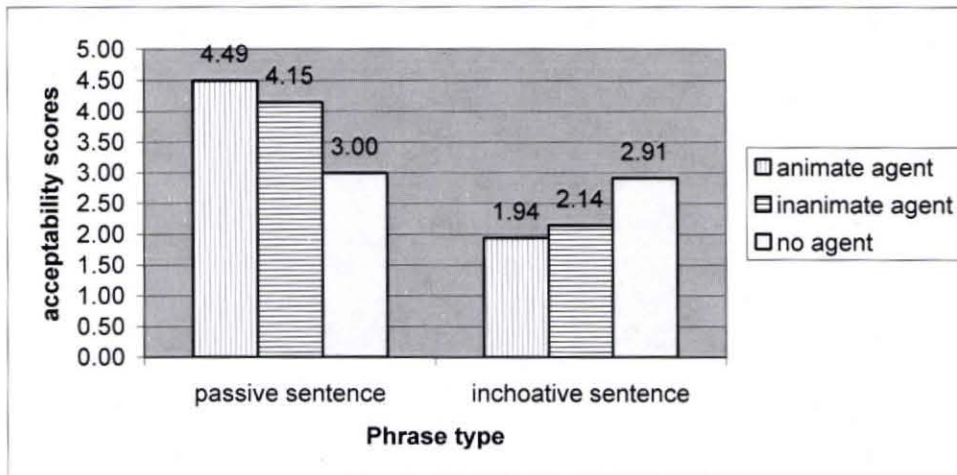


Figure 15. The EFL group: Averages of each condition in the sentence task.

4.5.6.3 Statistical analysis

A univariate General Linear Model (GLM) was used for statistical analysis. The dependent variable is acceptability scores, and the independent variables are (a) sentence type (passive, inchoative) and (b) phrase type (animate, inanimate, no agent). A 2 x 3

factorial design was useful in examining the effect of each independent variable and the interaction effects of independent variables.

In the results of the EN group, the main effect for sentence is statistically significant in the analysis of variance (Table 22). This means that the acceptability scores of the EN group vary significantly depending on the sentence, which is opposite from the results of the movie test. In the movie test, the main effect for context was statistically significant. However, in the case of the EFL group, the main effects for both sentence and phrase were significant (Table 23), as in the movie test. Both groups show a significant effect for the interaction.

In order to know how important each variable is, measures of strength of association η^2 were calculated. In the EN data, 32 % of the variability in the data is accounted for by the interaction. The sentence variable had more effect on the dependent variable than the phrase variable. On the other hand, in the EFL data, the most important variable is sentence. This means that their judgment scores varied mostly depending on the sentence. Eighteen percent of the variability in the data is accounted for by the interaction in the EFL group. The most important variables of the EN group and the EFL group in this task were the same as the ones in the movie task, indicating that the results of the movie task and the sentence task were consistent.

Table 22

The EN group: Results of two-way ANOVA in the sentence task

Source	SS	df	MS	F	η^2
Sentence	273.05	1	273.05	143.19*	0.070
Phrase	7.97	2	3.99	2.09	0.002
Sentence * Phrase	1258.28	2	629.14	329.94*	0.322
Residual (error)	2362.56	1239	1.91		
Total	3907.68	1244			

* $p < .004$

Table 23

The EFL group: Results of two-way ANOVA in the sentence task

Source	SS	df	MS	F	η^2
Sentence	2124.44	1	2124.44	869.18*	0.180
Phrase	43.64	2	21.82	8.93*	0.004
Sentence * Phrase	993.44	2	496.72	203.23*	0.084
Residual (error)	8667.05	3546	2.44		
Total	11828.56	3551			

* $p < .004$

The significant interaction effect in both ANOVAs indicates that the effect of sentence is dependent on the choice of phrase type, but not as a consistent effect for context across sentences. Figures 16 and 17 show different patterns of interaction between sentences. Figure 17 clearly shows the EFL groups' lack of distinction between the passive and the inchoative with 'by itself' added.

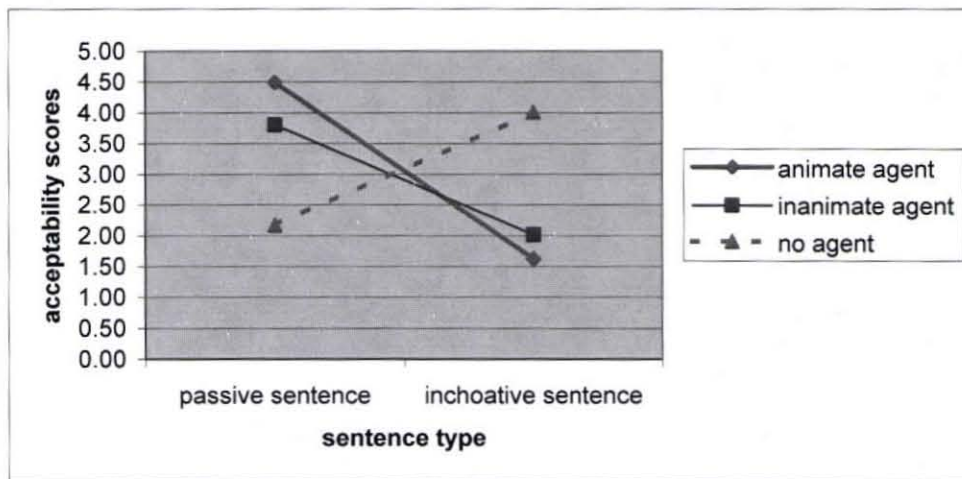


Figure 16. The EN group: Interaction effect in the sentence task.

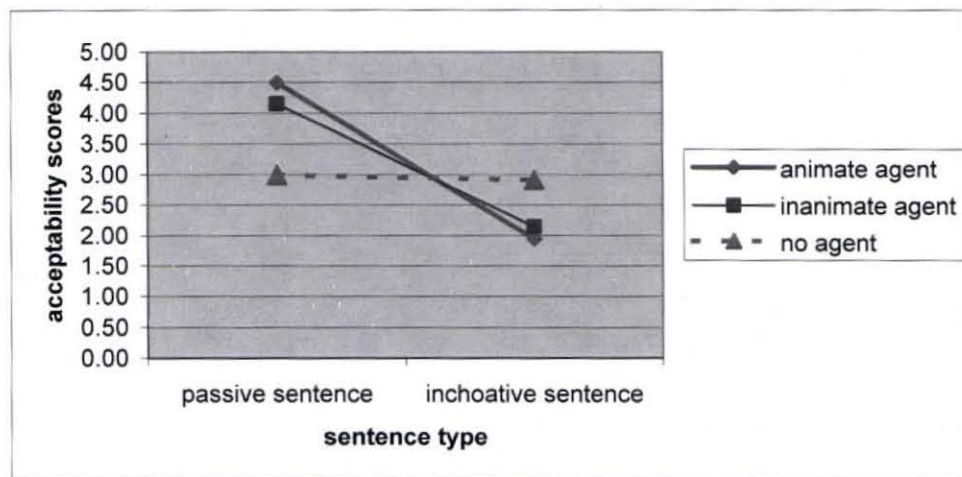


Figure 17. The EFL group: Interaction effect in the sentence task.

4.5.6.4 Comparison of high and low EFL groups

This section compares the results of the two subgroups without statistical analysis. As shown in Figures 18 and 19, the overall results are similar between the two subgroups. In both EFL subgroups, passive sentences with 'by the man' were rated higher than the ones with 'by itself.' Inchoative sentences with 'by the man' were rated lower than the ones with 'by itself.' However, when no agent is present in context, both EFL subgroups rated passive and inchoative sentences similarly. Except for the narrow range of scores in the low group, the results of the low proficiency and the high proficiency group are consistent.

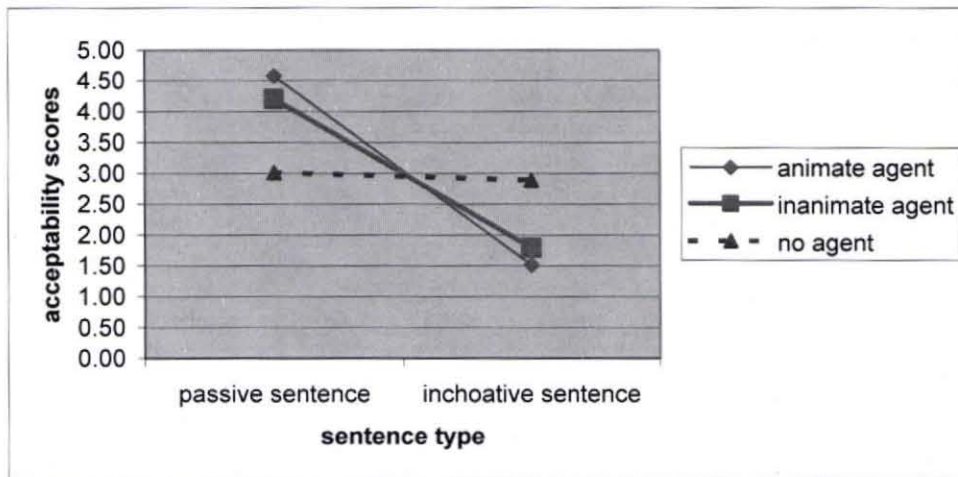


Figure 18. The High EFL group in the sentence task.

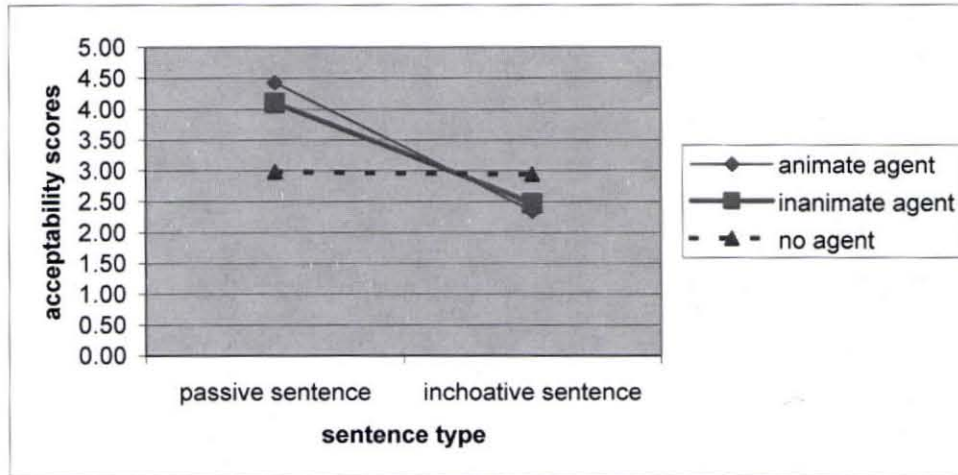


Figure 19. The Low EFL group in the sentence task.

4.5.6.5 L1 transfer effect: The results by verb group

This section reports on the results by the two verb groups: (a) the pure causative verb group, such as *break, open, bend, tear, close, shake*, and (b) the pure inchoative verb group, such as *melt, roll, dry, empty, burn, stop*. The results by verb group in both the EN and EFL groups are similar, and with no indication of L1 transfer in the EFL group. The EFL group neither rejected the inchoative sentences of the English verbs that belong to the pure causative group in Korean nor rejected the passive and accepted the inchoative of the English verbs that belong to the pure inchoative group in Korean. Lack of overt causative, inchoative, or passive morphemes in English did not interfere with their learning of L2 form. In terms of morphology, there seems to be little L1 transfer effect.

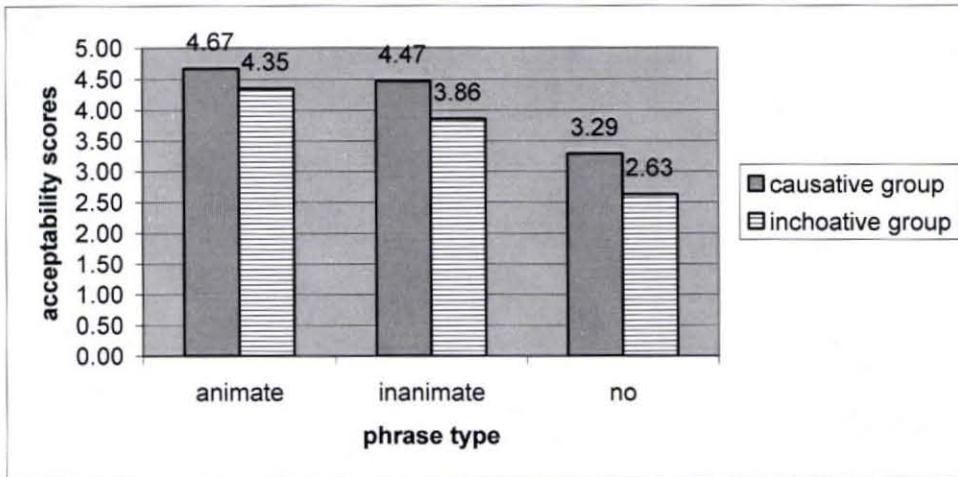


Figure 20. Passive sentences of the EFL group in the sentence task.

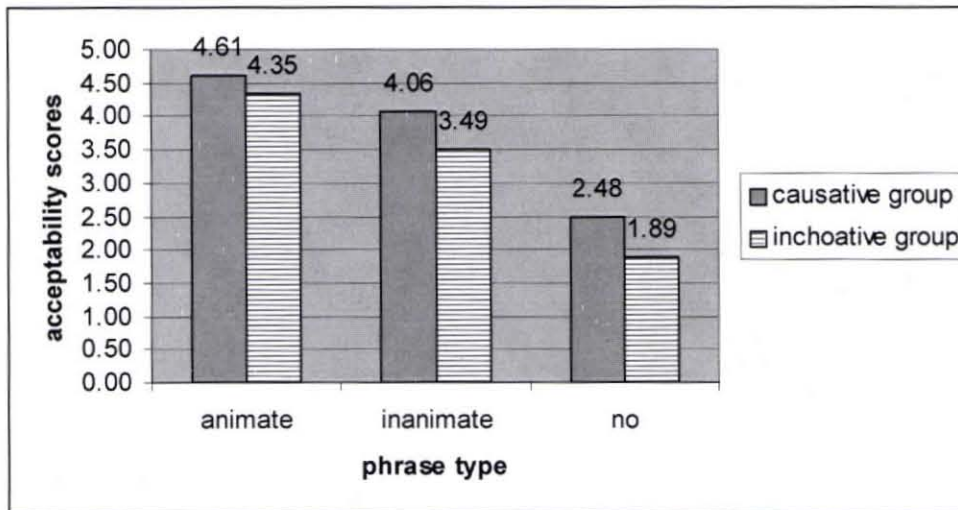


Figure 21. Passive sentences of the EN group in the sentence task.

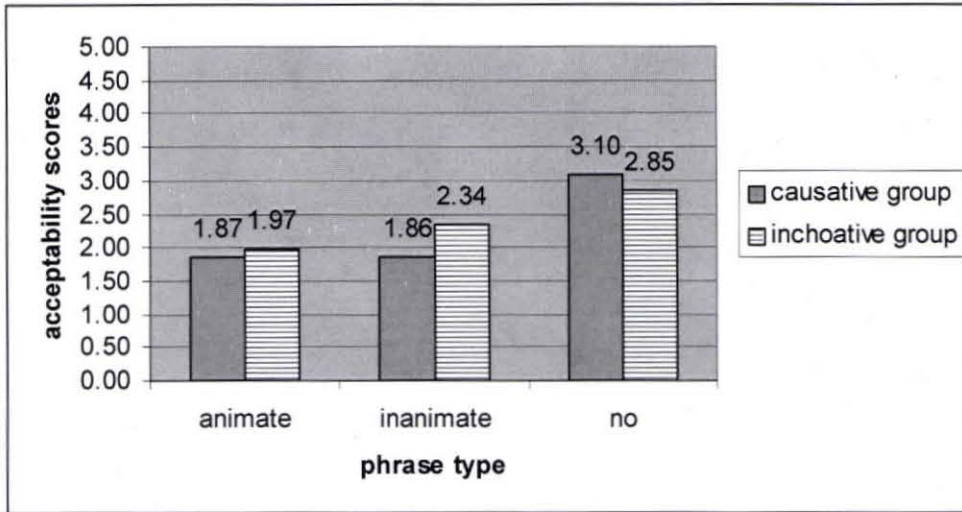


Figure 22. Inchoative sentences of the EFL group in the sentence task.

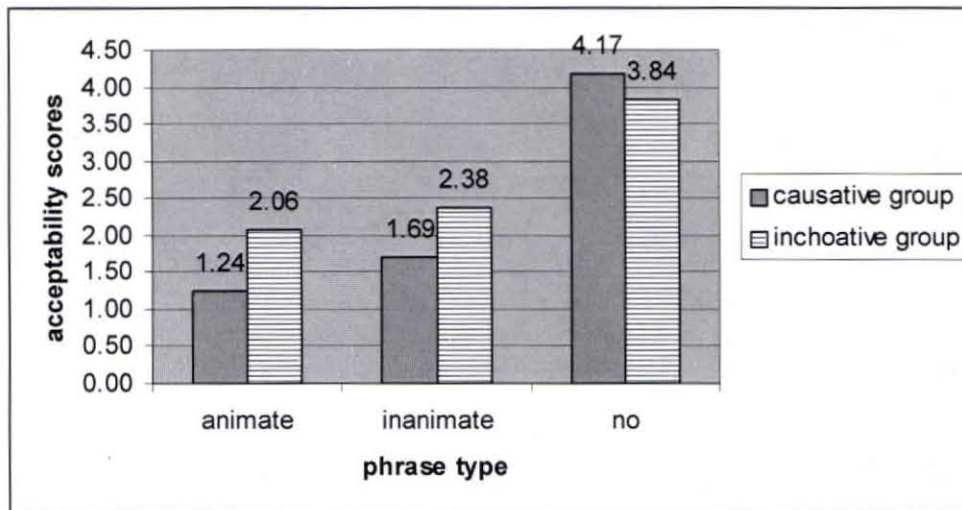


Figure 23. Inchoative sentences of the EN group in the sentence task.

4.5.6.6 The results of distractors

The sentence task also included as distractors intransitive verbs that were selected to explore some of the secondary research questions presented in (45).

(45) Secondary research questions (repeated in part)

- c. Do Korean learners of English distinguish intransitive-only verbs from transitive-intransitive alternating verbs?
- d. Do Korean learners of English overcausativize intransitive-only verbs such as *he disappeared himself* or *don't giggle me*?
- e. Do Korean learners of English make both Type I and Type II overpassivization?
- f. Do Korean learners of English with a high level of proficiency have more native-like performance than those with a low level of proficiency in the experiments?

The verbs included in this task are *happen*, *appear* (non-alternating unaccusative), *die*, *sleep*, and *sit* (unergatives). The EN group rated passive and causative sentences very low but inchoative sentences very high with these verbs, which indicates that passive and causative sentences with these verbs are absolutely ungrammatical (Figure 24). The results of the EFL group also showed similar patterns (Figure 25). However, the EFL group's unacceptability was not as strong as that of the EN group. Their acceptability scores for ungrammatical passive and causative sentences are between 1.78 and 3.22, whereas the ones for the EN group range from 1 to 1.47. Moreover, it is interesting that the EFL group rated intransitive sentences with these intransitive-only verbs high (4.08), whereas they rated inchoative sentences with experimental verbs, which are also intransitive sentences, low (2.91). This indicates that the EFL group distinguishes intransitive-only verbs from alternating verbs (experimental verbs) but does not clearly know that the alternating verbs allow intransitive sentences as well as transitive sentences.

Figures 26 and 27 show the results of the EFL group by proficiency level. As expected, the results of the high EFL group look similar to those of the EN group. However, their ratings for ungrammatical sentences were not as low as the EN group's. The high EFL group did not strongly reject transitive sentences of these intransitive-only verbs either, except for the causative sentence of *die*. However, they were not accepted as high as inchoative sentences, so it does not seem that the EFL group allows overcausativization of intransitive-only verbs.

Regarding Type I overpassivization, the EFL group, especially the high EFL group, did not accept ungrammatical overpassivized sentences (Type I). However, the low EFL group makes some Type I overpassivization, since this group does not differentiate ungrammatical passives from grammatical inchoatives for the verbs *die* and *sit* (Figure 27).

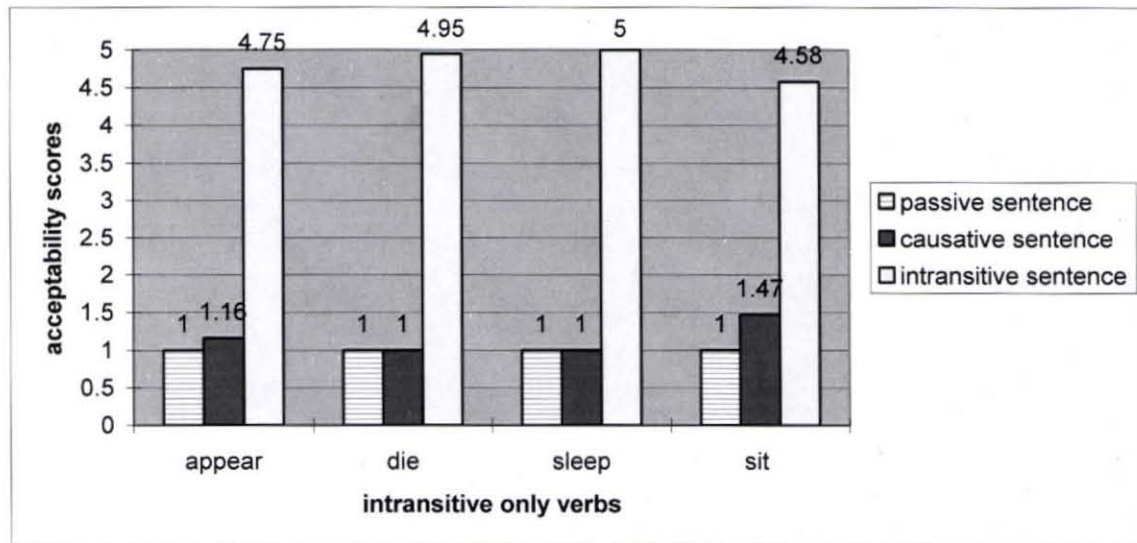


Figure 24. The EN group: acceptability scores of intransitive-only verbs.

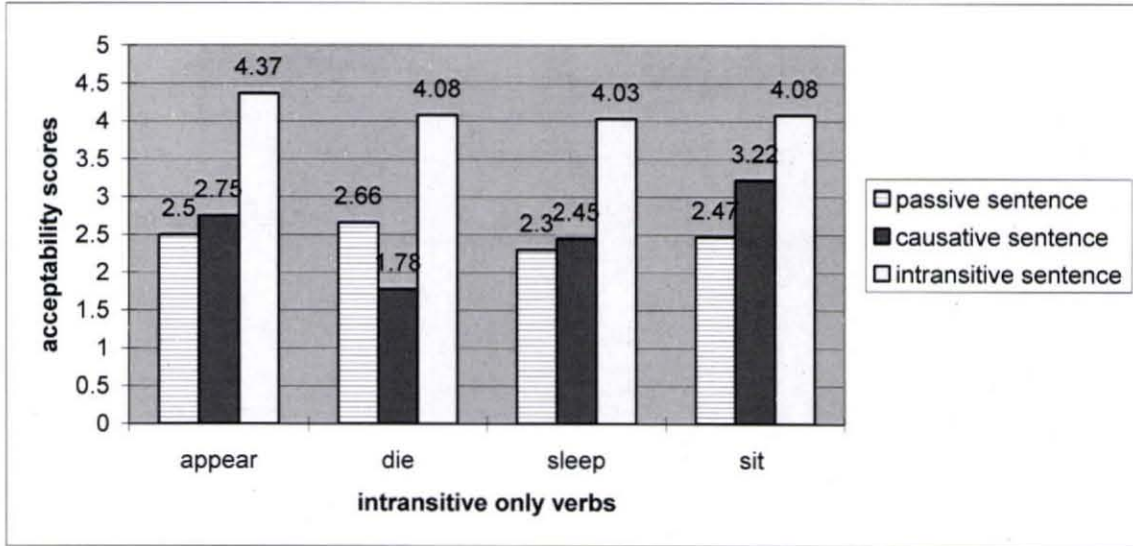


Figure 25. The EFL group: acceptability scores of intransitive-only verbs.

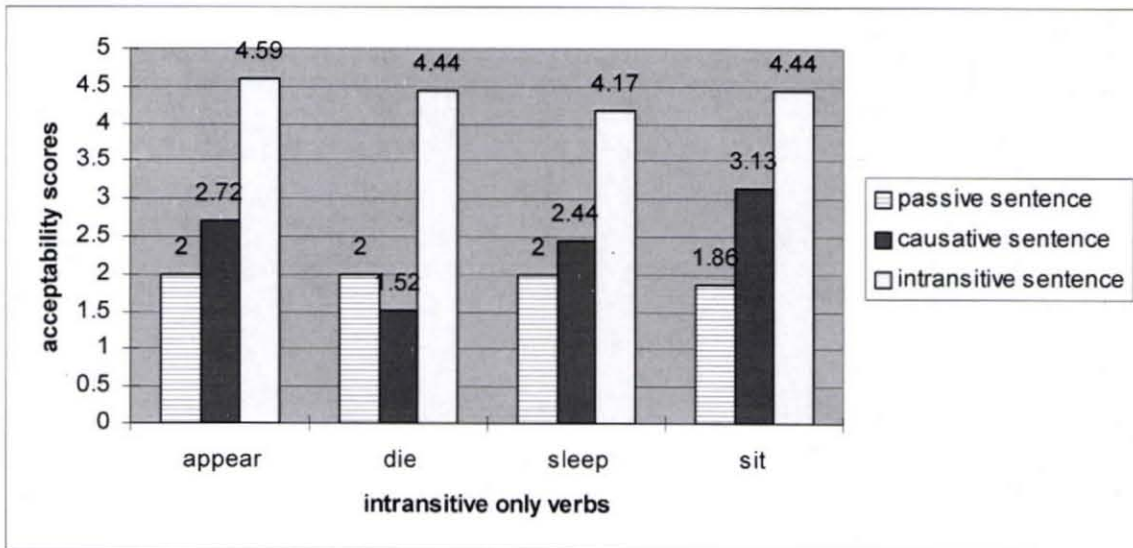


Figure 26. The High EFL group: acceptability scores of intransitive-only verbs.

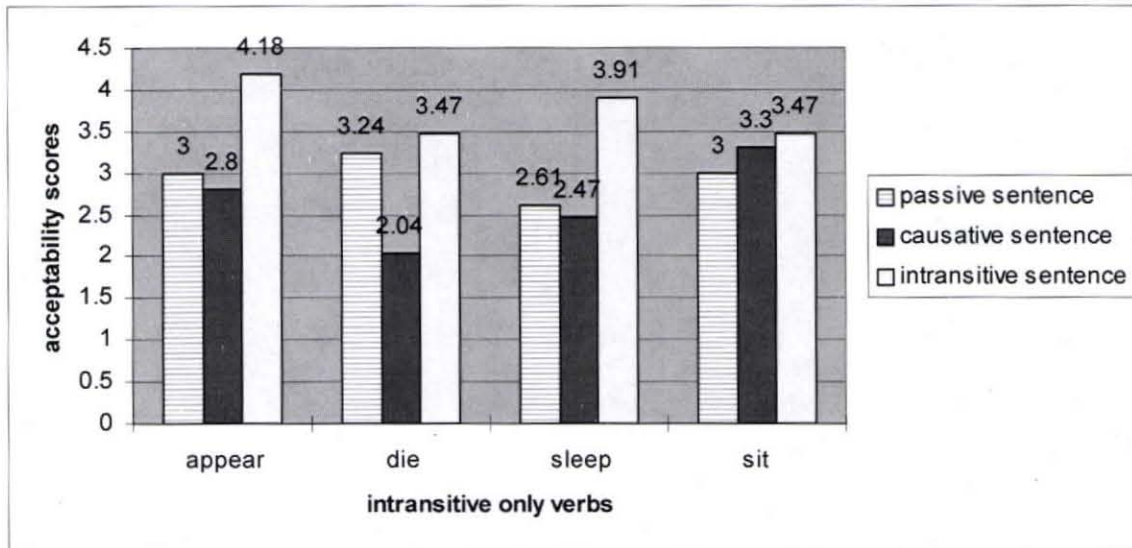


Figure 27. The Low EFL group: acceptability scores of intransitive only verbs.

4.5.7 Discussion

The EFL group showed knowledge of the constructional meaning of the passive and the inchoative in English. They rated the passive with the *by* the agent phrase high and the inchoative with the *by* the agent phrase low, suggesting that they know that the passive includes a linguistically implied agent but the inchoative does not. However, when the no-agent phrase ‘by itself’ was added, the EFL group did not distinguish the passive from the inchoative. This is consistent with the results of the movie task. When they do not observe an agent in the movie or in the sentence, the EFL group seems to accept the passive and the inchoative to a similar extent, which means that they make Type II overpassivization, overuse of the passive.

The EFL group also seems to make Type I overpassivization. They did not reject ungrammatical passives of intransitive-only verbs. This means that they did not reject sentences like *The man was died*. The results of the high EFL group was quite similar to those of the EN group. However, the low EFL group did not show strong acceptance or

rejection in general. It indicates their unclear knowledge of the narrow-range semantic constraints: which verbs can be both transitive and intransitive and which verbs cannot.

Another interesting finding was that the EFL group may not know that alternating unaccusative verbs (the target verbs in this study) allow both the causative-transitive and the inchoative-intransitive. They accepted the intransitive of intransitive-only verbs high, over 4.0 out of 5.0 (Figure 25), but that of alternating verbs low, 2.33 out of 5.0 on average (Table 19). It suggests that Type II overpassivization may also be caused by narrow-range semantic constraints. However, this does not refute the claim that Type II overpassivization seems to be caused by broad-range constructional constraints, since the EFL group differed in their acceptance depending on the strength of agentivity.

4.5.8 Summary

Both the EN and EFL groups rated passive sentences higher with *by* the animate agent than with *by itself*. Passive sentences were rated higher as agentivity increases. The opposite patterns were observed in inchoative sentences: As agentivity lowered, the acceptability rose. The major difference between the two groups was low acceptability of inchoative sentences with no agent in the EFL group. In other words, the EFL group did not accept grammatical inchoative sentences, which indicates that they do not accept inchoative sentences of the experimental verbs in general and/or that they do not have knowledge of the lack of agentivity in inchoative sentences. Because of the low acceptance of inchoative sentences, hypothesis Hb-ii was not accepted. In the following, the hypotheses of the sentence task are repeated and which hypotheses are accepted is indicated.

(49) Hypotheses

- a. Does the EFL group know that the passive has an implied agent in English?
- i) If yes, acceptability scores of passive sentences will be higher in sentences with an animate agent *by the man* than in sentences with no agent *by itself*.
→ ACCEPTED
 - ii) If yes, when sentences include an animate agent *by the man*, acceptability scores will be higher in passives than in inchoatives.
→ ACCEPTED
- b. Does the EFL group know that the inchoative does not imply an agent in English?
- i) If yes, acceptability scores of inchoative sentences will be higher in sentences with no agent *by itself* than in sentences with an animate agent *by the man*.
→ ACCEPTED, but acceptability scores were low even with *by itself*.
 - ii) If yes, when sentences include no agent *by itself*, acceptability scores will be higher in inchoatives than in passives.
→ NOT SUPPORTED

4.6 Experiment 3: The question & answer task

4.6.1 Introduction

This is another experiment to test agentivity of the passive and the inchoative in English. Inspired by Verrips's study (1998), the Q&A task examines whether passive and inchoative *why*-questions expect different types of answers (purpose answer, animate-cause answer, and inanimate-cause answer). Passive *why*-questions are more acceptable with purpose answers, and inchoative *why*-questions are more acceptable with cause answers (Verrips, 1998). The target language in Verrips' study was Dutch, so this experiment investigates whether it works in English and whether L2 learners also hold that interpretation. In this section, the hypotheses and the method of this Q&A task will be explained. Then, the results will be reported.

4.6.2 Verbs in the study

The experimental verbs are the same as the ones used in the EFL sentence task. See Section 4.6.2. The experimental verbs were: (a) the pure causative verb group requiring an inchoative morpheme to be an inchoative verb, such as *break, open, bend, tear, close, shake, fold*, and (b) the pure inchoative verb group requiring a causative morpheme to be a causative verb, such as *melt, roll, dry, empty, burn, stop, turn*.

4.6.3 Method

According to Verrips (1998), passive *why*-questions are more acceptable with purpose answers, and inchoative *why*-questions are more acceptable with cause answers in Dutch. This experiment tests whether English has the same linguistic phenomena. On

a computer screen, participants only view a start button. When they press the start button, the movie starts to play. In the movie, there are a girl and a boy. First, the girl asks a question, either a passive *why*-question or an inchoative *why*-question. Then, the boy answers to her question either with a purpose answer or a cause answer. In other words, participants read a question first and then its answer. After reading the question and answer, participants are asked to judge how natural the answer is to the question.

Each verb has four items with one of the two question types and one of the two answer types as in (52).

(52) Test items

a. Q: Why was the window broken¹⁴?

A: Because John wanted to escape through the window.

(Passive question x Purpose answer)

b. Q: Why did the window break?

A: Because John threw a ball at the window.

(Inchoative question x Cause answer)

c. Q: Why was the window broken?

?A: Because John threw a ball at the window.

(Passive question x Cause answer)

¹⁴ This can be seen as an adjectival passive question depending on the verbs. See Appendix for all the test questions in this experiment. Care should be taken in interpretation of the results.

d. Q: Why did the window break?

?A: Because John wanted to escape through the window.

(Inchoative question x Purpose answer)

In the test, cause answers started with an animate or inanimate agent randomly depending on the naturalness of the answer to the question. However, there seemed to be an animacy effect. After the pilot test, causal answers were divided into causal answers with an animate agent and with no agent. As a result, two more conditions were added, which made the total number of conditions 6.

(53) Types of cause answers

- a. Because John threw a ball at the window. (Cause answer with an animate agent)
- b. Because we had a strong rainstorm last night. (Cause answer with no agent)

Like the other tests, the test items (12 verbs¹⁵ x 6 conditions = 72 test items) were divided into three forms of the test (24 test items per version). Participants judged a passive sentence with one of the three phrase types and an inchoative sentence with one of the three phrase types. Each participant randomly took one of the three versions, which included 40 test items each (24 test items and 16 distractors).

¹⁵ Two verbs, *turn* and *fold*, were excluded in the Q & A test to shorten the length of the test.

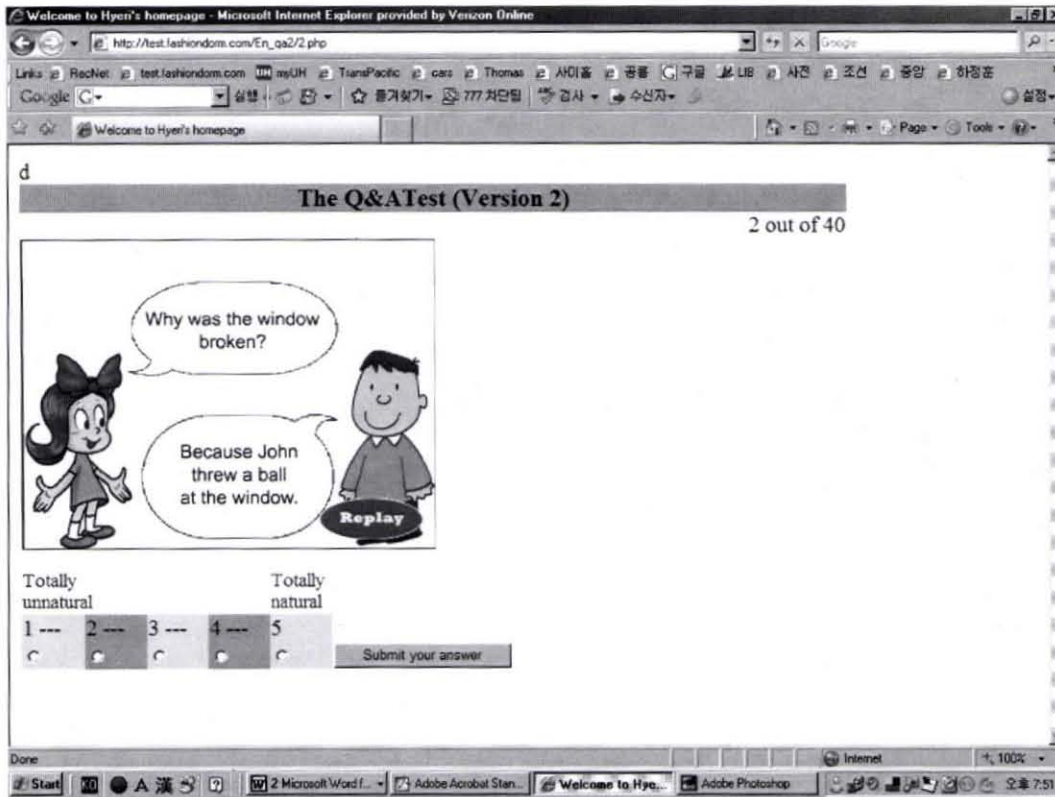


Figure 28. The question and answer task.

4.6.4 Participants

The participants in the sentence task were the same as those in the movie task: 77 intermediate and 71 advanced L2 learners of English in Korea and 42 native speakers of English. See Section 4.4.4 for details.

4.6.5 Hypotheses

In this experiment, purpose answers are expected to be more natural to passive *why*-questions and cause answers to inchoative *why*-questions. The detailed hypotheses are presented in (54). Table 24 shows expected acceptability scores of ideal native speakers of English.

(54) Hypotheses

- a. Does the EFL group know that the passive has an implied agent in English?**
 - i) If yes, when a question is a passive sentence, acceptability scores will be higher when its answer explains a purpose than when its answer explains a cause.**
 - ii) If yes, acceptability scores will be higher when the question to a purpose answer is a passive sentence rather than an inchoative sentence.**

- b. Does the EFL group know that the inchoative does not imply an agent in English?**
 - i) If yes, when a question is an inchoative sentence, acceptability scores will be higher when its answer explains a cause than when its answer explains a purpose.**
 - ii) If yes, acceptability scores will be higher when the question to a cause answer is an inchoative sentence rather than a passive sentence.**

Table 24

Expected acceptability scores of native speakers of English in the Q&A task

Expected	Passive Q	Inchoative Q
Purpose A		
Cause A with an animate agent	↑	↓
Cause A with an inanimate agent		

Note. Ha-i: Hypothesis a-i; Ha-ii: Hypothesis a-ii; Hb-i: Hypothesis b-i; Hb-ii:

Hypothesis b-ii

4.6.6 Results

The Q&A task tests whether passive and inchoative *why*-questions go well with three types of answers (purpose answer, animate-cause answer, and inanimate-cause answer). Each section reports the results of the Q&A task in the following order: (a) introduction of hypotheses, (b) descriptive statistics, and (c) statistical analysis. After the report as a whole, the results are reported by proficiency group and by verb group. Lastly, discussions and a summary are presented.

4.6.6.1 Reliability and validity

Like the movie test, reliability coefficients among the verbs for each condition type (2 sentence types x 3 context types) were measured using Cronbach's alpha.

Reliability coefficients for each group are presented in Table 25. The EN group showed very high reliability. The reliability coefficient of the EFL group is not as high as the EN group, but it can still be considered reliable.

Table 25

Reliability of the measures for the EFL Q&A task

Group	Number of conditions	Number of items	reliability
EN group	6 (2 sentence types x 3 context types)	12	0.91
EFL group	6 (2 sentence types x 3 context types)	12	0.84

4.6.6.2 Descriptive statistics

The results are reported descriptively first in Tables 26 and 27. Overall, in the EN group, the hypotheses set in (54) seems to be supported, except for hypothesis Hb-i. The data of the EN group in Table 28 shows similar patterns of increases and decreases of acceptability scores as Table 24 predicts. Passive questions were judged more natural with purpose answers (4.39) than with cause answers (3.88 for animate cause answers, 3.38 for inanimate cause answers). Inchoative questions were rated higher with cause answers (4.33 for animate cause answers, 4.00 for inanimate cause answers). One difference is in Hypothesis b-i. The EN group rated higher for cause answers with an animate agent than for the ones with an inanimate agent when inchoative questions were asked. However, both types of answers are cause answers, and their scores are higher than scores of purpose answers to inchoative questions. This is not very different from the expected pattern.

On the other hand, the EFL group's data is not consistent with the expected pattern or with the EN group's data. Regardless of question types, cause answers were

preferred. In contrast to the EN group, when passive questions were asked, the EFL group rated inanimate cause answers highest and purpose answers lowest. Thus, Hypothesis a-i is not supported in the EFL group. When inchoative questions were asked, the data pattern of the EFL group is similar to that of the EN group; that is, cause answers were accepted higher than purpose answers. Hypothesis a-ii seems to be accepted. However, the difference between passive questions and inchoative questions in the EFL group (3.57 vs. 3.07, respectively) is too small compared to that in the EN group (4.39 vs. 2.64, respectively). This is also true in Hypothesis b-ii. The EFL group shows little difference between passive questions and inchoative questions even with cause answers. Figures 29 and 30 visually compare the results of the EN and the EFL group.

Table 26

Descriptive statistics for the EN group in the Q&A task

Question type	Answer type	<i>M</i>	<i>SD</i>	<i>n</i>
passive question	purpose answer	4.39	1.15	208
	cause answer with an animate agent	3.88	1.50	208
	cause answer with an inanimate agent	3.38	1.53	208
	Total	3.88	1.46	624
inchoative question	purpose answer	2.64	1.60	208
	cause answer with an animate agent	4.33	1.26	208
	cause answer with an inanimate agent	4.00	1.34	208
	Total	3.66	1.59	624
Total	purpose answer	3.51	1.64	416
	cause answer with an animate agent	4.11	1.40	416
	cause answer with an inanimate agent	3.69	1.47	416
	Total	3.77	1.53	1248

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

Table 27

Descriptive statistics for the EFL group in the Q&A task

Question type	Answer type	<i>M</i>	<i>SD</i>	<i>n</i>
passive question	purpose answer	3.57	1.66	591
	cause answer with an animate agent	3.93	1.54	590
	cause answer with an inanimate agent	4.02	1.47	653
	Total	3.85	1.57	1834
inchoative question	purpose answer	3.07	1.75	592
	cause answer with an animate agent	3.77	1.60	530
	cause answer with an inanimate agent	4.08	1.45	592
	Total	3.64	1.66	1714
Total	purpose answer	3.32	1.72	1183
	cause answer with an animate agent	3.85	1.57	1120
	cause answer with an inanimate agent	4.05	1.46	1245
	Total	3.75	1.62	3548

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

Table 28

Acceptability scores of the EN group in the Q&A task

Expected	Passive Q		Inchoative Q
Purpose A	4.39	← Ha-ii	2.64
Cause A with an animate agent	3.88	Ha-i	4.33
Cause A with an inanimate agent	3.38	Hb-ii	4.00

Note. Ha-i: Hypothesis a-i; Ha-ii: Hypothesis a-ii; Hb-i: Hypothesis b-i; Hb-ii:

Hypothesis b-ii

Table 29

Acceptability scores of the EFL group in the Q&A task

Expected	Passive Q		Inchoative Q
Purpose A	3.57	← Ha-ii	3.07
Cause A with an animate agent	3.93	Ha-i	3.77
Cause A with an inanimate agent	4.02	Hb-ii	4.08

Note. Ha-i: Hypothesis a-i; Ha-ii: Hypothesis a-ii; Hb-i: Hypothesis b-i; Hb-ii:

Hypothesis b-ii

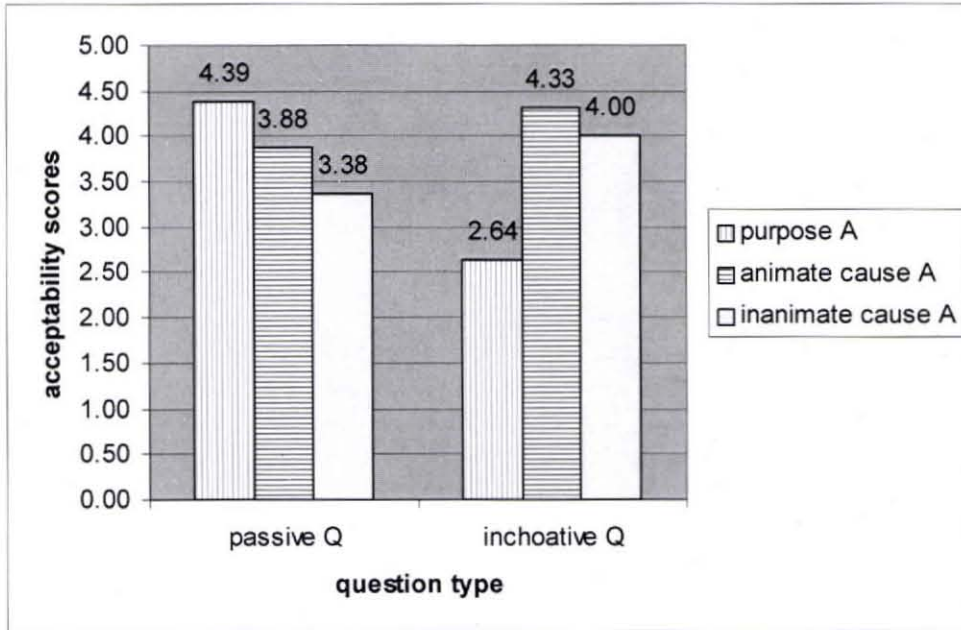


Figure 29. The EN group: Averages of each condition in the Q&A task.

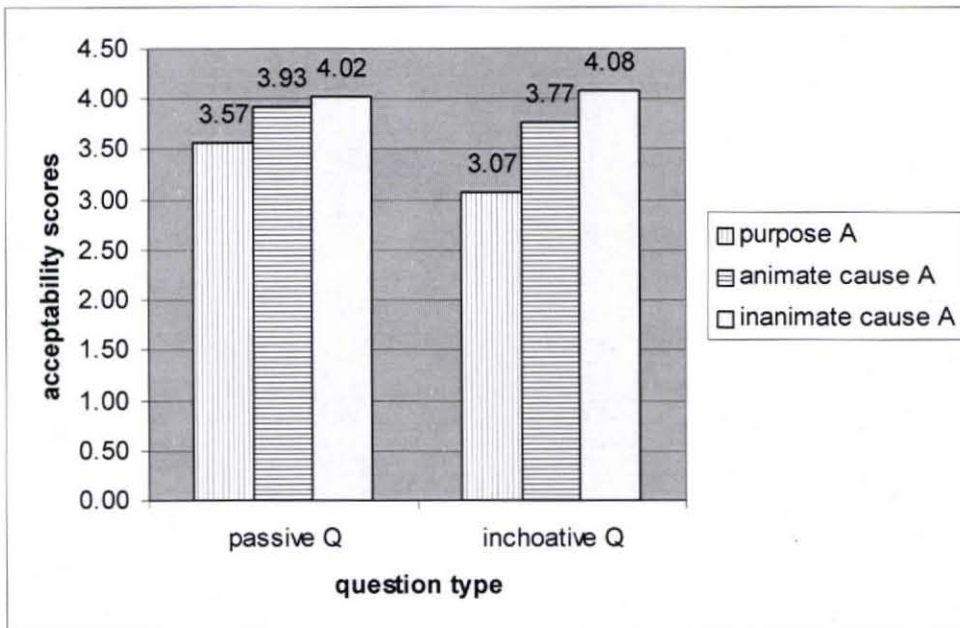


Figure 30. The EFL group: Averages of each condition in the Q&A task.

4.6.6.3 Statistical analysis

As in earlier analyses, a univariate General Linear Model (GLM) was used for statistical analysis of the results of the Q&A task. The dependent variable is the acceptability score, and the independent variables are (a) question type (passive, inchoative) and (b) answer type (purpose, animate-cause, inanimate-cause). A 2 x 3 factorial design was useful in examining the effect of each independent variable and the interaction effects of the independent variables.

In the results of the EN group, the main effect for answer and the interaction effect were statistically significant in the analysis of variance (Table 30). The η^2 values show that the interaction is the most important factor accounting for the data. In the case of the EFL group, the main effects for both question and answer and the interaction effect were all significant (Table 31). However, the most important variable *answer* only accounts for 3.6% of the variability in the data. It seems that there are other factors that influence the data of the EFL Q&A task.

Table 30

The EN group: Results of two-way ANOVA in the Q&A task

Source	SS	df	MS	F	η^2
Question	16.39	1	16.39	8.27	0.006
Answer	76.74	2	38.37	19.38*	0.026
Question & Answer	362.46	2	181.23	91.52*	0.124
Residual (error)	2459.41	1242	1.98		
Total	2915.00	1247			

* $p < .004$

Table 31

The EFL group: Results of two-way ANOVA in the Q&A task

Source	SS	df	MS	F	η^2
Question	34.61	1	34.61	13.87*	0.004
Answer	337.42	2	168.71	67.60*	0.036
Question & Answer	48.40	2	24.20	9.70*	0.005
Residual (error)	8839.55	3542	2.50		
Total	9259.18	3547			

* $p < .004$

The significant interaction effect in both ANOVAs indicates that the effect of question is dependent on the choice of answer type and is not the same for answers across questions. Figures 31 and 32 show different patterns of interaction between groups. Figure 31 clearly shows that the EN group distinguishes answer types depending on question type. Purpose answers were rated higher with passive questions than with inchoative questions. Cause answers were accepted higher with inchoative questions than with passive questions. On the contrary, in the EFL group, the choice of answers was not different between the two types of questions, even though the main effects of both independent variables were statistically significant. At least, the EFL group showed a similar pattern to the EN group in purpose answers. However, there are little differences in acceptability scores of cause answers between the two questions.

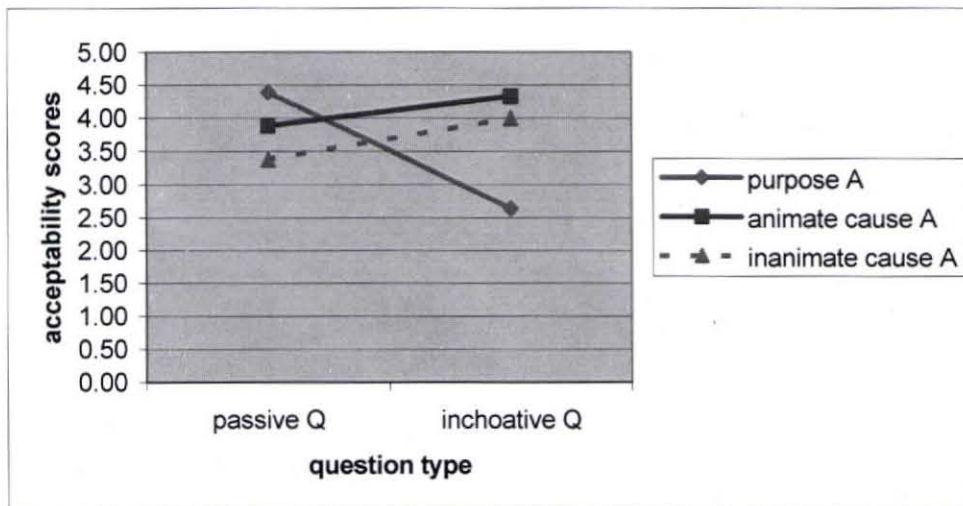


Figure 31. The EN group: Interaction effect in the Q&A task.

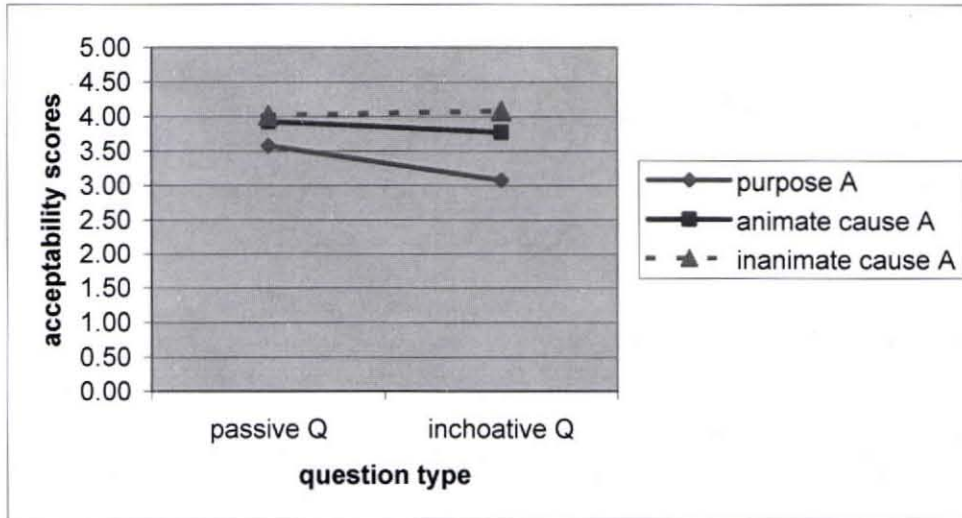


Figure 32. The EFL group: Interaction effect in the Q&A task.

4.6.6.4 Comparison of high and low EFL groups

This section compares the results of the two subgroups without statistical analysis. As shown in Figures 33 and 34, the results for both cause answers are similar between the two subgroups. Both EFL groups consistently rated cause answers high regardless of question types. In fact, the low EFL group did not distinguish question types at all (Figure 34). However, the high group rated purpose answers high when passive questions were asked and low when inchoative questions were asked, which is similar to the EN group except for the narrow range of scores in the high EFL group. It may mean that the high EFL group has knowledge of agentivity in purpose answers.

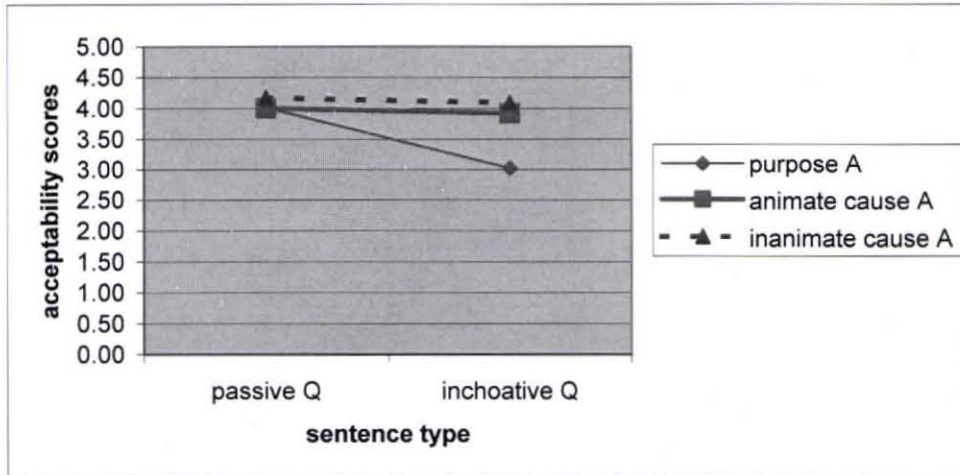


Figure 33. The High EFL group in the Q&A task.

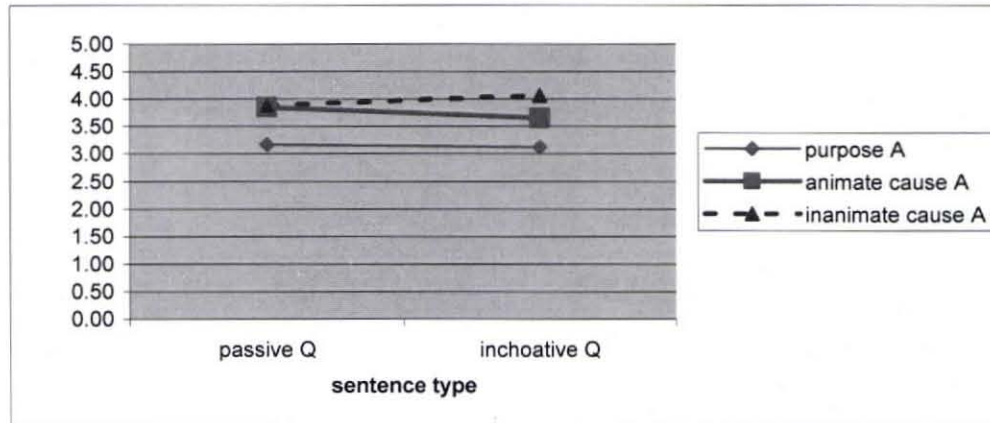


Figure 34. The Low EFL group in the Q&A task.

4.6.6.5 L1 transfer effect: The results by verb group

This section reports on the results by the two verb groups: (a) the pure causative verb group, such as *break, open, bend, tear, close, shake*, and (b) the pure inchoative verb group, such as *melt, roll, dry, empty, burn, stop*. It is interesting to compare the results of the passive and inchoative questions in the EFL group. Acceptability scores of the causative verb group were consistent across the three answer types in both passive and

inchoative questions. In other words, the EFL group does not differentiate agentivity of the causative group, regardless of the question and answer type. However, the inchoative verb group was rated higher with cause answers than with purpose answers, regardless of questions. This may be an L1 transfer effect. In Korean, the simple verbs in the pure causative group have an agent and a theme in argument structure, but the simple verbs in the pure inchoative group has a theme only. Regardless of question types, the EFL learners seem to rely more on each verb's argument structure in judging naturalness of the answer to the question. The English verbs in the pure causative group go well both with purpose answers with a linguistically implied agent and cause answers without a linguistically implied agent, because their corresponding Korean verbs have an agent and a theme in their argument structure. The English verbs in the pure inchoative group go well with cause answers lacking a linguistically implied agent, but not with purpose answers with strong agentivity, because their corresponding Korean verbs have a theme only in their argument structure.

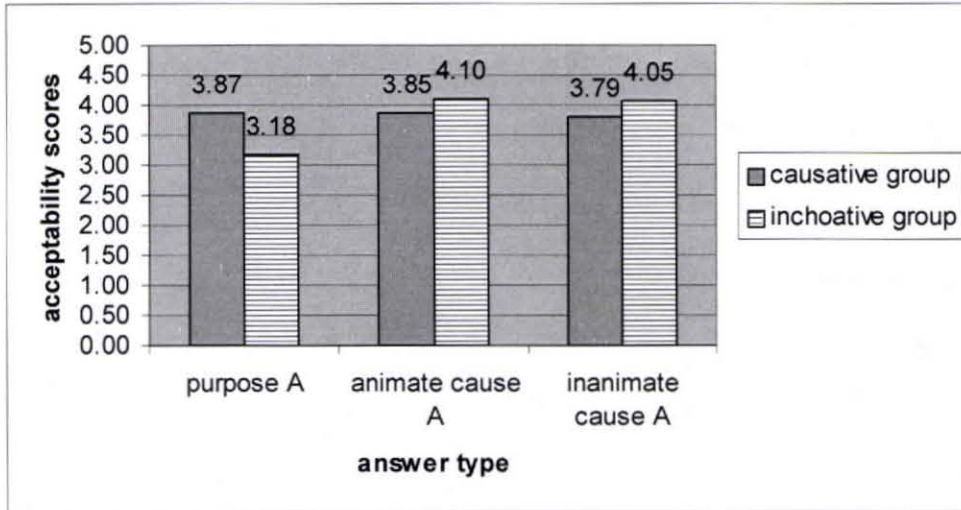


Figure 35. Passive questions of the EFL group in the Q&A task.

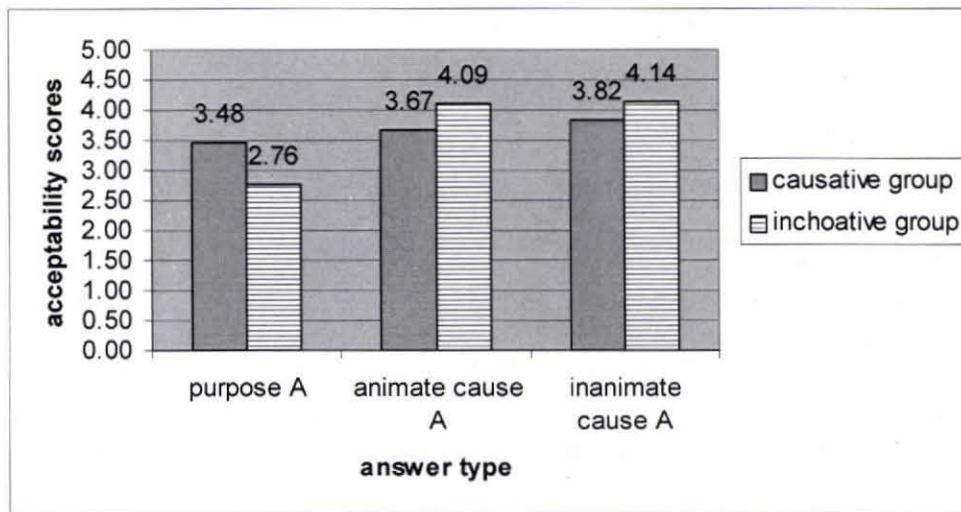


Figure 36. Inchoative questions of the EFL group in the Q&A task.

Figures 37 and 38 show the results of the EN group with the same verb groups. The EN group also shows slight differences between verb groups. However, the differences are neither similar to the ones in the EFL group nor consistent between the two question types. The differences between verb groups or question types seem to result

from different degrees of pragmatic naturalness in the questions and answers used in the experiment.

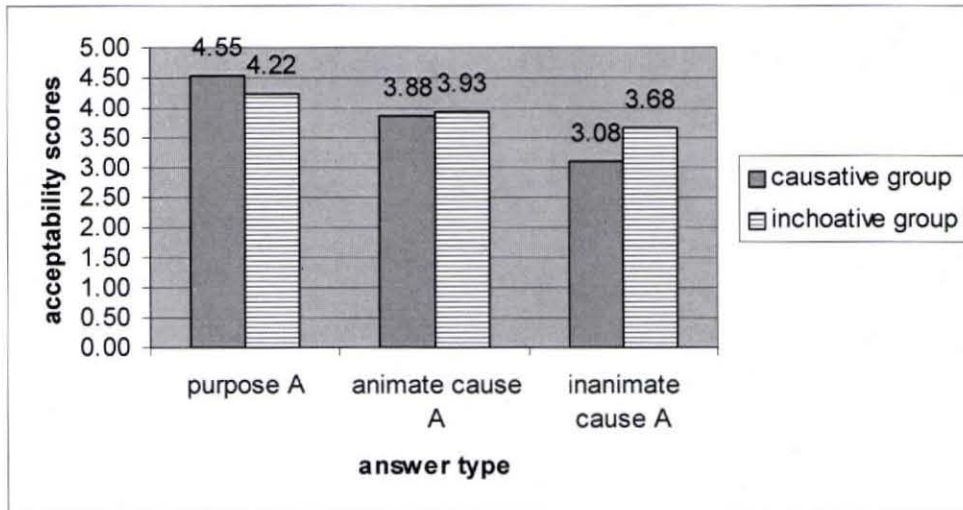


Figure 37. Passive questions of the EN group in the Q&A task.

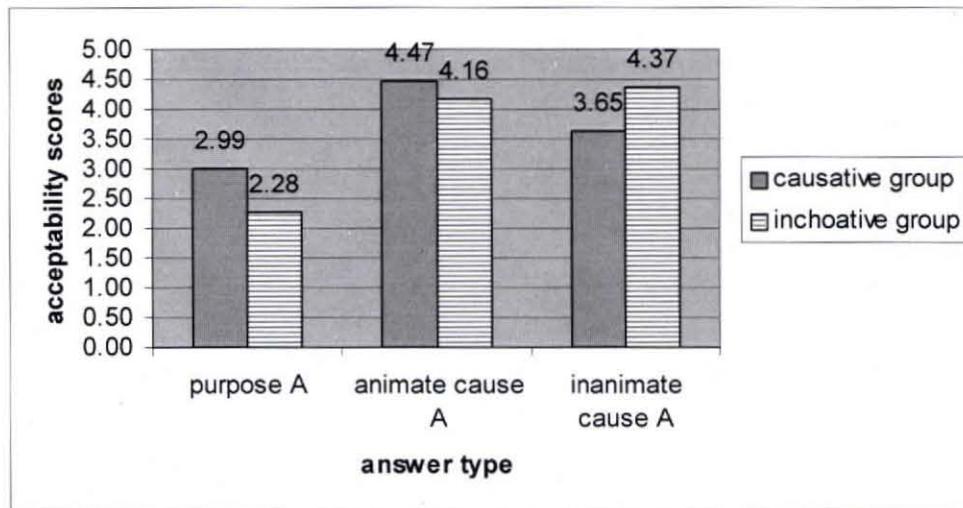


Figure 38. Inchoative questions of the EN group in the Q&A task.

4.6.7 Discussion

The results of the EN group were as expected; the results of the EFL group were not. The EN group rated the combinations of passive questions with purpose answers higher than those with cause answers and the combinations of inchoative questions with cause answers higher than those with purpose answers. The EFL group was not selective in choosing answers depending on the question type except for purpose answers in the high EFL group. The reason seems to be that there is no agent stated in the questions that were used as stimulus. Like the results of the other two experiments, the EFL group did not distinguish the passive from the inchoative when there is no agent in the contexts that were provided as stimuli, e.g., in the movies, in the sentences, and in the questions. The results of the Q&A task are consistent with those of the other tasks.

English seems to be similar to Dutch in that passive questions are more natural with purpose-reading answers, and inchoative questions with cause-reading answers. However, acceptance of cause answers to passive questions was also quite high, over 3.0 out of 5.0 in the EN group (see Figure 29). It seems to be that some passive questions were the same as their corresponding adjectival passive questions, which makes cause answers natural as well. However, not all passive questions were able to be interpreted as adjectival passive questions. See Appendix to see which questions can both be verbal passive and adjective passive questions.

One of the most interesting findings was the EFL group's high acceptance of cause answers regardless of question type. This may be L1 transfer. The patterns of the EFL data in the EFL Q&A task are similar to those of the Korean natives' data in the KFL Q&A task. This will be discussed in detail in Chapter 6.

4.6.8 Summary

In the following, the hypotheses of the Q&A task are repeated here and which hypotheses are accepted is indicated.

(54) Hypotheses (repeated)

a. Does the EFL group know that the passive has an implied agent in English?

i) If yes, when a question is a passive sentence, acceptability scores will be higher when its answer explains a purpose than when its answer explains a cause.

→ NOT SUPPORTED

ii) If yes, acceptability scores will be higher when the question to a purpose answer is a passive sentence rather than an inchoative sentence.

→ ACCEPTED

b. Does the EFL group know that the inchoative does not imply an agent in English?

i) If yes, when a question is an inchoative sentence, acceptability scores will be higher when its answer explains a cause than when its answer explains a purpose.

→ ACCEPTED

- ii) If yes, acceptability scores will be higher when the question to a cause answer is an inchoative sentence rather than a passive sentence.

→ ACCEPTED but the difference is too small.

4.7 Conclusion

This EFL study includes three experiments that test the EFL learners' knowledge of the constructional meanings of the passive and the inchoative in terms of agentivity. The EFL learners seemed to know that the passive includes a linguistically implied agent and the inchoative does not, when they were able to observe an agent clearly in the context that stimulated their judgment. However, when there was no agent shown or observed in the context that simulated their judgment, the EFL group did not distinguish the passive from the inchoative.

The EFL learners made both Type I and Type II overpassivization. In particular, the low EFL group did not reject ungrammatical passives of intransitive-only verbs, indicating that they made Type I overpassivization. No distinction between the passive and the inchoative in the absence of an agent in the context shows that the EFL group would overuse the passive, which is Type II overpassivization.

The results of the experiments were not much different by proficiency level. The results of the high EFL group were more similar to those of the EN group in terms of degree. The results of the high and the low EFL groups showed similar patterns.

Morphological L1 transfer effects were not observed. The results of the experiments were not much different by verb group. One interesting finding was that the EFL group seemed to transfer the argument structure of the experimental verbs in Korean.

For verbs in the pure causative verb group, the EFL group seemed to think that those verbs include an agent and a theme in their argument structure so that they were better with the passive or in an agent-existing context than with the inchoative or in a no-agent context. Likewise, for verbs in the pure inchoative verb group, the EFL group seemed to think that those verbs have a theme only in their argument structure so that they were more natural with the inchoative or in a no-agent context than with the passive or in an agent-existing context.

CHAPTER 5

Korean as a foreign language study

5.1 Introduction

The purpose of this study is the same as the EFL study, that is, whether L2 learners of Korean distinguish the passive from the inchoative in terms of agentivity. However, it should first be investigated experimentally whether L1 speakers of Korean show an agentivity distinction between the passive and the inchoative. There has been little empirical research on this issue because of the complex and tangled morpheme system in Korean. The three experiments in this study were conducted through the Internet. Participants visited the test site and took the three tests consecutively. This study includes L2 experiments as well as L1 experiments. The results of the experiments will be reported independently and comparatively. This chapter includes 7 sections. First, research questions and hypotheses will be presented. Section 5.4, 5.5, and 5.6 discuss the three experiments, respectively. The conclusion section closes this chapter.

5.2 Research questions

The research questions follow:

(55) Research questions¹⁶

- a. Does the Korean passive have a linguistically implied agent as in English?
- b. Does the Korean inchoative lack a linguistically implied agent as in English?

¹⁶ In the KFL study, specific hypotheses were not set. Since the constructional meanings of the passive and the inchoative in Korean are unclear, it was difficult to set hypotheses for the KFL group.

- c. Do English-speaking learners of Korean think that the passive has a linguistically implied agent in Korean?
- d. Do English-speaking learners of Korean think that the inchoative lacks a linguistically implied agent in Korean?
- e. Do native speakers of Korean have the same constructional meaning of the short form and the long form passive in the pure causative group?
- f. Do English-speaking learners of Korean have the same constructional meaning of the short form and the long form passive in the pure causative group?

5.3 Experiment 1: The movie task

5.3.1 Introduction

The movie judgment task tests whether the existence of an agent in the movie context affects the subjects' rating of the appropriateness of the passive and the inchoative in Korean. This section reports on the first experiment of the KFL study and its results.

5.3.2 Verbs in the study

The target verbs used in this study are the same verbs as in the EFL study. As stated, Korean has two morphologically different groups: (a) the pure causative verb group which requires an inchoative morpheme to make the corresponding inchoative verb and (b) the pure inchoative verb group which requires a causative morpheme in order to make the corresponding causative verb.

The pure inchoative verb group is the target verb group which will be used to investigate the distinction between the passive and the inchoative in terms of agentivity in Korean, since verbs of this group have different forms for the passive and the inchoative. The pure causative verb group also has two verb forms, the long form and the short form. However, they can be used either in the passive or the inchoative, so it is impossible to test whether the passive and the inchoative have different constructional meanings. Regarding the primary research question in this study, only the pure inchoative verb group can provide an answer.

Verbs in the pure inchoative verb group have different forms for the inchoative and the passive, since they go through causativization before passivization. The basic forms, the inchoative forms, have no morpheme, but the passive forms have two morphemes, one of the causative morphemes *i/hi/li/ki/wu/kwu/chwu* and one passive morpheme *-e ci* (Table 32).

Table 32

Pure inchoative verb group requiring a causative morpheme

Basic form: inchoative (No morpheme)	Causative-transitive (Causative morphemes)	Passive form (Causative + passive morpheme)
nokta 'melt'	nokita	nokie <u>cita</u>
kwuluta 'roll'	kwullita	kwullie <u>cita</u>
maluta 'dry'	mallita	mallie <u>cita</u>
pita 'empty'	piwuta	piwue <u>cita</u>
thata 'burn'	thaywuta	thaywue <u>cita</u>
seta 'stop'	seywuta	seywue <u>cita</u>
tolta 'turn'	tollita	tallie <u>cita</u>

Table 33 shows the inchoative and passive forms of verbs in the pure causative verb group. In this verb group, the inchoative and the passive forms are the same. A few verbs in this group have short forms with one of the *i/hi/li/ki* morphemes, which are more frequent than *-e ci* forms. Including those verbs with a short form, most verbs in this group have a long form. This verb group is inappropriate for investigating the distinction between the passive and the inchoative, since the forms are identical. On the other hand, this group has another interesting property: some verbs in this group, especially frequent verbs, have two different verb forms, a short form with one of the *i/hi/li/ki* morphemes and a long form with *-e ci-* (e.g., *yelta* 'open,' *ccicta* 'tear,' *tatta* 'close,' *huntulta* 'shake,' *cepta* 'fold,' etc.). The long forms are the more productive ones, but the short forms are more frequently used. It would be interesting to see whether these two forms are used in

the same way in contemporary Korean. More specifically, the questions are whether the two forms have the same or different constructional meanings in Korean and whether the KFL group acquires the two forms as native speakers do. These issues will also be explored in this study.

Table 33

Pure causative verb group requiring an inchoative morpheme

Basic form: causative (No morpheme)	Inchoative form (Inchoative morphemes)	Passive form (Passive morpheme)
kkayta 'break'	kkaycita	kkaycita
yelta 'open'	yellita/yele cita	yellita/yele cita
hwita 'bend'	hwie cita	hwie cita
ccicta 'tear'	ccickita/ccice cita	ccickita/ccice cita
tatta 'close'	tathita/tate cita	tathita/tate cita
huntulta 'shake'	huntullita/huntele cita	huntullita/huntele cita
cepta 'fold'	cephita/cepe cita	cephita/cepe cita

Note. *kkata* 'break' is excluded or treated as a distractor because it does not have a short form. *Hwita* 'bend' is also excluded because the simple form *hwita* can also be an inchoative form.

Some verbs that are alternating in Korean but non-alternating in English are included as distractors. For example, the unaccusatives *happen* and *appear* and

unergatives *die* and *sleep* are originally intransitive in Korean and become transitive by adding one of the causative morphemes *i/hi/li/ki/wu/kwu/chwu*.

Table 34

Distractors

Basic: intransitive (No morpheme)	Causative-transitive (Causative morphemes)	Passive form (Causative + passive morpheme)
nata ‘happen’	nayta	naye <u>cita</u>
cwukta ‘die’	cwukita	cwukie <u>cita</u>
cata ‘sleep’	caywuta	caywue <u>cita</u>
ketta ‘sit’	kellita	kellie <u>cita</u>

5.3.3 Method

The KFL movie task is the same as the EFL one except that it tested Korean. On a computer screen, participants watched an animation clip delineating an event and either a passive or an inchoative sentence and judged how natural the sentence was in the context shown in the movie. Each verb was presented in three different animated events: (a) an event with an animate agent, (b) an event with an inanimate agent such as an object, machine, or natural force, and (c) an event without any agent. Each animation was presented with one of the two types of sentences, a passive sentence or an inchoative sentence. For details, see Section 4.4.3.

As examples, test sentences used in each task are presented as follows:

(56) Verb form types in the Korean movie task

a. Pure causative verb group

(i) Mun-i yel-*e* *cy-ess-ta*.¹⁷ (long form)

Door- NM open- *INF* *become*-PST-DC

‘The door opened/was opened.’

(ii) Mun-i yel-*ly-ess-ta*. (short form)

Door- NM open-*PAS*-PST-DC

‘The door opened/was opened.’

b. Pure inchoative verb group

(i) Elum-i nok-*y-e* *cy-ess-ta*. (passive)

Ice-NM melt-*CAUS-INF* *become*-PST-DC

‘The ice was melted.’

(ii) Elum-i nok-*ass-ta*. (inchoative)

Ice-NM melt-PST-DC

‘The ice melted.’

For more examples, see Appendix.

¹⁷ Abbreviations: A-ablative, ACC-accusative particle, AD-adverbializer, CAUS-causative suffix, DC-declarative sentence-type suffix, G-goal particle, INCHO-inchoative suffix, INF-infinitive suffix, NOM-nominative case particle, Q-question suffix, PASS-passive suffix, PL-plural suffix, PST-past tense and perfect aspect suffix.

The number of test items in the KFL movie task was smaller than that in the EFL movie task in order to shorten the time to complete the task. Especially in the case of the KFL group, since the experiments were conducted during the participants' class, the time for the experiment should be as short as possible. The short tasks were possible because Korean has different verb forms for the passive and the inchoative depending on the verb groups and the large number of distractors was not necessary. For example, in the English test, the target verb forms were either *be -ed* for the passive or no morpheme for the inchoative; in the Korean test, the verb forms were the short form including *i/hi/li/ki* and the long form including *-e ci* for the pure causative verb group and the inchoative form without any morpheme and the passive form with *-e ci* for the pure inchoative verb group.

5.3.4 Participants

The participants were 117 learners of Korean as a foreign language in the U.S. and 64 native speakers of Korean living in Korea and in the U.S. Native speakers of Korean (KN group) were recruited through personal contacts. Sixteen participants were male and the rest female, and their ages ranged from 23 to 49 years old. More than half of the participants were in their thirties and from Seoul, Korea. All participants had finished at least a two-year college education, and 37 participants responded that their highest degree was at the Master's level.

The KFL participants were U.S. military personnel learning Korean as a foreign language at a large language institute in the U.S. The Research Division at the institute helped me obtain permission and access to conduct research there. The KFL participants

took the test concurrently at a computer lab by class. Volunteers for the study received a Korean traditional bookmark at the site and got access to a web site with tutorials about the passive and the inchoative in Korean. At the time the research was conducted, participants were in week 49, 52, 57, or 60 of their 63-week program. The participants were randomly assigned one of the three forms by the computer program, but for unknown reasons, the participants' numbers assigned for each form were not comparable.

Table 35

The number of participants for each form who were included for analysis

	Test form A	Test form B	Test form C
KN group	21	23	20
KFL group	44	29	44

No cloze test was conducted due to the lack of a valid and reliable cloze test in Korean. Instead of the results of a cloze test, participants' proficiency was described using the Interagency Language Roundtable (ILR) proficiency scales. The proficiency levels of the participants were between 1+ and 2 on the Interagency Language Roundtable (ILR) OPI scales.

5.3.5 Hypotheses

The movie task aims to examine whether participants accept a passive sentence or an inchoative sentence depending on agentivity in context. In Korean, only the pure inchoative verb group is pertinent to this issue. The detailed hypotheses are presented in

(57). Table 36 shows an idealized pattern if Korean distinguishes the inchoative from the passive as in English.

(57) Hypotheses

- a. Does the Korean passive have a linguistically implied agent as in English?
If yes, when passive sentences are presented, their acceptability scores will be higher in contexts with an animate agent than in contexts with no agent.
- b. Does the Korean inchoative lack a linguistically implied agent as in English?
 - i) If yes, when contexts with no agent are presented, their acceptability scores will be higher in inchoative sentences than in passive sentences.
 - ii) If yes, when inchoative sentences are presented, acceptability scores will be higher in contexts with no agent than in contexts with an animate agent.
- c. Does the KFL group think that the Korean passive has a linguistically implied agent as in English?
If yes, when passive sentences are presented, their acceptability scores will be higher in contexts with an animate agent than in contexts with no agent.
- d. Does the KFL group think that the Korean inchoative lacks a linguistically implied agent as in English?
 - i) If yes, when contexts with no agent are presented, their acceptability scores will be higher in inchoative sentences than in passive sentences.

- ii) If yes, when inchoative sentences are presented, acceptability scores will be higher in contexts with no agent than in contexts with an animate agent.

Table 36

Pure inchoative verb group: Expected acceptability scores in the movie task if Korean distinguishes the inchoative from the passive as in English

Expected	Passive form	Inchoative form
Animate agent		
Inanimate agent		
No agent		

Note. Ha: Hypothesis a; Hb-i: Hypothesis b-i; Hb-ii: Hypothesis b-ii; Hc: Hypothesis c; Hd-i: Hypothesis d-i; Hd-ii: Hypothesis d-ii

5.3.6 Results

This section reports on the results of the KFL movie task. In each section, the KN data are analyzed first to find out the constructional meanings of the passive and the inchoative in Korean. Then, the KFL data are presented in comparison with the native data and statistically analyzed. The first Section 5.3.6.1 discusses the reliability and validity of the movie task. Section 5.3.6.2 reports the results of the pure inchoative verb group and Section 5.3.6.3 the results of a statistical analysis for the pure inchoative verb group. Lastly, Section 5.3.6.4 reports the results of the pure causative verb group.

5.3.6.1 Reliability and validity

Before reporting on the results, the reliability and validity of the tasks in the experiment need to be discussed. In order to show the internal consistency of the test, reliability coefficients among the pure inchoative verbs for each condition type (2 sentence types x 3 context types) were measured using Cronbach's alpha. Cronbach's alpha increases when the items are highly correlated. In this study, high reliability means that the participants rated similarly on each condition for all pure inchoative verbs. For example, if a participant judged 5 for a passive sentence and an animate agent context of the verb *melt*, he or she would also judge 5 for that condition of the verb *dry*.

Reliability coefficients for each verb group are presented in Tables 37 and 38. Both groups showed decent reliability. The movie task in the KFL study showed lower reliability than the one in the EFL study, which means that the participants' responses in the KFL study were not as consistent among the verbs as the one in the EFL study. The reason seems to be the smaller number of items in the KFL study. The verbs were divided into two verb groups in the KFL study, not in the EFL study. Each verb group had only 5 or 7 items in the KFL study. With more items, the reliability coefficients would have increased.

Table 37

Reliability of the measures for the KFL movie task: Pure causative verb group

Group	Number of conditions	Number of items	reliability
KN group	6 (2 sentence types x 3 context types)	5	0.78
KFL group	6 (2 sentence types x 3 context types)	5	0.62

Table 38

Reliability of the measures for the KFL movie task: Pure inchoative verb group

Group	Number of conditions	Number of items	reliability
KN group	6 (2 sentence types x 3 context types)	7	0.74
KFL group	6 (2 sentence types x 3 context types)	7	0.71

5.3.6.2 Results of the pure inchoative verb group

Means and standard deviations of acceptability scores of the 7 pure inchoative verbs were calculated for each condition: 2 verb forms (passive form and inchoative form) x 3 context types (animate agent, inanimate agent, and no agent). The descriptive statistics for the movie task are presented in Table 40. For easier understanding, the example sentences from (56b) are repeated here.

(56) b. Pure inchoative verb group

- (i) Elum-i nok-y-e cy-ess-ta. (passive)
Ice-NM melt-CAUS-*INF* *become*-PST-DC
'The ice was melted.'
- (ii) Elum-i nok-ass-ta. (inchoative)
Ice-NM melt-PST-DC
'The ice melted.'

As a whole, the native speakers of Korean rated sentences with inchoative verb forms higher (3.91 out of 5) than the ones with passive verb forms (3.26 out of 5). Both forms were accepted. As seen above, the passive form includes two morphemes whereas the inchoative has none. The inchoative form is the basic form in the pure inchoative verb group. It might be expected that speakers would prefer a morphologically simple form rather than a complex one when either is possible in the context.

The descriptive statistics suggest that the Korean passive has a linguistically implied agent like in English. Ha is thus supported in the results. When passive forms were presented, the acceptability scores of the KN group were higher in contexts with an animate agent than in contexts with no agent. The patterns of decreases in acceptability scores were not exactly the same as predicted, though, since the scores of the inanimate agent (3.54 out of 5) were higher than those of the animate agent (3.36). It seems that the KN group preferred inanimate agents rather than animate agents in sentences with a passive form of a pure inchoative verb. Inanimate agents have weaker agentivity than

animate agents. In order to focus animate agents, they would use the active form which expresses stronger agentivity rather than the passive.

The Korean inchoative also seems to be like English in that it is accepted higher in no agent contexts than in agent-existing contexts. As expected, the pattern of acceptability scores increased from animate agents to no agent gradually (see Table 39). Moreover, when no agent was presented, the passive forms were rated higher than the inchoative ones. In short, both Hb-i and Hb-ii are supported. Figure 39 visually shows comparisons of acceptability scores in the passive and the inchoative form.

Table 39

Pure inchoative verb group: Acceptability scores of the KN group in the movie task

Expected	Passive	Inchoative
Animate agent	3.36 ↓	3.64 ↓
Inanimate agent	3.54 ↑ Ha	3.95 ↓ Hb-i
No agent	2.87 ↑	4.13 ↓

Note. Ha: Hypothesis a; Hb-i: Hypothesis b-i; Hb-ii: Hypothesis b-ii

Table 40

Descriptive statistics for the pure inchoative verb group in the KN movie task

Verb form	Context type	<i>M</i>	<i>SD</i>	<i>n</i>
passive form	animate agent	3.36	1.54	151
	inanimate agent	3.54	1.52	154
	no agent	2.87	1.53	150
	Total	3.26	1.56	455
inchoative form	animate agent	3.64	1.55	154
	inanimate agent	3.95	1.46	150
	no agent	4.13	1.37	151
	Total	3.91	1.47	455
Total	animate agent	3.50	1.55	305
	inanimate agent	3.74	1.50	304
	no agent	3.50	1.58	301
	Total	3.58	1.55	910

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

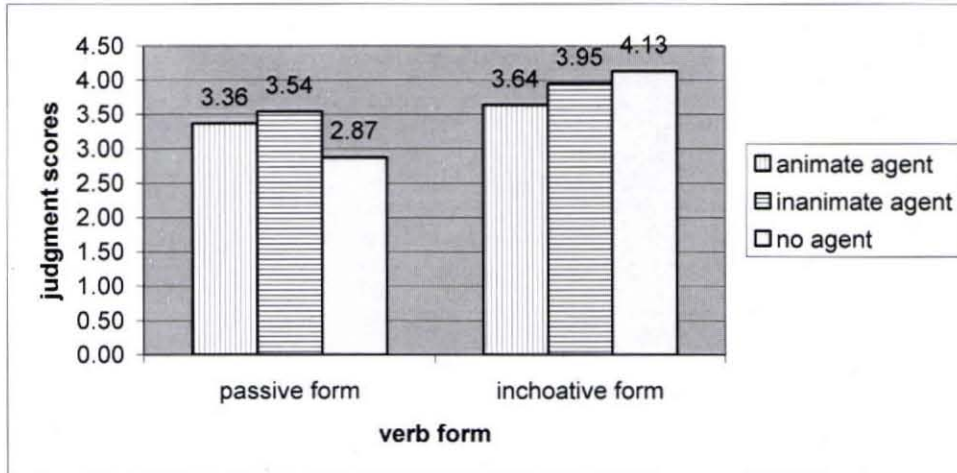


Figure 39. The pure inchoative verb group in the KN group: Averages of each condition.

The KFL group also showed their knowledge of the constructional meaning of the inchoative. Like the KN group, acceptability scores of the KFL group increased gradually from animate-agent contexts (3.11 out of 5) to no-agent contexts (4.12 out of 5). Its difference ($4.12 - 3.11 = 1.01$) was even larger than that of the KN group ($4.13 - 3.64 = 0.49$), which may mean that the KFL group is more sensitive to context types. Both Hd-i and Hd-ii are supported. Another similarity is that the KFL group also prefers inanimate agents more than animate agents in sentences with a passive form of a pure inchoative verb.

On the other hand, unlike the KN group, Hc is not supported in the results of the KFL group. When passive forms were presented, the acceptability scores of the KFL group were not higher in contexts with an animate agent than in contexts with no agent but, in fact, lower by a small difference ($3.47 - 3.39 = 0.08$). The KFL group did not distinguish among contexts of the passive form. They did not seem to know that the Korean passive also has a linguistically implied agent as in English. Another possible

interpretation is that they may not have fully acquired the passive forms, which are morphologically complex.

Table 41

Descriptive statistics for the pure inchoative verb group in the KFL movie task

Verb form	Context type	<i>M</i>	<i>SD</i>	<i>n</i>
passive form	animate agent	3.39	1.69	263
	inanimate agent	3.79	1.49	248
	no agent	3.47	1.68	263
	Total	3.55	1.64	774
inchoative form	animate agent	3.11	1.73	263
	inanimate agent	3.59	1.66	278
	no agent	4.12	1.46	278
	Total	3.62	1.66	819
Total	animate agent	3.25	1.71	526
	inanimate agent	3.69	1.58	526
	no agent	3.80	1.60	541
	Total	3.58	1.65	1593

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

Table 42

Pure inchoative verb group: Acceptability scores of the KFL group in the movie task

Expected	Passive	Inchoative
Animate agent	3.39	3.11
Inanimate agent	3.79	3.59
No agent	3.47	4.12

↓ Hc
↑
→ Hd-ii
↓ Hd-i

Note. Hc: Hypothesis c; Hd-i: Hypothesis d-i; Hd-ii: Hypothesis d-ii

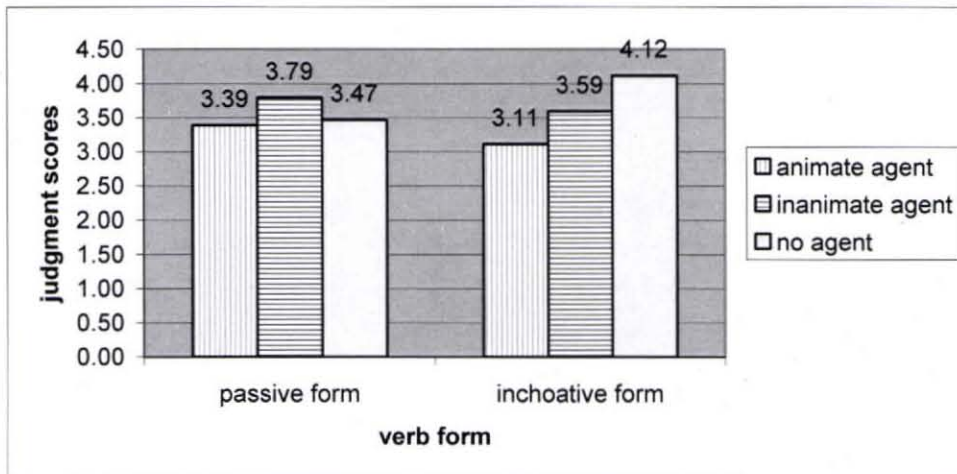


Figure 40. The pure inchoative verb group in the KFL group: Averages of each condition.

5.3.6.3 Analysis of statistical significance

A univariate General Linear Model (GLM) was used for the analysis of the pure inchoative verb group. The dependent variable was acceptability scores, and the independent variables were (a) verb form type (passive, inchoative) and (b) context type (animate, inanimate, no agent). A 2 x 3 factorial design was useful in examining the effect of each independent variable and the interaction effects of independent variables.

In the results of the KN group, the main effect for verb form was statistically significant in the analysis of variance (Table 43). This means that the acceptability scores of the KN group vary depending on verb form. However, in the case of the KFL group, the main effect for context is significant (Table 44). The main effect for context in the KFL group reflected the fact that their judgment varied depending on the context. Both groups show a significant effect for the interaction.

In order to know how important each variable is, measures of strength of association η^2 were calculated. The most important variable is verb form in the KN group. On the other hand, in the KFL data, the most important variable is context. This means that their judgment scores varied mostly depending on the context.

Table 43

The KN group: Results of two-way ANOVA in the movie task

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	η^2
Verb form	95.67	1	95.67	42.62*	0.044
Context	12.11	2	6.05	2.70	0.006
Verb form * Context	43.02	2	21.51	9.58*	0.020
Residual (error)	2029.49	904	2.25		
Total	2179.15	909			

* $p < .004$

Table 44

The KFL group: Results of two-way ANOVA in the movie task

Source	SS	df	MS	F	η^2
Verb form	1.32	1	1.32	0.50	0.000
Context	87.92	2	43.96	16.70*	0.020
Verb form * Context	70.20	2	35.10	13.34*	0.016
Residual (error)	4176.39	1587	2.63		
Total	4337.56	1592			

* $p < .004$

The significant interaction effect in both ANOVAs indicates that the effect of context was dependent on the choice of sentence, but not as a consistent effect for context across sentences. Figures 41 and 42 show different patterns of interaction between groups. When no agent was presented, inchoative forms were accepted higher than passive forms in both participant groups. On the other hand, in agent-existing contexts, the KN group rated inchoative forms higher than passive forms, but the KFL group rated passive forms higher than inchoative forms.

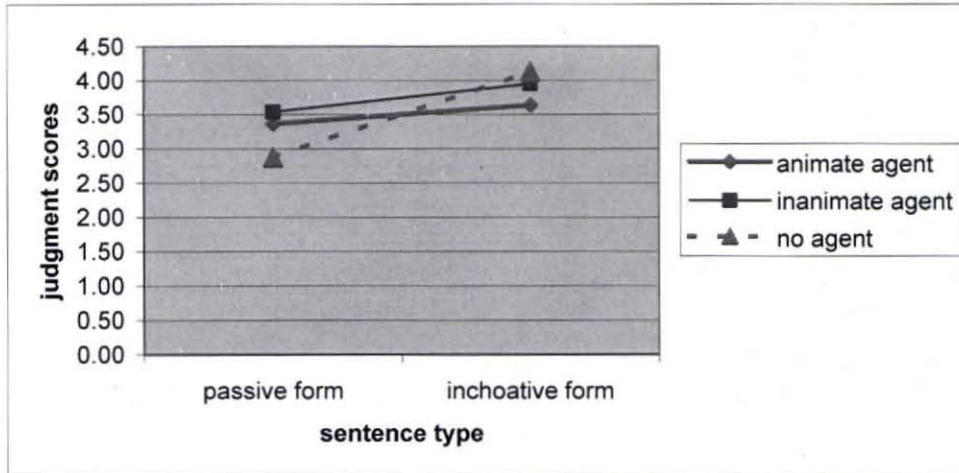


Figure 41. The KN group: Interaction effect in the movie task.

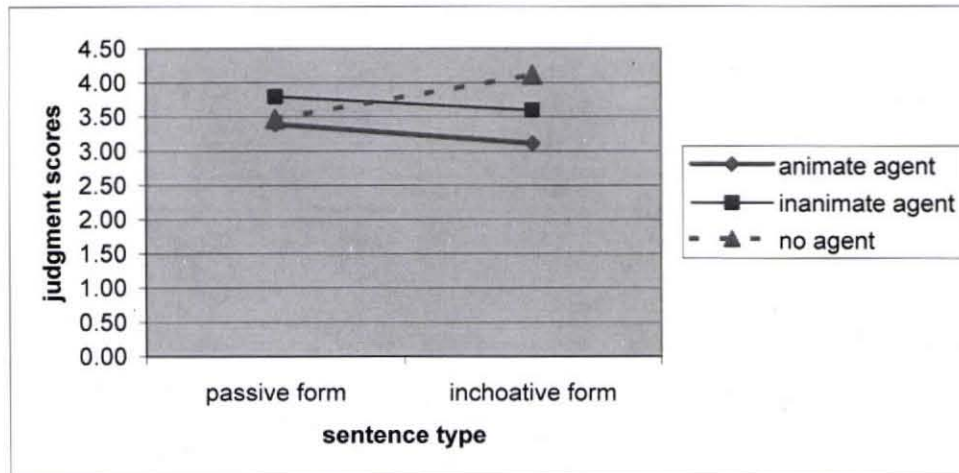


Figure 42. The KFL group: Interaction effect in the movie task.

5.3.6.4 Results of the pure causative verb group

The results of this verb group are relevant to research questions (55e) and (55f), which ask whether the short form and the long form have the same constructional meaning. They will be discussed only based on the descriptive statistics without any statistical analysis since they are not related to the primary research questions and the

number of verbs in this group is small. Means and standard deviations of the acceptability scores of the 5 pure inchoative verbs were calculated for each condition: 2 verb forms (long and short form) x 3 context types (animate agent, inanimate agent, and no agent). The descriptive statistics of the movie task are presented in Table 45. For easier understanding, the example sentences from (56a) are repeated here.

(56) a. Pure causative verb group

(i) Mun-i yel-*e* cy-ess-ta. (long form)

Door- NM open- *INF* *become*-PST-DC

‘The door opened/was opened.’

(ii) Mun-i yel-*ly*-ess-ta. (short form)

Door- NM open-*PAS*-PST-DC

‘The door opened/was opened.’

The results reflected that the short forms are more frequent and preferred. The KN group rated the short forms (4.09 out of 5) higher than the long ones (3.14 out of 5). They barely accepted the long form. Another interesting observation is that neither form seems to have a linguistically implied agent. The acceptability scores were low in contexts with an agent but high in contexts with no agent, which is generally the constructional meaning of the inchoative. It may mean that the short form of the pure causative verb group is used both for the passive and the inchoative, and it is closer to the inchoative in terms of constructional meaning, that is, it lacks agentivity.

Table 45

Descriptive statistics for the pure causative verb group in the KN movie task

Verb form	Context type	<i>M</i>	<i>SD</i>	<i>n</i>
long form	animate agent	2.76	1.64	106
	inanimate agent	3.36	1.66	110
	no agent	3.28	1.66	109
	Total	3.14	1.67	325
short form	animate agent	3.39	1.64	108
	inanimate agent	4.59	0.95	109
	no agent	4.29	1.28	106
	Total	4.09	1.41	323
Total	animate agent	3.08	1.67	214
	inanimate agent	3.97	1.48	219
	no agent	3.78	1.56	215
	Total	3.61	1.62	648

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

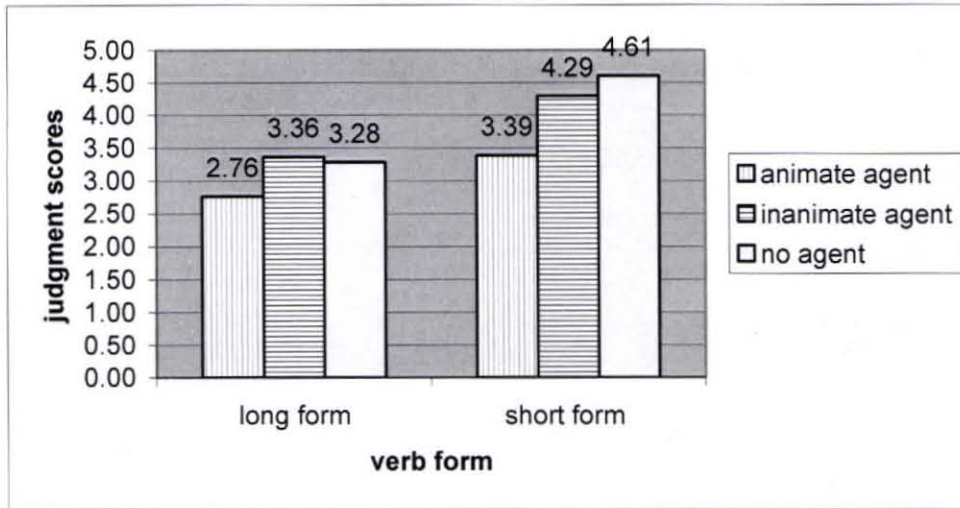


Figure 43. The pure causative verb group in the KN group: Averages of each condition.

In general, the results of the KFL group were similar to those of the KN group. Like the KN group, the KFL group rated the short forms (3.83 out of 5) higher than the long ones (3.52 out of 5). However, their difference ($3.83 - 3.52 = 0.31$) is smaller than that of the KN group ($4.09 - 3.14 = 0.85$). Moreover, the acceptability scores of both forms were low in contexts with an agent but high in contexts with no agent, which may mean that both forms lack agentivity in their constructional meaning.

Table 46

Descriptive statistics for the pure causative verb group in the KFL movie task

Verb form	Context type	<i>M</i>	<i>SD</i>	<i>n</i>
long form	animate agent	3.15	1.72	205
	inanimate agent	3.88	1.52	190
	no agent	3.57	1.65	190
	Total	3.52	1.66	585
short form	animate agent	3.51	1.71	190
	inanimate agent	3.97	1.50	190
	no agent	4.00	1.53	205
	Total	3.83	1.60	585
Total	animate agent	3.32	1.73	395
	inanimate agent	3.93	1.51	380
	no agent	3.79	1.60	395
	Total	3.68	1.64	1170

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

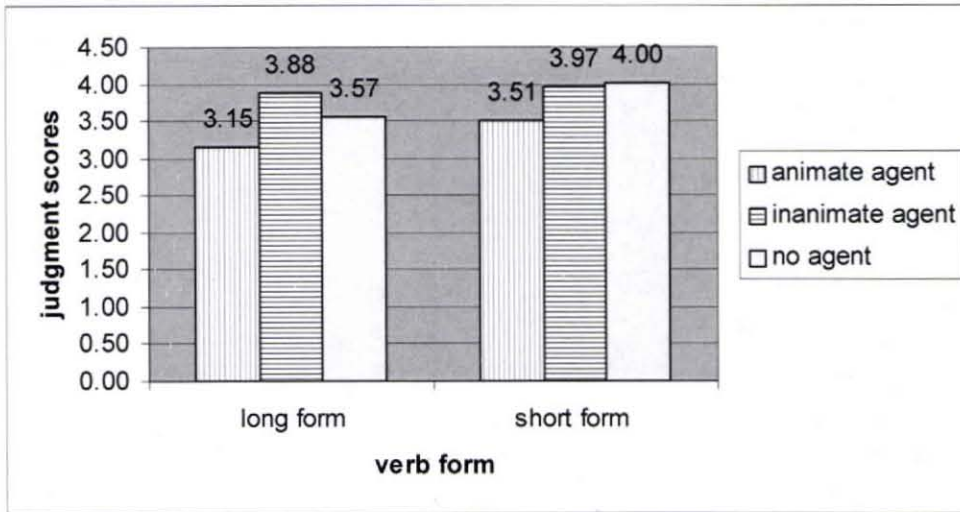


Figure 44. The pure causative verb group in the KFL group: Averages of each condition.

5.3.7 Discussion

As for the inchoative verb form of the pure inchoative verb group, both the KN and KFL groups showed knowledge of agentlessness. However, the results of the passive verb form of the pure inchoative verb group were different in the KN and KFL groups. The KN group showed knowledge of weak agentivity in the passive of the pure inchoative verb group, in that they rated the passive verb forms in animate agent contexts high and those in no agent contexts low. On the other hand, the KFL group did not show knowledge of agentivity in the passive of the pure inchoative verb group. Weak agentivity of the passive in the KN group may be because of low rates of the passive verb form in general. The KN group seemed to prefer the inchoative verb form without any morphemes to the passive verb form with two morphemes. If an event can be described in two linguistic forms, language users would choose a simple form rather than a complex form.

There was an interesting observation found in both verb groups. The KN group preferred one form over the other form, e.g., the inchoative over the passive of the pure inchoative verb group, the short verb form over the long verb form of the pure causative verb group. The preferred ones were morphologically simpler or shorter syllabled. However, the KFL group did not show these preferences.

Another interesting finding in both verb groups is that they rated the passive verb forms in inanimate-agent contexts higher than those in animate-agent contexts. The reason seems to be that inanimate agent subjects are avoided in Korean (Sohn, 1999). The passive construction is preferred when the agent is inanimate.

- (58) (i) ?Mos-i ot-ul ccic-ess-ta.
 Nail- NM clothes-AC tear-PST-DC
 ‘A nail tore my clothes.’
- (ii) Ot-i mos-ey ccic-*ky*-ess-ta.
 Clothes- NM nail-by tear-PAS-PST-DC
 ‘My clothes were torn by a nail.’ (from Sohn, 1999, p. 370)

This could explain why the KN group preferred inanimate-agent contexts over animate-agent contexts with the passive. The KFL group also rated the passive verb form highest in an inanimate-agent context. They seemed to know that the passive construction is preferred with an inanimate agent to the active construction in Korean.

5.3.8 Summary

In the following, the hypotheses of the movie task are repeated and which hypotheses are accepted is indicated.

(57) Hypotheses

- a. Does the Korean passive have a linguistically implied agent as in English?
If yes, when passive sentences are presented, their acceptability scores are higher in contexts with an animate agent than in contexts with no agent.
→ ACCEPTED

- b. Does the Korean inchoative lack a linguistically implied agent as in English?
 - i) If yes, when contexts with no agent are presented, their acceptability scores are higher in inchoative sentences than in passive sentences.
→ ACCEPTED

 - ii) If yes, when inchoative sentences are presented, acceptability scores are higher in contexts with no agent than in contexts with an animate agent.
→ ACCEPTED

- c. Does the KFL group think that the Korean passive has a linguistically implied agent as in English?
If yes, when passive sentences are presented, their acceptability scores are higher in contexts with an animate agent than in contexts with no agent.
→ NOT SUPPORTED

- d. Does the KFL group think that the Korean inchoative lacks a linguistically implied agent as in English?
- i) If yes, when contexts with no agent are presented, their acceptability scores are higher in inchoative sentences than in passive sentences.
→ ACCEPTED
 - ii) If yes, when inchoative sentences are presented, acceptability scores are higher in contexts with no agent than in contexts with an animate agent.
→ ACCEPTED

In the pure causative group, the KN group preferred the short form to the long form. So did the KFL group, even though their preference was weaker than the KN group's. The constructional meanings of both forms seem to be like that of the inchoative structure, lacking linguistic agentivity.

5.4 Experiment 2: The sentence task

5.4.1 Introduction

Like the movie task, the sentence acceptability judgment task tests the appropriateness of passives and inchoatives with or without the oblique agent *-eyuyhay* ‘by the agent.’ The purpose of this experiment is also to investigate participants’ knowledge of the constructional meanings of the passive and the inchoative in Korean. Sentences including a linguistically implied agent would allow *-eyuyhay* ‘by the agent,’ and sentences without a linguistically implied agent would not allow *-eyuyhay* ‘by the agent’; Sentences including a linguistically implied agent would not allow *cecello* ‘by itself,’ and sentences without a linguistically implied agent would allow *cecello* ‘by itself.’ This section reports on the sentence task of the KFL study and its results.

5.4.2 Verbs in the study

The experimental verbs are the same as the ones used in the KFL movie task except that *tolta* ‘turn’ and *cepta* ‘fold’ were excluded to shorten the length of the experiment. The experimental verbs were: (a) the pure causative verb group requiring an inchoative morpheme to be an inchoative verb, such as *yelta* ‘open,’ *ccieta* ‘tear,’ *tatta* ‘close,’ and *huntulta* ‘shake,’ and (b) the pure inchoative verb group requiring a causative morpheme to be a causative verb, such as *nokta* ‘melt,’ *kwuluta* ‘roll,’ *maluta* ‘dry,’ *pita* ‘empty,’ *thata* ‘burn,’ and *seta* ‘stop.’ For details, see Section 5.3.2.

5.4.3 Method

The acceptability judgment task included sentences of passives and inchoatives with or without the *by* phrase in order to find out whether participants know the distinction between passives and inchoatives in terms of agentivity. There are three types of *by* phrases: animate agent such as *Minho-eyuyhay* ‘by Minho,’ inanimate agent such as *palam-eyuyhay* ‘by the wind,’ and *no agent* ‘by itself.’ The test includes a set of six items for each verb (3 phrases x 2 sentences): animate-inchoative, animate-passive, inanimate-inchoative, inanimate-passive, no agent-inchoative, and no agent-passive (phrase type-sentence). They are exemplified below:

(59) Phrase types in the Korean sentence task

a. Pure causative verb group

(i) Mun-i Minho-eyuyhay yel-e cy-ess-ta. (long form)

Door- NM Minho-by open- *INF* become-PST-DC

‘The door opened/was opened by Minho.’ (*by an animate agent*)

(ii) Mun-i palam-eyuyhay yel-e cy-ess-ta. (long form)

Door- NM wind-by open- *INF* become-PST-DC

‘The door opened/was opened by the wind.’ (*by an inanimate agent*)

(iii) Mun-i cecello yel-e cy-ess-ta. (long form)

Door- NM by itself open- *INF* become-PST-DC

‘The door opened/was opened by itself.’ (*by no agent*)

(iv) Mun-i Minho-eyuyhay yel-*ly*-ess-ta. (short form)

Door- NM Minho-by open-*PAS*-PST-DC

‘The door opened/was opened by Minho.’ (*by an animate agent*)

(v) Mun-i palam-eyuyhay yel-*ly*-ess-ta. (short form)

Door- NM wind-by open-*PAS*-PST-DC

‘The door opened/was opened by the wind.’ (*by an inanimate agent*)

(vi) Mun-i cecello yel-*ly*-ess-ta. (short form)

Door- NM by itself open-*PAS*-PST-DC

‘The door opened/was opened by itself.’ (*by no agent*)

b. Pure inchoative verb group

(i) Elum-i Minho-eyuyhay nok-y-e cy-ess-ta. (passive)

Ice-NM Minho-by melt-CAUS-*INF* *become*-PST-DC

‘The ice was melted by Minho.’ (*by* an animate agent)

(ii) Elum-i palam-eyuyhay nok-y-e cy-ess-ta. (passive)

Ice-NM wind-by melt-CAUS-*INF* *become*-PST-DC

‘The ice was melted by the wind.’ (*by* an inanimate agent)

(iii) Elum-i cecello nok-y-e cy-ess-ta. (passive)

Ice-NM by itself melt-CAUS-*INF* *become*-PST-DC

‘The ice was melted by itself.’ (*by* no agent)

(iv) Elum-i Minho-eyuyhay nok-ass-ta. (inchoative)

Ice-NM Minho-by melt-PST-DC

‘The ice melted by Minho.’ (*by* an animate agent)

(v) Elum-i palam-eyuyhay nok-ass-ta. (inchoative)

Ice-NM wind-by melt-PST-DC

‘The ice melted by the wind.’ (*by* an inanimate agent)

(vi) Elum-i cecello nok-ass-ta. (inchoative)

Ice-NM by itself melt-PST-DC

‘The ice melted by itself.’ (*by* no agent)

The oblique agent in the Korean passive receives a locative/goal particle, such as *kkey* ‘by [human, deferential],’ *eykey* ‘by [animate, formal],’ *hanthey* ‘by [animate, informal],’ and *ey* ‘by [animal, inanimate].’ However, verbs differ in choosing their *by*

particles. For example, most experimental verbs in this study only allow *ey* ‘by [animal, inanimate]’. However, even *ey* ‘by [animal, inanimate]’ could not be used in this experiment, since a human agent cannot take it. For this reason, in this study, a more neutral *by* phrase *-eyuyhay* was used, which can be used for all agent types.

This section reports on the results of the sentence task. First, specific hypotheses for this task are presented. In order to test the hypotheses, descriptive statistics and the results of a statistical analysis are given. Lastly, a summary is provided.

5.4.4 Participants

The participants were 17 learners of Korean as a foreign language in the U.S. (KFL group) and 64 native speakers of Korean living in Korea and in the U.S. (KN group). For the detailed description about the participants, see Section 5.3.4.

5.4.5 Hypotheses

The sentence task aims to examine whether participants accept a passive sentence or an inchoative sentence depending on the agentivity in the sentences. In Korean, only the pure inchoative verb group is pertinent to this issue. The detailed hypotheses are presented in (60). Table 47 shows an idealized pattern if Korean distinguishes the inchoative from the passive as in English.

(60) Hypotheses

- a. Does the Korean passive have a linguistically implied agent as in English?**
 - i) If yes, acceptability scores of passive sentences will be higher in sentences with an animate agent, e.g., *Minho-eyuyhay* ‘by Minho,’ than in sentences with no agent, i.e., *cecello* ‘by itself.’**
 - ii) If yes, when sentences include an animate agent, e.g., *Minho-eyuyhay* ‘by Minho,’ acceptability scores will be higher in passives than in inchoatives.**

- b. Does the Korean inchoative lack a linguistically implied agent as in English?**
 - i) If yes, acceptability scores of inchoative sentences will be higher in sentences with no agent, i.e., *cecello* ‘by itself,’ than in sentences with an animate agent, e.g., *Minho-eyuyhay* ‘by Minho.’**
 - ii) If yes, when sentences include no agent, i.e., *cecello* ‘by itself,’ acceptability scores will be higher in inchoatives than in passives.**

- c. Does the KFL group think that the Korean passive has a linguistically implied agent as in English?**
 - i) If yes, when passive sentences are presented, their acceptability scores will be higher in contexts with an animate agent, e.g., *Minho-eyuyhay* ‘by Minho,’ than in contexts with no agent, i.e., *cecello* ‘by itself.’**
 - ii) If yes, when sentences include an animate agent, e.g., *Minho-eyuyhay* ‘by Minho,’ acceptability scores will be higher in passives than in inchoatives.**

- d. Does the KFL group think that the Korean inchoative lacks a linguistically implied agent as in English?
- i) If yes, when phrases with no agent are presented, i.e., *cecello* ‘by itself,’ their acceptability scores will be higher in inchoative sentences than in passive sentences.
 - ii) If yes, when inchoative sentences are presented, acceptability scores will be higher with no agent, i.e. *cecello* ‘by itself,’ than with an animate agent, e.g., *Minho-eyuyhay* ‘by Minho.’

Table 47

Pure inchoative verb group: Expected acceptability scores in the sentence task if Korean distinguishes the inchoative from the passive as in English

Expected	Passive form	Inchoative form
Animate agent		
Inanimate agent		
No agent		

Note. Ha-i: Hypothesis a-i; Ha-ii: Hypothesis a-ii; Hb-i: Hypothesis b-i; Hb-ii:

Hypothesis b-ii; Hc-i: Hypothesis c-i; Hc-ii: Hypothesis c-ii; Hd-i: Hypothesis d-i; Hd-ii:

Hypothesis d-ii.

5.4.6 Results

The sentence task is also an acceptability task. The variables in this task are the same as those in the movie task. The primary difference is that the variable agentivity is included

in sentences rather than in animations. In each section, the KN data are analyzed first to find out the constructional meanings of the passive and the inchoative in Korean. Then, the KFL data are presented in comparison with the native data and statistically analyzed. The first Section 5.4.6.1 discusses the reliability and validity of the sentence task. Section 5.4.6.2 reports the results of the pure inchoative verb group, and Section 5.4.6.3 the results of a statistical analysis for the pure inchoative verb group. Lastly, Section 5.4.6.4 reports on the results of the pure causative verb group.

5.4.6.1 Reliability and validity

Like the movie test, reliability coefficients among the verbs for each condition type (2 sentence types x 3 context types) were measured using Cronbach's alpha. Reliability coefficients for each group are presented in Tables 48 and 49. Most reliability coefficients were high except for the one of the KFL group in the pure causative verb group. It seems to be because of the small number of test items. However, the KN group with more congruent knowledge showed high reliability in the same verb group, indicating that the instrument was a reliable measure.

Table 48

Reliability of the measures for the KFL sentence task: Pure causative verb group

Group	Number of conditions	Number of items	reliability
KN group	6	4	0.84
	(2 sentence types x 3 context types)		
KFL group	6	4	0.64
	(2 sentence types x 3 context types)		

Table 49

Reliability of the measures for the KFL sentence task: Pure inchoative verb group

Group	Number of conditions	Number of items	reliability
KN group	6	6	0.88
	(2 sentence types x 3 context types)		
KFL group	6	6	0.94
	(2 sentence types x 3 context types)		

5.4.6.2 Results of the pure inchoative verb group

Means and standard deviations of acceptability scores of the 4 pure inchoative verbs were calculated for each condition: 2 verb forms (passive form and inchoative form) x 3 phrase types (animate agent, inanimate agent, and no agent phrases). The descriptive statistics of the sentence task are presented in Table 50. For easier understanding, the example sentences for (59b) are repeated here.

(59) b. Pure inchoative verb group

- (i) Elum-i Minho-eyuyhay nok-y-e cy-ess-ta. (passive)
Ice-NM Minho-by melt-CAUS-*INF* become-PST-DC
'The ice was melted by Minho.' (*by* an animate agent)
- (ii) Elum-i palam-eyuyhay nok-y-e cy-ess-ta. (passive)
Ice-NM wind-by melt-CAUS-*INF* become-PST-DC
'The ice was melted by the wind.' (*by* an inanimate agent)
- (iii) Elum-i cecello nok-y-e cy-ess-ta. (passive)
Ice-NM by itself melt-CAUS-*INF* become-PST-DC
'The ice was melted by itself.' (*by* no agent)
- (iv) Elum-i Minho-eyuyhay nok-ass-ta. (inchoative)
Ice-NM Minho-by melt-PST-DC
'The ice melted by Minho.' (*by* an animate agent)
- (v) Elum-i palam-eyuyhay nok-ass-ta. (inchoative)
Ice-NM wind-by melt-PST-DC
'The ice melted by the wind.' (*by* an inanimate agent)
- (vi) Elum-i cecello nok-ass-ta. (inchoative)
Ice-NM by itself melt-PST-DC
'The ice melted by itself.' (*by* no agent)

First, it is interesting that the KN group did not like the passive sentences in general. The average scores for the passive forms are 2.59, 2.86, and 2.67 respectively, which are all below 3. Moreover, the average score of the passive form with an animate

agent phrase was not higher than that of the passive form with no agent. Therefore, hypothesis Ha-i is not supported. Hypothesis Ha-ii is supported in that the passive sentences are rated at a higher rate than the inchoative sentences when an animate agent phrase is added. However, the difference between the two conditions is too small ($2.59 - 2.29 = 0.3$). This implies that passive sentences of the pure inchoative verb group may not have a linguistically implied agent, which is contrary to the results of the movie task. In short, the passive of the pure inchoative verb group does not seem to distinguish phrase types or written context types in terms of agentivity.

Unlike the passive form, the inchoative form of the pure inchoative verb group shows lack of agentivity. The inchoative sentences with an animate agent were low (2.29 out of 5) and those with no agent are high (4.27 out of 5). Hypothesis Hb-i is supported. Hypothesis Hb-ii is also supported in that the average score of the passive form is lower than that of the inchoative form when no agent is presented. Figure 45 visually shows the comparison of acceptability scores in the passive and the inchoative.

Table 50

Descriptive statistics for the pure inchoative verb group in the KN sentence task

Verb form	Phrase type	<i>M</i>	<i>SD</i>	<i>n</i>
passive form	animate agent	2.59	1.62	128
	inanimate agent	2.86	1.71	128
	no agent	2.67	1.67	128
	Total	2.71	1.67	384
inchoative form	animate agent	2.29	1.46	128
	inanimate agent	3.26	1.58	128
	no agent	4.27	1.34	128
	Total	3.27	1.67	384
Total	animate agent	2.44	1.55	256
	inanimate agent	3.06	1.66	256
	no agent	3.47	1.71	256
	Total	2.99	1.69	768

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

Table 51

Pure inchoative verb group: Acceptability scores of the KN group in the sentence task

Expected	Passive	Inchoative
Animate agent	2.59	2.29
Inanimate agent	2.86	3.26
No agent	2.67	4.27

Note. Ha-i: Hypothesis a-i; Ha-ii: Hypothesis a-ii; Hb-i: Hypothesis b-i; Hb-ii:

Hypothesis b-ii.

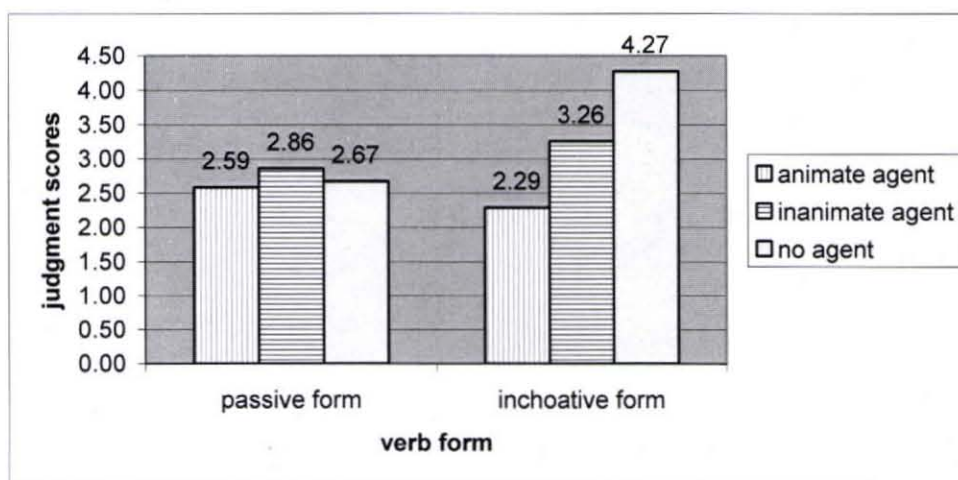


Figure 45. The pure inchoative verb group in the KN sentence task: Averages of each condition.

Unlike the KN group, the KFL group did not differentiate between the two forms, the passive and the inchoative. The results of the passive form were similar to those of the inchoative form, lacking agentivity. In both, their acceptability scores gradually increased from animate agent phrase to no agent phrase, and the values and the pattern of

increases were similar. The average score of the passive form was low with an animate agent and high with no agent, which does not support hypothesis Hc-i. Hypothesis Hd-ii is not supported, either. When no agent is presented, the inchoative form is expected to be rated higher than the passive form. However, it turned out to be almost the same (3.55 vs. 3.52). In short, the KFL group did not seem to distinguish the passive from the inchoative.

Regarding the inchoative form of the pure inchoative verb group, the KFL group showed results similar to the KN group. The KFL group seemed to know that the inchoative form of the pure inchoative verb group lacks a linguistically implied agent.

Table 52

Pure inchoative verb group: Acceptability scores of the KFL group in the sentence task

Expected	Passive		Inchoative
Animate agent	2.98	Hc-ii	2.36
Inanimate agent	3.25	Hc-i	3.30
No agent	3.55	Hd-ii	3.52

Note. Hc-i: Hypothesis c-i; Hc-ii: Hypothesis c-ii; Hd-i: Hypothesis d-i; Hd-ii:

Hypothesis d-ii.

Table 53

Descriptive statistics for the pure inchoative verb group in the KFL sentence task

Verb form	Phrase type	<i>M</i>	<i>SD</i>	<i>n</i>
passive form	animate agent	2.98	1.69	230
	inanimate agent	3.25	1.76	230
	no agent	3.55	1.54	230
	Total	3.26	1.68	690
inchoative form	animate agent	2.36	1.61	230
	inanimate agent	3.30	1.68	230
	no agent	3.52	1.57	230
	Total	3.06	1.69	690
Total	animate agent	2.67	1.68	460
	inanimate agent	3.28	1.72	460
	no agent	3.53	1.56	460
	Total	3.16	1.69	1380

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

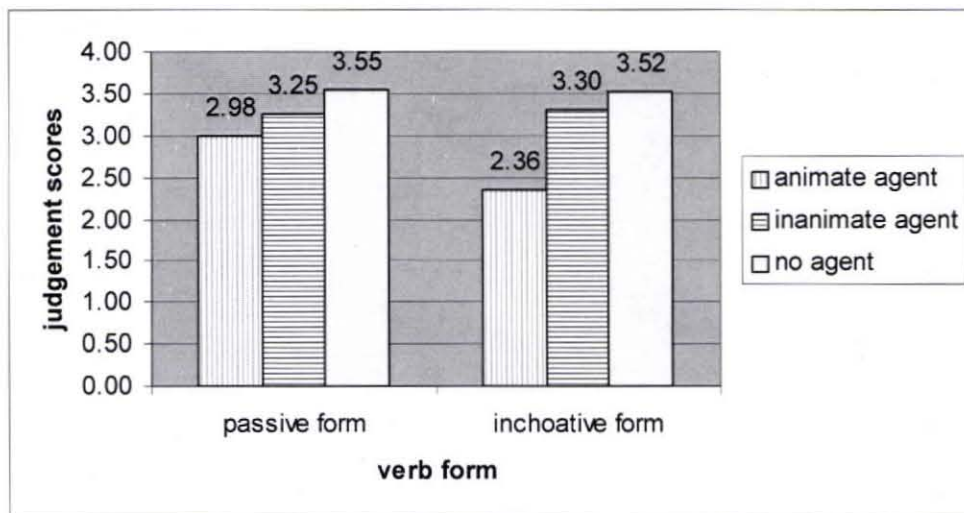


Figure 46. The pure inchoative verb group in the KFL sentence task: Averages of each condition.

5.4.6.3 Analysis of statistical significance

A univariate General Linear Model (GLM) was used for the analysis of the pure inchoative verb group. The dependent variable was acceptability scores, and the independent variables were (a) verb form type (passive, inchoative) and (b) phrase type (animate, inanimate, no agent). A 2 x 3 factorial design was useful in examining the effect of each independent variable and the interaction effects of independent variables.

In the results of the KN group, the main effects for both verb form and phrase type and the interaction effect were statistically significant in the analysis of variance (Table 54). It means that acceptability scores of the KN group varied depending both on verb form, on phrase, and on their interaction. All significant variables contributed to variability of the data to similar degrees, even though the most important variable is *phrase*. However, in the case of the KFL group, only the main effect for phrase and the interaction effect were significant (Table 55). The main effect for phrase in the KFL

group reflected the fact that their judgment varied depending on phrase type. η^2 measure also shows that *phrase* is the most important variable accounting for the data. In both groups, the variable *phrase* is the most important variable accounting for the data.

Table 54

The KN group: Results of two-way ANOVA in the sentence task

Source	SS	df	MS	F	η^2
Verb form	61.88	1	61.88	25.07*	0.028
Phrase	138.99	2	69.49	56.31*	0.063
Verb form * Phrase	118.08	2	59.04	47.84*	0.054
Residual (error)	1880.97	762	2.47		
Total	2199.92	767			

* $p < .004$

Table 55

The KFL group: Results of two-way ANOVA in the sentence task

Source	SS	df	MS	F	η^2
Verb form	14.00	1	14.00	5.19	0.004
Phrase	180.94	2	90.47	33.53*	0.046
Verb form * Phrase	31.50	2	15.75	5.84*	0.008
Residual (error)	3707.17	1374	2.70		
Total	3933.61	1379			

* $p < .004$

The significant interaction effect in both ANOVAs indicates that the effect of phrase was dependent on the choice of verb form, but not as a consistent effect for phrase across forms. Figures 47 and 48 show different patterns of interaction between groups. When an animate agent is presented, passive forms were accepted at a higher rate than inchoative forms in both participant groups. However, the KN group did not distinguish phrase types in the passive form, whereas the KFL group did not differentiate verb forms in two phrase types, inanimate agent and no agent phrases.

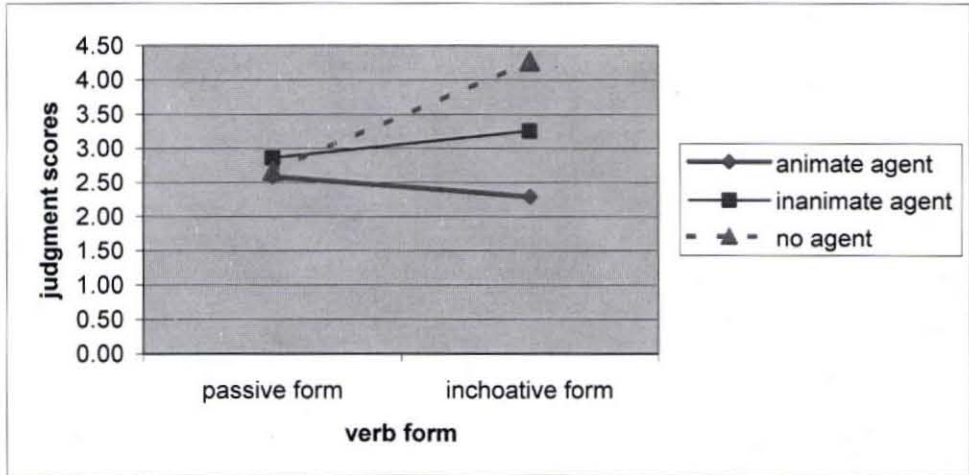


Figure 47. The KN group: Interaction effect in the sentence task.

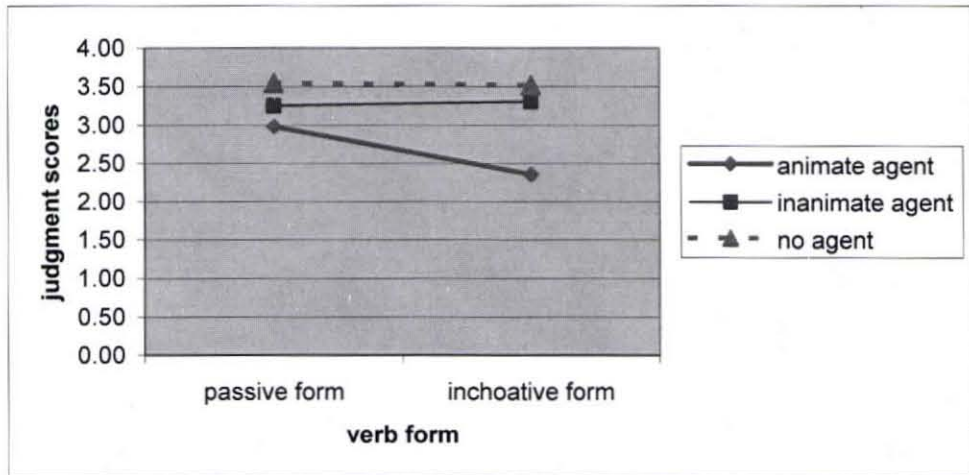


Figure 48. The KFL group: Interaction effect in the sentence task.

5.4.6.4 Results of the pure causative verb group

The results of this verb group are relevant to research questions (55e) and (55f), which ask whether the short form and the long form have the same constructional meaning. They will be discussed only based on the descriptive statistics without any statistical analysis. Means and standard deviations of acceptability scores of the 4 pure

inchoative verbs were calculated for each condition: 2 verb forms (long and short form) x 3 context types (animate agent, inanimate agent, and no agent). The descriptive statistics of the sentence task are presented in Table 56. For easier understanding, the example sentences from (59a) are repeated here.

(59) Phrase types in the Korean sentence task

a. Pure causative verb group

(i) Mun-i Minho-eyuyhay yel-e cy-ess-ta. (long form)

Door- NM Minho-by open- *INF* *become*-PST-DC

‘The door opened/was opened by Minho.’ (*by* an animate agent)

(ii) Mun-i palam-eyuyhay yel-e cy-ess-ta. (long form)

Door- NM wind-by open- *INF* *become*-PST-DC

‘The door opened/was opened by the wind.’ (*by* an inanimate agent)

(iii) Mun-i cecello yel-e cy-ess-ta. (long form)

Door- NM by itself open- *INF* *become*-PST-DC

‘The door opened/was opened by itself.’ (*by* no agent)

(iv) Mun-i Minho-eyuyhay yel-*ly*-ess-ta. . (short form)

Door- NM Minho-by open-*PAS*-PST-DC

‘The door opened/was opened by Minho.’ (*by* an animate agent)

(v) Mun-i palam-eyuyhay yel-ly-ess-ta. (short form)
Door- NM wind-by open-PAS-PST-DC
‘The door opened/was opened by the wind.’ (by an inanimate agent)

(vi) Mun-i cecello yel-ly-ess-ta. (short form)
Door- NM by itself open-PAS-PST-DC
‘The door opened/was opened by itself.’ (by no agent)

The KN group preferred the short forms. They rated the short forms (3.96 out of 5) higher than the long ones (2.96 out of 5). Even though the values for the averages were not the same, both forms had similar patterns: Their acceptability scores increased as agentivity got low. Both forms seemed to lack a linguistically implied agent.

Table 56

Descriptive statistics for the pure causative verb group in the KN sentence task

Verb form	Context type	<i>M</i>	<i>SD</i>	<i>n</i>
long form	animate agent	2.57	1.54	87
	inanimate agent	3.04	1.60	84
	no agent	3.28	1.67	85
	Total	2.96	1.63	256
short form	animate agent	3.13	1.55	84
	inanimate agent	4.22	1.24	85
	no agent	4.49	1.15	87
	Total	3.96	1.44	256
Total	animate agent	2.85	1.57	171
	inanimate agent	3.63	1.55	169
	no agent	3.90	1.55	172
	Total	3.46	1.62	512

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

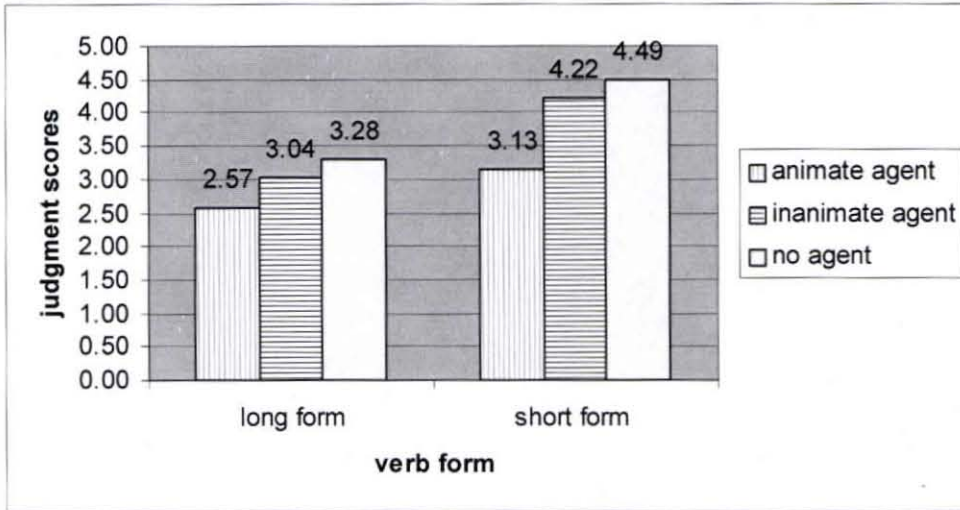


Figure 49. The pure causative verb group in the KN sentence task.

In general, the results of the KFL group were similar to those of the KN group. Like the KN group, the KFL group rated the short forms (3.46 out of 5) higher than the long ones (3.28 out of 5), but their difference ($3.46 - 3.28 = 0.18$) is smaller than that of the KN group ($3.96 - 2.96 = 1.00$). The acceptability scores of both forms were low in contexts with an animate agent but high in contexts with no agent, which may mean that both forms lack agentivity in their constructional meaning. However, the KFL group did not distinguish animate agent phrases from inanimate agent phrases in the long form. Figure 50 compares the results of both verb forms.

Table 57

Descriptive statistics for the pure causative verb group in the KFL sentence task

Verb form	Context type	<i>M</i>	<i>SD</i>	<i>n</i>
long form	animate agent	3.06	1.77	144
	inanimate agent	3.09	1.75	160
	no agent	3.67	1.55	156
	Total	3.28	1.71	460
short form	animate agent	2.93	1.77	160
	inanimate agent	3.55	1.68	156
	no agent	3.96	1.47	144
	Total	3.46	1.70	460
Total	animate agent	2.99	1.77	304
	inanimate agent	3.32	1.73	316
	no agent	3.81	1.51	300
	Total	3.37	1.71	920

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

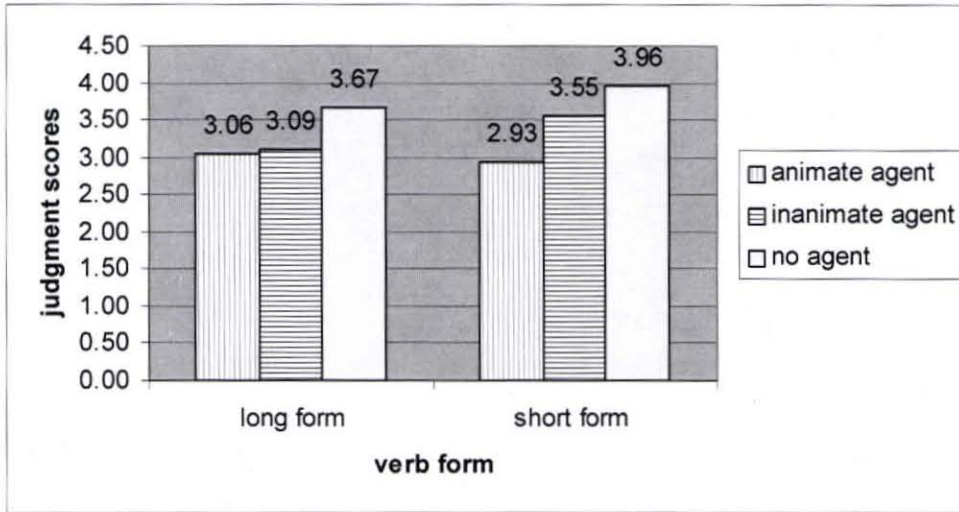


Figure 50. The pure causative verb group in the KFL sentence task.

5.4.7 Discussion

In the pure inchoative verb group, the KN group did not like the passive sentences in general. It seems that native speakers of Korean did not fully accept the passive forms of the pure inchoative verbs that are morphologically complex regardless of a by-phrase. The passive of the pure inchoative verb group may not include a linguistically implied agent, since the KN group did not show differential judgment depending on phrase types. However, great care should be taken before any conclusion can be made, since the KN group did not rate passive sentences high in general. Unacceptability of passive sentences may have obscured the constructional meaning of the passive structure.

In the pure causative verb group, the KN group preferred the short forms. As they preferred morphologically simple verb forms to morphologically complex forms in describing the same event in the pure inchoative verb group, native speakers of Korean liked the short forms more than the long forms in the pure causative verb group. This seems to be because of economical reasons; that is, language users tend to be concise and

economical. In fact, the short forms are the more frequently used forms. Another interesting finding was that the unfavored long forms also lack agentivity. Even though the values for the averages were not the same, both forms had similar patterns: Their acceptability scores increased as agentivity got low. Both forms seemed to lack a linguistically implied agent. This will be discussed in detail in Chapter 6.

In the KFL data, the verb forms in both verb groups all showed agentlessness, which is the constructional meanings of the inchoative. Another difference between the KFL data and the KN data is that the KFL group did not show any preference for either the morphologically simple inchoative forms of the pure inchoative verb group or the short verb forms of the pure causative verb group.

5.4.8 Summary

In summary, the KN group showed differential acceptability for the inchoative forms of the pure inchoative verb group depending on agentivity in context. However, the passive forms were rated low regardless of phrase types. Like the KN group, the KFL group rated the inchoative form higher than the passive form in contexts with no agent. On the other hand, the KFL group rated the passive forms low with an animate agent and high with no agent like the inchoative forms. When no agent was presented, they did not distinguish the forms. In the following, the hypotheses of the sentence task are repeated and which hypotheses are accepted is indicated.

(60) Hypotheses (repeated here)

- a. Does the Korean passive have a linguistically implied agent as in English?
 - i) If yes, acceptability scores of passive sentences will be higher in sentences with an animate agent, e.g., *Minho-eyuyhay* 'by Minho,' than in sentences with no agent, i.e., *cecello* 'by itself.'
→ NOT SUPPORTED
 - ii) If yes, when sentences include an animate agent, e.g., *Minho-eyuyhay* 'by Minho,' acceptability scores will be higher in passives than in inchoatives.
→ ACCEPTED

- b. Does the Korean inchoative lack a linguistically implied agent as in English?
 - i) If yes, acceptability scores of inchoative sentences will be higher in sentences with no agent, i.e., *cecello* 'by itself,' than in sentences with an animate agent, e.g., *Minho-eyuyhay* 'by Minho.'
→ ACCEPTED
 - ii) If yes, when sentences include no agent, i.e., *cecello* 'by itself,' acceptability scores will be higher in inchoatives than in passives.
→ ACCEPTED

- c. Does the KFL group think that the Korean passive has a linguistically implied agent as in English?
- i) If yes, when passive sentences are presented, their acceptability scores will be higher in contexts with an animate agent, e.g., *Minho-eyuyhay* ‘by Minho,’ than in contexts with no agent, i.e., *cecello* ‘by itself.’
→ NOT SUPPORTED
 - ii) If yes, when sentences include an animate agent, e.g., *Minho-eyuyhay* ‘by Minho,’ acceptability scores will be higher in passives than in inchoatives.
→ ACCEPTED
- d. Does the KFL group think that the Korean inchoative lacks a linguistically implied agent as in English?
- i) If yes, when phrases with no agent are presented, i.e., *cecello* ‘by itself,’ their acceptability scores will be higher in inchoative sentences than in passive sentences.
→ NOT SUPPORTED
 - ii) If yes, when inchoative sentences are presented, acceptability scores will be higher with no agent, i.e. *cecello* ‘by itself,’ than with an animate agent, e.g., *Minho-eyuyhay* ‘by Minho.’
→ ACCEPTED

5.5 Experiment 3: The question & answer task

5.5.1 Introduction

The Q&A task is another experiment to test agentivity of the passive and the inchoative in Korean. Inspired by Verrrips's study (1998), the Q&A task examines whether passive and inchoative *why*-questions expect different types of answers (purpose answer, animate-cause answer, and inanimate-cause answer). Passive *why*-questions are more acceptable with purpose answers, and inchoative *why*-questions are more acceptable with cause answers (Verrrips, 1998). The target language in Verrrips' study was Dutch, so this experiment investigates whether it works in Korean and whether L2 learners also hold that interpretation. In this section, the hypotheses and the method of this Q&A task will be explained. Then, the results will be reported.

5.5.2 Verbs in the study

The experimental verbs are the same as the ones used in the KFL movie task except that *tolta* 'turn' and *cepta* 'fold' were excluded to shorten the length of the experiment. The experimental verbs were: (a) the pure causative verb group requiring an inchoative morpheme to be an inchoative verb, such as *yelta* 'open,' *ccicta* 'tear,' *tatta* 'close,' and *huntulta* 'shake,' and (b) the pure inchoative verb group requiring a causative morpheme to be a causative verb, such as *nokta* 'melt,' *kwuluta* 'roll,' *maluta* 'dry,' *pita* 'empty,' *thata* 'burn,' and *seta* 'stop.' For details, see Section 5.3.2.

5.5.3 Method

When they start this Q&A task, participants only see a start button on a computer screen. When they press the start button, the movie starts to play. In the movie, there are a girl and a boy. First, the girl asks a question, either a passive *why*-question or an inchoative *why*-question. Then, the boy answers to her question either with a purpose answer or a cause answer. In other words, participants read a question first and then its answer. After reading the question and answer, participants are asked to judge how natural the answer is to the question. This KFL Q&A task is equivalent to the EFL one. For details, see Section 4.6.3.

(61) Question and answer types in the Korean Q&A task

a. Question types in the pure causative verb group

(i) Mun-i way yel-*e* cy-ess-sumnikka? (long form Q)

Door- NM why open- *INF* become-PST-Q

‘Why was the door opened/why did the door open?’

(ii) Mun-i way yel-*ly*-ess-sumnikka? (short form Q)

Door- NM why open-*PAS*-PST-Q

‘Why was the door opened/why did the door open?’

b. Answer types in the pure causative verb group

(i) Ku namca-ka chyaksang-ul pang-ulo kaciko oleyko. (purpose A)

That man-NM desk-AC room-A taking to come

‘Because the man wanted to take the desk to the room.’

(ii) Ku namca-ka mun-ul an camkase. (animate agent-cause A)

That man-NM door-AC not lock

‘Because the man did not lock the door.’

(iii) Palam-i kapcaki syekye pulese. (inanimate agent-cause A)

wind-NM suddenly strongly blow

‘Because all of a sudden the wind blew strongly.’

c. Question types in the pure inchoative verb group

(i) Elum-i way nok-y-e cy-ess-sumnikka? (passive Q)

Ice-NM why melt-CAUS-INF become-PST-Q

‘Why was the ice melted?’

(ii) Elum-i way nok-ass-sumnikka? (inchoative Q)

Ice-NM why melt-PST-Q

‘Why did the ice melt?’

d. Answer types in the pure inchoative verb group

(i) Ku namca-ka mul-lo mantule mekuleyko.

That man-NM water-A make to eat

‘Because the man wanted to make it into water and drink it.’ (purpose A)

(ii) Ku namca-ka elum-ul nyangcangko-ey nehci anhase.

That man-NM door-ACC refrigerator-G put not

‘Because the man did not put it in the refrigerator.’ (animate agent-cause A)

(iii) Nalssi-ka nemu tewese.

Weather-NM too hot

‘Because the weather was too hot.’ (inanimate agent-cause A)

5.5.4 Participants

The participants were 17 learners of Korean as a foreign language in the U.S. (KFL group) and 64 native speakers of Korean living in Korea and in the U.S. (KN group). For a detailed description about the participants, see Section 5.3.4.

5.5.5 Hypotheses

Purpose answers are expected to be more natural for passive *why*-questions and cause answers for inchoative *why*-questions. The detailed hypotheses are presented in (62). Table 58 shows an idealized pattern if Korean distinguishes the inchoative from the passive as in English.

(62) Hypotheses

- a. Does the Korean passive have a linguistically implied agent as in English?**
 - i) If yes, when a question is a passive sentence, acceptability scores will be higher when its answer explains a purpose than when its answer explains a cause.**
 - ii) If yes, acceptability scores will be higher when the question to a purpose answer is a passive sentence rather than an inchoative sentence.**

- b. Does the Korean inchoative lack a linguistically implied agent as in English?**
 - i) If yes, when a question is an inchoative sentence, acceptability scores will be higher when its answer explains a cause than when its answer explains a purpose.**
 - ii) If yes, acceptability scores will be higher when the question to a cause answer is an inchoative sentence rather than a passive sentence.**

- c. Does the KFL group think that the Korean passive has a linguistically implied agent as in English?**
 - i) If yes, when a question is a passive sentence, acceptability scores will be higher when its answer explains a purpose than when its answer explains a cause.**
 - ii) If yes, acceptability scores will be higher when the question to a purpose answer is a passive sentence rather than an inchoative sentence.**

- d. Does the KFL group think that the Korean inchoative lacks a linguistically implied agent as in English?
- i) If yes, when a question is an inchoative sentence, acceptability scores will be higher when its answer explains a cause than when its answer explains a purpose.
- ii) If yes, acceptability scores will be higher when the question to a cause answer is an inchoative sentence rather than a passive sentence.

Table 58

Expected acceptability scores of native speakers of Korean in the Q&A task

Expected	Passive Q	Inchoative Q
Purpose A		
Cause A with an animate agent	↑	↓
Cause A with an inanimate agent		

Diagram illustrating the expected acceptability scores of native speakers of Korean in the Q&A task. The table shows the relationship between the type of question (Passive Q or Inchoative Q) and the type of answer (Purpose A, Cause A with an animate agent, or Cause A with an inanimate agent). Arrows indicate the direction of the relationship, with labels for the hypotheses (Ha-i, Ha-ii, Hb-i, Hb-ii, Hc-i, Hc-ii, Hd-i, Hd-ii).

Note. Ha-i: Hypothesis a-i; Ha-ii: Hypothesis a-ii; Hb-i: Hypothesis b-i; Hb-ii:

Hypothesis b-ii; Hc-i: Hypothesis c-i; Hc-ii: Hypothesis c-ii; Hd-i: Hypothesis d-i; Hd-ii:

Hypothesis d-ii.

5.5.6 Results

The Q&A task tests whether passive and inchoative *why*-questions go well with three types of answers (purpose answer, animate-cause answer, and inanimate-cause answer). In each section, the KN data are analyzed first to find out the constructional

meanings of the passive and the inchoative in Korean. Then, the KFL data are presented in comparison with the native data and statistically analyzed. Section 5.5.6.1 discusses the reliability and validity of the Q&A task. Section 5.5.6.2 reports the results of the pure inchoative verb group, and Section 5.5.6.3 the results of a statistical analysis for the pure inchoative verb group. Lastly, Section 5.5.6.4 reports the results of the pure causative verb group.

5.5.6.1 Reliability and validity

Like the other tasks, reliability coefficients among the verbs for each condition type (2 sentence types x 3 context types) were measured using Cronbach's alpha. Reliability coefficients for each group are presented in Tables 59 and 60. As shown, all reliability coefficients are very high.

Table 59

Reliability of the measures for the KFL Q&A task: Pure causative verb group

Group	Number of conditions	Number of items	reliability
KN group	6	4	0.91
	(2 sentence types x 3 context types)		
KFL group	6	4	0.90
	(2 sentence types x 3 context types)		

Table 60

Reliability of the measures for the KFL Q&A task: Pure inchoative verb group

Group	Number of conditions	Number of items	reliability
KN group	6 (2 sentence types x 3 context types)	6	0.85
KFL group	6 (2 sentence types x 3 context types)	6	0.94

5.5.6.2 Results of the pure inchoative verb group

Means and standard deviations of acceptability scores of the 6 pure inchoative verbs were calculated for each condition: 2 question types (passive Q and inchoative Q) x 3 answer types (purpose A, cause A with an animate agent, and cause A with an inanimate agent). Each question was presented with one of the answer types, resulting in 6 test items for each verb. The descriptive statistics of the Q&A task are presented in Table 61. For easier understanding, the example sentences from (61c) and (61d) are repeated here.

(61) c. Question types in the pure inchoative verb group

(i) Elum-i way nok-y-e cy-ess-sumnikka? (passive Q)

Ice-NM why melt-CAUS-*INF* become-PST-Q

‘Why was the ice melted?’

(ii) Elum-i way nok-ass-sumnikka? (inchoative Q)

Ice-NM why melt-PST-Q

‘Why did the ice melt?’

d. Answer types in the pure inchoative verb group

(i) Ku namca-ka mul-lo mantule mekuleyko.

That man-NM water-A make to eat

‘Because the man wanted to make it into water and drink it.’ (purpose A)

(ii) Ku namca-ka elum-ul nyangcangko-ey nehci anhase.

That man-NM door-ACC refrigerator-G put not

‘Because the man did not put it in the refrigerator.’ (animate agent-cause A)

(iii) Nalssi-ka nemu tewese.

Weather-NM too hot

‘Because the weather was too hot.’ (inanimate agent-cause A)

Like the results of the movie and the sentence tasks, the KN group rated the basic inchoative forms (4.14 out of 5) higher than the morphologically complex passive forms (3.66 out of 5). One notable observation is the similarity between the two question types in the data. The average scores for both question types were low with purpose answers and high with cause answers, which means that they lack agentivity in their constructional meanings. Thus hypothesis Ha-i and Ha-ii are not supported; hypothesis Hb-i and Hb-ii are supported.

Table 61

Descriptive statistics for the pure inchoative verb group in the KN Q&A task

Question type	Answer type	<i>M</i>	<i>SD</i>	<i>n</i>
passive question	purposeful answer	3.15	1.69	124
	cause answer with an animate agent	3.85	1.48	124
	cause answer with an inanimate agent	3.96	1.46	124
	Total	3.66	1.58	372
inchoative question	purposeful answer	3.23	1.67	124
	cause answer with an animate agent	4.54	1.08	124
	cause answer with an inanimate agent	4.65	0.98	124
	Total	4.14	1.43	372
Total	purposeful answer	3.19	1.68	248
	cause answer with an animate agent	4.20	1.34	248
	cause answer with an inanimate agent	4.31	1.29	248
	Total	3.90	1.53	744

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

Table 62

Pure inchoative verb group: The KN group in the Q&A task

Expected	Passive Q		Inchoative Q	
Purpose A	3.15	Ha-ii	3.23	
Cause A with an animate agent	3.85	Ha-i	4.54	Hb-i
Cause A with an inanimate agent	3.96	Hb-ii	4.65	

Note. Ha-i: Hypothesis a-i; Ha-ii: Hypothesis a-ii; Hb-i: Hypothesis b-i; Hb-ii:

Hypothesis b-ii

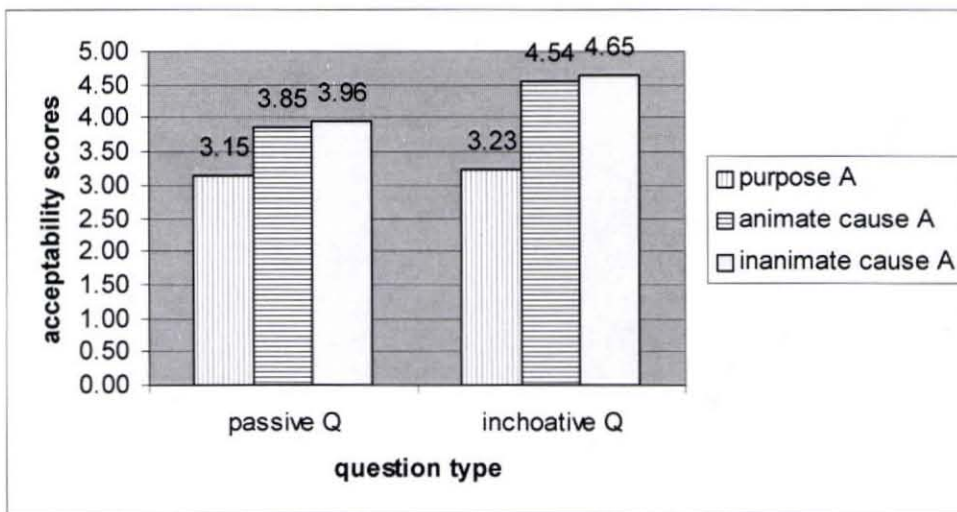


Figure 51. The pure inchoative verb group in the KN Q&A task.

The KFL group also rated the combination of passive questions and purpose answers low and that of inchoative questions and cause answers high (Table 63 and Figure 52). On the other hand, they treated the two questions the same, implying that they did not differentiate the passive forms from the inchoative forms. Similar to the results of the KN group, the results of the KFL group did not support hypotheses Hc-i

and Hc-ii but did support hypothesis Hd-i and Hd-ii (Table 64). In short, the passive forms do not seem to have a linguistically implied agent and neither do the inchoative forms.

Table 63

Descriptive statistics for the pure inchoative verb group in the KFL Q&A task

Question type	Answer type	<i>M</i>	<i>SD</i>	<i>n</i>
passive question	purposeful answer	2.73	1.65	240
	cause answer with an animate agent	3.90	1.50	240
	cause answer with an inanimate agent	3.90	1.57	240
	Total	3.51	1.67	720
inchoative question	purposeful answer	2.70	1.70	240
	cause answer with an animate agent	3.94	1.54	240
	cause answer with an inanimate agent	3.93	1.51	240
	Total	3.52	1.69	720
Total	purposeful answer	2.71	1.67	480
	cause answer with an animate agent	3.92	1.52	480
	cause answer with an inanimate agent	3.91	1.54	480
	Total	3.52	1.68	1440

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

Table 64

Pure inchoative verb group: The KFL group in the Q&A task

Expected	Passive Q		Inchoative Q	
Purpose A	3.15	Hc-ii	3.23	
Cause A with an animate agent	3.85	Hc-i	4.54	Hd-i
Cause A with an inanimate agent	3.96	Hd-ii	4.65	

Note. Hc-i: Hypothesis c-i; Hc-ii: Hypothesis c-ii; Hd-i: Hypothesis d-i; Hd-ii:

Hypothesis d-ii

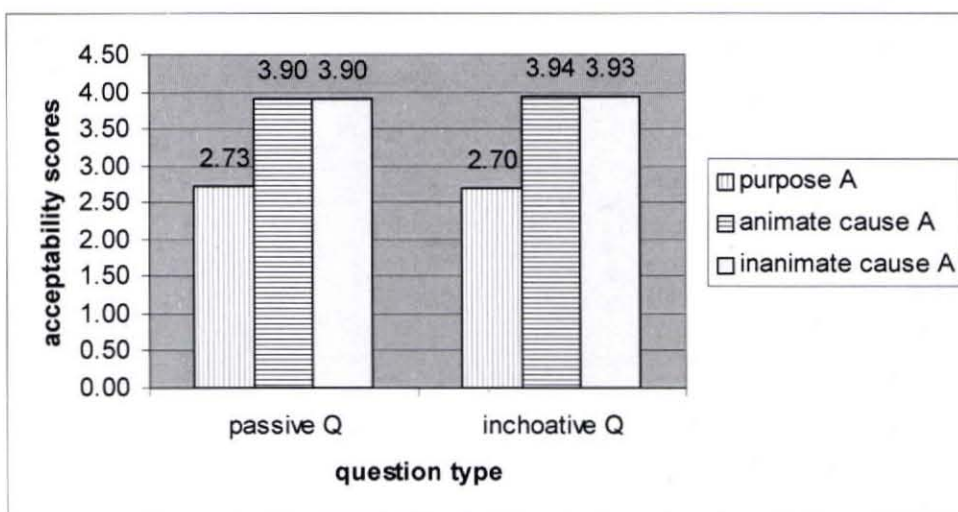


Figure 52. The pure inchoative verb group in the KFL Q&A task.

5.5.6.3 Analysis of statistical significance

A univariate General Linear Model (GLM) was conducted for the pure inchoative verb group. The dependent variable was acceptability scores, and the independent variables were (a) question type (passive, inchoative) and (b) answer type (animate, inanimate, no agent).

In the results of the KN group, the main effects for both question and answer type were statistically significant in the analysis of variance (Table 65). This means that acceptability scores of the KN group vary depending on the two independent variables. The η^2 measure shows that the variable *answer* is the most important factor in the data in the KN group. However, in the case of the KFL group, only the main effect for answer was significant (Table 66). The main effect for phrase in the KFL group reflected the fact that their judgment varied depending on answer type. Eleven percent of the variability in this data can be accounted for by *answer*. They did not differentiate the two question types at all. Figures 53 and 54 show the data patterns of the two participant groups. Both groups rated purpose answers low and cause answers high regardless of question type, which resulted in no interaction effects for the two independent variables.

Table 65

The KN group: Results of two-way ANOVA in the Q&A task

Source	SS	df	MS	F	η^2
Question	44.03	1	44.03	21.79*	0.025
Answer	186.70	2	93.35	46.19*	0.107
Question * Answer	15.33	2	7.66	3.79	0.009
Residual (error)	1491.38	738	2.02		
Total	1737.44	743			

* $p < .004$

Table 66

The KFL group: Results of two-way ANOVA in the Q&A task

Source	SS	df	MS	F	η^2
Question	0.08	1	0.08	0.03	0.000
Answer	467.24	2	233.62	93.63*	0.115
Question * Answer	0.36	2	0.18	0.07	0.000
Residual (error)	3577.95	1434	2.45		
Total	4045.63	1439			

* $p < .004$

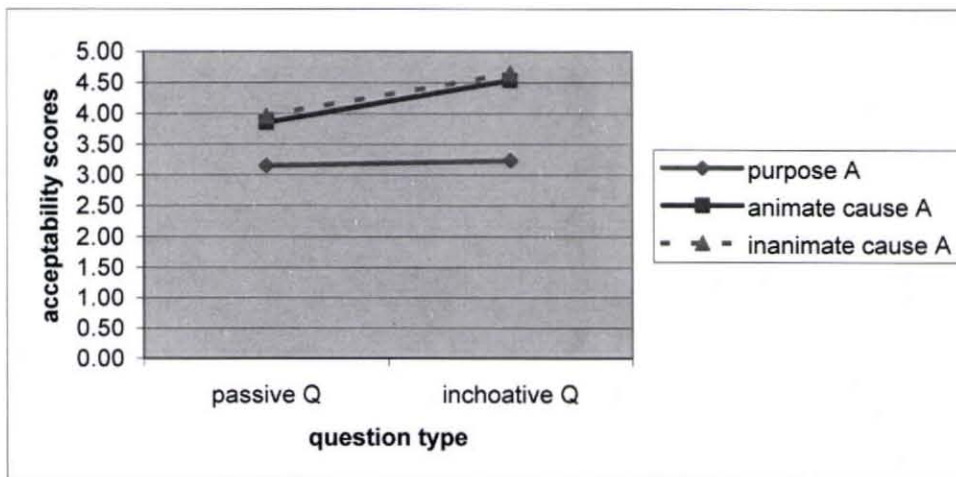


Figure 53. The KN group: No interaction effect in the Q&A task.

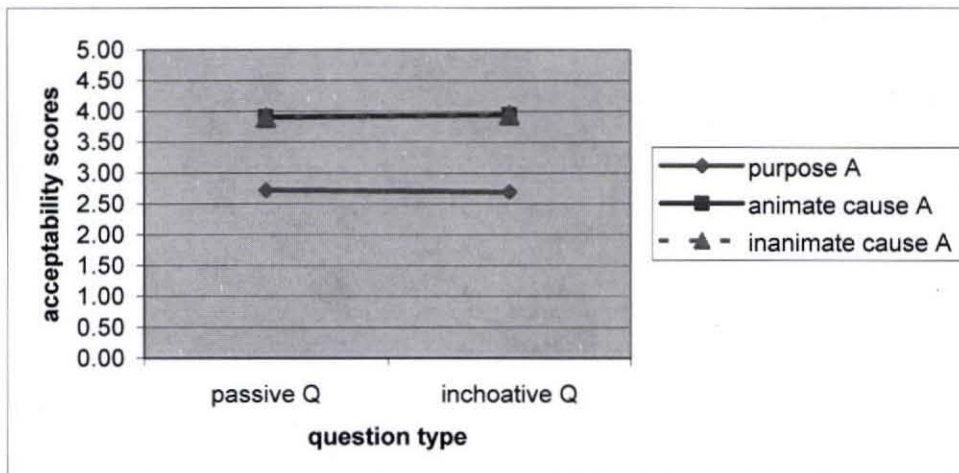


Figure 54. The KFL group: No interaction effect in the Q&A task.

5.5.6.4 Results of the pure causative verb group

The results of this verb group are relevant to research questions (55e) and (55f), which ask whether the short form and the long form have the same constructional meaning. They will be discussed only based on the descriptive statistics without any statistical analysis. Means and standard deviations of acceptability scores of the 4 pure inchoative verbs were calculated for each condition: 2 questions (long form Q and short form Q) x 3 answer types (purpose A, cause A with an animate agent, and cause A with an inanimate agent). The descriptive statistics of the Q&A task are presented in Table 67. For easier understanding, the example sentences in (61a) and (61b) are repeated here.

(61) Question and answer types in the Korean Q&A task

a. Question types in the pure causative verb group

(i) Mun-i way yel-e cy-ess-sumnikka? (long form Q)

Door- NM why open- *INF* become-PST-Q

‘Why was the door opened/why did the door open?’

(ii) Mun-i way yel-*ly*-ess-sumnikka? (short form Q)

Door- NM why open-*PAS*-PST-Q

‘Why was the door opened/why did the door open?’

b. Answer types in the pure causative verb group

(i) Ku namca-ka chyaksang-ul pang-ulo kaciko oleyko. (purpose A)

That man-NM desk-ACC room-A taking to come

‘Because the man wanted to take the desk to the room.’

(ii) Ku namca-ka mun -ul an camkase. (animate agent-cause A)

That man-NM door-ACC not lock

‘Because the man did not lock the door.’

(iii) Palam-i kapcaki syekye pulese. (inanimate agent-cause A)

wind suddenly strongly blow

‘Because all of a sudden the wind blew strongly.’

The KN group made little distinction between the question types. For both types of questions, they rated purpose answers low and cause answers high. Both question types were most natural with cause answers with an inanimate agent (4.33 and 4.77, respectively, for long form Q and short form Q). This implies that both forms lack agentivity. There is a difference between the question types as well. In long form questions, the acceptability scores of cause answers with an animate agent were lower than those of cause answers with an inanimate agent; in short form questions, the acceptability scores of cause answers with an animate agent were almost as high as those of cause answers with an inanimate agent. Another interesting observation is that the KN participants did not reject long forms in the question unlike in the movie and sentence tasks. This seems to be because they focused on the appropriateness of the answers to each question, not the naturalness of the questions themselves. In short, both forms do not seem to have a linguistically implied agent.

Table 67

Descriptive statistics for the pure causative verb group in the KN Q&A task

Question type	Answer type	<i>M</i>	<i>SD</i>	<i>n</i>
Long form Q	purpose answer	3.01	1.61	82
	cause answer with an animate agent	3.87	1.53	82
	cause answer with an inanimate agent	4.33	1.24	84
	Total	3.74	1.56	248
Short form Q	purpose answer	3.30	1.68	82
	cause answer with an animate agent	4.64	0.90	84
	cause answer with an inanimate agent	4.77	0.69	82
	Total	4.24	1.34	248
Total	purpose answer	3.16	1.64	164
	cause answer with an animate agent	4.26	1.31	166
	cause answer with an inanimate agent	4.55	1.02	166
	Total	3.99	1.47	496

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

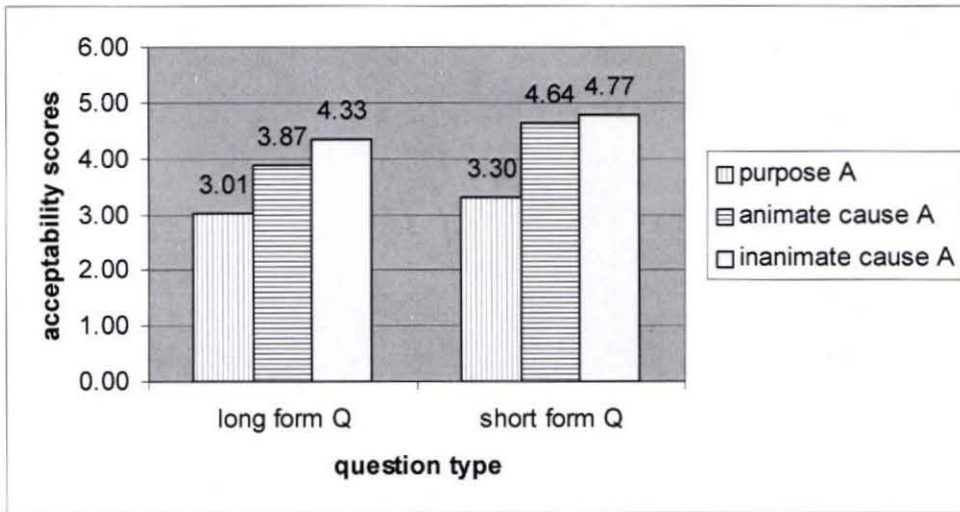


Figure 55. The pure causative verb group in the KN Q&A task.

As in the results of the pure inchoative verb group, the KFL group did not distinguish between the two question types in the results of the pure causative verb group. Both types of questions were rated low with purpose answers and cause answers with an animate agent and high with cause answers with an inanimate agent. It is interesting that they rated cause answers with an animate agent similar to purpose answers, not to cause answers with an inanimate agent, which is contrary to the results of the KN group. Their selection of answers seemed to depend on animacy, rather than on the distinction between purpose and cause.

Table 68

Descriptive statistics for the pure causative verb group in the KFL Q&A task

Question type	Answer type	<i>M</i>	<i>SD</i>	<i>n</i>
Long form Q	purpose answer	2.77	1.71	166
	cause answer with an animate agent	2.80	1.71	164
	cause answer with an inanimate agent	3.78	1.64	150
	Total	3.10	1.75	480
Short form Q	purpose answer	2.93	1.75	164
	cause answer with an animate agent	3.05	1.74	150
	cause answer with an inanimate agent	3.68	1.68	166
	Total	3.23	1.75	480
Total	Purpose answer	2.85	1.73	330
	cause answer with an animate agent	2.92	1.73	314
	cause answer with an inanimate agent	3.73	1.66	316
	Total	3.16	1.75	960

Note. *n*: number of total responses; *n* = the number of verbs x the number of respondents

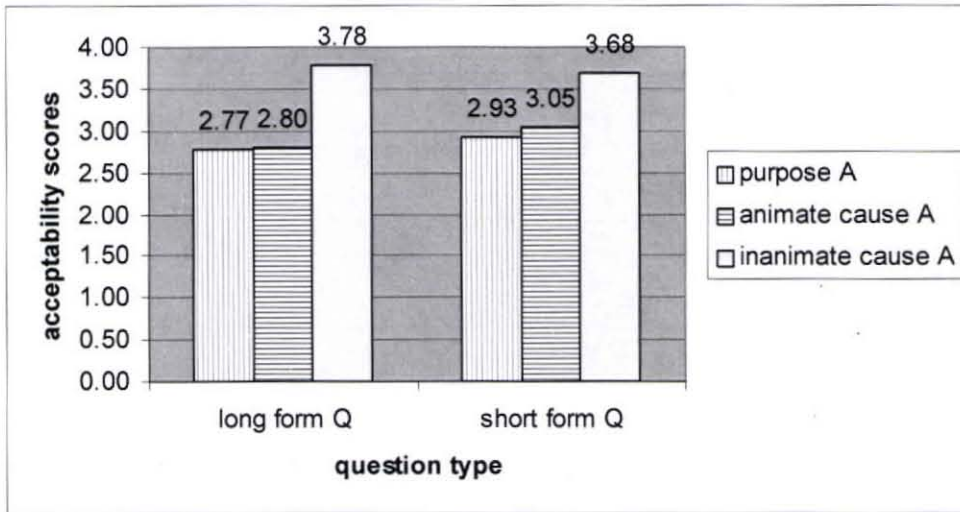


Figure 56. The pure causative verb group in the KFL Q&A task.

5.5.7 Discussion

Like the results of the movie and the sentence tasks, the KN group showed their preference for the morphologically simple inchoative forms over the morphologically complex passive forms in the pure inchoative verb group. Most of all, one notable observation is the similarity between the two question types in the data. The KN group did not like purpose answers to both types of questions. Inchoative questions with cause answers were rated higher than passive questions with cause answers. However, cause answers were accepted more than purpose answers regardless of question types. The results of the KFL group were not much different from those of the KN group.

The question is why both the KN and KFL groups preferred cause answers to purposeful answers regardless of question types, which is different from Dutch or English. It may mean that the passive of the pure inchoative verb lacks agentivity in Korean. In the syntactic test in Chapter 3, the passive of the pure inchoative verb group did not

sound natural with a purpose clause, indicating that the Korean passive may not include a linguistically implied agent. The results of the Q&A task supports that.

The results of the pure causative verb group were also similar to those of the pure inchoative verb group in the KN group. Neither of the two verb forms, the short one or the long one, showed agentivity in their constructional meanings. Both questions were rated low with purpose answers and high with cause answers, which is the pattern for the inchoative. The two verb forms are used both for the passive and the inchoative in this verb group. It seems that both forms are not different in terms of constructional meanings. The next question would be why the passive in Korean does not include a linguistically implied agent, which is claimed to be language universal. This will be discussed in Chapter 6.

In the pure causative verb group of the KFL group, it is interesting that the KFL group rated cause answers with an inanimate agent highest but those with an animate agent as low as purpose answers, which is contrary to the results of the KN group. It seems that the KFL group preferred inanimate cause answers, since they have the knowledge that both the short and long verb forms lack agentivity and preferred inanimate cause answers with the weakest agentivity among the answer types. Another possibility is that they know that inanimate agents are more natural in the passive than in the active in Korean (both forms can be the passive and the inchoative).

5.5.8 Summary

In summary, neither the KN group nor the KFL group showed knowledge of a linguistically implied agent in the passive questions; they both showed knowledge of a lack of a linguistically implied agent in the inchoative questions. The results were similar in both verb groups. In the following, the hypotheses of the Q&A task are repeated and which hypotheses are accepted is indicated.

(56) Hypotheses

- a. Does the Korean passive have a linguistically implied agent as in English?**
 - i) If yes, when a question is a passive sentence, acceptability scores will be higher when its answer explains a purpose than when its answer explains a cause.**
→ NOT SUPPORTED
 - ii) If yes, acceptability scores will be higher when the question to a purpose answer is a passive sentence rather than an inchoative sentence.**
→ NOT SUPPORTED

- b. Does the Korean inchoative lack a linguistically implied agent as in English?**
 - i) If yes, when a question is an inchoative sentence, acceptability scores will be higher when its answer explains a cause than when its answer explains a purpose.**
→ ACCEPTED

ii) If yes, acceptability scores will be higher when the question to a cause answer is an inchoative sentence rather than a passive sentence.

→ ACCEPTED

c. Does the KFL group think that the Korean passive has a linguistically implied agent as in English?

i) If yes, when a question is a passive sentence, acceptability scores will be higher when its answer explains a purpose than when its answer explains a cause.

→ NOT SUPPORTED

ii) If yes, acceptability scores will be higher when the question to a purpose answer is a passive sentence rather than an inchoative sentence.

→ NOT SUPPORTED

d. Does the KFL group think that the Korean inchoative lacks a linguistically implied agent as in English?

i) If yes, when a question is an inchoative sentence, acceptability scores will be higher when its answer explains a cause than when its answer explains a purpose.

→ ACCEPTED

ii) If yes, acceptability scores will be higher when the question to a cause answer is an inchoative sentence rather than a passive sentence.

→ ACCEPTED

5.6 Conclusion

In the KFL study, three experiments were conducted in order to find out the participants' knowledge of the constructional meanings of the passive and the inchoative in Korean in terms of agentivity. For this purpose, the passive and the inchoative verb forms of the pure inchoative verb group were investigated. In this verb group, the inchoative form is the basic verb form without any morphemes, but the passive form is a morphologically complex form with causative and passive morphemes. The KN group preferred the simple inchoative verb form over the complex passive one in all three experiments. Regarding the constructional meanings, the KN group did not have knowledge of agentivity in the passive but knowledge of agentlessness in the inchoative. The results of the KFL group were similar to those of the KN group, except that the KFL group did not favor the simple inchoative verb form over the complex passive one.

In the pure causative verb group, the short and the long passive/inchoative verb form were compared. Both forms can be either the passive or the inchoative, and the short one is more frequently used than the long one. As expected, the KN group rated the short form higher than the long one. Regarding the constructional meanings, the two forms seemed to lack agentivity.

CHAPTER 6

Discussion

This chapter discusses general issues in the results of the EFL and KFL experiments related to research question. It includes 9 sections, and each section discusses one issue.

6.1 Do L2 learners accept passives and inchoatives of alternating unaccusative verbs?

In the English as a foreign language study, the EFL group rated the passive of alternating unaccusative verbs high and the inchoative low in both the movie and the sentence tasks. However, they did not reject the inchoative as strongly as other ungrammatical sentences that were used as distractors in the tasks. The results confirmed what previous studies have reported. Hirakawa (1995) reported that Japanese learners of English accepted not the inchoative but the passive. Yip (1995) found that her Chinese intermediate and advanced L2 learners of English preferred the passive over the inchoative. Montrul (1997) also got similar results from her Spanish-speaking learners of English.

What makes the inchoative more difficult than the passive for L2 learners of English? Montrul (1997) argues that a lack of overt morphology makes L2 learners reject the inchoative. Similarly, Yip (1995) suggests that it is because the inchoative has no morphological marking to indicate non-canonical mapping between theta-roles and grammatical relations. Researchers have suggested that there are universal hierarchies of

roles and grammatical relations and a canonical mapping between these hierarchies;

Bresnan and Kanerva (1989) propose the following:

(63) Thematic Hierarchy

Agent < Beneficiary < Recipient (Goal)/Experiencer < Instrument < Theme/Patient < Location

(64) Grammatical Hierarchy

Subject < Direct object < Oblique object

According to this canonical scheme, the argument of the verb with the highest thematic role is linked to the highest available grammatical relation. That means an *agent*, the highest thematic role, appears in the subject position of the sentence; a *theme* is linked to the next available grammatical function by thematic hierarchy as in (65).

(65) John hit the ball.

Agent Theme – Thematic roles

Subject Direct – Grammatical relations
Object

(66) The ball was hit by John.

Theme Agent – Thematic roles

Subject Oblique – Grammatical relations
Object Object

If the verb does not require an *agent* or the subject position is empty, then a *theme* which is the next in terms of grammatical hierarchy appears in the subject position instead. In the passive with a *theme* subject, the verb has a morphological marking as in (66).

However, the inchoative in English does not have any special morphological marking to indicate non-canonical mapping, which causes L2 learners to dislike the inchoative more than the passive. Montrul's (1997) study supports this account. She found that her Spanish learners of English accepted the *get* inchoative but not the zero-derived inchoative.

However, the KFL group did not differentiate the inchoative from the passive of the pure inchoative verb group in their acceptability judgment scores for the movie and the sentence tasks in Korean. They accepted both structures or forms to a similar degree. As in English, the inchoative in Korean has a non-canonical mapping and receives a nominative case marking. Moreover, the inchoative of the pure inchoative verb group in Korean has no morphological marking, since it is the basic form. However, the KFL group did not reject the inchoative of the pure inchoative verb group. They did not prefer the passive that is morphologically marked over the inchoative, either. It may be an L1 transfer effect. In this verb group, English and Korean are the same in that the inchoative has no morpheme and the passive has one or more morphemes.

In the KFL data, it is not clear whether they have acquired the verb forms tested in the study, since the experiments did not directly investigate it. This would be one of the limitations in this study. However, the main purpose of this study was to investigate the constructional meanings of each construction. Moreover, it was difficult to develop a valid experiment for L2 learners without understanding the uses of the passive and the

inchoative by native speakers of Korean. In principle, all the experimental verb forms in this study, i.e., the passive and the inchoative of the pure inchoative verb group and the short and the long form of the pure causative group, are acceptable. However, native speakers of Korean did not accept them to the same degree. For future research, the uses of the passive and the inchoative in Korean by native speakers of Korean should be more extensively investigated. The results of the movie task showed that the KFL group did not treat the passive form the same as the inchoative form in the pure inchoative verb group, which means that they noticed the existence or lack of morphemes in the verb forms. However, it is hard to determine whether the KFL group acquired the verb forms with distinctive morphemes. In fact, the meanings of the constructions with the verb forms are part of the knowledge that L2 learners have to learn. It is especially difficult in Korean to judge whether L2 learners have learned a verb form or a construction without considering their meaning, since a passive morpheme for some verbs is an inchoative morpheme for other verbs. It is hoped that this study will contribute to understanding the passive and the inchoative in Korean.

6.2 Do L2 learners distinguish the passive from the inchoative in terms of agentivity?

6.2.1 Do Korean-speaking learners of English know that the passive has a linguistically implied agent in English?

The EFL group seems to have knowledge that the passive has a linguistically implied agent in English. In the movie task, when passive sentences were presented, their acceptability scores were higher in contexts with an animate agent than in contexts

with no agent. In the sentence judgment task, the EFL group rated passive sentences with an animate agent *by the man* higher than those with no agent *by itself* and passive sentences with an animate agent *by the man* higher than inchoative sentences with an animate agent *by the man*. However, their knowledge was not native-like, since they did not demonstrate knowledge that the passive does not go well with no-agent contexts. They only showed that the passive goes well with animate agent contexts. For example, when no agent was provided either in the animation context or in the sentence, the EN group rated the passive low. On the contrary, the EFL group did not distinguish the passive from the inchoative in that case (see Figures 6 and 17). Their acceptability scores for both conditions (passive sentence x no agent vs. inchoative sentence x no agent) were almost the same in both the movie task and the sentence task. It seems that the EFL group finds a linguistically implied agent in the passive only when context overtly delineates the agent either in the movie or in the sentence. This is consistent with Ju's study (2000). Based on her findings, she suggested that L2 learners tend to passivize unaccusatives more frequently when they are able to conceptualize an agent or cause in discourse.

The results of the EFL Q&A task were not easy to interpret. The EFL group did not distinguish answer types depending on question types, in general. At least, the high EFL group rated purpose answers to passive questions higher than to inchoative questions, implying that they have some knowledge of agentiveness in the passive (see Figure 33). However, even the high EFL group did not distinguish question types for cause answers. The reason seems to be that there is no agent stated in the questions that were used as a stimulus, so the EFL learners did not distinguish answer types to each question. In short,

the EFL group did not distinguish the passive from the inchoative when there is no agent in the context that was provided as stimuli, e.g., in the movies, in the sentences, and in the questions.

Another interesting finding in the Q&A task was that the EFL group preferred cause answers over purpose answers regardless of question type. This seems to be an L1 transfer effect, since it was also found in the KFL Q&A task. This will be more discussed in Section 6.9.

6.2.2 Do Korean-speaking learners of English know that the inchoative lacks a linguistically implied agent in English?

As in the passive, the EFL group seemed to have knowledge of a lack of agentivity in the inchoative only when an agent was present in context that stimulates linguistic conceptualization. In both the movie and the sentence tasks, the EFL group rated the inchoative low when there was an agent in context, implying that they knew that the inchoative was not natural in contexts with an agent. On the other hand, in the EFL movie task, their acceptability scores of the inchoative were not higher than those of the passive when no agent was presented in context, which was contrary to the results of the EN group (see Figure 6). Similarly, in the sentence task, the EFL group did not distinguish between the passive and the inchoative when no agent phrase ‘by itself’ was presented. The average scores for both sentence types were around 3.00 out of 5 (see Figure 17). In short, the EFL group showed knowledge that the inchoative lacks a linguistically implied agent only when there is an agent available in context that is given as stimulus.

6.3 Do Korean learners of English allow both Type I and Type II overpassivization?

The EFL sentence task included intransitive-only verbs as distractors, such as *appear, die, sleep, and sit*. In general, the high EFL group rated the passive and the causative low and the inchoative high like the EN group, even though their rejection of the passive and the causative were not as strong as that of the EN group (see Figure 26). The low EFL group did not reject the passive and the causative, meaning that they allow Type I overpassivization.

Type II overpassivization is also found in the EFL group. They showed knowledge of the constructional meanings of the passive and the inchoative, only when there was an agent in the context that was given as stimulus. When no agent was present, they did not distinguish the passive from the inchoative. This means that they would use the passive and the inchoative interchangeably without any distinction when they cannot conceptualize an agent in context. For example, when a tree shakes by itself without any agent in context, the EFL group would say either “the tree was shaken” or “the tree shook” whereas the EN group would say “the tree shook.” In short, the EFL group allows both Type I and Type II overpassivization.

6.4 Why do L2 learners make both Type I and Type II overpassivization?

The results of this study have shown that low-level L2 learners of English did not reject ungrammatical passives of non-alternating unaccusatives, implying that they allow Type I overpassivization, and that L2 learners of English preferred the passive to the inchoative of alternating unaccusatives, implying that they allow Type II overpassivization. The major accounts of Type I overpassivization are (a) the NP-

movement account (Balcom, 1997; Zobl, 1989) and (b) the overcausativization account (Balcom, 1997; Hirakawa, 1995; Ju, 2000; Montrul, 1997, 2001c; Yip, 1994, 1995).

These accounts explain Type I overpassivization but not Type II overpassivization, since alternating unaccusative verbs take the causative-transitive, the inchoative, and the passive.

First, Ju (2000) suggested that L2 learners who accept Type I passivization **The fly was died* should also accept overcausativization **The man died the fly*, which means that their acceptability of the two types of sentences go together. Figure 25 shows that the EFL group rated the grammatical intransitive sentences of the intransitive-only verbs (*appear, die, sleep* and *sit*) high, above 4 out of 5, and the ungrammatical passive and the ungrammatical causative low, mostly between 2 and 3, which may indicate that the acceptability scores of the illegal passive and the illegal causative go together. However, the same results divided by proficiency group reveal an interesting observation (see Figures 26 and 27). The acceptability scores of the ungrammatical passive of the intransitive-only verbs in the high EFL group are lower than those in the low EFL group. On the other hand, the acceptability scores of the ungrammatical causative of the intransitive-only verbs in both the high and the low EFL groups are not much different. This means that the acceptability scores of the passive and the causative are not correlated. As proficiency goes up, L2 learners learn that the passive of the intransitive-only verbs is ungrammatical but not that the causative of those verbs is also ungrammatical. If Type I passivization is caused by overcausativization, the acceptability of the causative should be as low as the passive in the high EFL group. Another evidence is the results of *die* in the low EFL group (Figure 27). The average of

the ungrammatical passive of *die* was 3.24 and that of the ungrammatical causative of *die* 2.04. If Type I passivization is caused by overcausativization, the acceptability of the ungrammatical causative of *die* should be as high as that of the ungrammatical passive of *die*. However, even though the low EFL group rated the ungrammatical causative of *die* low, they did not reject the ungrammatical passive of *die*.

Next, the NP-movement account (Zobl, 1989) suggests that L2 learners produce Type I overpassivization to signal the change in grammatical relations morphologically. This account explains the illegal passive of non-alternating unaccusatives (e.g., *happen*, *occur*, etc.) but not that of unergatives (e.g., *die*, *sleep*, etc.). The subject of unergatives is not a theme but an experiencer, and its underlying position is not under V' like that of unaccusatives.

Moreover, the two accounts do not provide an explanation for Type II overpassivization, overuse of the passive of alternating unaccusative verbs. This study suggests that L2 learners of English may accept or produce both types of overpassivized sentences because they have an incomplete knowledge of constructional meanings of the passive and the inchoative in terms of agentivity. If there is an agent present in context that is given as stimulus for conceptualization, L2 learners of English seem to prefer the passive, but if there is no agent present, either the passive or the inchoative is permissible.

6.5 Do native speakers of Korean distinguish the passive from the inchoative in terms of agentivity?

Whereas the inchoative in Korean lacks agentivity as in English, agentivity of the passive in Korean does not seem to be as strong as that in English. In the movie task of

the pure inchoative verb group, the KN group rated the passive form with an agent higher than that with no agent, showing some agentivity in the passive. However, its agentivity is weak, since the difference in the acceptability scores between passives with an agent and ones with no agent is not big (see Figure 41). Moreover, even when an agent was presented, the average score of the passive form was lower than that of the inchoative form. However, considering that the average score of the passive form was lower than that of the inchoative form regardless of contexts, it could be interpreted that the passive in Korean still showed weak agentivity. In the sentence task, agentivity could not be observed in the passive at all, since the passive form was rated low regardless of phrase type. Agentivity in the passive was not found in the Q&A task, either (Figure 53). The findings in the three experiments suggest that the passive does not include a linguistically implied agent in Korean. The passive did not pass the syntactic test for agentivity in Chapter 3. The syntactic test is repeated here.

(41) a. ?Mwul-ul mantul-lyeko elum-i nok-y-e cy-ess-ta. (passive)

Water-AC make-to ice-NM melt-CAUS-*INF* become-PST-DC

‘The ice was melted to make water.’

b. *Mwul-ul mantul-lyeko elum-i nok-ass-ta. (inchoative)

Water-AC make-to ice-NM melt-PST-DC

‘The ice melted to make water.’

If the passive includes a linguistically implied agent, the passive sentence with a purpose clause should sound natural. However, in Korean, it is not natural. Both the short form and the long form of the pure causative verb group do not show agentivity, either.

(67) a. *Hwanki-lul siki-lyeko Mun-i yel-*ly*-ess-ta.
 Ventilation-AC have-to Door- NM open-*PAS*-*PST*-DC
 ‘The door was opened to increase ventilation/ The door opened to increase ventilation.’

b. *Hwanki-lul siki-lyeko Mun-i yel-*e* *cy*-ess-ta.
 Ventilation-AC have-to Door- NM open- *INF* *become*-*PST*-DC
 ‘The door was opened to increase ventilation/ The door opened to increase ventilation.’

Then, why does the Korean passive not have a linguistically implied agent in its constructional meaning, which is claimed to be language universal? This may be due to the language specific morphological properties of Korean. In English, the difference in agentivity between the passive and the inchoative originates from where the agent gets suppressed. The agent of the passive is suppressed at the syntactic level, and it remains in the constructional meaning of the passive. The agent of the inchoative is suppressed at the lexical level, and the inchoative does not have a linguistically implied agent in its constructional meaning. The suppression at the lexical level creates a new intransitive verb from a transitive verb. In Korean, it is not clear whether the causative and the

passive of the pure inchoative verb group are derived at the lexical level or at the syntactic level, since both forms are formed by suffixation. A simple inchoative verb form in the pure inchoative verb group turns to a causative form by adding one of the causative morphemes, *i/hi/li/ki/wu/kwu/chwu*, and then becomes a passive form by adding the passive morpheme *ci* ‘become.’ In the pure causative verb group, a simple causative verb form changes to an inchoative form or to a passive form by adding the inchoative morpheme *ci* ‘become’ or one of *i/hi/li/ki*. In general, verb forms with one of the causative morphemes *i/hi/li/ki/wu/kwu/chwu* or the inchoative/passive morphemes *i/hi/li/ki* are considered lexical forms, which probably are formed at the lexical level. The question is whether verb forms with the inchoative/passive morpheme *ci* are formed at the lexical level or at the syntactic level. It seems that verb forms with the inchoative/passive morpheme *ci* were originally formed at the syntactic level but have been grammaticized as a lexical item, losing agentivity in their constructional meanings.

Another possibility is that the verbs used in these experiments do not have agentivity in their passives, but other verbs do. Most of the experimental verbs in this study do not allow the agent to receive an agentive locative/goal particle, such as *kkey* ‘by [human, deferential],’ *eykey* ‘by [animate, formal],’ and *hanthey* ‘by [animate, informal].’ Instead they can take *ey* ‘by [animal, inanimate]’ for the oblique agent in the passive (Sohn, 1999). The verbs may not show agentivity in the passive, since they do not take an agentive locative/goal particle (H. M. Sohn, personal communication, March 18, 2008). To prove this, the passive of verbs that take an agentive locative/goal particle for their oblique agent should be tested with a purpose clause as well.

- (68) a. ku totwuk atul-i swunkyeng-*hanthey* cap-*hy*-ess-ta
the thief's son-AC police-by catch-PAS-PST-DC
'The thief's son was caught by the police.'
- b. *ku totwuk-ul cap-ulyeko totwuk atul-i cap-*hy*-ess-ta
the thief-AC thief's son-AC catch-PAS-PST-DC
'The thief's son was caught to catch the thief.'

As shown in (68), the passive that can take an agentive locative/goal particle for their oblique agent does not allow a purpose clause, either. Therefore, it could be concluded that the passive in Korean lacks a linguistically implied agent in its constructional meaning.

Agentlessness of the passive in Korean explains why the KN group rated the combination of a passive question and a purpose answer lower than that of a passive question and a cause answer. Both the passive and the inchoative lack a linguistically implied agent; cause answers were more acceptable than purpose answers regardless of question type.

6.6 Do English-speaking learners of Korean distinguish the passive from the inchoative in terms of agentivity?

6.6.1 Do English-speaking learners of Korean have knowledge of the constructional meaning of the passive in Korean?

Like the KN group, the KFL group did not show clear knowledge of a linguistically implied agent in Korean. However, the ANOVA for each group showed

differences in the results between these two participant groups. In the KN movie task, the most important variable was *verb form*, whereas it was *context* in the KFL movie task. The results of the KN sentence task showed a main effect both for *verb form* and *phrase*, but those of the KFL sentence task only for *phrase*. In the sentence task, phrases provided written contexts. Therefore, it means that the KFL group was more sensitive to context than to verb form.

6.6.2. Do English-speaking learners of Korean have knowledge of the constructional meaning of the inchoative?

The inchoative in Korean seems to lack a linguistically implied agent, as in English. In both the KN movie and the KN sentence tasks, the acceptability scores of the inchoative form increased as agentivity weakened. When an agent was present in context, the inchoative form was rated low; when no agent was present in context, it was rated high. In the KN Q&A task, when inchoative questions were asked, cause answers were rated high and purpose answers were rated low. The results of all three tasks confirmed that the Korean inchoative lacks agentivity. The results of the KFL group were similar to those of the KN group in all tasks. Therefore, the KFL group showed native-like knowledge of the constructional meaning of the inchoative.

6.7 Do L2 learners of Korean also use passives more than native speakers of Korean?

One interesting question that could be asked in this study is whether L2 learners of Korean also use passives more than native speakers of Korean. The answer seems to be

“yes” for Type II overpassivization. In the sentence task of the pure inchoative verb group, the KFL group allowed both the passive form and the inchoative form to a similar degree, whereas the KN group disliked the passive form, that is, the morphologically complex one. On the other hand, like the KN group, the KFL group rejected the ungrammatical passive sentence of the Korean non-alternating unaccusative *ilenata* ‘happen’ that was one of the distractors in the sentence task. This means that L2 learners of Korean may not allow Type I overpassivization.

(69) The ungrammatical passive sentence of the Korean non-alternating unaccusative *ilenata* ‘happen’

*Sako-ka uncunsa-ye uyhya ilena-cy-ess-ta.

Accident-NM driver-by happen-PAS-PST-DC

‘The accident was happened by the driver.’

The rejection of one non-targetlike passive sentence is not enough to argue that L2 learners of Korean disallow Type I overpassivization. However, Korean does not have as many intransitive-only verbs as English. This may be why L2 learners of Korean do not make Type I overpassivization errors.

6.8 Narrow-range constraints vs. broad-range constraints

Most of the previous research has suggested that L2 learners’ overpassivization is caused by their incomplete knowledge of narrow-range constraints, which is to overgeneralize a non-alternating verb to an alternating one, or vice versa. However, these

studies here suggests that L2 learners' overpassivization may result from their incomplete knowledge of broad-range constraints, which is a constructional meaning in terms of agentivity. Furthermore, this suggests that the L2 acquisition of argument structure is affected by both narrow-range and the broad-range constraints. Therefore, L2 research on argument structure should not only focus on which verbs alternate and which verbs do not, but also whether L2 learners know the constructional meanings of each argument structure.

Another question to be asked here is whether the broad-range constraints are language universal, as is claimed. The broad-range constructional meaning of the passive includes a linguistically implied agent, which should be language universal. However, the passive in Korean did not seem to include a linguistically implied agent in its constructional meaning. Then, is it really language universal? The answer would be "yes." The Korean passive that used to be formed by a syntactic derivation has gone through the process of grammaticization, becoming a lexical item. It is natural that the Korean passive has lost its original constructional meaning as well. Therefore, the universality of the constructional meaning of the syntactic passive could hold.

6.9 L1 transfer

This study found neither class-based transfer nor pattern-based transfer, unlike Kim's study (2004) that found not class-based transfer but pattern-based transfer. However, some morphological aspects of the L1 still seem to be carried to the L2. As in Kim's study, the EFL group accepted zero-marked English inchoatives of both the verb groups to the same degree, which means there was no class-based transfer. They did not

distinguish the English verbs that belong to the pure inchoative verb group in Korean from the English verbs that belong to the pure causative verb group. The acceptability scores of verbs in both verb groups were not much different in most tasks. In addition, the high EFL group successfully rejected ungrammatical passives of intransitive-only verbs, even though Korean has few intransitive-only verbs. In Korean, most verbs are alternating by adding either a causative or inchoative morpheme. On the other hand, pattern-based transfer was not supported in this study, either. The EFL group did not accept the inchoative of alternating unaccusatives, even though their L1 also has a simple intransitive construction NPsubject V. They also distinguished the passive from the inchoative in English, even though the constructions are not clearly divided in their L1.

Still, sensitivity to morphemes seems to be transferred to L2 learning. Korean learners of English were sensitive to the existence of morphemes and succeeded in acquiring the passive and the inchoative constructions in terms of forms. However, English learners of Korean were not sensitive to verb forms with different types of morphemes. They were instead more dependent on context, that is, availability of an agent.

Lastly, an L1 transfer effect was found in the results of the EFL group's Q&A task. The EFL group preferred cause answers over purpose answers regardless of question types, which was also found in the results of the KN group in the Q&A task. As stated earlier, cause answers seem to be preferred because both the passive and the inchoative lack a linguistically implied agent in Korean. Then, it is interesting why the EFL group transferred their L1 knowledge into the Q&A task only, not into the movie and the sentence tasks. It seems that they translated the questions and answers and

transferred the constructional meanings of the Korean passive and inchoative. The sentences in the movie and the sentence tasks were very simple and short, but those in the Q&A task were quite long without any picture context.

In short, L1 transfer effects in morphological aspects do not seem to prohibit L2 learners from acquiring a second language. L1 transfer effects were found when L2 learners seemed to translate L2 into L1.

CHAPTER 7

Conclusion

7.1 Conclusion

This dissertation aims to investigate whether L2 learners have knowledge of the constructional meanings of the passive and the inchoative. It is believed to be language universal that the passive has a linguistically implied agent in its constructional meaning but the inchoative does not. This dissertation includes two L2 studies, English as a foreign language and Korean as a foreign language. Both languages have the inchoative and the passive constructions. However, they differ in how they mark each construction. We can observe how L2 learners with one morphology system in their L1 learn another language with another morphology system.

In the results of the EFL study, L2 learners showed their knowledge of the constructional meanings of the passive and the inchoative only when there was an agent available in context that was provided as a stimulus that helped conceptualization, i.e., in the movie, in the sentence, and in the question. In the KFL study, the KFL group showed native-like knowledge of the passive and the inchoative in Korean.

Interestingly, the passive in Korean did not show agentivity in their constructional meaning, even though the constructional meaning is claimed to be language universal. It seems that the passive verb forms have been grammaticized to a lexical item. As a lexical item, the Korean passive forms are derived and suppress the agent at the lexical level. As a result, it seems that they lost agentivity. Now, the constructional meanings of the passive and the inchoative are the same. Between the two constructions with the

same meaning, native speakers of Korean seem to choose one form over the other. For example, the passive was not accepted as high as the inchoative in the pure inchoative verb group; the long form was not accepted as highly as the short form in the pure causative verb group. In the future, the passive form of the pure inchoative verb group and the long form of the pure causative verb group might disappear from Korean.

Morphological differences in the two languages seem to influence the learning of the passive and the inchoative differently. The EFL group was not impeded by morphological differences of the passive and the inchoative in English in their L2 learning. They did not show different acceptance in zero-marked English inchoatives without reference to which verb group the English verb belongs to in Korean. However, the KFL group seemed to have difficulty in identifying and understanding verb forms with different morphemes. They did not differ in their judgment scores when the verb form changed in the sentence task and the Q&A task. However, this study did not investigate the acquisition of morphemes directly. It should be investigated clearly in future research.

The hypotheses of the EFL study are repeated with an indication of whether they were met.

Table 5

Hypotheses for the primary research questions in the EFL study

Research questions	Hypotheses
a. Do Korean learners of English know that the passive has a linguistically implied agent in English?	Hypothesis 1. Korean EFL learners would know that the passive has a linguistically implied agent in English, since it is language universal. → Met, except when no agent is present in context as a stimulus for conceptualization.
b. Do Korean learners of English know that the inchoative lacks a linguistically implied agent in English?	Hypothesis 2. Korean EFL learners would not know that the inchoative lacks a linguistically implied agent in English, since they extend the passive's representation to the inchoative's. → Met, except when no agent is present in context as a stimulus for conceptualization.

<p>c (i). Do Korean learners of English accept the inchoative of the English verbs that belong to the pure causative group in Korean? (see Table 3)</p>	<p>Hypothesis 3. Korean EFL learners would reject the morphologically simple inchoative form of the pure causative group verbs in English, since those verbs in Korean require an inchoative morpheme.</p> <p>→ Not supported</p>
<p>c (ii) Do Korean learners of English accept the inchoative of the English verbs that belong to the pure inchoative group in Korean? (see Table 3)</p>	<p>Hypothesis 4. Korean EFL learners would accept the morphologically simple inchoative form of the pure inchoative group verbs in English, since those verbs in Korean require no morpheme.</p> <p>→ Not supported</p>
<p>c (iii). Do Korean learners of English accept the passive of the English verbs?</p>	<p>Hypothesis 5. Korean EFL learners would accept the morphologically marked passive forms in English, since the passive in Korean requires a morpheme.</p> <p>→ Met</p>

In the KFL study, specific hypotheses were not set. Instead the research questions are repeated with simple answers.

(55) Research questions

- a. Does the Korean passive have a linguistically implied agent as in English?
→ No.
- b. Does the Korean inchoative lack a linguistically implied agent as in English?
→ Yes.
- c. Do English-speaking learners of Korean think that the passive has a linguistically implied agent in Korean?
→ No.
- d. Do English-speaking learners of Korean think that the inchoative lacks a linguistically implied agent in Korean?
→ Yes.
- e. Do native speakers of Korean have the same constructional meaning of the short form and the long form passive in the pure causative group?
→ Yes, but they preferred the short form to the long form.
- f. Do English-speaking learners of Korean have the same constructional meaning of the short form and the long form passive in the pure causative group?
→ Yes, and they accepted the short form and the long form to the same degree.

One of the motivations in this dissertation was to account for L2 English learners' non-targetlike passives. This study expands the ranges of L2 learners' non-targetlike passives from ungrammatical passives of non-alternating unaccusatives (e.g., **The accident was happened.*), which I call Type I overpassivization, to grammatical but overused passives of alternating unaccusatives (e.g., *The window was broken* when native

speakers of English would say *The window broke.*), which I call Type II overpassivization. Current accounts for Type I overpassivization cannot provide an explanation for Type II overpassivization. I suggest that both types of overpassivization might be caused by L2 learners' incomplete knowledge of the constructional meanings of the passive and the inchoative. The results of this study showed that L2 learners of English have knowledge of the constructional meanings of the passive and the inchoative but did not show their knowledge when there was no agent in context given as a stimulus for conceptualization. As a result, they would not distinguish "the accident was happened" from "the accident happened," when they cannot find an agent in the context that initiates conceptualization. Likewise, they would not distinguish "the window was broken" from "the window broke," when they do not find an agent in the context that initiates conceptualization. However, L2 learners prefer the passive "the accident was happened" or "the window was broken," since they do not like the inchoative which does not mark a theme subject unless they know that the passive is ungrammatical with the verb as in "the accident was happened." This account explains why L2 learners' overpassivization looks optional, which means they do not produce it all the time, and how they overuse the passive.

This dissertation also suggests that L2 learners' overpassivization may be caused by broad-range semantic constraints, not only by narrow-range semantic constraints. Previous research suggested that L2 learners' overpassivization is caused by their incomplete knowledge of narrow-range semantic constraints, which means that they do not know which verbs can be used in a construction and which verbs cannot. It is true. However, this study suggests that, in addition, L2 learners' overpassivization can be

caused by their incomplete knowledge of broad-range semantic constraints or constructional meanings of the passive and the inchoative.

7.2 Implications for future research

This study suggests that the current overcausativization account for Type I overpassivization does not hold since the acceptability of the ungrammatical causative is not the same as that of the ungrammatical passive. For example, if “the accident was happened” is caused by an L2 learner’s overcausativization, the same learner should also accept or produce “the driver happened the accident.” Non-alternating unaccusatives like *happen* were not the primary target verbs in this study and included only as distractors. In the results of the EFL sentence task, it was not found that L2 learners who accepted an ungrammatical passive, e.g., “the accident was happened,” also accepted its ungrammatical causative, e.g., “the driver happened the accident.” In fact, L2 learners who accepted an ungrammatical passive, e.g., “the accident was happened” did not accept its ungrammatical causative, e.g., “the driver happened the accident.” However, this should be investigated with a greater number of verbs, not as distractors but as target verbs.

Another limitation of this dissertation is that the KFL study did not test L2 learners’ acquisition of morphology in the passive and the inchoative in Korean. It was not directly investigated either since it was not directly related to the primary research questions of this dissertation. Another reason was that the Korean morphological system is complex, so it was difficult to develop a valid test to investigate morphological acquisition of the passive and the inchoative in Korean. The KFL experiments were just

the Korean version of the EFL experiments in this dissertation. Future research should start from the Korean perspective and investigate both narrow-range and broad-range constraints of the passive and the inchoative in Korean.

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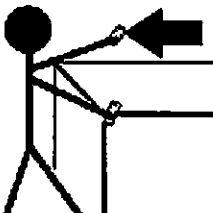


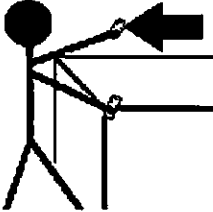

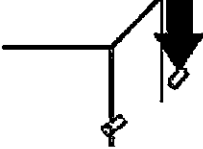
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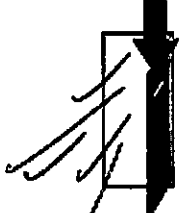


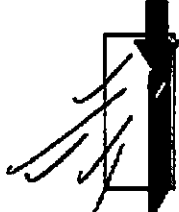

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Appendix


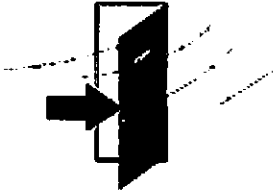


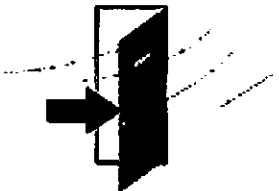

Conditions in the English movie task

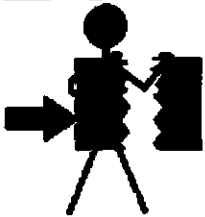
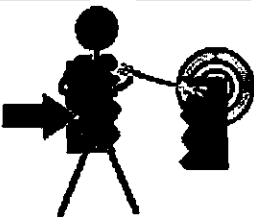
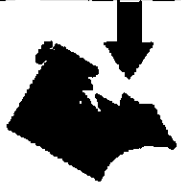
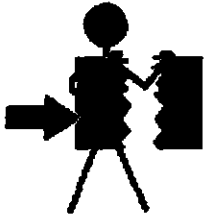
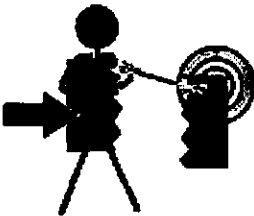

Pure causative verb group






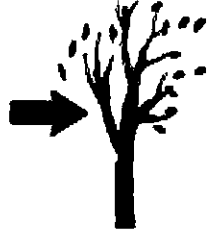
break	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the ball</i>	Context with no agent
Passive sentence	 The chalk was broken.	 The chalk was broken.	 The chalk was broken.
Inchoative sentence	 The chalk broke.	 The chalk broke.	 The chalk broke.

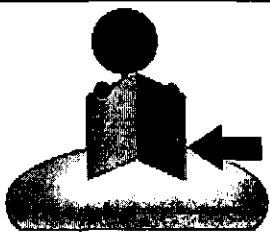
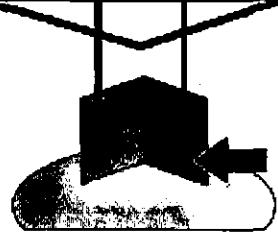
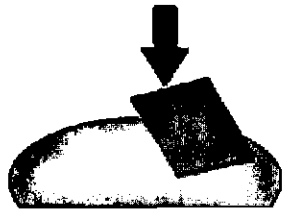
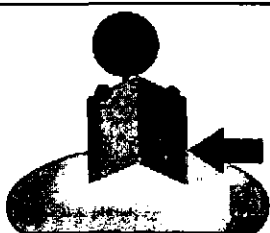
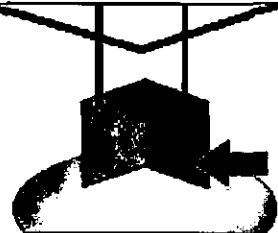
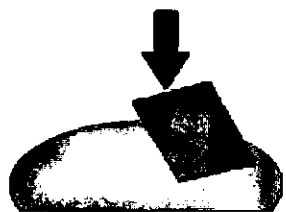
open	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the wind</i>	Context with no agent
Passive sentence	 The door was opened.	 The door was opened.	 The door was opened.
Inchoative sentence	 The door opened.	 The door opened.	 The door opened.

bend	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the wind</i>	Context with no agent
Passive sentence	 <p>The plant was bent.</p>	 <p>The plant was bent.</p>	 <p>The plant was bent.</p>
Inchoative sentence	 <p>The plant bent.</p>	 <p>The plant bent.</p>	 <p>The plant bent.</p>

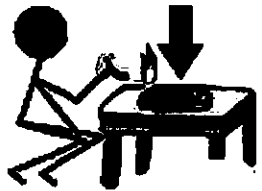
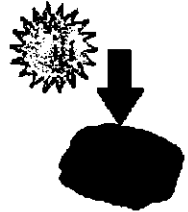

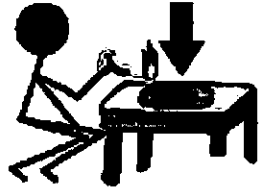
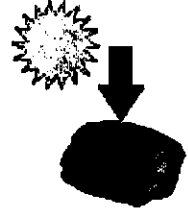

close	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the wind</i>	Context with no agent
Passive sentence	 <p>The door was closed.</p>	 <p>The door was closed.</p>	 <p>The door was closed.</p>
Inchoative sentence	 <p>The door closed.</p>	 <p>The door closed.</p>	 <p>The door closed.</p>

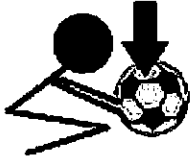


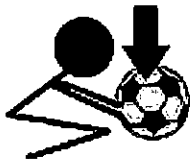


tear	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the arrow</i>	Context with no agent
Passive sentence	 <p>The paper was torn.</p>	 <p>The paper was torn.</p>	 <p>The paper was torn.</p>
Inchoative sentence	 <p>The paper tore.</p>	 <p>The paper tore.</p>	 <p>The paper tore.</p>

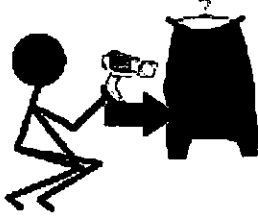
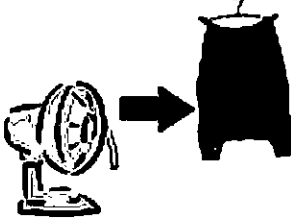
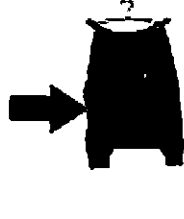
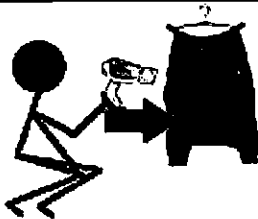
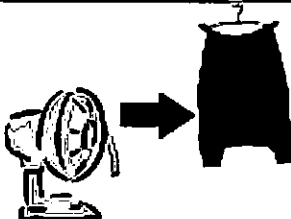
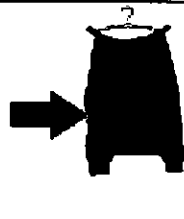
shake	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the wind</i>	Context with no agent
Passive sentence	 <p>The tree was shaken.</p>	 <p>The tree was shaken.</p>	 <p>The tree was shaken.</p>
Inchoative sentence	 <p>The tree shook.</p>	 <p>The tree shook.</p>	 <p>The tree shook.</p>

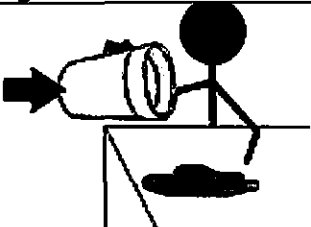
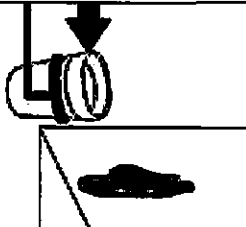


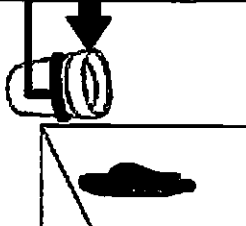

fold	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the machine</i>	Context with no agent
Passive sentence	 <p>The paper was folded.</p>	 <p>The paper was folded.</p>	 <p>The paper was folded.</p>
Inchoative sentence	 <p>The paper folded.</p>	 <p>The paper folded.</p>	 <p>The paper folded.</p>

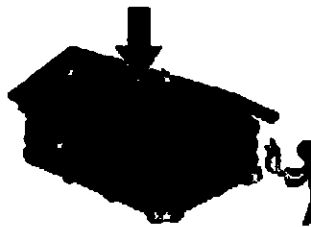
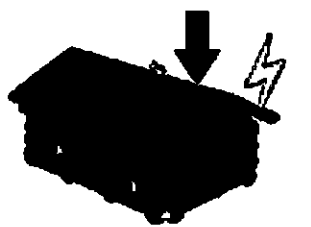
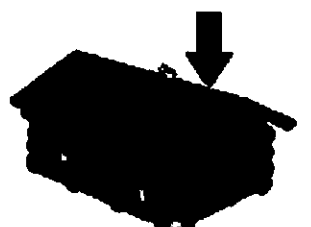
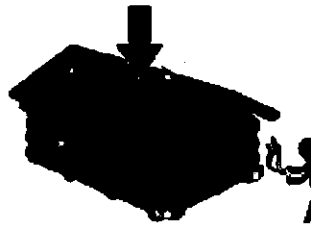
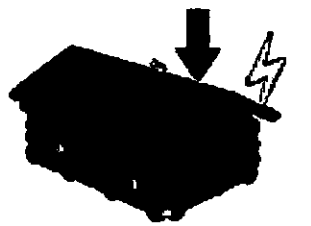
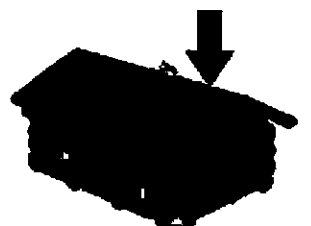
Pure inchoative verb group

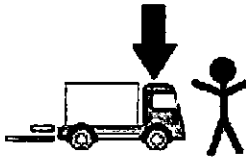


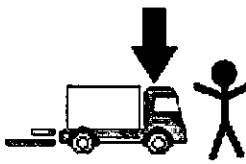
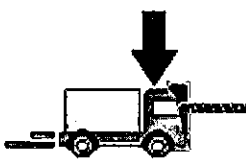

melt	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the sun</i>	Context with no agent
Passive sentence	 <p>The chocolate was melted.</p>	 <p>The chocolate was melted.</p>	 <p>The chocolate was melted.</p>
Inchoative sentence	 <p>The chocolate melted.</p>	 <p>The chocolate melted.</p>	 <p>The chocolate melted.</p>

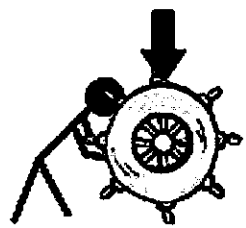
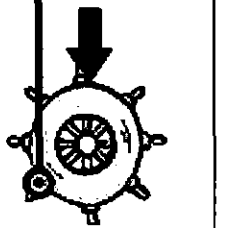
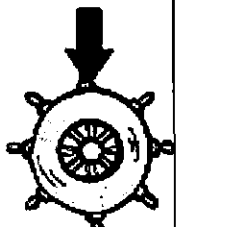
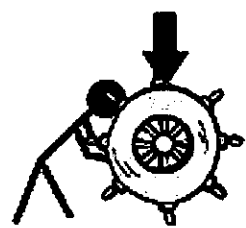
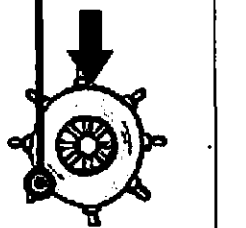
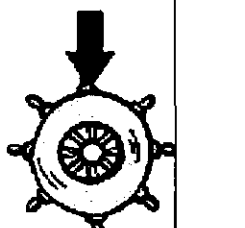
roll	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the machine</i>	Context with no agent
Passive sentence	 <p>The ball was rolled.</p>	 <p>The ball was rolled.</p>	 <p>The ball was rolled.</p>
Inchoative sentence	 <p>The ball rolled.</p>	 <p>The ball rolled.</p>	 <p>The ball rolled.</p>

dry	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the fan</i>	Context with no agent
Passive sentence	 <p>The shirt was dried.</p>	 <p>The shirt was dried.</p>	 <p>The shirt was dried.</p>
Inchoative sentence	 <p>The shirt dried.</p>	 <p>The shirt dried.</p>	 <p>The shirt dried.</p>

empty	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the machine</i>	Context with no agent
Passive sentence	 <p>The cup was emptied.</p>	 <p>The cup was emptied.</p>	 <p>The cup was emptied.</p>
Inchoative sentence	 <p>The cup emptied.</p>	 <p>The cup emptied.</p>	 <p>The cup emptied.</p>

burn	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the lightning</i>	Context with no agent
Passive sentence	 <p>The house was burned.</p>	 <p>The house was burned.</p>	 <p>The house was burned.</p>
Inchoative sentence	 <p>The house burned.</p>	 <p>The house burned.</p>	 <p>The house burned.</p>

stop	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the bar</i>	Context with no agent
Passive sentence	 <p>The truck was stopped.</p>	 <p>The truck was stopped.</p>	 <p>The truck was stopped.</p>
Inchoative sentence	 <p>The truck stopped.</p>	 <p>The truck stopped.</p>	 <p>The truck stopped.</p>

turn	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the machine</i>	Context with no agent
Passive sentence	 <p>The wheel was turned.</p>	 <p>The wheel was turned.</p>	 <p>The wheel was turned.</p>
Inchoative sentence	 <p>The wheel turned.</p>	 <p>The wheel turned.</p>	 <p>The wheel turned.</p>

Sentences in the English sentence Task

Pure causative verb group

1. The window was broken by the man.
2. The window was broken by the ball.
3. The window was broken by itself.
4. The window broke by the man.
5. The window broke by the ball.
6. The window broke by itself.
7. The door was opened by the man.
8. The door was opened by wind.
9. The door was opened by itself.
10. The door opened by the man.
11. The door opened by wind.
12. The door opened by itself.
13. The plant was bent by the man.
14. The plant was bent by wind.
15. The plant was bent by itself.
16. The plant bent by the man.
17. The plant bent by wind.
18. The plant bent by itself.
19. The poster was torn by the man.
20. The poster was torn by wind.
21. The poster was torn by itself.
22. The poster tore by the man.
23. The poster tore by wind.
24. The poster tore by itself.
25. The door was closed by the man.
26. The door was closed by wind.
27. The door was closed by itself.
28. The door closed by the man.
29. The door closed by wind.
30. The door closed by itself.
31. The tree was shaken by the man.
32. The tree was shaken by wind.
33. The tree was shaken by itself.
34. The tree shook by the man.
35. The tree shook by wind.
36. The tree shook by itself.
37. The paper was folded by the man.
38. The paper was folded by the machine.
39. The paper was folded by itself.
40. The paper folded by the man.
41. The paper folded by the machine.
42. The paper folded by itself.

Pure inchoative verb group

1. The butter was melted by the man.
2. The butter was melted by the sun.
3. The butter was melted by itself.
4. The butter melted by the man.
5. The butter melted by the sun.
6. The butter melted by itself.
7. The ball was rolled by the man.
8. The ball was rolled by wind.
9. The ball was rolled by itself.
10. The ball rolled by the man.
11. The ball rolled by wind
12. The ball rolled by itself.
13. The shirt was dried by the man.
14. The shirt was dried by the fan.
15. The shirt was dried by itself.
16. The shirt dried by the man.
17. The shirt dried by the fan.
18. The shirt dried by itself.
19. The garbage can was emptied by the man.
20. The garbage can was emptied by the fork on the garbage truck.
21. The garbage can was emptied by itself.
22. The garbage can emptied by the man.
23. The garbage can emptied by the fork on the garbage truck.
24. The garbage can emptied by itself.
25. The house was burned by the man.
26. The house was burned by thunder.
27. The house was burned by itself.
28. The house burned by the man.
29. The house burned by thunder.
30. The house burned by itself.
31. The truck was stopped by the man.
32. The truck was stopped by the bar at the entrance.
33. The truck was stopped by itself.
34. The truck stopped by the man.
35. The truck stopped by the bar at the entrance.
36. The truck stopped by itself.
37. The wheel was turned by the man.
38. The wheel was turned by the machine.
39. The wheel was turned by itself.
40. The wheel turned by the man.
41. The wheel turned by the machine.
42. The wheel turned by itself.

Questions and answers in the English Q&A task

Pure causative verb group

Break	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the window broken?	Because John wanted to escape through the window.	x	Because John threw a ball at the window.	Because we had a strong rainstorm last night.
Inchoative Q: Why did the window break?	Because John wanted to escape through the window.	x	Because John threw a ball at the window.	Because we had a strong rainstorm last night.

open	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the door opened?	Because John wanted to breathe fresh air.	x	Because John did not lock it.	Because wind blew in.
Inchoative Q: Why did the door open?	Because John wanted to breathe fresh air.	x	Because John did not lock it.	Because wind blew in.

bend	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the plant bent?	Because John wanted to put it into a small box.	x	Because John covered it with a heavy cloth.	Because the room was sunless.
Inchoative Q: Why did the plant bend?	Because John wanted to put it into a small box.	x	Because John covered it with a heavy cloth.	Because the room was sunless.

tear	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the book cover torn?	Because John wanted to hide its title.	x	Because John spilled water on it.	Because it was wet.
Inchoative Q: Why did the book cover tear?	Because John wanted to hide its title.	x	Because John spilled water on it.	Because it was wet.

close	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the door closed?	Because John wanted to keep the room warm.	x	Because John removed the door stop.	Because the wind was too strong.
Inchoative Q: Why did the door close?	Because John wanted to keep the room warm.	x	Because John removed the door stop.	Because the wind was too strong.

shake	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the tree shaken?	Because John wanted to pick its fruit.	x	Because John pushed it hard.	Because the wind was too strong.
Inchoative Q: Why did the tree shake?	Because John wanted to pick its fruit.	x	Because John pushed it hard.	Because the wind was too strong.

fold	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why were the table legs folded?	Because John wanted to put the table in the closet.	x	Because John broke one leg of the table.	Because the rock on the table was too heavy.
Inchoative Q: Why did the table legs fold?	Because John wanted to put the table in the closet.	x	Because John broke one leg of the table.	Because the rock on the table was too heavy.

Pure inchoative verb group

melt	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the ice melted?	Because John needed water to drink.	x	Because John forgot to put it in the freezer.	Because the weather was hot.
Inchoative Q: Why did the ice melt?	Because John needed water to drink.	x	Because John forgot to put it in the freezer.	Because the weather was hot.

roll	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the rock rolled?	Because John wanted to put it aside.	x	Because John dropped it on the stairs.	Because it was on top of a slide.
Inchoative Q: Why did the rock roll?	Because John wanted to put it aside.	x	Because John dropped it on the stairs.	Because it was on top of a slide.

dry	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the flower dried?	Because John wanted to keep it longer.	x	Because John forgot to put it in the water.	Because it didn't rain for a while.
Inchoative Q: Why did the flower dry?	Because John wanted to keep it longer.	x	Because John forgot to put it in the water.	Because it didn't rain for a while.

burn	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the box burned?	Because John wanted to get rid of it.	x	Because John put it next to the stove.	Because there was a bomb in the box.
Inchoative Q: Why did the box burn?	Because John wanted to get rid of it.	x	Because John put it next to the stove.	Because there was a bomb in the box.

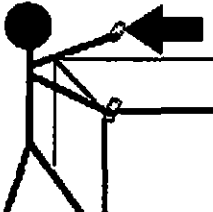


stop	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the washer stopped?	Because John wanted to put more dishes in it.	x	Because John unplugged it accidentally.	Because the power suddenly went out.
Inchoative Q: Why did the washer stop?	Because John wanted to put more dishes in it.	x	Because John unplugged it accidentally.	Because the power suddenly went out.


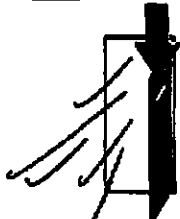


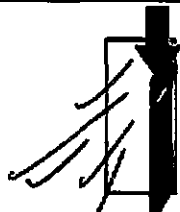

turn	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the wheelchair turned?	Because John wanted to take his patient back to his room.	x	Because John pushed it aside to clean the floor.	Because the floor was slippery.
Inchoative Q: Why did the wheelchair turn?	Because John wanted to take his patient back to his room.	x	Because John pushed it aside to clean the floor.	Because the floor was slippery.




empty	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: Why was the box emptied?	Because John wanted to put his books in it.	x	Because John dropped it and wasted it all.	Because it had a big hole.
Inchoative Q: Why did the box empty?	Because John wanted to put his books in it.	x	Because John dropped it and wasted it all.	Because it had a big hole.


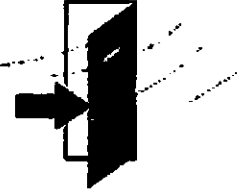


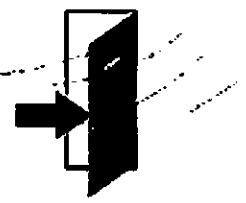

Conditions in the Korean movie task

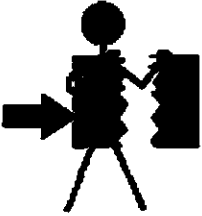
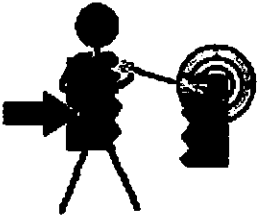

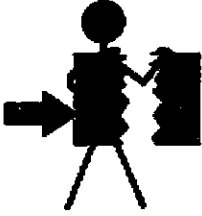
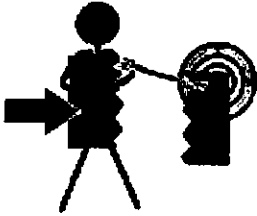

Pure causative verb group



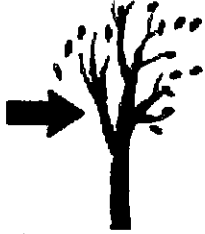



break	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the ball</i>	Context with no agent
Long form	 <p>유리 막대기가 깨졌다.</p>	 <p>유리 막대기가 깨졌다.</p>	 <p>유리 막대기가 깨졌다.</p>

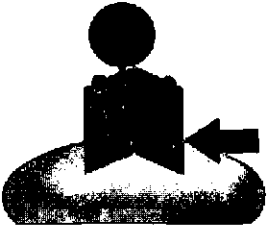
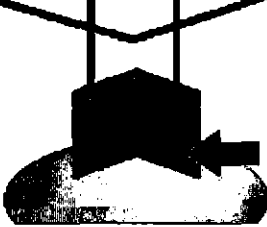
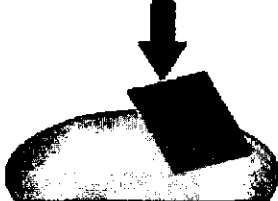
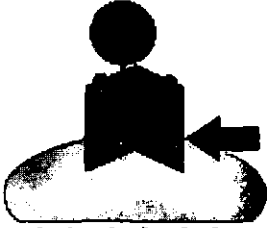
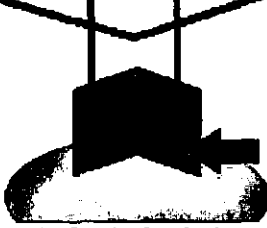
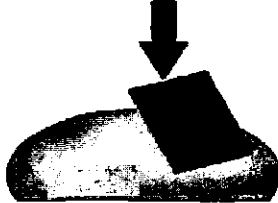
open	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the wind</i>	Context with no agent
Short form	 <p>문이 열렸다.</p>	 <p>문이 열렸다.</p>	 <p>문이 열렸다.</p>
Long form	 <p>문이 열어 졌다.</p>	 <p>문이 열어 졌다.</p>	 <p>문이 열어 졌다.</p>

bend	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the wind</i>	Context with no agent
Long form	 <p>꽃이 구부러 졌다.</p>	 <p>꽃이 구부러 졌다.</p>	 <p>꽃이 구부러 졌다.</p>

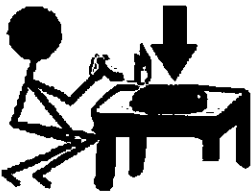


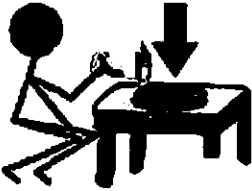
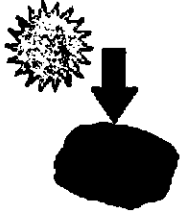

close	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the wind</i>	Context with no agent
Short form	 <p>문이 닫혔다.</p>	 <p>문이 닫혔다.</p>	 <p>문이 닫혔다.</p>
Long form	 <p>문이 닫아 졌다.</p>	 <p>문이 닫아 졌다.</p>	 <p>문이 닫아 졌다.</p>

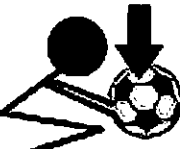


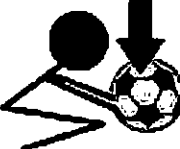


tear	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the arrow</i>	Context with no agent
Short form	 <p>종이가 찢겼다.</p>	 <p>종이가 찢겼다.</p>	 <p>종이가 찢겼다.</p>
Long form	 <p>종이가 찢어 졌다.</p>	 <p>종이가 찢어 졌다.</p>	 <p>종이가 찢어 졌다.</p>

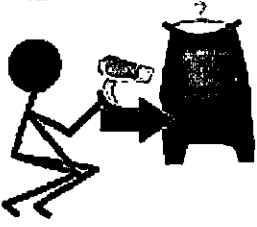
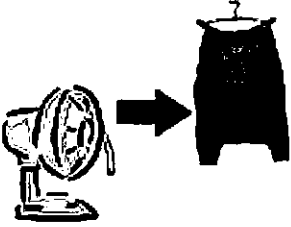
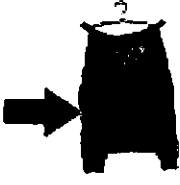
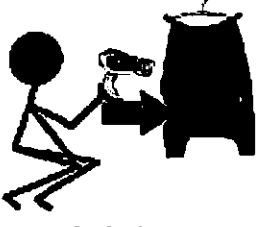
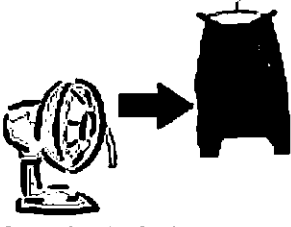
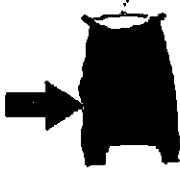
shake	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the wind</i>	Context with no agent
Short form	 <p>나무가 흔들렸다.</p>	 <p>나무가 흔들렸다.</p>	 <p>나무가 흔들렸다.</p>
Long form	 <p>나무가 흔들어 졌다.</p>	 <p>나무가 흔들어 졌다.</p>	 <p>나무가 흔들어 졌다.</p>


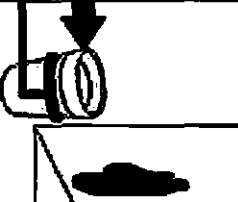


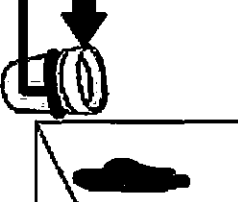

fold	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the machine</i>	Context with no agent
Short form	 <p data-bbox="386 577 592 615">종이가 접혔다.</p>	 <p data-bbox="716 577 922 615">종이가 접혔다.</p>	 <p data-bbox="1052 583 1258 621">종이가 접혔다.</p>
Long form	 <p data-bbox="386 861 592 898">종이가 접어 졌다.</p>	 <p data-bbox="716 861 922 898">종이가 접어 졌다.</p>	 <p data-bbox="1052 867 1258 905">종이가 접어 졌다.</p>

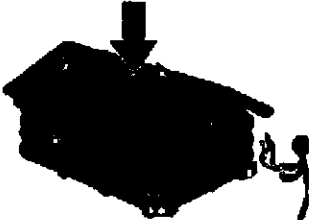
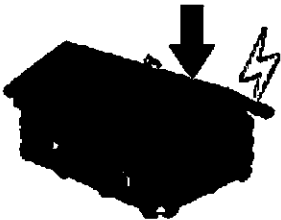
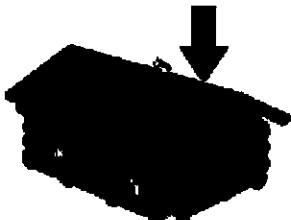
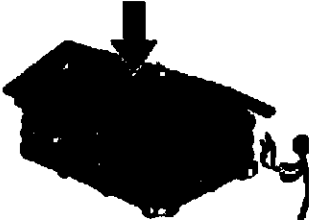
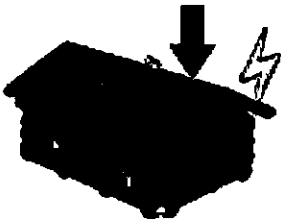
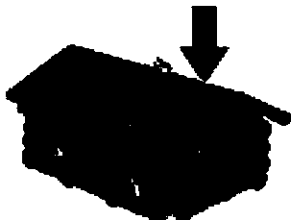
Pure inchoative verb group

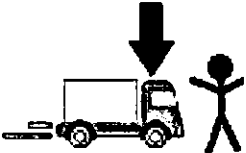


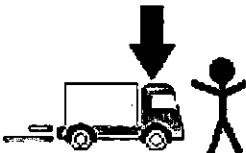
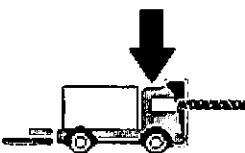

melt	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the sun</i>	Context with no agent
Passive sentence	 <p>초콜릿이 녹여 졌다.</p>	 <p>초콜릿이 녹여 졌다.</p>	 <p>초콜릿이 녹여 졌다.</p>
Inchoative sentence	 <p>초콜릿이 녹았다.</p>	 <p>초콜릿이 녹았다.</p>	 <p>초콜릿이 녹았다.</p>

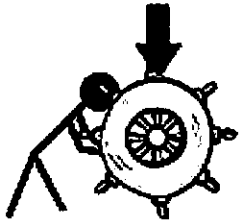
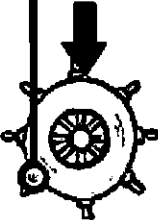
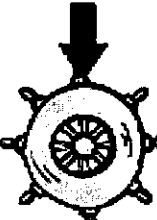
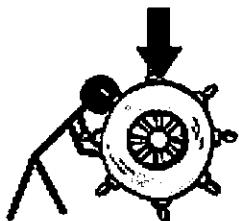
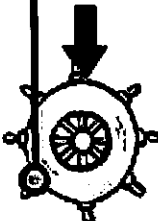
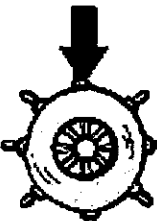
roll	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the machine</i>	Context with no agent
Passive sentence	 <p>공이 굴려 졌다.</p>	 <p>공이 굴려 졌다.</p>	 <p>공이 굴려 졌다.</p>
Inchoative sentence	 <p>공이 굴렀다.</p>	 <p>공이 굴렀다.</p>	 <p>공이 굴렀다.</p>

dry	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the fan</i>	Context with no agent
Passive sentence	 <p>셔츠가 말려 졌다.</p>	 <p>셔츠가 말려 졌다.</p>	 <p>셔츠가 말려 졌다.</p>
Inchoative sentence	 <p>셔츠가 말랐다.</p>	 <p>셔츠가 말랐다.</p>	 <p>셔츠가 말랐다.</p>

empty	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the machine</i>	Context with no agent
Passive sentence	 <p>컵이 비워 졌다.</p>	 <p>컵이 비워 졌다.</p>	 <p>컵이 비워 졌다.</p>
Inchoative sentence	 <p>컵이 비었다.</p>	 <p>컵이 비었다.</p>	 <p>컵이 비었다.</p>

burn	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the lightning</i>	Context with no agent
Passive sentence	 집이 태워 졌다.	 집이 태워 졌다.	 집이 태워 졌다.
Inchoative sentence	 집이 탔다.	 집이 탔다.	 집이 탔다.

stop	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the bar</i>	Context with no agent
Passive sentence	 트럭이 세워 졌다.	 트럭이 세워 졌다.	 트럭이 세워 졌다.
Inchoative sentence	 트럭이 섰다.	 트럭이 섰다.	 트럭이 섰다.

turn	Context with an animate agent <i>the man</i>	Context with an inanimate agent <i>the machine</i>	Context with no agent
Passive sentence	 <p data-bbox="386 541 634 579">바퀴가 돌려 졌다.</p>	 <p data-bbox="721 541 969 579">바퀴가 돌려 졌다.</p>	 <p data-bbox="1078 541 1326 579">바퀴가 돌려 졌다.</p>
Inchoative sentence	 <p data-bbox="386 821 594 858">바퀴가 들었다.</p>	 <p data-bbox="721 821 928 858">바퀴가 들었다.</p>	 <p data-bbox="1078 821 1286 858">바퀴가 들었다.</p>

Sentences in the Korean sentence task

Pure causative verb group

1. 유리창이 민호에 의해 깨졌다. The chalk was broken by the man.
2. 유리창이 공에 의해 깨졌다. The chalk was broken by the ball.
3. 유리창이 저절로 깨졌다. The chalk was broken by itself.
4. (N/A) The chalk broke by the man.
5. (N/A) The chalk broke by the ball.
6. (N/A) The chalk broke by itself.
7. 문이 민호에 의해 열어 졌다. The door was opened by the man.
8. 문이 바람에 의해 열어 졌다. The door was opened by the wind.
9. 문이 저절로 열어 졌다. The door was opened by itself.
10. 문이 민호에 의해 열렸다. The door opened by the man.
11. 문이 바람에 의해 열렸다. The door opened by the wind.
12. 문이 저절로 열렸다. The door opened by itself.
13. 꽃이 민호에 의해 구부러 졌다. The plant was bent by the man.
14. 꽃이 바람에 의해 구부러 졌다. The plant was bent by the wind.
15. 꽃이 저절로 구부러 졌다. The plant was bent by itself.
16. (N/A) The plant bent by the man.
17. (N/A) The plant bent by the wind.
18. (N/A) The plant bent by itself.
19. 종이가 민호에 의해 찢어 졌다. The paper was torn by the man.
20. 종이가 못에 의해 찢어 졌다. The paper was torn by the arrow.
21. 종이가 저절로 찢어 졌다. The paper was torn by itself.
22. 종이가 민호에 의해 찢졌다. The paper tore by the man.
23. 종이가 못에 의해 찢졌다. The paper tore by the arrow.
24. 종이가 저절로 찢졌다. The paper tore by itself.
25. 문이 민호에 의해 닫아 졌다. The door was closed by the man.
26. 문이 바람에 의해 닫아 졌다. The door was closed by the wind.
27. 문이 저절로 닫아 졌다. The door was closed by itself.
28. 문이 민호에 의해 닫혔다. The door closed by the man.
29. 문이 바람에 의해 닫혔다. The door closed by the wind.
30. 문이 저절로 닫혔다. The door closed by itself.
31. 나무가 민호에 의해 흔들어 졌다. The tree was shaken by the man.
32. 나무가 바람에 의해 흔들어 졌다. The tree was shaken by the wind.
33. 나무가 저절로 흔들어 졌다. The tree was shaken by itself.
34. 나무가 민호에 의해 흔들렸다. The tree shook by the man.
35. 나무가 바람에 의해 흔들렸다. The tree shook by the wind.
36. 나무가 저절로 흔들렸다. The tree shook by itself.
37. 종이가 민호에 의해 접어 졌다. The paper was folded by the man.
38. 종이가 기계에 의해 접어 졌다. The paper was folded by the machine.

39. 종이가 저절로 접어 졌다. The paper was folded by itself.
40. 종이가 민호에 의해 접혔다. The paper was folded by the man.
41. 종이가 기계에 의해 접혔다. The paper was folded by the machine.
42. 종이가 저절로 접혔다. The paper was folded by itself.

Pure inchoative verb group

1. 얼음이 민호에 의해 녹여 졌다. The ice was melted by the man.
2. 얼음이 불에 의해 녹여 졌다. The ice was melted by the sun.
3. *얼음이 저절로 녹여 졌다. The ice was melted by itself.
4. 얼음이 민호에 의해 녹았다. The ice melted by the man.
5. 얼음이 불에 의해 녹았다. The ice melted by the sun.
6. 얼음이 저절로 녹았다. The ice melted by itself.
7. 공이 민호에 의해 굴러 졌다. The ball was rolled by the man.
8. 사과가 공에 의해 굴러 졌다. The apple was rolled by the ball.
9. 공이 저절로 굴러 졌다. The ball was rolled by itself.
10. 공이 민호에 의해 굴렀다. The ball was rolled by the man.
11. 공이 바람에 의해 굴렀다. The apple was rolled by the ball.
12. 공이 저절로 굴렀다. The ball was rolled by itself.
13. 바지가 민호에 의해 말려 졌다. The shirt was dried by the man.
14. 바지가 바람에 의해 말려 졌다. The shirt was dried by the fan.
15. 바지가 저절로 말려 졌다. The shirt was dried by itself.
16. 바지가 민호에 의해 말랐다. The shirt dried by the man.
17. 바지가 바람에 의해 말랐다. The shirt dried by the fan.
18. 바지가 저절로 말랐다. The shirt dried by itself.
19. 물컵이 민호에 의해 비워 졌다. The cup was emptied by the man.
20. 물컵이 바람에 의해 비워 졌다. The cup was emptied by the machine.
21. 물컵이 저절로 비워 졌다. The cup was emptied by itself.
22. 물컵이 민호에 의해 비었다. The cup emptied by the man.
23. 물컵이 바람에 의해 비었다. The cup emptied by the machine.
24. 물컵이 저절로 비었다. The cup emptied by itself.
25. 나무가 민호에 의해 태워 졌다. The house was burned by the man.
26. 나무가 담뱃불에 의해 태워 졌다. The house was burned by lightning.
27. 나무가 저절로 태워 졌다. The house was burned by itself.
28. 나무가 민호에 의해 탔다. The house burned by the man.
29. 나무가 담뱃불에 의해 탔다. The house burned by lightning.
30. 나무가 저절로 탔다. The house burned by itself.
31. 트럭이 민호에 의해 세워 졌다. The truck was stopped by the man.
32. 트럭이 다른 차에 의해 세워 졌다. The truck was stopped by the red signal.
33. 트럭이 저절로 세워 졌다. The truck was stopped by itself.
34. 트럭이 민호에 의해 섰다. The truck stopped by the man.

35. 트럭이 다른 차에 의해 섰다. The truck stopped by the red signal.
36. 트럭이 저절로 섰다. The truck stopped by itself.
37. 바퀴가 민호에 의해 돌려 졌다. The wheel was turned by the man.
38. 바퀴가 기계에 의해 돌려 졌다. The wheel was turned by the machine.
39. 바퀴가 저절로 돌려 졌다. The wheel was turned by itself.
40. 바퀴가 민호에 의해 돌았다. The wheel turned by the man.
41. 바퀴가 기계에 의해 돌았다. The wheel turned by the machine.
42. 바퀴가 저절로 돌았다. The wheel turned by itself.

Questions and answers in the Korean Q&A task

Pure causative verb group

Break	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Long form Q: 창문이 왜 깨졌습니까?	그 남자가 그 창문으로 나가려고	x	그 남자가 창문에 공을 던져서.	어제 밤에 비바람이 너무 세게 불어서

open	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Long form Q: 문이 왜 열어 졌습니까?	그 남자가 책상을 방으로 가지고 오려고	x	그 남자가 문을 안 잠가서	바람이 갑자기 세게 불어서
Short form Q: 문이 왜 열렸습니까?	그 남자가 책상을 방으로 가지고 오려고	x	그 남자가 문을 안 잠가서	바람이 갑자기 세게 불어서

bend	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Long form Q: 인형 허리가 왜 구부러 졌습니까?	그 남자가 인형을 가방에 집어 넣으려고	x	그 남자가 인형을 던져서	인형이 망가져서

tear	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Long form Q: 공책이 왜 찢어 졌습니까?	그 남자가 공책을 없애 버리려고	x	그 남자가 공책에 물을 흘려서	공책이 물에 젖어서
Short form Q: 공책이 왜 찢졌습니까?	그 남자가 시험점수를 숨기려고	x	그 남자가 공책에 물을 흘려서	공책이 물에 젖어서

close	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Long form Q: 방문이 왜 닫아 졌습니까?	그 남자가 방을 따뜻하게 하려고	x	그 남자가 문 앞의 의자를 치워서	바람이 너무 세게 불어서
Short form Q: 방문이 왜 닫혔습니까?	그 남자가 방을 따뜻하게 하려고	x	그 남자가 문 앞의 의자를 치워서	바람이 너무 세게 불어서

shake	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Long form Q: 사과나무가 왜 흔들어 졌습니까?	그 남자가 사과를 따려고	x	그 남자가 그 나무를 세게 발로 차서	바람이 세게 불어서
Short form Q: 사과나무가 왜 흔들렸습니까?	그 남자가 사과를 따려고	x	그 남자가 그 나무를 세게 발로 차서	바람이 세게 불어서

fold	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Long form Q: 우산이 왜 접어 졌습니까?	그 남자가 그 우산을 가방에 집어 넣으려고	x	그 남자가 우산을 막 흔들어서	그 우산이 찢어져서
Short form Q: 우산이 왜 접혔습니까?	그 남자가 그 우산을 가방에 집어 넣으려고	x	그 남자가 우산을 막 흔들어서	우산이 찢어져서

Pure inchoative verb group

melt	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: 얼음이 왜 녹여 졌습니까?	그 남자가 물로 만들어 마시려고	x	그 남자가 얼음을 냉장고에 넣지 않아서	날씨가 너무 더워서
Inchoative Q: 얼음이 왜 녹았습니까?	그 남자가 물로 만들어 마시려고	x	그 남자가 얼음을 냉장고에 넣지 않아서	날씨가 너무 더워서

roll	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: 돌이 왜 굴러 졌습니까?	그 남자가 그 돌로 땅의 구멍을 막으려고	x	그 남자가 계단에서 떨어뜨려서	비바람이 너무 세서
Inchoative Q: 돌이 왜 굴렀습니까?	그 남자가 그 돌로 땅의 구멍을 막으려고	x	그 남자가 계단에서 떨어뜨려서	비바람이 너무 세서

dry	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: 꽃이 왜 말려 졌습니까?	그 남자가 그 꽃을 오래 가지고 있으려고	x	그 남자가 꽃에 물을 주는 것을 잊어 버려서	요새 비가 안 와서
Inchoative Q: 꽃이 왜 말랐습니까?	그 남자가 그 꽃을 오래 가지고 있으려고	x	그 남자가 꽃에 물을 주는 것을 잊어 버려서	요새 비가 안 와서

burn	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: 상자가 왜 태워졌습니까?	그 남자가 그 상자를 없애 버리려고	x	그 남자가 그 상자를 불 옆에 놓아 두어서	상자 안에 있던 폭탄이 터져서
Inchoative Q: 상자가 왜 탔습니까?	그 남자가 그 상자를 없애 버리려고	x	그 남자가 그 상자를 불 옆에 놓아 두어서	상자 안에 있던 폭탄이 터져서

stop	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: 차가 왜 세워졌습니까?	그 운전사가 다른 사람에게 길을 물어 보려고	x	그 운전사가 갑자기 브레이크를 밟아서	차가 고장이 나서
Inchoative Q: 차가 왜 섰습니까?	그 운전사가 다른 사람에게 길을 물어 보려고	x	그 운전사가 갑자기 브레이크를 밟아서	차가 고장이 나서

turn	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: 차가 왜 돌려졌습니까?	그 남자가 차 뒤에서 물건을 내리려고	x	그 운전사가 갑자기 방향을 바꿔서	길이 미끄러워서
Inchoative Q: 차가 왜 들었습니까?	그 남자가 차 뒤에서 물건을 내리려고	x	그 운전사가 갑자기 방향을 바꿔서	길이 미끄러워서

empty	Purposeful answer		Causal answer	
	Agent	No-agent	Agent	No-agent
Passive Q: 상자가 왜 비워졌습니까?	그 남자가 그 상자에 다른 물건을 넣으려고	x	그 남자가 상자를 떨어뜨려서	상자에 큰 구멍이 있어서
Inchoative Q: 상자가 왜 비었습니까?	그 남자가 그 상자에 다른 물건을 넣으려고	x	그 남자가 상자를 떨어뜨려서	상자에 큰 구멍이 있어서