



## The Restrictions on the Subject and L2 Acquisition of English E-O Psychological Verbs \*

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### ABSTRACT

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This study investigates whether the cross-linguistic difference in the semantic constraint imposed on the subject plays a role in L2 acquisition of English E-O psych verbs. It is known that some languages like Korean tend to restrict the subject position to entities that can initiate events, that is, mostly volitional Agents, while other languages like English are relatively open to the kinds of entities in the subject position. Based on this difference between the two languages, English and Korean, the present study compares Korean L2 learners' and native English speakers' use of English E-O verb sentences when they describe two different types of causative psychological events. In one type of psychological event, the subject is interpreted as doing something with volition/intention to trigger a change of state. In the other type of psychological event, the subject is not interpreted as doing anything to trigger a change of state, rather it is just inherent property of the subject that causes the Experiencer to feel a certain way. The results of this study show that native English speakers and Korean learners of English use E-O verb sentences in almost similar way when describing psychological events caused by volitional animate subjects. However, in the case of accidentally caused psychological event, Korean learners of English are less likely to use English E-O verb sentences than native English speakers. This finding is taken as an indication that Korean learners of English tend to limit entities in the subject position to volitional animate agents and this makes it difficult for them to use English E-O psych verb sentences where non-volitional or inanimate entities commonly appear in the subject position.

### KEYWORDS

the semantic constraints on the subjects, subjects of E-O psych verbs, L2 acquisition of English psych verbs, L1 influence

## 1. Introduction

Psychological verbs (henceforth, psych verbs) refer to a group of verbs which is used to express psychological states. By nature, psych verbs involve at least one argument referring to a sentient, typically human, Experiencer, who is capable of feeling the emotion described by the verb. It is widely acknowledged that the class of psych verbs in English can be divided depending on whether the Experiencer argument is mapped either to syntactic subject (Experiencer-Subject, henceforth E-S) as in (1a) or to syntactic object (Experiencer-Object, henceforth E-O) as in (1b) (e.g., Arad 1998, Belletti and Rizzi 1988, Grimshaw 1990, Levin 1993).

- (1) a. The boy fears dinosaurs.  
b. Dinosaurs frighten the boy.

The same thematic argument, Experiencer, is linked to different syntactic position is very peculiar, and this poses considerable difficulties for L2 learners of English. Especially, when describing the situation in which a Causer evokes a specific emotion to Experiencer, many second language learners of English are shown to experience considerable difficulties. For example, when they want to describe a situation in which there was startling news that is enough to trigger students' emotional state, they tend to produce ungrammatical sentences as in (2).

- (2) a. \* The students were surprising the news.  
b. \*The students surprised at the news.

Also, even if Korean L2 learners produce the grammatical sentences as in (3), most of them produce the sentences like (3a) or (3b), and only few of them produce the sentences like (3c).

- (3) a. The students were surprised at the news.  
b. The students were surprised because of the news.  
c. The news surprised the students.

To date, majority of the previous studies on L2 acquisition of English psychological verbs focused incorrect mapping between semantic roles and syntax as shown in (2), and tried to account for such errors. Some researchers (Chen 1996, Juffs 1996, White et al. 1998) suggested E-O psych verbs are direct counterexample to general principle such as Uniformity of Theta Assignment Hypothesis (UTAH) suggested by Baker (1988) and Universal Alignment Hypothesis (UAH). Since E-S and E-O psych verbs appear to realize the same roles in the opposite position, it causes considerable difficulties to L2 learners of English. Other researchers (Chen 1996, Montrul 2001a, 2001b, Sato 2003, Son and Kim 2011, White et al. 1998) explained these errors with L1 transfer because such errors are restricted to particular L1 groups whose L1s have explicit causative morphology. That is, causative meaning is not explicitly expressed in English E-O psych verbs, so it is likely that many of L2 learners who have explicit causative morphology in their L1 may not recognize the causative meaning encoded in the E-O psych verbs.

All these accounts are satisfactory in order to explain the incorrect mapping between semantic roles and syntax. However, they alone cannot explain noteworthy phenomenon shown in (3). The E-O psych verb sentences in (3a) and (3b) are correctly produced in passive form, and this means that Korean L2 learners are well aware of the

causative meaning of E-O psych verbs. Nevertheless, for some reason, they tend to be reluctant to use the sentences in (3c). In order to explain this phenomenon, it is not enough to assume that L2 acquisition of English E-O psych verbs involve lexical semantics and syntax mapping only. This is the reason why this study pays attention to the semantic constraints on the subjects in Korean. If Korean has more stringent semantic constraints on subject arguments than English, there should be some difference between native speakers of English and Korean L2 learners in the use of E-O psych verb sentences. The present study attempts to demonstrate the difference by examining how the speakers of the two languages use English E-O psych verb sentences in describing two types of psychological causative situations. In one type of psychological situation, the subject is interpreted as doing something with volition/intention to trigger a change of state. In the other type of psychological event, the subject is not interpreted as doing anything to trigger a change of state, rather it is just inherent property of the subject that causes the Experiencer to feel a certain way. The present study predicts that two language groups will be more likely to use E-O psych verb sentences when they describe psychological situation that are caused by the subject's intentional action rather than the situation caused without the subject's intention because volitional animate one is a prototypical subject in general. However, the key prediction is that the difference in the use of E-O psych verb sentences between the two types of psychological causative situations will be greater in Korean L2 learners than native speakers of English.

## 2. Literature Review

### 2.1. English Psych Verbs

Psych verbs express psychological states, so by nature they involve at least one argument referring to a sentient, typically human, Experiencer who is capable of feeling the emotion described by the verb. However, these verbs do not consistently map this Experiencer argument to one syntactic position. Rather, there are two classes of psych verbs, some verbs allowing the Experiencer to appear in subject position as in (4a), while other have the Experiencer occurring in object position as in (4b). The mapping of arguments to syntax appears to be arbitrary.

- (4) a. The boy fears dinosaurs.  
 b. Dinosaurs frighten the boy. (repeated from (1.1))

This apparent “theta-role inversion” challenges the Universal Alignment Hypothesis (UAH) of Perlmutter and Postal (1984) and the corresponding Uniformity of Theta Assignment Hypothesis (UTAH) of Baker (1988), which require identical thematic relationships to be realized in identical structural configurations.

- (5) a. Universal Alignment Hypothesis (UAH):  
 There exist principles of Universal Grammar which predict the initial relation borne by each argument in a given clause from the meaning of the clause.  
 b. Uniformity of Theta Assignment Hypothesis (UTAH):  
 Identical thematic relationships between items are presented by identical structural relationships between those items at the level of D-structure.

Due to this peculiar property, psych verbs have been discussed extensively not only in L1 acquisition but also in L2 acquisition, as we will see in the next section.

## 2.2. L2 Acquisition of English Psych Verbs

There have been several experimental investigations that have looked at the L2 acquisition of English psych verbs, either directly or indirectly (Juffs 1996, Montrul 1995, White et al. 1998). The majority of those studies compare which type of English psych verbs creates more learnability problems to L2 learners of English, between the E-S and E-O psych verbs, and suggest the reason for the difficulties (Chen 1996, Hsin and Lin 2006, Hwang 2000, Kim 2015, Sato 2003).

Most of the previous studies show consistent results in that L2 learners of English had little difficulty with E-S psych verbs and it was E-O psych verbs that are more difficult to L2 learners. This tendency was not restricted to any particular L1 group, which suggests that these errors are language universal rather than language specific (Chen 1996, Juffs 1996, Montrul 2000, 2001a, 2001b, White et al. 1998). E-S psych verbs which follow the general linking rules such as UAH or UTAH are not much problematic to L2 learners of English. In contrast, E-O psych verbs which do not follow the general linking rules can be very confusing to L2 learners of English.

However, White et al. (1999) demonstrate that there exists L1 influence in the L2 acquisition of English psych verbs. Causative meaning of English E-O psych verbs is lexically encoded, but it is not the case in other languages which require explicit causative morphology to denote causative meaning. Thus, the learners from those L1s are more likely to fail to notice the causative meaning of E-O psych verbs where causative meaning is lexically encoded. In fact, in White et al.'s study Japanese and French L2 learners of English have the similar English proficiency, but Japanese learners of English are shown to have more difficulties with E-O psych verbs than French learners of English. This result can be explained by the fact that Japanese is a language that has overt causative morphology to denote causative meaning whereas French is not.

One limitation of the accounts reviewed so far is that they only treated incorrect mapping as a problem in L2 acquisition of English E-O psych verbs and did not consider the possibility that a reluctance of using E-O psych verb sentence as shown in (3) can also be a noteworthy L2 interlanguage phenomenon. In fact, several studies (Guilloteaux 2001, Kim 2015) have shown that Korean learners of English tend to use E-O psych verb sentences in passive forms (e.g., The students were bored with the class) and are reluctant to use E-O psych verb sentences in active forms (e.g., The class bored the students).<sup>1</sup>

However, it is widely known that English passive voice is acquired later than English active voice. First language acquisition research has reported that native English children's acquisition of the passive voice is delayed until a late stage of their language development (de Villiers and de Villiers 1973, Pienemann 2005), while they begin to produce active constructions as soon as they start to make two-constituent utterance (Radford 1990). Pienemann (2005) attributed the late development of passive construction in the child's language to the processing difficulty due to the complexity of syntactic operation as well as semantic-syntactic mapping problems.

If the processability also matters in L2 acquisition, E-O psych verb sentences in passive form will be more difficult to learn. Nevertheless, if Korean learners of English are more likely to use E-O psych verb sentences in passive form rather than in active forms, there must be a reason. The present study suggests that subjects of E-O psych verbs may be a reason for Korean L2 learners' reluctance of using E-O psych verb sentences in active forms because it is known that languages can vary in the constraints they impose on the subjects.

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<sup>1</sup> Hahn (2011) reports 'underpassivization' in Korean learners' interlanguage psych verb sentences. That is, Korean learners frequently use psych verb sentences in active form '\*The people surprised at the news' or '\*The boy disappointed because he got a bad grade'. Strictly speaking, however, psych verbs in such sentences are not used as active forms. Rather, they are produced as if they were intransitive because the learners may not be aware of causative meaning of E-O psych verbs. Thus, it would be more appropriate to view these errors caused by zero causative morphemes of E-O verbs than underpassivization.

### 2.3 Cross-linguistic Difference in the Restrictions on the Subjects

In English, many sentences have the agent as subjects. The following sentences have subjects that are what one might regard as typical agents.

- (6) a. The boy threw the ball.  
 b. The boy pushed the chair.  
 c. The girl drank the water.

The entities in each of these sentences are those that have volition, is sentient or perceives, causes a change of state, or moves, thus expressed by the sentence subject. This much is generally agreed upon. However, there are many subjects that do not exhibit all the features of typical agents.

- (7) a. The wind opened the door.  
 b. The stone broke the window.  
 c. The key opened the door.

The entities in the subject positions in (7) does not exhibit all the features required for typical Agents, but they can appear in the subject position in English. In fact, English is known to allow for a wide variety of entities in the subject position of causative sentences.

However, not all languages are as flexible as English with respect to the range of subject arguments. Many previous studies have shown that the kinds of entities that can be described as causing an event differ across languages (Comrie 1989, Craig 1977, DeLancey 1984, Folli and Harley 2007, Guilfoyle 2000, Hawkins 1985, Wolff and Ventura 2009). Among them, Guilfoyle (2002) divided languages into two types: Type A languages (e.g., Dutch, Irish), which restrict the subject position to entities that can initiate events, that is, mostly intentional agents, and Type B languages (e.g., English), which allows any entity in the subject position as long as it participates in the causal events.

Interestingly, Type A language cited by Guilfoyle have morphological case, whereas Type B language she cites does not. Based on these observations, Wolff et al. (2009) propose that the kinds of entities that make good subjects depend on the availability of a morphological case system, which they call the ‘initiator hypothesis’. Languages that have morphological case such as Dutch and Irish tend to be more selective about the kinds of entities that can appear in the subject position. Languages that have little or no morphological case such as English tend to be relatively open to the kinds of entities in the subject position. All that such languages might require is that entities in the subject position in some way participate in the causal event; they need not be entities that initiate the causal events.

In order to support this hypothesis, Wolff et. al further present the acceptability judgments reported in the literature and by their consultants. As predicted, the sentences in (8a), which have inanimate and non-volitional subjects are acceptable in English, a language without morphological case, but acceptable in languages like Irish, Dutch, Russian, and German, which have morphological case as in (8b)-(8e).

- (8) a. The key opened the door.  
 b. \*D’oscail an eochair an doras. (Irish; Alexiadou and Schäfer 2006, Guilfoyle 2000)  
 c. \*Desleutel opende de deur. (Dutch; Alexiadou and Schäfer 2006, Guilfoyle 2000)  
 d. \*Kliuch otkryl dver. (Russian; Wolff and Ventura 2009)  
 e. \*Der Schlüssel öffnete die Tür. (German; Wolff et al. 2009)

Considering that English E-O psych verbs also describe causative psychological events, the present study attempts to extend the discussion to subject of E-O psych verb sentences, comparing how the subjects of E-O psych verb sentences in English and Korean behave differently.

### 2.3. Subjects of Psych Verb Sentences in English

While the subjects of English E-S psych verbs are Experiencers, the subjects of English E-O psych verb sentences are Causers. Causers are often volitional and animate entities as in (9a), but it is not required. Not only non-volitional animate entities as in (9b) but also inanimate and necessarily non-volitional entities as in (9c) can be allowed as the subjects of E-O psych verb sentences in English.

- (9) a. The man intentionally frightened the children.  
b. The man frightened the children.  
c. The mask frightened the children. (DiDesidero 1999)

The subject in (9a) is animate agent that acts intentionally or volitionally to bring about a change of state in the Experiencer because the addition of an adverb which denotes intention, ‘intentionally’, clearly requires agentive subject. The subject in (9b) seems to be open to agentive interpretation, but are not necessarily agentive. So, the subject is not generally understood as acting intentionally. The inanimate entity in (9c) is clearly non-agentive. The subject in (9c) is not understood as doing anything to trigger the state, rather it is just something “about” it that causes the Experiencer to feel a certain way (Grafmiller 2013). To sum, the entity in (9a) has what one might regard as typical subject but the entities in (9b) and (9c) do not. Nevertheless, all of them can appear in the subject position of English E-O psych verb sentences.

Although all E-O psych verbs have potential to have the above three interpretations, but not all of them. There are some E-O psych verbs that disallows agentive interpretation as in (10).<sup>2</sup>

- (10) a. \*The magician intentionally amazed the children.  
b. The magician amazed the children.  
c. The tricks amazed the children.

Unlike the subject in (11a), the subject in (10a) is not interpreted as acting something with volition. Also, the

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<sup>2</sup> The E-O psych verbs that alternative between the three interpretations are called Agentive E-O psych verbs, and E-O psych verbs that only allow non-agentive interpretation are called Non-agentive E-O psych verbs (Arad 1998, DiDesidero 1999, Iwata 1995, Verhoeven 2010). The following examination of English E-O psych verbs in agentive diagnostic contexts clearly show this. The behavior of E-O psych verbs in the imperative form in (1), as complements to ‘persuade’ as in (2), and with manner adverbials as in (3) divides E-O psych verbs into two subgroups.

- (1) Command imperative  
a. Amuse the children.  
b. \*Concern the children.  
(2) Complement to persuade  
a. Michael persuaded Alice (not) to frighten the children.  
b. Michael persuaded Alice to \*amaze her brother.  
(3) Manner Adverbials  
a. The man deliberately frightened the children.  
b. The man \*deliberately amazed the children. (DiDesidero 1999, pp. 101-104)

subjects in (10b)-(10c) are understood as non-agentive, having no volition to cause any change of state to the Experiencers.

Importantly, what is remarkable in (9) and (10) is that English, a language with no morphological case, tend to be relatively open with respect to the kinds of entities that can appear as the subjects; it does not have to be animate or volitional entity. As long as an entity participates in the causal events, it is allowed to appear in the subject position.

#### 2.4. Subjects of Psych Verb Sentences in Korean

The psych verbs between English and Korean are very different from each other. Firstly, English has two types of psych verbs, E-S and E-O psych verbs, but Korean has only E-S type of psych verbs. Korean psych verbs are known to be intransitive in their base forms that take the Experiencer as the subjects as in (11). In order to express causative meaning in Korean psych verbs, it is required to take explicit causative morphemes such as ‘-i’, ‘-hi’ ‘-li’, ‘-ki’, ‘-wu’, ‘-kwu’, ‘-chuw’ or more commonly, periphrastic verb ‘key hata’ as in (11b) and (12b). This is contrast to English E-O psych verbs in which causative meaning is not overtly expressed.

- (11) a. salamdeul-i nyuseu-e nolla-ss-da.  
People-NOM the news-at be surprised-PAST-DECL  
‘People are surprised at the news.’
- b. ?? nyuseu-ga salamdeul-eul nolla-key hay-ss-da  
The news-NOM people-ACC surprise-CAUS-PAST-DECL  
‘The news surprised people.’ (Hahn 2011)
- (12) a. kuuy senmwul-ul patko na-nun kippe-ss-ta  
His present-ACC to receive I-NOM be pleased-PAST-DECL  
‘I was pleased to receive his gift.’
- b. ?? kuuy senmwul-i na-lul kippu-key hay-ss-ta.  
His present-NOM me-ACC be pleased-CAUS-PAST-DECL  
‘His gift pleased me.’ (Lee 2014)

One noteworthy thing about the subjects of psych verb sentences in Korean is that the sentences in (11b) and (12b) are not generally considered natural and typical, though not completely unacceptable, despite the fact that the corresponding English psych verb sentences are fully acceptable. This contrast is exactly expected by the cross-linguistic differences in the semantic restrictions on the subjects. Compared to English, a language without morphological case, Korean, a language with morphological case, has more restrictions on the subjects, allowing volitional Agents.

Regarding this phenomenon, many of the previous studies so far considered subject animacy as important. That is, although animate beings are accepted as better subjects than inanimate entities in most languages, some languages seem to emphasize animacy more than others. To be specific, Master (1991) argues that speakers of Asian languages often have difficulty with the sentences with inanimate subject because in their perception animate NPs usually take subject position. Kuno (1973) also suggests that the sentence ‘The typhoon broke the window’ is fully acceptable in English, but the same corresponding Japanese sentence is ungrammatical. In line with this, Palmer (1994) argues that subjects must be in general animate and conscious, and many other researchers (Hahn 2011, Kim 2000, Kim et al. 2009) have suggested that subject animacy plays a role in subject selection in Korean.

Also, few experimental studies demonstrate that subject animacy has influence on L2 acquisition of English psych verbs. One such study is done by Kim's (2015). She shows that Korean learners of English prefer animate subjects than native English speakers, and Korean L2 learners' preference for animate subjects and their acquisition of English E-O psych verb sentence with inanimate subjects are correlated negatively. This means that Korean learners of English prefer animate subject and this preference interferes their acquisition of English E-O psych verb sentences with inanimate subjects. In a similar vein, Dehghan and Jabbari (2011) find that English E-O psych verb sentences with inanimate subjects (e.g., *The sharp tone of his voice astounded her boss*) are more difficult to Iranian L2 learners than English E-O psych verb sentences with animate subjects (e.g., *The handsome man bored me with Navy stories*), implying that subject animacy plays a role in Iranian L2 learners' acquisition of English E-O psych verb sentences.

Animacy, the distinction between living and non-living being, may explain the phenomenon apparently because the entities that is not allowed as subjects in Korean are all inanimate. However, the reason that the entities in (11b) and (12b) are not considered good subject is precisely because they are non-volitional, not just because that they are inanimate. As we will see soon, animate but non-volitional entities are not considered as good subjects in Korean. Animacy only appears to be essential because animate beings are more likely to be volitional. Considering that animate beings are not necessarily volitional, animacy and volition must be differentiated, and this is what this study attempts to try. The subject position in Korean language is not just restricted to animate entity, but restricted to volitional entity.

## 2.5. The Semantic Constraint on the Subject

Based on the discussion on section 2.3, the range of entities that can appear in the subject position should be more restricted for languages with morphological case than for languages without. We would expect, then, that Korean should have more stringent semantic constraints on the subject than English.

In fact, psycholinguistic research has demonstrated that volition/intentionality of subjects is realized differently across languages. Fausey et al. (2010) ask English-and Japanese-speaking adults to describe various causal events. Reflecting the universal sensitivity to volition, both English and Japanese speakers describe intentional events similarly, using mostly agentive language (e.g., *She broke the vase*). However, when it comes to accidental events, Japanese speakers use less agentive language than do English speakers. To be specific, English speakers use the same sentence 'She broke the vase' to talk about a person who accidentally broke the vase and to talk about a person who intentionally broke the vase. Japanese speakers, in contrast, avoid using the sentence 'She broke the vase' when a person is described to break the vase accidentally. Similar research was conducted by Kanero et al. (2015). They explore when English- and Japanese-speaking children learn what kinds of entities can serve as subjects in their native tongue. The findings show that at age 3, English-and Japanese-speaking children perform the task in similar way, choosing humans acting intentionally as the subjects. However, at age 4, speakers of the two languages diverge. English-speaking children are more likely to accept inanimate objects as the subject than Japanese-speaking children.

The findings from these studies are exactly expected by the cross-linguistic difference in the semantic constraint imposed on the subjects, which is very meaningful. However, these studies examine how the speakers of the two languages, English and Japanese, choose the subjects in their L1. No studies so far deal this issue in L2 acquisition. Thus, the present study attempts to examine how the semantic restriction on subject plays a role in Korean L2 learners' acquisition of English E-O psych verbs. The present study predicts that Korean should have more stringent semantic constraints on the entities in the subject position than English, and this cross-linguistic

difference causes learnability problems to Korean L2 learners of English when learning English E-O psych verb sentences. This study attempts to test this by examining native English speakers' and Korean L2 learners' use of E-O psych verb sentences when describing the two types of causal psychological event. Presumably, English and Korean will show similar pattern when describing intentionally caused events. However, English native speakers' and Korean L2 learners' use of E-O psych verb sentences will differ when it comes to talk about accidentally caused events: in the case of accidentally caused event, Korean L2 learners will be reluctant to use E-O psych verb sentences than English native speakers.

### **3. Study**

#### **3.1 Research Questions**

The present study hypothesizes that the reluctance of using English E-O psych verb sentences is owing to the semantic restrictions imposed on the subjects in Korean. Thus, Korean learners of English will show different degrees of reluctance of using the same E-O psych verb sentences depending on whether the subject is interpreted as volitional or not. This study attempts to test this prediction by asking Korean L2 learners and native speakers of English to judge how natural it is to use the given E-O psych verb sentences when describing two types of causative psychological situations (Research Question 1 and 2). It is predicted that the speakers of both language, Korean and English, will be less likely to use E-O psych verb sentences when describing accidentally caused situation than when describing intentionally caused situation since volition is a prototypical feature of subject in general (Dowty 1991). However, the key prediction is that the difference between the two situations will be greater in Korean than in English. Non-volitional entities should be unacceptable in Korean, but merely less typical in English. Finally, the present study investigates how Korean L2 learners' use of using E-O psych verb sentence changes with increasing L2 proficiency (Research question 3). It is predicted that the L2 learners will become less reluctant to use E-O psych verb sentences as their proficiency increases because they acquire that non-volitional entities can appear in the subject position in English. The specific research questions are as follows.

Research question 1: How (un)likely are Korean learners of English to use English E-O psych verb sentences when they describe intentionally-caused psychological events, compared to native speakers of English?

Research Question 2: How (un)likely are Korean learners of English to use English E-O psych verb sentences when they describe accidentally-caused psychological events, compared to native speakers of English?

Research Question 3: How Korean L2 learners' use of using English E-O psych verb sentences change with their English proficiency?

#### **3.2 Participants**

93 Korean learners of English as an experimental group and 54 native speakers of English as a control group participated in the study. The experimental group consists of undergraduate or graduate school students and only the students with reasonable English proficiency (QTP3 and QTP4) because zero causative morphology has been known to play a role in L2 acquisition of English psych verb sentences, especially in the case that the learners' L1s have overt causative morphology (Chen 1996, Sato 2003, Son and Kim 2011, White et al. 1998). Considering that the learners with upper-intermediate or advanced level of proficiency are more likely to have some grasp of the

causative meaning of E-O psych verbs, those level of learners were selected. Not only that, the data from the participants with four errors or more (20%) on the filler sentences are excluded in the analysis. Thus, the participants in the present study are assumed to be well aware of causative meanings of E-O psych verb sentences as well as correct mapping of them.

Then, the experimental group is divided into two proficiency groups based on the TOEFL and/or the TOEIC score. The participants who had no TOEFL or TOEIC scores were asked to take Oxford Quick Placement Test (QPT)<sup>3</sup>. Table 3.1 shows the number of the participants distributed at each proficiency level; the proficiency levels are compared with the Association of Language Testers in Europe (ALTE) levels.

**Table 1. The Number of the Participants at Each Proficiency Level**

QTP Level	ALTE Level	Number of the Participants
Level 0	Beginner	-
Level 1	Elementary	-
Level 2	Lower intermediate	-
Level 3	Upper intermediate	42
Level 4	Advanced	51
Level 5	Very Advanced	-

Additionally, 54 native speakers of English acted as a control group. They were invited to take the survey online and grouped as Native speakers (NS) for analysis despite their diverse English accents<sup>4</sup>. Their results would provide native-like use of English E-O psych verb sentences when describing intentionally or accidentally caused psychological event so that the Korean L2 learners’ use of E-O psych verb sentences in the same description could be compared with.

### 3.2 Materials and Procedures

The purpose of the present study is to demonstrate that there is more strict semantic restriction on the subject in Korean, and thus Korean L2 learners of English are more reluctant to use E-O verb sentences when the subjects are interpreted as non-volitional. In order to reveal such unwillingness, the present study adopted naturalness judgment task, not grammaticality judgment task.

As for test items, two types of emotional situations caused by a man named ‘Tom’ were made up. One type of emotional situation describes the events caused by Tom’s volitional action as in (13a) so that Tom in (13a) could be understood as the one who is doing something with volition to trigger some mental state to me. The other type of situation describes an event caused by the Tom’s intrinsic qualities that he possesses as in (13b). So, Tom in (13b) is not interpreted as the one who does something to cause the emotion, rather it is just something about Tom that evokes the feeling to me.

<sup>3</sup> The following table compares the TOEFL and TOEIC score with the QPT level system.

	QPT3	QPT4
TOEFL	72-94	95~
TOEIC	785-944	945~

<sup>4</sup> NS groups consist of four major accents: American English (n = 38), Canadian English (n = 7), British English (n = 5) and Australian English (n = 4).

## (13) a. Volitional animate causal subjects:

Tom was lying in wait for me in the closet and jumped out of it.

## b. Non-volitional animate causal subjects:

Tom was surprisingly energetic and looked much younger than I expected.

Below the situation was a psych verb sentence (e.g., Tom surprised me). The psych verbs used in this task are 5 E-O psych verbs (e.g., *surprise*, *frighten*, *annoy*, *amuse*, *anger*).<sup>5</sup> Each sentence was accompanied by a number scale from 1 (completely unnatural) to 5 (completely natural). The participants were asked to imagine that they were in the given situation, and then judge how natural it is to use the given E-O psych verb sentences when they describe what happened.

### 3.3. Analysis

The present study concerns the role of the semantic restriction on the subjects in Korean in L2 acquisition of E-O psych verb sentences but there are other factors that have influence on it. As previous research (e.g., Chen, 1996; Son & Kim, 2011; White et al., 1999) has shown, Korean L2 learners' use of E-O psych verb sentences can be affected by the acquisition of general linking rule and zero causative morphology. In order to control the effects of those factors, 20 ungrammatical E-O and E-S verb sentences with reversed mapping (e.g., *\*People bored a repetitive daily life* or *\*Wars feared people*) were included as filler sentences, and the data from the learners with four errors or more (20%) on these filler sentences are excluded in the analysis. Figure 1 shows the results of the learners who were included for the analysis.

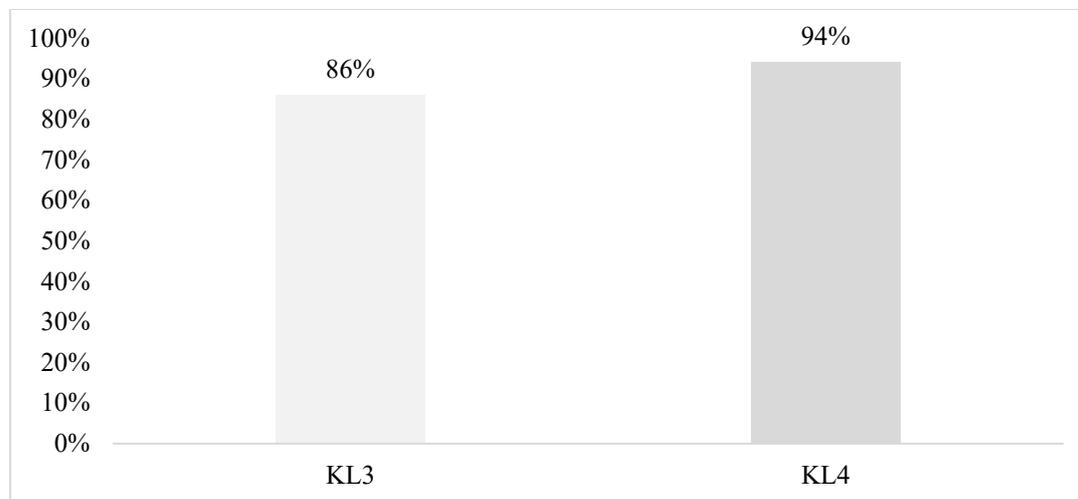


Figure 1. Results of the Filler Sentences

On average, 90% of the filler sentences are correctly rejected by the Korean L2 learners who are included for the analysis. To be specific, 94% and 86% of the filler sentences are correctly rejected by level 3 Korean L2

<sup>5</sup> So-called Non-agentive E-O psych verbs are not included in the study because of the two reasons. The first reason is that the subject of Non-agentive E-O psych verbs are not generally interpreted as acting with volition. Another reason is that Non-agentive E-O psych verbs are much more common in their passive forms (Grafmiller 2013).

learners (henceforth, KL3 group) and level 4 Korean L2 learners (henceforth, KL4 group), respectively. The results on the filler sentences indicate that most of the learners included for analysis have a good grasp of psych verb sentences such as linking rules and zero causative morphology.

The naturalness judgment rating closer to 1 (completely unnatural) is interpreted as unwillingness to use the given sentence and the rating closer to 5 (completely natural) is interpreted as willingness to use the given sentence. As a statistical analysis, a t-test was performed to compare the ratings between the two types of situation.

#### 4. Result

If the acquisition of psych verb sentences depends crucially on the acquisition of linking rules or zero causative morphology, as suggested in previous studies, there should be no difference in the description of the two situations. However, as presented in Figure 2, the results show that there is a clear difference in the description of two situations, which confirms the role of the semantic restrictions on subjects in Korean.

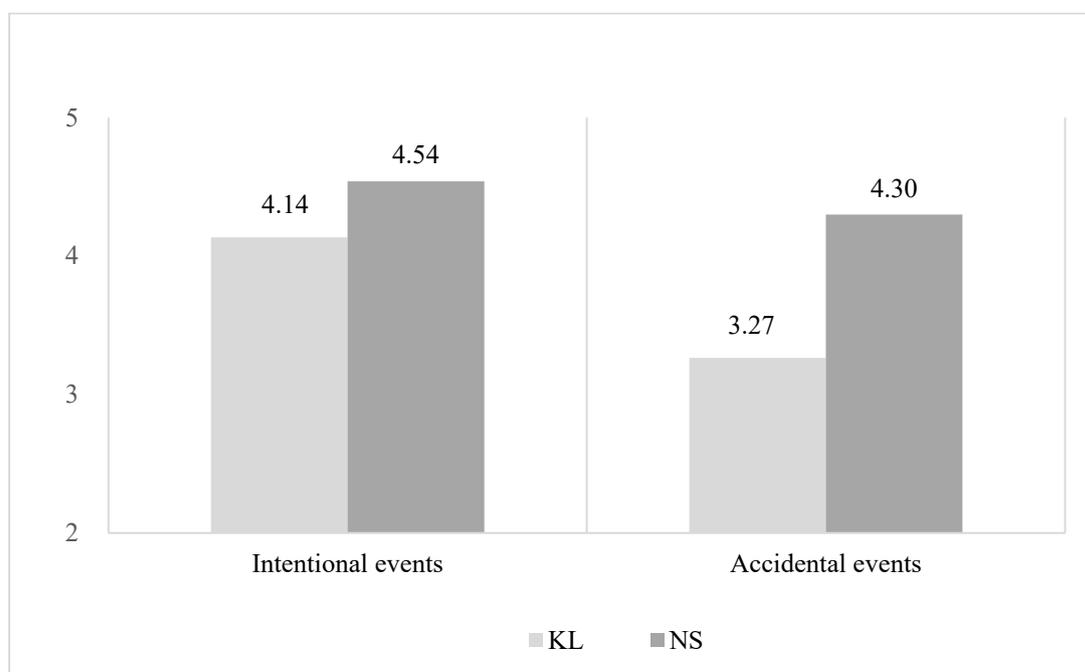


Figure 2. Use of E-O Psych Verb Sentences by Event type

Figure 2 shows that the naturalness judgment ratings on the given E-O psych verb sentences differ depending on the type of event. Both Korean L2 learner (KL) group and Native speakers of English (NS) group show higher naturalness judgement ratings when they talk about intentionally-caused psychological events than when they talk about accidentally-caused psychological events. Since volitional agents are considered best subjects across languages, both languages groups show similar pattern.

The proficiency level of Korean learners of English also makes a difference in the naturalness judgment ratings as shown in Figure 3. When describing both intentional and accidental psychological event, KL4 group shows higher naturalness judgment ratings than KL3 group, even though KL4 groups' ratings are shown to be lower than NS group.

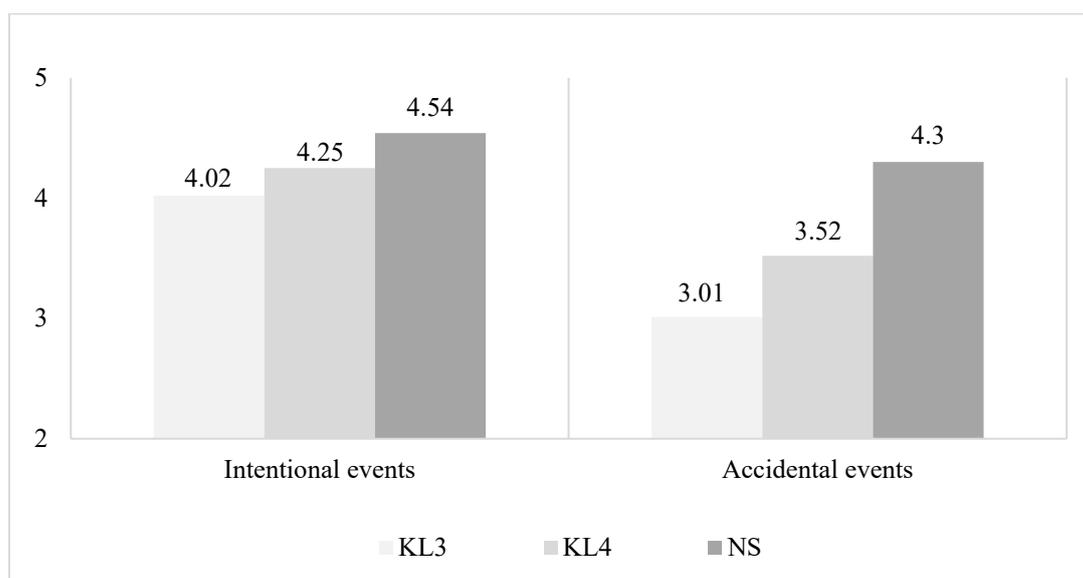


Figure 3. Use of E-O Psych Verb Sentences by Proficiency Levels of L2 Learners

However, the most interesting finding is that the difference between the two types of the event is greater in KL group (0.87) than in NS group (0.24) (See Figure 2). Also, the difference between the two types of the event is greater in KL3 learners (1.01) than in KL4 learners (0.73) (See Figure 3). The results of t-test reveal that the difference in the use of E-O psych verb sentences when describing two types of events is significant in all three groups as in Table 2.

Table 2. Use of E-O Psych Verbs in Two Types of Events

	Event type	Average	SD	t	p
KL3	Intentional event	4.02	.557	8.372	.000**
	Accidental event	3.01	.608		
KL4	Intentional event	4.25	.497	10.439	.000**
	Accidental event	3.52	.473		
NS	Intentional event	4.54	.498	3.829	.000**
	Accidental event	4.30	.594		

Based on the results shown in Table 2, it is concluded that both Korean L2 learners and native speakers of English are more reluctant to use E-O psych verb sentences when describing accidentally-caused psychological events than when describing intentionally-caused events. What is noteworthy, however, is that the difference between the two types of events is a lot greater in Korean L2 learners than native speakers of English. This results clearly suggest that there is semantic restriction on the subject argument in Korean, and due to this restriction, Korean L2 learners are reluctant to use E-O psych verb sentences when the subjects are interpreted as non-volitional.

## 5. Discussion

### 5.1. The Use of English E-O Psych Verb Sentences in Intentionally-Caused Events

The present study shows quite similar results between Korean learners of English and native English speakers in the description of intentionally-caused psychological events. Both language groups tend to use E-O psych verb sentences more when they describe psychological event caused by volitional agents than psychological events caused accidentally. This suggests that volitional animate entities are considered as better subjects than non-volitional animate ones by both language groups. Thus, it seems that volition is a strong start point for determining subjecthood in both Korean and English, and this is in line with the previous claims that volition/intentionality is the key feature that predicts what can serve as the subject of a lexical causative sentence (Comrie 1989, DeLancey 1983, Huddleston 1970, Schlesinger 1989).

There have been some researchers who suggest that function of subject is influenced by animacy (Kuno 1973, Palmer 1986). Some researchers think that absolute animacy of the subject is important, showing the tendency that animate NPs are more often found in the subject position while inanimate NPs are more often found in the object position from various corpus studies (Swart et al. 2008). But there are other researchers who argue that relation between the subject and object is important. For example, Minkoff (2000) formulates the restriction that for a transitive sentence to be grammatical, the subject has to be at least as animate as the object. As a result, sentences such as ‘The dog saw the woman’ are ungrammatical in Mayan language. Of course, the function of subject appears to be closely related to animacy but it only applies when we divide NPs into animate or inanimate. Though animate beings are likely to be volitional, animacy and volition are independent properties.

With the findings of the present study, it is now clear that the reason that the sentences in (14b) and (15b) (repeated from (11b) and (12b)) are not generally considered natural in Korean is not just because the subject is inanimate, but because the subject is non-volitional.

- (14) a. salamdeul-i nyseu-e nolla-ss-da.  
People-NOM the news-at be surprised-PAST-DECL  
‘People are surprised at the news.’
- b. ?? nyuseu-ga salamdeul-eul nolla-ge hae-ss-da  
The news-NOM people-ACC surprise-CAUS-PAST-DECL  
‘The news surprised people.’ (Hahn 2011)
- (15) a. kuuy senmwul-ul patko na-nun kippe-ss-ta  
His present-ACC to receive I-NOM be pleased-PAST-DECL  
‘I was pleased to receive his gift.’
- b. ?? kuuy senmwul-i na-lul kippu-key hay-ss-ta.  
His present-NOM me-ACC be pleased-CAUS-PAST-DECL  
‘His gift pleased me.’ (Lee 2014)

The findings of the present study clearly show that both Korean L2 learners’ and native English speakers’ use of E-O psych verb sentences differs depending on volition/intentionality of the subjects. When the animate being is interpreted as volitional, it is more likely to be used as subject of E-O psych verb sentences. In contrast, when the animate being is not interpreted as volitional, it is less likely to be used as subject of E-O psych verb sentences. This suggests that both language groups rely on not just animacy, but volition when determining the subject of E-

O psych verb sentences.

## **5.2. The Use of English E-O Psych Verb Sentences in Accidentally-Caused Events**

Both native speakers of English and Korean learners of English are shown to be more reluctant to use E-O psych verb sentences when describing accidentally-caused events than when describing intentionally-caused events. This again suggests that volition plays a key role in determining subjecthood in both English and Korean.

However, the noteworthy phenomenon here is that a greater gap is observed in Korean learners of English than native speakers of English in the description of two types of events. That is, Korean learners of English are more reluctant to use non-volitional entities as subjects, while English native speakers are relatively more open to use non-volitional ones as subjects. This implies that volition plays a role in both languages, but to varying degrees.

Thus, the results of the present study clearly suggest that there exists cross-linguistic difference in the restrictions on the subjects. As predicted, the range of entities that can appear in the subject position are more restricted for languages with morphological case, Korean, than for languages without, English. Due to this difference, Korean L2 learners are shown to be more reluctant to use E-O psych verb sentences than native speakers of English when the subjects are interpreted as non-volitional.

Most of the previous studies on L2 acquisition of E-O psych verb sentences so far concerned the role of linking rule or causative morphology (Chen 1996, Hsin and Lin 2006, Hwang 2000, Kim 2015, Sato 2003, White et al. 1999). However, such factors cannot explain why the same E-O psych verb sentences show different naturalness judgment ratings depending on the event type. The two types of events are same in that they both describe a change of psychological state in Experiencer, but differ in whether the subject has volition to trigger such change or not. Thus, the different ratings can be explained by the semantics of the subjects, to be precise, whether the subjects are interpreted as having volition or not. Based on this, the present study proposes that there exists semantic restriction on the subject argument in Korean, and this restriction plays a crucial role in L2 acquisition of E-O psych verb sentences. Since Korean language has a restriction that limits the subject position to volitional entities, Korean L2 learners are more reluctant to use E-O psych verb sentence when the subjects are interpreted as non-volitional, while they are relatively less reluctant to use E-O psych verb sentences when the subjects are interpreted as volitional.

## **5.3. The Developmental Pattern of Using English E-O Psych Verb Sentences**

The results of the present study show that Korean L2 learners' use of E-O psych verb sentences change with their English proficiency. That is, it was found that as the learners' English proficiency increase, they tend to be less reluctant to use E-O psych verb sentences. To be specific, when describing intentionally-caused events, the naturalness judgment ratings were highest for NS group (4.54), followed by KL4 group (4.25), and then by KL3 group (4.02). Also, when describing accidentally-caused events, the similar pattern was observed; the naturalness judgment ratings were highest for NS group (4.3), followed by KL4 group (3.52), and then by KL3 group (3.01).

Though some development is observed, the developmental patterns in the two types of events are not exactly the same. In the description of intentionally-caused event, the gap between NS group and KL4 group is 0.29. However, in the description of accidentally-caused event, the gap between NS group and KL4 group is 0.78. This contrast indicates that the use of E-O psych verb sentences by NS group and KL4 group is quite similar when describing intentionally-caused psychological event, but it is different when describing accidentally-caused psychological event. That is, Korean L2 learners with advanced level of English proficiency are reluctant to accept

non-volitional entities as subjects of E-O psych verb sentences. This shows that the influence of the L1 semantic restriction on the subject argument is very strong from KL3 group to KL4 group and is not easily overcome.

## 6. Conclusion

The present study suggests that the factors discussed previously such as general linking rule or causative morphology may not be all in Korean L2 learners' acquisition of E-O psych verb sentences, and that, importantly, there is another L1 influence; semantic restrictions on the subject argument. Both native speakers of English and Korean L2 learners are more likely to use E-O psych verb sentences when describing intentionally-caused psychological event, but both groups show more reluctance to use E-O psych verb sentences when describing accidentally-caused psychological events. This is because volitional entities are most prototypical subjects cross-linguistically. However, the key finding is that the difference between the two types of events is greater in Korean L2 learners than native speakers of English. This finding indicates that Korean L2 learners are reluctant to use non-volitional entities in the subject position because, in their L1, the subjects are limited to entities that are volitional.

Based on the findings that even the learners with advanced level of English proficiency are still under this L1 influence, this study suggests some pedagogical implications. First, teachers need to understand that not only general linking rules or zero causative morphology but also cross-linguistic difference in the restriction on the subject argument can play a role in Korean L2 learners' acquisition of E-O psych verbs. When teaching E-O psych verb sentences, teachers should explicitly teach that the subjects in English are not limited to entities that are volitional. Also, teachers need to provide various input. Though subjects of English E-O psych verb sentences can be either animate or inanimate, or volitional or non-volitional, the learners tend to be exposed to only some of them. The reliance on limited input may lead to mistaken overgeneralization about E-O psych verb sentences. Thus, it is important for teachers to provide E-O psych verb sentences with various types of subjects for students.

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Examples in: English

Applicable Languages: English

Applicable Level: Tertiary Education