

The Role of UG and the Unergative/Unaccusative Asymmetry in Interlanguage Grammar

Hirokazu Tsutsumi, Takayuki Kimura, and Takaaki Hirokawa

1. Introduction

The problem of linking argument structure to syntactic structure has been a central topic in generative grammar (e.g., Baker, 1985; Levin & Rappaport Hovav, 1995; Progovac, 2015). Both within individual languages and cross-linguistically, there are robust tendencies for particular thematic roles (θ -roles) to be associated with particular grammatical functions. Such observations suggest that the structure of a given language cannot be fully reduced to the contingent factor of experience encountered during language acquisition, that is, primary linguistic data (PLD). Rather, they point to the existence of an innate, species-specific endowment, Universal Grammar (UG), that govern the process of language acquisition and the final state (I-language).

At the same time, research on intransitive verbs has revealed apparent exceptions to straightforward linking generalizations, most notably in the contrast between unergative and unaccusative verbs (Perlmutter, 1978; Levin & Rappaport Hovav, 1995, among others). Unergative verbs are typically characterized as assigning an Agent θ -role to their subject, a role that is prototypically associated with subjecthood. Unaccusative verbs, by contrast, assign a Theme θ -role, which is more characteristic of objects, to their surface subject. This unergative/unaccusative asymmetry has therefore become a key domain for investigating underlying syntactic structures that are not directly visible in surface word order.

Against this backdrop, generative approaches to second language (L2) acquisition have long been concerned with how relevant linking rules are represented in interlanguage grammars, and with whether—and if so, how—UG plays a role in this domain (see, e.g., Zobl, 1989; Balcom, 1997; Yuan, 1999; Oshita, 2001; Hirakawa, 2003; Park & Lakshmanan, 2007; Kimura, to appear). The present study examines the relationship between *overpassivization* and *overcausativization* in L2 English in light of a UG-based principle of argument structure.

* Hirokazu Tsutsumi, Tsuru University, h-tsutsumi@tsuru.ac.jp. Takayuki Kimura, Utsunomiya University. Takaaki Hirokawa, University of Fukui. We would like to thank the audience at BUCLD 50 for their insightful comments and suggestions. Part of this work was supported by JSPS KAKENHI Grant Number JP24K16042/JP24K16092.

This paper is organized as follows. Section 2 provides the theoretical background, focusing on the principle that links argument structure and syntactic structure, namely the Uniformity of Theta Assignment Hypothesis. Section 3 reviews previous studies on L2 acquisition. Against this background, Section 4 describes the present study, and Section 5 discusses the results obtained. Finally, Section 6 concludes the paper.

2. Uniformity of Theta Assignment Hypothesis

One influential formulation of UG principles governing the linking of argument and syntactic structures is the Uniformity of Theta Assignment Hypothesis (UTAH; Baker, 1985). UTAH states that arguments bearing identical θ -roles are projected in identical syntactic positions. In canonical transitive constructions, arguments bearing so-called external θ -roles, such as Agent or Cause, are base-generated in the Spec, vP, whereas arguments bearing internal θ -roles, such as Theme or Patient, are base-generated in the complement of VP.

Given this framework, the unergative-unaccusative distinction has direct implications for the derivation of intransitive constructions. The subject of an unergative verb, which bears an Agent θ -role, is expected to be base-generated in the Spec, vP, in parallel with the subject of a transitive verb. By contrast, the subject of an unaccusative verb, which bears a Theme θ -role, is expected to be base-generated in the complement position of VP, in the same position as the object of a transitive verb.

In English, however, the sole argument of an intransitive verb is externalized in preverbal subject position via NP-movement to the Spec, TP. As a result, the difference in underlying structure between unergative and unaccusative predicates is obscured on the surface, making it difficult to identify the distinction by observing simple intransitive sentences alone. Nevertheless, evidence from independent diagnostics, such as the availability of the *there*-construction and the possibility of predicating result phrases of the subject, has been taken to support analyses that reduce the unergative-unaccusative distinction to the structural differences predicted by UTAH.

3. Effects of UTAH in Japanese-English interlanguage

Previous research has shown that L2 learners exhibit systematic asymmetries between unergative and unaccusative verbs. Japanese-speaking learners of English (JLEs), in particular, have been reported to experience greater difficulty with unaccusative verbs than with unergative verbs with respect to intransitivity/transitivity and voice-related phenomena, although they generally demonstrate sensitivity to the syntactic-semantic distinction between these two verb classes (see, e.g., Hirakawa, 2003; Yusa, 2003; Tazaki, 2024; Kimura & Hirokawa, 2025). A well-known manifestation of this difficulty is *overpassivization* with unaccusative verbs. Learners frequently produce and accept sentences such as those in (1), while comparable passivization errors with

unergative verbs are much less common (Zobl, 1989; Balcom, 1997; Hirakawa, 2003).

- (1) a. *This accident was happened.
b. *Santa Claus is existed.

That overpassivization is observed with unaccusative verbs rather than with unergative verbs is, to some extent, expected. In both grammatical passive constructions and unaccusative constructions, NP-movement targets an argument originating in the complement position of VP. In this respect, the movement involved in passivization and that involved in unaccusative constructions share a crucial structural property, which may make unaccusatives a natural locus for passive errors in the interlanguage grammar.

Given the functions of passive morphology, namely, the suppression of the external argument and the nullification of the verb's ability to assign accusative Case (Baker et al., 1989; Goro, 2006; Jaeggli, 1986), there is an important theoretical difference between grammatical passives and the passivization of unaccusative verbs. In grammatical passives, passive morphology targets transitive verbs, that is, verbs that project an external argument and assign accusative Case to their internal argument. Unaccusative verbs, which are the targets of overpassivization, by contrast, lack both of these properties: they do not select an external argument, nor do they assign accusative Case (Burzio, 1986). From a theoretical perspective, then, unaccusative verbs should be incompatible with the functions of passive morphology. The fact that interlanguage grammars nevertheless appear to allow the application of passive morphology to unaccusative verbs, albeit as an error, poses a nontrivial problem. This is the central issue addressed in the present study.

More recently, a related asymmetry between unaccusatives and unergatives has been observed in a different domain. Previous work on JLEs has shown that unaccusative verbs are more readily accepted than unergative verbs in transitive constructions in which the original subject appears postverbally and an additional NP is introduced in the subject position, yielding a causative-like interpretation (Tsutsumi et al., 2025). As illustrated in (2), sentences based on unaccusative verbs are judged more acceptable than those formed from unergative verbs

- (2) a. *A strong wind fell a leaf from the tree.
b. *Hay fever sneezed a woman

This pattern can be derived from argument structure considerations. Unlike unergative verbs, unaccusative verbs do not project an external argument, leaving structural "room" for the introduction of a Cause argument in the Spec, ν P. In the case of unergatives, by contrast, the Spec, ν P is already occupied by an Agent argument, preventing the addition of a Cause argument. We will refer to this pattern as *overcausativization* of unaccusatives.

The observation of overcausativization in L2 English suggests a possible reanalysis of *overpassivization*. The apparent incompatibility between passive morphology and unaccusative verbs, given that unaccusatives neither select an external argument nor assign accusative Case, disappears if overpassivization is assumed to be parasitic on overcausativization. On this view, passive morphology does not directly target an unaccusative structure, as in (3a), but instead applies to a transitivized structure, as in (3b), which has been derived from the unaccusative base prior to passivization, yielding the passive structure in (3c).

- | | | | | | |
|-------------------------------|-----------------|------|-------------------------------------|----------------------|-------------------------|
| (3) a. Unaccusative structure | [_{TP} | T | [_{vP} | [_{VP} V | NP _{Theme}]]] |
| b. Causative structure | [_{TP} | T | [_{vP} NP _{Cause} | [_{VP} V | NP _{Theme}]]] |
| c. Passive structure | [_{TP} | T-be | [_{vP} | [_{VP} V-en | NP _{Theme}]]] |

This leads to the hypothesis tested in the present study; overpassivization does not target intransitive verbs directly, but instead applies to their transitivized counterparts. A prediction follows from this hypothesis. If passive morphology requires a transitive verbal structure, then learners should accept a passive construction only to the extent that they also accept the corresponding transitive construction. In terms of acceptability judgments, the transitive construction is therefore predicted to be comparable to, or more acceptable than, the corresponding passive construction.

4. Experiment

4.1. Participants

To test the prediction outlined above, we conducted an acceptability judgment experiment. Thirty-nine native speakers of English (NSEs) and fifteen Japanese-speaking learners of English (JLEs) participated in the study. The NSEs were recruited via Prolific. The JLEs were university students in Japan recruited from the authors' English classes, none of whom had formal training in linguistics or related fields.

The proficiency level of the JLEs was assessed by a cloze test (maximum score = 30; $M = 20.6$, $SD = 2.84$). Participants in both groups completed the task online using Google Forms.

4.2. Task and materials

Participants completed an acceptability judgment task using a 7-point Likert scale (1: completely unacceptable, 7: completely acceptable). The task was administered with no time limit.

The experiment consisted of 81 target items and 81 fillers. The target items were created by crossing three verb types (unaccusative, unergative, and transitive) with three construction types (intransitive (SV), transitive (SVO), and passive (PAS)), yielding nine conditions in total. The verbs selected for each verb type are listed in (4).

- (4) a. unaccusative verbs
 appear, arise, arrive, disappear, fall, flow, happen, occur, vanish
 b. unergative verbs
 cough, cry, dance, disagree, perform, pray, sleep, smile, swim
 c. transitive verbs
 achieve, admire, attract, avoid, borrow, carry, destroy, invite, solve

For each verb in the unaccusative and unergative categories, SVO items (ungrammatical) were constructed so that the preverbal NP was most naturally interpreted as the cause of the event denoted by the verb, with the postverbal NP interpreted as the Theme or Agent of the verb. The corresponding passive items (also ungrammatical) were created by passivizing these SVO constructions. The grammatical SV items additionally included adjunct phrases expressing the cause of the event.

For transitive verbs, SV items (ungrammatical) were constructed in two subtypes: one in which the preverbal NP corresponded to the agent in the grammatical SVO construction (unergative-like), and another in which it corresponded to the postverbal NP (unaccusative-like). These two subtypes were balanced across items. In both cases, the SV items included an adjunct expressing the cause of the event, either one in which the NP performed the action (the former type) or one in which the NP underwent the event (the latter type). Example stimuli for all nine verb type $\times$ construction type combinations are listed in (5).

- (5) a. A train delay happened due to heavy snow. (unaccusative $\times$ SV)
 b. *Heavy snow happened a train delay. (*unaccusative $\times$ SVO)
 c. *A train delay was happened by heavy snow. (*unaccusative $\times$ PAS)
 d. A boy cried due to a horror movie. (unergative $\times$ SV)
 e. *A horror movie cried a boy. (*unergative $\times$ SVO)
 f. *A boy was cried by a horror movie. (*unergative $\times$ PAS)
 g. *A problem solved due to a scientist. (*transitive $\times$ SV)
 h. A scientist solved a problem. (transitive $\times$ SVO)
 i. A problem was solved by a scientist. (transitive $\times$ PAS)

In this experiment, only a single stimulus list was used to directly compare each participant's ratings of the same verb across different types. To minimize potential repetition effects arising from repeated judgments of the same verb, though in different constructions, several measures were taken. First, the questionnaire was divided into three sections, and the three constructions based on the same verb were distributed across these sections so as to ensure enough interval between them. Second, within each verb type, the nine verbs were further divided into three groups, which differed in the order in which the constructions were presented: [Section 1: SV $\rightarrow$ Section 2: SVO $\rightarrow$ Section 3: PAS], [PAS $\rightarrow$ SV $\rightarrow$ SVO], and [SVO $\rightarrow$ PAS $\rightarrow$ SV]. Within each section, the order of test items was manually randomized.

5. Results

Response data were analyzed using linear mixed-effects models in R (Baayen et al., 2008). Analyses were conducted separately within each verb type and each construction type. In the former analysis, verb type was included as a fixed effect, whereas in the latter, construction type served as the fixed effect. Both models included random intercepts and slopes for participants and items. Pairwise comparisons were performed by changing the reference level. *P*-values were obtained using the *lmerTest* package (Kuznetsova et al., 2017). The results of each comparison are reported separately below.

5.1. Comparison of construction types within each verb type

Let us first compare construction types within each verb type. Figure 1 (NSEs) and 2 (JLEs) show mean acceptability scores for the SV, SVO, and PAS constructions separately for unaccusative, unergative, and transitive verbs, allowing for a comparison of construction types within each verb types.

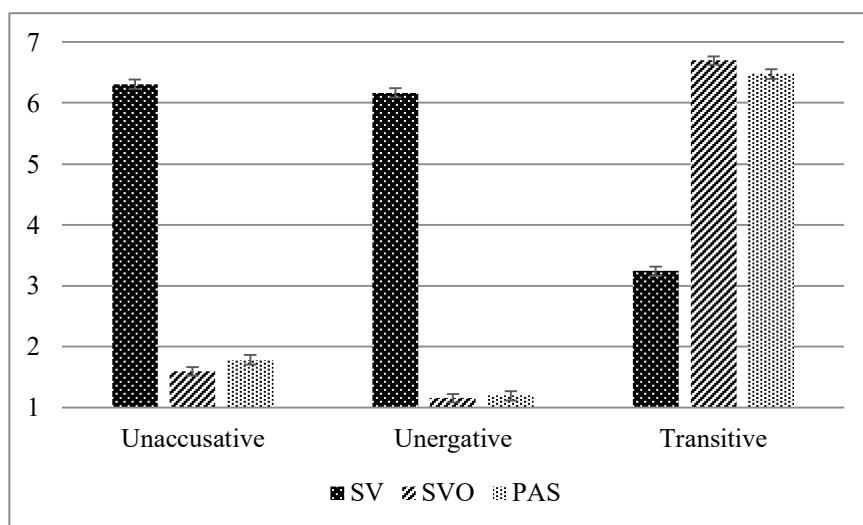


Figure 1
Mean acceptability scores by construction within each verb type (NSEs)

Note. Error bars stand for standard errors of the mean.

As shown in Figure 1, as for NSEs, all three verb types showed clear and significant differences between the SV construction and the other two constructions. For unaccusatives, SV was rated significantly higher than both SVO ($\beta = -4.71$, $t = -48.63$, $p < .01$) and PAS ($\beta = -4.52$, $t = -46.66$, $p < .01$). The difference between SVO and PAS was not significant, but PAS was marginally rated slightly higher than SVO ($\beta = 0.19$, $t = 1.94$, $p = .053$). For

unergatives, SV was rated significantly higher than both SVO ($\beta = -5.01, t = -25.50, p < .01$) and PAS ($\beta = -4.97, t = -25.30, p < .01$), while no significant difference was observed between SVO and PAS ($\beta = 0.04, t = 0.20, p = .84$). For transitives, SVO and PAS were rated significantly higher than SV (SV vs. SVO: $\beta = 3.46, t = 12.87, p < .01$; SV vs. PAS: $\beta = 3.24, t = 12.05, p < .01$). There was no significant difference between SVO and PAS ($\beta = -0.22, t = -0.82, p = .42$).

Turning to the results of JLEs, a different pattern was observed (Figure 2). With unaccusatives, Both SV and PAS were rated significantly higher than SVO (SV vs. SVO: $\beta = -1.12, t = -4.50, p < .01$; PAS vs. SVO: $\beta = 0.90, t = 3.63, p < .01$), while no significant difference was found between SV and PAS ($\beta = -0.22, t = -0.87, p = .39$). For unergatives, significant differences were observed among all three constructions. SV was rated highest, followed by PAS, and then by SVO (SV vs. SVO: $\beta = -2.75, t = -7.84, p < .01$; SV vs. PAS: $\beta = -1.67, t = -4.75, p < .01$; SVO vs. PAS: $\beta = 1.09, t = 3.09, p < .01$). For transitives, SV was rated significantly lower than both SVO and PAS (SV vs. SVO: $\beta = 2.32, t = 10.60, p < .01$; SV vs. PAS: $\beta = 2.06, t = 9.43, p < .01$), while the difference between SVO and PAS was not significant ($\beta = -0.25, t = -1.16, p = .26$).

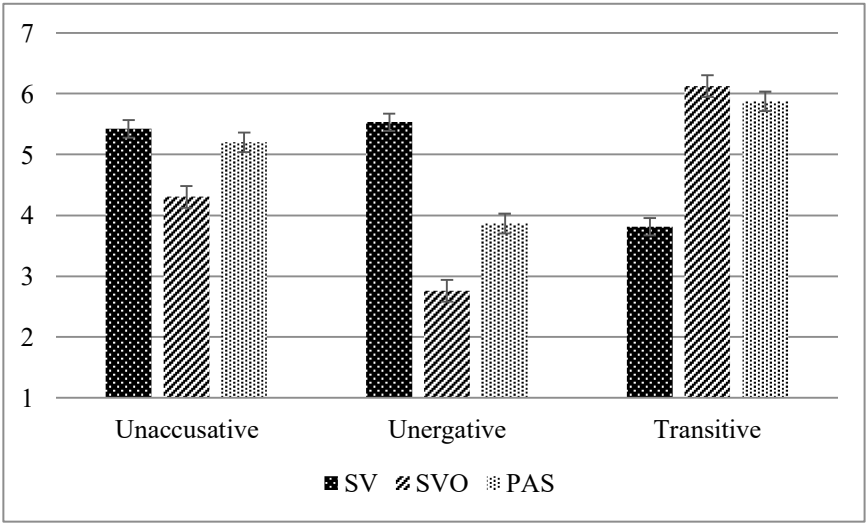


Figure 2
Mean acceptability scores by construction within each verb type (JLEs)

5.2. Comparison of verb types within each construction

Let us next compare verb types within each construction. Figure 3 and 4 shows mean acceptability ratings for unaccusative, unergative, and transitive verbs separately for the SV, SVO, and PAS constructions, allowing for a direct comparison across verb types within each construction type.

For NSEs (Figure 3), in the SV construction, unaccusatives and unergatives were rated comparably, with no significant difference between the two ($\beta = -0.14$, $t = -0.42$, $p < .68$), while both types of verb were rated significantly higher than transitives (unaccusative vs. transitive: $\beta = -3.07$, $t = -9.08$, $p < .001$; unergative vs. transitive: $\beta = -2.93$, $t = -8.66$, $p < .001$). In contrast, in both the SVO and PAS constructions, transitives received the highest acceptability ratings, followed by unaccusatives, and then unergatives. In the SVO construction, unaccusatives were rated significantly higher than unergatives ($\beta = -0.44$, $t = -3.65$, $p < .01$), and transitives were rated significantly higher than both unaccusatives ($\beta = 5.10$, $t = 42.11$, $p < .001$) and unergatives ($\beta = 5.54$, $t = 45.75$, $p < .001$). For the PAS construction, significant differences were found between all verb types, with the ordering of the three verb types being the same (unaccusative vs. unergative: $\beta = -0.59$, $t = -4.13$, $p < .001$; unaccusative vs. transitive: $\beta = 4.69$, $t = 32.87$, $p < .001$; unergative vs. transitive: $\beta = 5.28$, $t = 37.02$, $p < .001$).

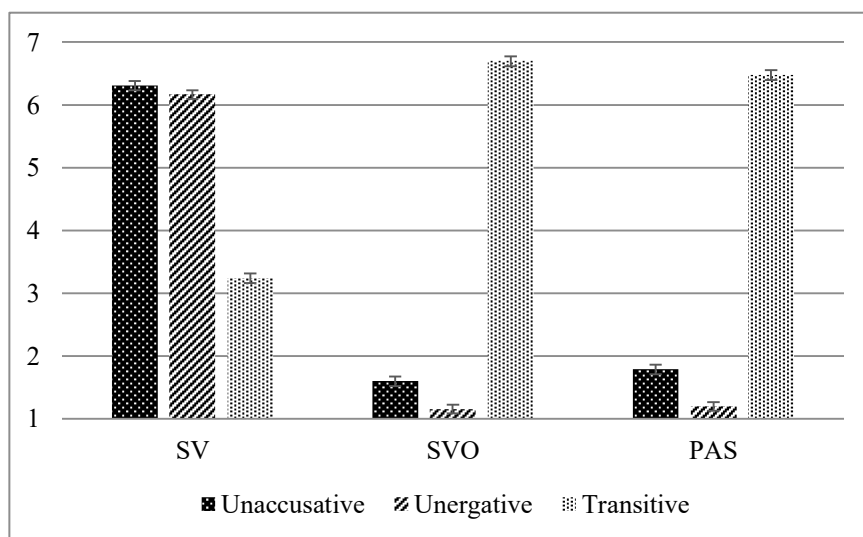


Figure 3
Mean acceptability ratings by verb type within each construction (NSEs)

JLEs showed a similar pattern (Figure 4). In the SV construction, unaccusatives and unergatives did not differ significantly ($\beta = .11$, $t = .41$, $p < .69$), and both were rated significantly higher than transitives (unaccusative vs. transitive: $\beta = -1.62$, $t = -6.09$, $p < .001$; unergative vs. transitive: $\beta = -1.72$, $t = -6.49$, $p < .001$). In the SVO construction, transitive verbs were rated highest, followed by unaccusative verbs, and then unergative verbs, with there being significant difference between each pair of verb types (unaccusative vs. unergative: $\beta = -1.53$, $t = -5.77$, $p < .001$; unaccusative vs. transitive: $\beta = 1.82$, $t = 6.90$, $p < .001$; unergative vs. transitive: $\beta = 3.35$, $t = 12.65$, $p < .001$). The PAS construction showed the same pattern. Unaccusatives were rated significantly

higher than unergatives ($\beta = -1.33, t = -4.38, p < .001$), and transitives were rated significantly higher than both unaccusatives ($\beta = 0.67, t = 2.22, p < .05$) and unergatives ($\beta = 2.00, t = 6.60, p < .001$).

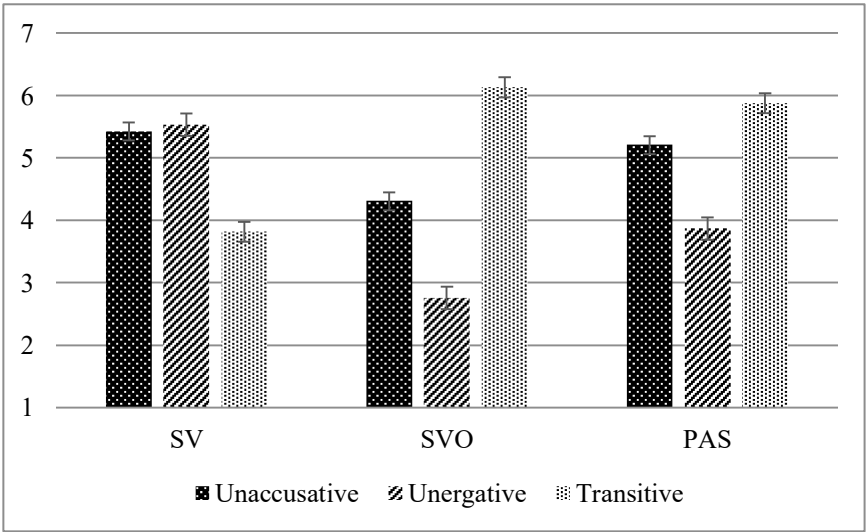


Figure 4
Mean acceptability ratings by verb type within each construction (JLEs)

6. Discussion

The study revealed a robust asymmetry between unaccusative and unergative verbs across constructions. As shown most clearly in Figure 4, JLEs rated unaccusative verbs consistently higher than unergative verbs in both SVO and PAS constructions, replicating earlier findings on overpassivization and overcausativization in L2 English. It is also worth noting that a parallel asymmetry was also observed for NSEs (Figure 3); although both unaccusative and unergative verbs in the SVO and PAS constructions were rated substantially lower than the corresponding grammatical SV constructions, unaccusatives were nevertheless rated systematically higher than unergatives. This indicates that, even in borderline or degraded contexts, NSEs’ judgments remain sensitive to the UTAH-based unergative–unaccusative distinction.

At the same time, the central hypothesis of the present study was not supported. If, as our hypothesis predicted, overpassivization presupposed overcausativization, passive constructions should have been accepted only to the extent that the corresponding transitive constructions were accepted. Contrary to this prediction, the results in Section 5.1 showed that PAS constructions were generally rated more acceptable than the corresponding SVO constructions, both for unaccusative AND unergative verbs. This pattern indicates that passive

morphology in Japanese-English interlanguage does not depend on the transitivity of the verbal base.

One possible factor accounting for this unexpected pattern involves transfer from their L1, namely Japanese. The language allows indirect passives, which do not require a canonical transitive base and are not directly tied to the suppression of an external argument in the way English direct passives are (see e.g., Hoshi, 1999). Such constructions may provide JLEs with an additional source for the English passive morphology, making it available independently of overcausativization (see e.g., Izumi & Lakshmanan, 1998; Kimura & Kohama, to appear). Therefore, future research should explicitly control for indirect-passive interpretations or examine learners whose L1 lacks indirect passives, in order to determine whether the observed pattern is specific to Japanese-English interlanguage.

7. Conclusion

We investigated whether overpassivization in Japanese-English interlanguage presupposes overcausativization by constructing acceptability-judgment task that systematically crossed verb type and construction type. The results showed that, contrary to our prediction, PAS constructions were often accepted more readily than the corresponding SVO constructions. At the same time, a unergative-unaccusative asymmetry was observed across SVO and PAS contexts in JLEs, and notably in NSEs also. This pattern suggests that overpassivization in Japanese learners may be influenced by properties of their first language, in particular the availability of indirect passives, which could license passive morphology independently of the verb's transitivity/intransitivity. Although further investigation is required to determine the extent of such transfer effects, the present study provides new empirical grounds for reexamining the relationship between overpassivization, overcausativization, and argument structure in L2 grammars.

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