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A Cross-Linguistic Analysis of Psychological Verb Acquisition: Korean and Chinese Learners of English

Jihyun Kim · Fan Zhang (Korea University)

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Kim, Jihyun (first author)
Lecturer, Department of English Language Education
Korea University
Email: jihyunkim@korea.ac.kr

Zhang, Fan
(corresponding author)
Ph.D. student, Department of English Language Education
Korea University
Email: 0512@korea.ac.kr

ABSTRACT

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The study examines how differences in the way Korean and Chinese express psychological states influence the acquisition of English psychological verbs, with a focus on non-agentive Experiencer-Subject (ES) verbs. In English, non-agentive ES verbs (e.g., *fear*) are expressed using a nominative-accusative SVO structure (e.g., *I fear ghosts*), where the subject functions as a non-agentive Experiencer. In Korean, however, non-agentive Experiencers are primarily expressed through psych adjective constructions (e.g., *twulypta*, "be afraid"), which use double nominative alignments (e.g., *na-nun kwisin-i twulypta*, "I am afraid of ghosts"). This structural difference may lead Korean learners to interpret English non-agentive ES verbs as psych-adjectives, complicating their acquisition of the correct SVO structure. In contrast, Chinese frequently uses SVO constructions for psychological states (e.g., *Wǒ hàipà guǐ*, "I fear ghosts"), aligning more closely with English. To investigate these influences, we conducted a picture-matching task and a translation task with 34 Korean and 36 Chinese learners of English. The results revealed three key findings. First, Korean learners struggled to interpret non-agentive ES verbs as verbs, often defaulting to psych adjective-like patterns, unlike Chinese learners who consistently interpreted them as verbs. Second, both Korean and Chinese learners rated non-agentive ES verbs lower than agentive ES verbs, likely because mapping a non-agentive entity to the subject position is less intuitive. However, the gap between ratings for the two verb types was significantly larger for Korean learners, reflecting the influence of L1-specific structures. Third, proficiency improved overall ratings for both groups, but it did not fully mitigate the challenges Korean learners faced with non-agentive ES verbs, highlighting the persistent influence of their native language. The findings suggest that structural differences in native languages influence how Korean and Chinese learners acquire English non-agentive ES verbs.

KEYWORDS

psychological verbs, Experiencer-Subject(ES) verbs, non-agentive subject, L1 influence

1. Introduction

Languages differ in how they encode psychological states, particularly in representing the roles of Experiencers and Agents. As Carnie (2021) observes, "In some languages, the difference between Agents and Experiencers is marked grammatically on the nouns (usually as case markers), or sometimes with morphology on the verb." Korean exemplifies such a language, where these roles are explicitly differentiated through morphosyntactic markers. In contrast, English and Chinese[1] do not overtly encode such distinctions, instead relying on consistent subject-object alignment. This study explores how these cross-linguistic differences shape the acquisition of English psychological verbs by Korean and Chinese learners.

A key framework for understanding these differences is the Full Transfer Hypothesis (Schwartz and Sprouse 1996), which posits that L1 syntactic structures are fully transferred at the initial stages of L2 learning, shaping learners' interpretation of new structures. Depending on the degree of structural similarity between L1 and L2, this transfer may either facilitate or hinder L2 acquisition. When L1 and L2 share structural properties, learners experience positive transfer, aiding acquisition, whereas significant structural mismatches can result in negative transfer, leading to persistent errors and difficulties in processing new structures. Given these transfer effects, Korean and Chinese learners may face distinct challenges in acquiring English psychological verbs, particularly Experiencer-Subject (ES) verbs.

Psychological verbs, or psych-verbs, describe states of mind or changes in states of mind (Levin 1993) and take an Experiencer as one of their core arguments. Among these, Experiencer-Subject (ES) verbs assign the Experiencer to the subject position. ES verbs can be further categorized into agentive and non-agentive types (DiDesidero 1999). Agentive ES verbs, such as *favor* and *admire*, involve subjects that exhibit volitional control, while non-agentive ES verbs, such as *envy* and *fear*, describe passively experienced emotional states.

(1) a. I favor teamwork.
b. I envy success.

In (1a), the subject (*I*) actively expresses a preference, reflecting volitional control and aligning with the typical mapping of the subject to an agentive role. In contrast, in (1b), the subject (*I*) passively experiences the emotion of envy without volitional control, aligning with a non-agentive role. While English treats both agentive and non-agentive ES verbs uniformly within its SVO structure, the absence of volitional control in Non-agentive ES verbs disrupts the natural mapping of the Experiencer to the subject position. This misalignment can make Non-agentive ES verbs inherently less intuitive for second language (L2) learners, as it challenges the default association of subjects with volitional agents.

For Korean learners, the acquisition of English ES verbs is further complicated by the structure of their native language. In Korean, verbs equivalent to English Non-agentive ES verbs (e.g., *musewe hata*, "fear") are derived from psych-adjectives (e.g., *musepta*, "be afraid"). These psych adjectives often occur in double-subject or dative-nominative constructions. By contrast, derived psych verbs marked with the suffix *-eha* introduce an accusative-marked Theme, shifting the alignment to a nominative-accusative structure. This distinction can be illustrated with examples from Carnie (2021), showing how Korean uses morphological markers to differentiate psych adjectives from derived psych verbs.

[1] In this study, 'Chinese' refers to Mandarin Chinese, the standard variety most widely spoken and studied.

(2) a. Ku yeca-ekey/ka[2]/neun[3] sopwung-i culkew-ess-ta.
She-DAT/NOM/TOP picnic-NOM enjoy-PAST-DECL
"She enjoyed the picnic"

b. Ku yeca-ka sopwung-ul culkwe-eha-ess-ta.
She-NOM picnic-ACC enjoy-do-PAST-DECL
"She enjoyed the picnic"

(Carnie 2021, p. 246)

In (2a), the subject (*ku yeca*, "she") is marked dative, a case typically associated with Experiencer predicates. The Theme (*sopwung*, "the picnic") is marked nominative, resulting in a dative-nominative construction. This dative marking can transform into nominative, creating a double-nominative construction (Kim and Park 2003). However, when the verb is marked with the suffix *-eha*, meaning roughly "do", the case marking on the arguments shifts and the subject is marked with nominative case as in (2b). Korean speakers report that sentences like (2b) have a more agentive feel, and that the subject is overtly expressing her enjoyment, rather than feeling it inside (Carnie 2021, p. 246)

The psych adjective construction in Korean, as shown in (2a), aligns semantically with English non-agentive ES verbs, such as *envy* and *fear*. In both languages, the subject represents a non-agentive Experiencer engaged in a passive emotional state. However, their structural realizations differ: Korean psych adjectives use a nominative-nominative or dative-nominative alignment, while English non-agentive ES verbs follow a nominative-accusative alignment. This conceptual overlap, coupled with structural divergence, may lead Korean learners to interpret English non-agentive ES verbs as psych-adjectives, complicating their acquisition of the correct SVO structure.

In contrast, Chinese learners, whose native language frequently employs SVO constructions for psychological states, may encounter relatively fewer structural challenges.

(3) Tā xiǎng shòu zhècì yěcān.
3SG enjoy this-CL picnic
'She enjoyed the picnic.'

Here, the Experiencer (Tā, "she") is the subject, and the Theme (*zhècì yěcān*, "this picnic") is the object, aligning closely with English. Unlike Korean, Chinese does not differentiate between agentive and non-agentive roles morphosyntactically, treating all psychological states uniformly within an SVO framework. This structural similarity may minimize cognitive interference for Chinese learners when acquiring English ES verbs.

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[2] Kim and Park (2003) suggest that the nominative marker *ka* attached to the Experiencer is a variation of the dative marker *ekey*.
a. Nay-ka baem-i musepta.
I-NOM snake-NOM afraid-DECL
'I am afraid of the snake.'

b. Na-ekey baem-i musepta.
I-DAT snake-NOM afraid-DECL
'I am afraid of the snake.'

[3] Park (2014) noted that the subject is more frequently observed in combination with the topic marker *-eun/neun* rather than the nominative case marker *-i/ka*.

Building on these observations, this study investigates the acquisition of English ES verbs by Korean and Chinese learners. In Korean, many verbs corresponding to English Non-agentive ES verbs (e.g., *fear*, *envy*) are derived from psych adjectives (e.g., *musepta*, "be afraid"). These psych adjectives differ both structurally and semantically from their derived psych verbs (e.g., *musewe hata*, "fear"), which encode a more agentive interpretation. Moreover, Korean psych adjectives often occur in double-nominative constructions, which contrast sharply with the nominative-accusative SVO structure of English. These differences may lead Korean learners to interpret English Non-agentive ES verbs as psych adjectives, hindering their acquisition of the appropriate syntactic patterns. In contrast, Chinese predominantly employs SVO constructions for psychological predicates, aligning more closely with English and potentially reducing structural challenges for Chinese learners.

2. Linguistic Backgrounds

2.1 English ES Verbs

The verbs of psychological state are primarily used to describe states of mind or changes in states of mind (Levin 1993). These verbs are characterized by the inclusion of an Experiencer argument, which experiences the emotional state or change described by the verb. Based on the syntactic position of the Experiencer argument, psychological state verbs can be divided into two subgroups: Experiencer-Subject (ES) verbs and Experiencer-Object (EO) verbs. ES verbs link the Experiencer argument to the subject position as in (4a), while EO verbs link the Experiencer argument to the object position as in (4b).

(4) a. The boy fears the dog.
b. The dog frightens the boy.

Traditionally, the subjects of ES verbs have been viewed as non-agentive and stative, as these verbs typically describe emotional states. However, DiDesidero (1999) challenges this assumption by demonstrating that not all ES verbs fit this characterization. She argues that some ES verbs have subjects that can exercise intent, volition, and control over the event denoted by the verb, thus exhibiting agentive properties. This claim is supported by examining the behavior of ES verbs in various linguistic contexts that are used to diagnose agency.[4]

(5) Command imperative
a. *Love* your sister.
b. **Envy* your neighbor.

(6) Complement to persuade
a. Jeremy persuaded Sarah to *favor/trust* him.
b. *Nicky persuaded Danny to *fear/envy* the teacher.

[4] Lakoff (1966) presents a range of linguistic environments that serve as tests for agentivity in a predicate (Kearns 1991). The linguistic environments include the command imperative, the complement to persuade, and compatibility with certain manner adverbials. According to Lakoff, verbs which are characterized as stative and/or non-agentive should not be able to appear in these linguistic environments, as only agentive verbs are found in these contexts.

(7) Manner adverbials
a. The supervisor deliberately *favored* the woman over the man.
b. The young man deliberately *envied* his older brother.

In addition to these diagnostics, DiDesidero suggests that ES verb are not the simple stative verbs that many researchers assume them to be. While they often describe emotional states, some ES verbs also display dynamic qualities, meaning they can represent events that unfold over time as in (8).[5]

(8) a. We admired the painting for ten minutes.
b. We enjoyed the music only for the first hour.

In these examples, the verbs *admire* and *enjoy* are not limited to describing static emotional states; instead, they indicate actions or experiences that occur over a specific period. This suggests that ES verbs can exhibit dynamic properties.

Based on this analysis, DiDesidero (1999, p. 97) suggests that many ES verbs behave similarly to activity verbs: their subject arguments can exercise intention, volition, and control over the event of the verb. In other words, the subject arguments of these verbs can be interpreted as Agents. However, not all ES verbs exhibit the same degree of agentivity. For verbs such as *admire* and *favor*, the subject can exercise volition, intent, and control over the emotion and its expression. In contrast, for verbs such as *fear* and *envy*, the subject may not be able to control the expression of that emotion to the same extent. Despite this variability, English does not explicitly mark agentivity morphologically or syntactically.

The variation in agentivity across different ES verbs affects second language acquisition. Agentive ES verbs, such as *admire* and *favor*, may be less challenging for learners because their subjects align with typical Agent roles. In contrast, non-agentive ES verbs, such as *fear* and *envy*, may be more difficult because they require learners to map a non-agentive entity to the subject position, which deviates from prototypical subject-agent alignments. This mismatch makes acquiring non-agentive ES verbs more complex.

2.2 Korean ES Verbs

Korean psychological predicates exhibit unique morphosyntactic features, particularly in their derivation of psych verbs from psych adjectives. Unlike English, where psych verbs and psych adjectives function as distinct lexical categories, many Korean psych verbs are systematically derived from psych adjectives through the addition of the suffix *-eha* (Park 2014, Yoo 1997). For example, the adjective *pwulepta* (“be envious”) transforms into the verb *pwulewe hata* (“envy”). While psych adjectives and psych verbs often share the same root, they differ in how they encode psychological states. Psych adjectives, such as *pwulepta* (“be envious”), describe internal emotional states, while psych verbs, such as *pwulewe hata* (“envy”), express externalized actions.

(9) a. nay-ka Cheolsu-ka pwulep-ta
I-NOM Cheolsu-NOM be envious-DEC
‘I am envious of Cheolsu.’

[5] With “a sense of actual or possible change,” states become more dynamic (Chung and Timberlake 1985, p. 216).

b. nay-ka Cheolsu-lul pwulewe ha-n-ta
I-NOM Cheolsu -ACC envy-PRES-DEC
'I envy Cheolsu.'

In (9a), the psych-adjective *pwulepta* ("be envious") forms a double nominative structure, where both the Experiencer (*nay-ka*, "I") and the Theme (*Cheolsu-ka*, "Cheolsu") are marked nominative. Such a structure contrasts with many other languages, such as English, where the Experiencer typically functions as the subject, and the Theme is either marked as an object (e.g., "I envy Cheolsu") or introduced with a preposition (e.g., "I am envious of Cheolsu"). This double nominative construction highlights a distinct feature of Korean (Song 2005). In contrast, (9b) demonstrates agentivity through the use of the psych verb *pwulewe hata* ("envy"). Here, the subject (*nay-ka*, "I") exerts volitional control over the emotion, and the Theme (*Cheolsu-lul*, "Cheolsu") is marked accusative. This case marking reflects an active emotional action, distinguishing psych verbs from psych adjectives in Korean. The shift from a double nominative to a nominative-accusative structure encodes the agentive nature of the emotion, offering a clear morphological distinction between agentive and non-agentive emotional states.

Discussions comparing psych adjectives with *-e hata* psych verbs are abundant in Korean linguistics (Ahn 1990, Hong 1991, Lee 1992, Kim, 1990). Ahn (1990, p. 435-436) argues that *-e hata* psych-verbs, such as *choaha-ta* ("like") and *pwulewe hata* ("envy"), involve subjects that combine Agent and Experiencer roles, reflecting volitional and active emotional states. In contrast, psych-adjectives like *choh-ta* ("be likable") and *pwulepta* ("be envious") represent non-agentive emotional states, where the subject functions purely as an Experiencer. Similarly, Lee (1992, p. 139) supports this view, emphasizing that *-e hata* constructions assign a mixed Agent-Experiencer role to the subject.

Kim (1990, p. 73-74) further elaborates that psych adjective constructions describe the Experiencer's passive, internal emotional state, while *-e hata* verbs imply external behavioral manifestations of that emotional state. For instance, the subject in a psych verb construction behaves in ways that make their emotional state observable to others[6]. In essence, *-e hata* psych-verbs mark the Experiencer as an active participant in emotional expression, whereas psych adjectives confine the Experiencer to a passive role.

Hong (1991) supports this distinction, emphasizing that *-e hata* psych verbs encode actions that signify the subject's intent or volition to express an emotional state, unlike psych adjectives, which describe internalized emotional states.

(10) a. Mary-nun uitocekulo John-ul cohaha-n-ta.
Mary-TOP intentionally John-ACC like-PRES-DEC
'Mary intentionally likes John.'

b. *Mary-nun uitocekulo John-i coh-ta
Mary-TOP intentionally John-NOM be likable-DEC
'John is intentionally likable to Mary'

(Hong 1991, p. 97)

The grammaticality of (10a) demonstrates that psych verbs like *choaha-ta* ("like") can co-occur with adverbs

[6] However, Kim notes that *-e hata* psych-verbs are not fully agentive like typical action verbs (e.g., *walk, hit*) and cannot freely appear in contexts requiring strong [+action] properties.

indicating intentionality, whereas psych adjectives like *choh-ta* ("be likable") cannot. This incompatibility underscores the non-agentive nature of psych adjectives compared to the active, volitional nature of psych verbs.

These morphosyntactic distinctions have important implications for second language acquisition. In Korean, non-agentive psych-adjectives are structurally distinct from agentive counterparts, while English lacks such explicit morphological distinctions. Both agentive and non-agentive ES verbs in English, such as *admire* and *envy*, follow a uniform SVO structure. This structural mismatch makes English non-agentive ES verbs particularly challenging for Korean learners, who may misinterpret them as adjectives and default to nominative-nominative constructions.

2.3 Chinese ES Verbs

Chinese psychological predicates differ fundamentally from Korean in how they encode emotional states, particularly in the absence of distinct categories for psych adjectives and psych verbs. Unlike Korean, which distinguishes between psych adjectives (e.g., *pwulepta*, "be envious") and psych verbs (e.g. *pwulewe hata*,"envy", Chinese tends to collapse these distinctions into a single psych verb form.

Zhang (2001) categorizes Chinese psych verbs into two types: psychological state verbs (第一格局：心理状态动词, *xīnlǐ zhuàngtài dòngcí*, literally "psychological state verbs," corresponding to English ES verbs) and psychological causative verbs (第二格局：心理使役动词, *xīnlǐ shǐyì dòngcí*, literally "psychological causative verbs," corresponding to English EO verbs). The syntactic structure of psychological state verbs is illustrated as follows.

(11) a. S (Experiencer) + V (Verb) + O (Object):
我喜欢音乐 (*Wǒ xǐhuān yīnyuè*)
'I like music.'

b. S (Experiencer) + V (Verb):
我喜欢 (*Wǒ xǐhuān*) (音乐 (*yīnyuè*))
'I like (music).'

In these examples, the subject (S) denotes the Experiencer of the emotional state, the verb (V) indicates the psychological states, and the object (O) represents the entity eliciting the emotional response. The first structure includes both the Experiencer and the object, while the second structure omits the object, focusing solely on the Experiencer's state (Zhang 2001, p. 113). Although psychological state verbs can appear in an S+V structure as in (11b), this is not directly relevant to the current discussion, as the focus is on cases involving two arguments: an Experiencer and a Theme. Consequently, it is reasonable to conclude that most Chinese psychological state verbs predominantly appear in an SVO structure, as in (11a).

A comparison with Korean highlights how the Chinese verb 羡慕 (*xiànmù*, "envy") encodes meanings corresponding to both the Korean psych adjective *pwulepta* ("be envious") and the psych verb *pwulewe hata* ("envy"). While Korean distinguishes these forms morphosyntactically, Chinese uses a single psych verb to express both meanings (Zhang 2013).

(12) a. na-neun Cheolsu-ka pwulepta
我羡慕哲秀 (Wǒ xiànmù Zhéxiù)
'I am envious of Cheolsu.'

b. na-neun Cheolsu-lul pwulewe hanta
我羡慕哲秀 (Wǒ xiànmù Zhéxiù)
'I envy Cheolsu.'

(Zhang 2013, p.9)

Unlike Korean, which frequently uses double-nominative structures to express emotional states, Chinese lacks equivalents for psych adjective constructions. In Korean, both the Experiencer and the Theme are often marked nominatively, as seen in (13a) and (14a). In contrast, Chinese consistently employs a transitive subject-verb-object (SVO) structure, marking the Theme as the object, as shown in (13b) and (14b).

(13) a. Na-nun eotum-i mwusep-ta
I-TOP darkness-NOM scary-PLAIN
'I am scared of the dark.'

b. Wǒ hàipà hēi'àn
I fear darkness
'I fear the darkness.' (Shi 2021, p. 588)

(14) a. Na-nun kohyang-i kulip-ta
I-TOP hometown-NOM missed-PLAIN
'I miss my hometown.'

b. Wǒ sīniàn gùxiāng
I miss hometown
'I miss my hometown.' (Li 2022, p. 215)

By using a single psych verb form, Chinese psychological expressions align more closely with English, demonstrating a consistent syntactic realization. This structural similarity may provide Chinese learners with an advantage when acquiring English ES verbs.

2.4 English Psych Verbs in Second Language Acquisition

Research on the acquisition of psychological verbs in a second language (L2) has primarily focused on EO verbs, with relatively little attention given to ES verbs. As a result, studies on the acquisition of ES verbs remain limited, leaving a gap in our understanding of this verb class in L2 acquisition.

Among the few studies addressing this gap, Lee (2013) examined the acquisition of four types of psych verbs—agentive/non-agentive ES and EO verbs. The results revealed that non-agentive ES verbs were particularly challenging for learners, presenting greater difficulty than agentive ES verbs and even agentive EO verbs. Lee attributed this to the semantic nature of non-agentive ES verbs, where the Experiencer lacks volitional control,

making it less intuitive to map the Experiencer to the subject position. Interestingly, the study also highlighted variability within non-agentive ES verbs. Learners performed relatively well on verbs such as envy and blame, while struggling significantly with verbs like *fear* and *dread*. This finding suggests that verb-specific factors, in addition to general semantic properties, influence the acquisition of non-agentive ES verbs.

Kim (2018) also conducted a comparative study of ES and EO verbs, further demonstrating the unique challenges posed by non-agentive ES verbs. Kim's study challenged the assumption that ES verbs are easier to acquire than EO verbs, showing that non-agentive ES verbs can be as difficult, or even more problematic, than agentive EO verbs. These challenges were linked to the non-volitional nature of non-agentive ES verbs, which complicates their acquisition despite their relatively straightforward syntactic structure.

Kim (2025) extended this research by focusing specifically on Korean learners' acquisition of English non-agentive ES verbs, emphasizing the role of L1 transfer. The study highlighted that Korean learners frequently misinterpret English non-agentive ES verbs, such as *fear* and *envy*, as psych adjectives due to the influence of their native language, where equivalent verbs are derived from psych adjectives and often occur in double-nominative constructions. This misinterpretation leads to persistent errors in adopting English SVO structures. While Kim's study provided valuable insights into L1-specific influences, it lacked a contrasting group to determine whether these challenges are unique to Korean learners or reflect broader L2 acquisition difficulties.

Motivated by this limitation, the current study incorporates Chinese learners as a contrasting group to further investigate the role of L1-specific structures in the acquisition of non-agentive ES verbs. Unlike Korean, which frequently employs psych-adjective constructions, Chinese primarily uses an SVO structure for psychological verbs, aligning more closely with English. This comparison aims to identify whether difficulties with non-agentive ES verbs arise from L1-specific morphosyntactic influences or reflect universal challenges in L2 acquisition.

2.5 Hypotheses and Predictions

The hypotheses tested in the present study are as follows.

Hypothesis 1: Korean learners are expected to interpret Non-agentive ES verbs as adjectives and Agentive ES verbs as verbs, reflecting Korean's sensitivity to agentivity. In contrast, Chinese learners are predicted to interpret both types of ES verbs as verbs.

Hypothesis 2: Both Korean and Chinese learners of English are expected to rate Agentive ES verbs higher than Non-agentive ES verbs. However, the difference between the two verb types is anticipated to be greater for Korean learners than for Chinese learners.

This prediction is based on the differing morphosyntactic structures in the learners' native languages. The mapping of Agentive ES verbs onto English transitive (SVO) constructions is relatively intuitive for both groups. In contrast, Non-agentive ES verbs, which feature a non-agentive experiencer as the subject, are less intuitive. For Korean learners, the difficulty is amplified by the fact that Korean Non-agentive ES verbs are typically expressed using double-nominative psych-adjective constructions, which diverge significantly from English SVO syntax. Chinese, on the other hand, employs an SVO structure for both Agentive and Non-agentive ES verbs, making the transition to English syntax more straightforward and resulting in a smaller difference between the two verb types for Chinese learners.

Hypothesis 3: The influence of L1-specific structures on learners' interpretation of English ES verbs is expected to diminish as English proficiency increases.

For Korean learners, this change is anticipated to result in improved performance in adopting the SVO structure

and an increased tendency to interpret Non-agentive ES verbs as verbal constructions.

3. Study

3.1 Participants

The participants in this study consisted of two groups: Korean learners of English and Chinese learners of English. The Korean participant data was drawn from Kim (2025), which investigated the acquisition of English psychological verbs by Korean learners. To extend the scope of the research, a comparable group of Chinese learners of English was added, allowing for a direct comparison between the two L1 backgrounds.

The Korean participants were undergraduate students enrolled at a university in Seoul, South Korea, with a mean age of 21.38 years (*SD* = 1.69). The Chinese participants were undergraduate students attending a language institution in Hebei Province, China, with a mean age of 20.89 years (SD = 1.98). Information regarding gender was not collected in this study.

Both the Korean and Chinese participants were divided into two proficiency levels based on their standardized English test scores. Participants were classified as advanced if they scored within the following ranges: IELTS 6.0-6.5, TOEIC 850-900, or TOEFL 90-100. Those classified as elementary had scores in the following ranges: IELTS 3.5-4.5, TOEIC 400, or TOEFL 30-40. These proficiency levels ensured consistency across the two groups and allowed for an analysis of how L1 influences and proficiency levels interact in the acquisition of English psychological verbs.

Table 1. The Participants in the Study

Language Group	Proficiency level	Number
L1-Korean speakers of English (KE)	elementary	19
	advanced	15
L1-Chinese speakers of English (CE)	elementary	21
	advanced	15
L1-English speakers (EE)		5
Total		75

3.2 Materials and Procedures

The experiment consisted of two tasks: a Picture-Matching Task and a Translation Task, designed to investigate the acquisition and interpretation of English ES psych verbs. The experimental design and materials were identical to those used in Kim (2025), but this study expanded the scope to include Chinese learners of English in addition to Korean learners.

In the Picture-Matching Task, participants were presented with images alongside English sentences. To avoid potential biases or stereotypes associated with human characters, animals were used as the subjects and objects in the images. This approach ensured a neutral and universally interpretable context for evaluating comprehension of English ES psych verbs.

The sentences were constructed using eight ES psych verbs, categorized based on DiDesidero's (1999) classification: four agentive ES verbs (*admire, favor, love,* and *ignore*) and four non-agentive ES verbs (*fear, envy, miss,* and *pity*). Each sentence was presented alongside a corresponding image, as illustrated in Figure 1, and

classified into one of four sentence types, summarized in Table 2 below.

Figure 1. Example of Picture-Matching Stimuli (e.g., Tiger fears Lion.)

Table 2. Sentence Types Used in the Picture-Matching Task

Category	Description	Example Sentence
Match-Active	Active sentence correctly matches the picture.	*Tiger fears Lion.*
Match-Passive	Passive sentence correctly matches the picture.	*Lion is feared by Tiger.*
Unmatch-Active	Active sentence does not match the picture.	*Lion fears Tiger.*
Unmatch-Passive	Passive sentence does not match the picture.	*Tiger is feared by Lion.*

Participants rated how well each sentence matched the given picture using a 5-point Likert scale, where 0 indicated “no correspondence” and 4 indicated “perfect match”. This task was designed to assess comprehension of English ES verbs in syntactic (active vs. passive) and semantic (match vs. unmatch) contexts.

In the Translation Task, participants were asked to translate the underlined part of English sentences into their native language.

(15) I <u>fear</u> spiders.
Translation: _____

The participants’ translations were coded into two categories—verbal or adjectival—by two independent raters based on predefined criteria. Classification was determined by the syntactic structure of the translation in the participants’ L1. Translations following a double-subject construction (e.g., *pwulepta*) were coded as adjectival. In contrast, translations following an SVO structure (e.g., *pwulewe-hata*) were coded as verbal.

Both tasks were administered using the Qualtrics platform, ensuring a standardized and user-friendly interface. Instructions for the tasks were provided in each participant’s native language (Korean or Chinese) to ensure clarity and minimize comprehension issues.

4. Results and Discussion

4.1 Statistical Analysis

Statistical analyses were conducted using R (R Core Team 2024). Generalized linear models were applied to

the translation task results, as the response variable was binary. For the picture matching task, ordinal mixed-effects models were employed to analyze the ordinal response variable, such as ratings on a 5-point scale.

4.2 Translation Data

In translation data, adjective interpretation was coded as 0 and verb interpretation was coded as 1. Figure 1 illustrates the mean interpretation scores for Agentive and Non-Agentive ES verbs across the two groups, KE and CE.

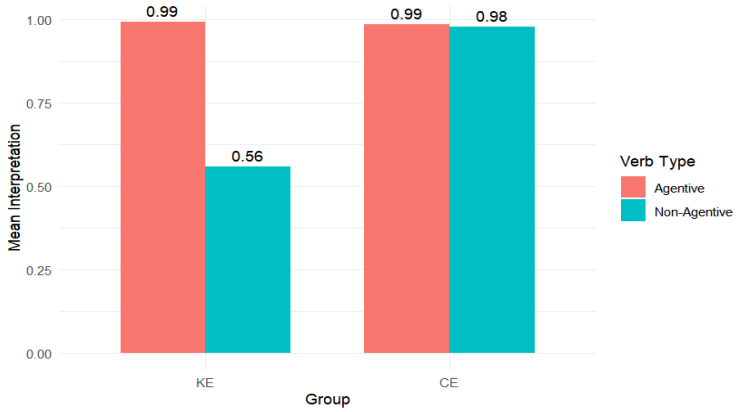

Figure 2. Mean Interpretation Ratings by Language Group and Verb Class

The KE group showed a significant disparity between the two verb types: while Agentive verbs were predominantly interpreted as verbs, Non-Agentive verbs were far more likely to be interpreted as adjectives. In contrast, The CE group demonstrated consistently high verb interpretation scores for both Agentive and Non-Agentive verbs, with minimal variation between the two verb types.

To statistically evaluate these differences, a **Generalized Linear Mixed Model (GLMM)** was conducted to analyze the binary interpretation data. The model included Group (KE, CE), Verb Type (Agentive, Non-Agentive), and their interaction as fixed effects, with random intercepts for both participants and items. Group was coded as KE = -0.5 and CE = 0.5, while Verb Type was coded as Agentive = -0.5 and Non-Agentive = 0.5.

Table 3. Results of the Generalized Linear Mixed Model[7]

Fixed effect	Estimate	SE	*p*
Group	1.291	0.582	0.027*
Verb Type	1.850	0.406	< 0.001***
Group × Verb Type	-1.593	0.401	< 0.001***

Formula: Interpretation ~ Group * Verb_Type + (1 | Participant) + (1 | Item), data = data_long
* p< .05, *** p<.001

The analysis revealed a significant main effect of Group (β = 1.291, p = 0.027), indicating that KE and CE learners differed in their overall interpretation patterns. Specifically, KE learners were more likely to interpret Non-agentive ES verbs as adjectives compared to CE learners, reflecting the influence of Korean psych-adjective

[7] The model was initially specified with a random slope for Verb Type. However, it failed to converge, so the random slope was removed, and the model was simplified to include only random intercepts for participants and items.

constructions, which differ significantly from English SVO syntax. In contrast, CE learners consistently interpreted both verb types as verbs, likely due to the structural consistency of Chinese psych verbs, which follow an SVO word order similar to English. A significant main effect of Verb Type (β = 1.850, p < 0.001) was also observed, indicating that Agentive ES verbs were more likely to be interpreted as verbs than Non-agentive ES verbs across both groups. This suggests that Agentive ES verbs, which involve volitional subjects, are inherently more verb-like and easier for L2 learners to process as verbs.

Additionally, the significant Group × Verb Type interaction (β = -1.593, p < 0.001) suggests that the effect of Verb Type differed between the two groups. While both groups interpreted Agentive ES verbs as verbs, KE learners were significantly more likely to interpret Non-agentive ES verbs as adjectives, whereas CE learners exhibited a more uniform verb-based interpretation across both verb types. These findings align with Hypothesis 1 and suggest the differential influence of L1 structures on the acquisition of English ES verbs.

4.3 Rating Data

The ratings for Agentive ES and Non-agentive ES verbs under four conditions (Match-Active, Match-Passive, Unmatch-Active, Unmatch-Passive) across two groups (KE, CE) are presented in Figure 3.

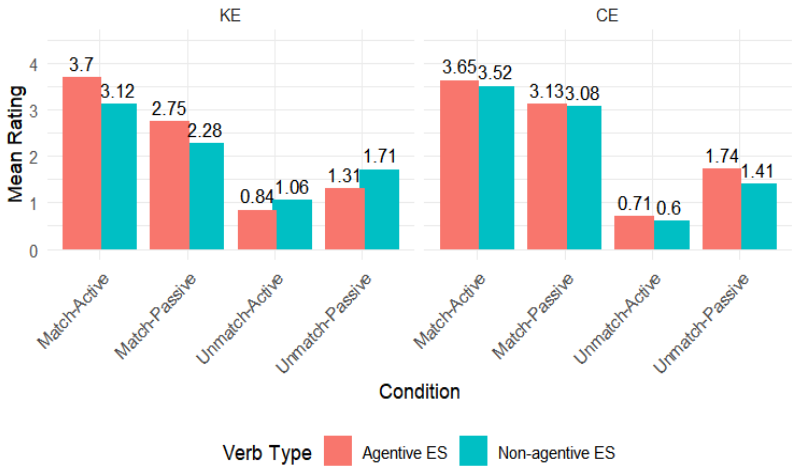

Figure 3. Mean Ratings by Language Group and Verb Class

The results show clear differences in the ratings of Agentive and Non-agentive ES verbs between the two groups (KE and CE), particularly in Match-Active condition. The KE group demonstrated a significant difference in their ratings of Agentive and Non-agentive verbs, with Agentive verbs receiving much higher ratings than Non-agentive verbs. In contrast, the CE group exhibited consistent ratings for both Agentive and Non-agentive verbs, without a significant difference between them.

For Match-Passive condition, both groups rated these sentences lower compared to their Match-Active counterparts, despite their grammaticality in English. While English allows for passive constructions with psych verbs (e.g., *The woman was feared by the man.*), neither Korean nor Chinese has a direct equivalent. For example, Cheung and Larson (2015) highlight the ungrammaticality of passive psych verb constructions in Chinese.

(16) Mali bei Zhangsan pa/danxin/xihuan.
Mary BEI Zhangsan fear/be.worried/like
'Mary is feared/worried/liked by Zhangsan'.
(Cheung and Larson 2015, p.130)

Similarly, attempts to translate the English ES passive form into Korean often result in awkward or ungrammatical expressions.

(17) ?? Kwisin-i na-ey uyhay mwusewe-cin-ta
ghost-NOM I-GEN by fear-PASS-Dec
'Ghosts are feared by me.'

In Korean, emotional states are typically expressed using adjectives like *mwusepta* ("be scared") or active verb forms like *mwusewe-hata* ("fear"), which are not easily adapted to passive constructions.

In the Unmatch-Passive condition, the relatively high ratings observed for Non-agentive ES verbs among Korean learners are particularly noteworthy. This pattern can be explained by their interpretation of the subject as consistently non-agentive. For example, in a sentence like *Tiger is feared by Lion*, the subject (*Tiger*) is interpreted as a non-agentive Experiencer, aligning with the semantic properties of Non-agentive ES verbs. This semantic alignment likely accounts for the relatively high ratings assigned by Korean learners for Non-agentive ES verbs in this condition, reflecting their sensitivity to distinctions in agentivity.

Overall, the differences between Korean and Chinese groups are evident in their ratings. While both groups follow a similar trend across conditions, the Korean group exhibited a greater disparity between verb types, especially in the Match conditions. These findings indicate that syntactic differences between learners' native languages and English influence their ratings, particularly in the context of Non-agentive ES verbs.

To statistically analyze the data, an ordinal mixed-effects model was employed to examine the effects of Group (KE, CE) and Verb Type (Agentive, Non-Agentive), as well as their interaction. The model included random intercepts for both participants and items. Group was coded as KE = -0.5 and CE = 0.5, and Verb Type was coded as Agentive = -0.5 and Non-Agentive = 0.5. The analysis focused exclusively on data from the Match-Active condition, as this condition represents the prototypical ES verb construction in English.

Table 4. Results of the Ordinal Mixed-Effects Model

Fixed effect	Estimate	SE	*p*
Group	0.400	0.180	0.026*
Verb Type	0.436	0.185	0.019*
Group × Verb Type	-0.390	0.102	< 0.001***

Formula: Rating ~ Group * Verb_Type + (1 | Participant) + (1 | Item), data = data_long
* $p < .05$, *** $p < .001$

A significant main effect of Group was observed (β = 0.400, p = 0.026), indicating that Chinese learners provided higher ratings overall than Korean learners. A significant main effect of Verb Type was also observed (β = 0.436, p =0.019), indicating that Non-agentive ES verbs received lower ratings than Agentive ES verbs. This suggests that the presence of a non-agent-like entity as the subject in Non-agentive ES verbs makes them less intuitive, leading to consistently lower ratings compared to Agentive ES verbs.

More importantly, a significant interaction between Group and Verb Type was observed (β = -0.390, $p < 0.001$),

indicating that the difference in ratings between Agentive and Non-agentive ES verbs was more pronounced among Korean learners. While Chinese learners showed relatively consistent ratings across Verb Types, Korean learners rated Agentive verbs notably lower than Non-agentive verbs. This stronger interaction effect suggests that the influence of Verb Type on acceptability judgments differs between the two groups.

These findings support Hypothesis 2, which predicted that both groups would rate Agentive ES verbs higher than Non-agentive ES verbs, with the difference being more pronounced among Korean learners. This pattern may reflect the influence of learners' native language structures. In Korean, Non-agentive emotions are typically expressed through psych-adjective constructions with double-nominative alignment, diverging significantly from English syntax. In contrast, Chinese uses SVO constructions for both Agentive and Non-agentive ES verbs, resulting in a smaller difference in ratings between the two verb types.

4.4 Proficiency Effect

The results revealed distinct patterns in the ratings of English ES verbs based on Group (KE vs. CE), Proficiency (Elementary vs. Advanced), and Verb Type (Agentive ES vs. Non-agentive ES). The EE group served as a baseline, representing native speaker judgments.

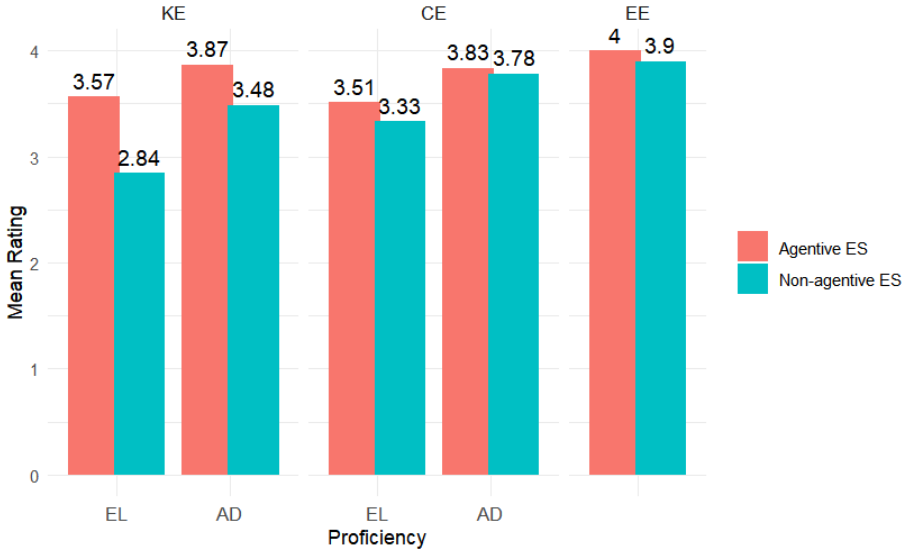

Figure 4. Mean of Ratings by Language Group, Verb Class, and Proficiency Level

For KE learners, Non-agentive ES verbs consistently received lower ratings than Agentive ES verbs, highlighting the challenges posed by L1-specific structures. At the Elementary level, the gap between Agentive and Non-agentive ES verbs was significant, with Non-agentive ES verbs rated much lower. Although Advanced learners showed improved ratings for both Verb Types, the relative gap persisted, indicating the continued influence of Korean psych-adjective constructions, which are not aligned with English SVO syntax.

In contrast, CE learners exhibited less difficulty with Non-agentive ES verbs. At the Elementary level, Non-agentive ES verbs were rated only slightly lower than Agentive ES verbs, and by the Advanced level, this difference nearly disappeared. The consistent SVO alignment between Chinese and English appears to minimize the challenges associated with Non-agentive ES verbs, even for learners with lower proficiency. These findings emphasize that Non-agentive ES verbs, which deviate from canonical subject-agent mappings, are particularly

sensitive to L1-specific syntactic and semantic structures.

To test Hypothesis 3, we focus exclusively on Korean learners, as Hypothesis 3 posits that the influence of L1-specific structures on learners' interpretation of English ES verbs will diminish with increased proficiency.

Table 5. Results of the Ordinal Mixed-Effects Model (Proficiency)

Fixed effect	Estimate	SE	*p*
Verb Type	2.199	0.414	<0.001***
Proficiency	-1.756	0.626	0.005**
Verb Type × Proficiency	-0.101	0.635	0.874

Formula: Rating ~ Verb_Type * Proficiency + (1 | Participant) + (1 | Item), data = korean_data
** *p*< .01, *** *p*<.001

The analysis revealed a significant main effect of Verb Type, indicating that Non-agentive ES verbs were rated significantly lower than Agentive ES verbs among Korean learners. Additionally, there was a significant main effect of Proficiency, with Advanced learners assigning higher overall ratings than Elementary learners. This suggests that increased proficiency positively impacts learners' general acceptance of English ES verbs.

However, the interaction between Verb Type and Proficiency was not significant, indicating that the gap in ratings between Agentive and Non-agentive ES verbs did not diminish with proficiency. Despite Advanced learners' higher overall ratings, they continued to differentiate between Verb Types in a manner consistent with Elementary learners. This finding challenges Hypothesis 3, as it indicates that increased proficiency does not significantly reduce the influence of L1-specific structures on learners' interpretation of English ES verbs. Although Advanced learners assigned higher overall ratings than Elementary learners, they continued to distinguish between Agentive and Non-agentive ES verbs in a manner similar to Elementary learners. This suggests that while proficiency enhances general linguistic performance, it does not necessarily weaken the impact of deeply ingrained L1-specific structures, such as the double-nominative psych adjective construction in Korean, which affects the interpretation of Non-agentive ES verbs.

5. Implications and Concluding Remarks

This study examined how Korean and Chinese learners of English interpret and process ES verbs, focusing specifically on the challenges posed by Non-agentive ES verbs. The findings revealed three key patterns that contribute to our understanding of the influence of native language structures on the acquisition of English ES verbs. First, Korean learners showed a strong tendency to interpret Non-agentive ES verbs as adjectives, reflecting the influence of Korean psych adjective constructions. In Korean, Non-agentive emotions are typically expressed through adjectives in double-nominative constructions (e.g., *na-nun kwisin-i mwusep-ta*, "I am scared of ghosts"), a structure that fundamentally differs from the verb-based SVO syntax required in English. In contrast, Chinese learners consistently interpreted Non-agentive ES verbs as verbs, reflecting Mandarin's SVO framework (e.g., *Wǒ hàipà guǐ*, "I fear ghosts").

Second, both Korean and Chinese learners rated Non-agentive ES verbs lower than Agentive ES verbs, likely due to the difficulty of mapping a Non-agentive entity to the subject position. However, this gap was significantly larger for Korean learners, reflecting the influence of Korean's double-nominative constructions, which differ fundamentally from the SVO structure of English.

Third, proficiency was found to increase overall ratings for both Agentive and Non-agentive ES verbs, indicating that learners' general understanding of English ES verbs improves with language development. However, the

interaction between proficiency and verb type was not significant, suggesting that proficiency alone is insufficient to overcome the challenges posed by Non-agentive ES verbs. Even advanced Korean learners continued to rate Non-agentive ES verbs lower than Agentive ES verbs, underscoring the enduring influence of their native language structures on their interpretation of English ES verbs.

These findings contribute to the broader discussion of the Full Transfer Hypothesis (Schwartz and Sprouse 1996). In this study, Korean learners exhibited strong negative transfer, initially interpreting Non-agentive ES verbs as adjectives due to the full transfer of L1 syntactic structures, specifically the double-nominative psych adjective construction. In contrast, Chinese learners experienced more facilitative transfer, as their L1 already employs an SVO structure for both Agentive and Non-agentive ES verbs. This typological similarity between Mandarin and English likely led to positive transfer, reducing the need for significant restructuring. From a Full Transfer perspective, this suggests that when L1 and L2 share structural properties, learners are able to retain their transferred syntactic framework without substantial modification, whereas major structural mismatches, as seen in Korean learners, necessitate a more complex and often incomplete restructuring process.

Based on these findings, this study proposes educational implications to address learners' difficulties with Non-agentive ES verbs. A key challenge lies in how Non-agentive verbs like *fear* are interpreted and taught in the context of Korean. Translating *fear* as *mwusewehata* introduces an agentive nuance, which may lead learners to misunderstand the subject of *fear* as an agentive Experiencer rather than a non-agentive one. On the other hand, translating it as *mwusepta* more accurately reflects the non-agentive nature of the subject but disconnects learners from understanding English's verb-based SVO structure. This dual challenge highlights the need for instructional strategies that balance semantic understanding with syntactic accuracy.

To address these issues, teachers should explicitly emphasize the non-agentive role of the subject in verbs like *fear* while reinforcing the necessity of the SVO structure in English. A contrastive approach (Ellis, 1994) can be particularly effective in this context. For example, contrasting sentences such as *I fear ghosts* and *Na-nun kwisin-i mwusep-ta* ("I am scared of ghosts") illustrates how cross-linguistic differences impact interpretation and sentence structure. This contrast helps learners recognize that *fear* corresponds semantically to *mwusepta*, but functions as a verb in English. By highlighting these structural and semantic differences, contrastive analysis can serve as a foundational tool for helping learners internalize the English verb-based SVO structure.

Alternatively, direct instructional approaches such as structured input activities (VanPatten, 1996) may also be effective. For example, when learners match sentences like *He fears ghosts* to visual scenes, they are guided to notice that the subject (*he*) is the Experiencer of the emotion, not the cause. Such tasks encourage learners to recognize that English encodes psychological states with verbs, unlike Korean, which often uses adjectives like *mwusepta*. This highlights form–meaning mappings in English that differ from those in learners' L1, fostering greater awareness of grammfatical categories in the L2.

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Examples in: English, Korean, Chinese
Applicable Languages: English, Korean, Chinese
Applicable Level: Tertiary

