

Argument assignment of psych verbs in Spanish speaking learners of English

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Holly Fernández

Teachers College, Columbia University

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## Abstract

Spanish Object Verb Subject (OVS) syntactical strings, such as the *gustar* (to please/to like) type semantical class of psychological verbs cause difficulty for English speaking learners because thematic roles do not necessarily map onto grammatical functions the same as English (Whitley, 1995). While English has flexibility in thematic role order where the agent and experiencer can be reversed, Spanish tends to higher syntactical order for the experiencer and offers flexibility in grammatical order. To impede misassignment of arguments during intake, VanPatten and Cadierno (1993) propose an instructional approach on the basis that English speakers use word order strategy to process these reverse construction psychological verbs. This exploratory study aims to determine if Spanish speaking learners of English tend to have difficulty interpreting and assigning arguments in English psych verbs and consider tendencies in strategy use during processing. In a GJT, 100% of the participants ( $N=13$ ) correctly judged translations of Spanish to English direct constructions but less than one third correctly judged translations to English reverse construction. On a free translation portion, only 21% of the responses used reverse constructions. Thematic role and animacy are strategies used by these learners in interpretation of assignment which can cause misinterpretation when these cues cannot be relied upon. This exploratory study reveals that there is a necessity to further investigate strategies used by Spanish learners of this English form. Once a rigorous empirical study identifies existence and cause of learning difficulties, pedagogical implications can be dealt with.

*keywords: psych verb, reverse construction, thematic role, experiencer, argument assignment, Spanish, English*

### Introduction

The determination of thematic roles and grammatical function for the arguments of a verb is not always a straightforward process in second language acquisition. Typological variation between languages can determine diverging word order and roles of arguments, creating processing difficulties for the learner. Some differences between Spanish and English potentially cause problems for second language learners in terms of argument assignment, as well as for linguists in terms of description and classification (López Jiménez, 2003; Montrul, 1998; VanPatten & Cadierno, 1993; White, Brown, Bruhn-Garavito, Chen, Hirakawa & Montrul, 1997; Whitley, 1995; Witoon & Singhapreecha, 2012).

Where some languages may demand a strict subject-verb-object (SVO) syntactical string others may allow flexibility. English requires a preverbal grammatical subject, an SVO string, in contrast to Spanish that allows for a flexible syntactical construction (Whitley, 2002, p. 140). Not all verbs in Spanish allow for this flexibility but some require this reverse construction where the grammatical subject follows the verb (Whitley, 2002, p. 143). In these reverse OVS constructions, the argument that was previously a preverbal subject now is the post verbal subject. Likewise, the former grammatical object moves to the head of the sentence before the verb. This flexibility in construction can be determined by several factors such as transitivity of the verb, pragmatic intentions, or semantic class.

One such semantic class of verbs that follows this pattern is the psych(ological) verb. The psych verb is one where the experiencer is a participant in a process or event that has a psychological impact on them, as in the following English examples:

1. Direct construction: John fears the dog.
2. Reverse construction: The dog frightens John.

Here, the two examples both follow English obligatory SVO word order but are expressed in reverse order.

Whitley (1995) demonstrates how this pattern applies to Spanish as well with the psych verb in direct and reverse construction as in the following examples:

3. Juan teme el perro (John fears the dog)
4. A Juan le asusta el perro (The dog frightens John)

In both the English and Spanish examples, the syntactical constructions are determined by the transitivity and the semantic constraint of the verb (Whitley, 1995, p. 573).

Part of the difficulty for second language learners is that syntactic function does not always correspond with thematic roles, namely the agent (A)<sup>1</sup> of the action and the experiencer (E) of the psychological effect (Montrul, 1998; VanPatten & Cadierno, 1993; Vazquez Rozas, 2006; White et al., 1999; Whitley, 2002). Some verbs require a direct construction where the preverbal argument is both the grammatical subject and the thematic agent (SVO, AVE). Others require the reverse construction where the preverbal argument is the grammatical subject and the thematic experiencer (SVO, EVA). Due to the fact that Spanish allows for flexible word order, the preverbal argument can function as the grammatical object and the thematic experiencer (OVS, EVA). Therefore, English and Spanish can contrast in their syntactical construction, grammatical functions and thematic roles of the psych verb. Table 1 below summarizes these differences with our previous examples:

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<sup>1</sup> The use of the term “agent” here is controversial. This is the crux of the controversy among linguistic theorists about how to classify this argument in D-structure (Montrul, 1998; Soto, 2003; White et al., 1999). Alternative terms would be stimulus, theme or causer. For the sake of simplicity, in this paper the argument that is not the experiencer will be referred to as the agent, not in the technical sense of labeling it with a proper deep structure role but in a general sense of being the doer of the action. In any case, the experiencer maps higher.

Table 1. Comparison of Spanish and English Thematic/Grammatical Direct/Reverse Constructions		
	Direct Construction	Reverse Construction
Spanish	Juan teme el perro (SVO)(EVA)	A Juan le asusta el perro (OVS)(EVA)
English	Juan fears the dog (SVO)(EVA)	The dog frightens Juan (SVO)(AVE)

Notice in table 1 that where the English reverse construction reverses the thematic roles with respect to the English direct construction, Spanish reverse construction reverses the grammatical roles with respect to the Spanish direct construction. In other words, English always follows SVO grammatical strings and what can be reversed is thematic roles while Spanish tends to follow EVA thematic role order and what can be reversed is the grammatical string.

VanPatten and Cadierno (1993) attributed the difficulty that English speaking learners of Spanish have with the psych verb to the adoption of the word order strategy. They said that because English is a rigid SVO language, English learners of Spanish apply this rule when processing the Spanish reverse construction psych verb, assigning agency to the first noun in the string which would result in a production like: *\*Juan asusta el perro* (Juan scares the dog). This misassignment of agency produces a variety of errors “as revealed by output” (VanPatten and Cadierno, 1993, p. 47). Learners’ production may lack subject verb agreement, the obligatory dative clitic of this class of verbs, or the obligatory *a* that marks the dative case. Most importantly, by misassigning the agency of the arguments, the learners’ output does not carry the correct meaning and the learner has misinterpreted the intended meaning of the input. They concluded that this strategy of assigning agency to the first noun phrase results in a processing error in input, incorrect uptake into the interlanguage, and erroneous output.

On the basis of typological contrasts we cannot necessarily predict difficulty for second language learners nor can we necessarily attribute any erroneous production to systematic

differences between the languages. Criticism of Contrast Analysis and Error Analysis has shown this is to be the case (Corder, 1967; Schachter, 1974). Nonetheless, the question arises if acquisition of the English psych verb also presents a problem for Spanish speakers. Perhaps the same type of obstacle that English learners of the Spanish psych verb will not present itself nor even a similar erroneous production. But there are several cues in Spanish not present in the English construction that could manifest errors different from their English counterparts.

It is the purpose of this paper to explore the tendencies of Spanish speaking learners of English in regards to acquisition of the psych verb and assignment of its argument structure. We may assume or hypothesize that Spanish speaking learners of English will not struggle with the acquisition of the English psych verb since the SVO string, the obligatory construction in English, is present in their language. But this would be under the assumption that they would primarily rely on word order strategy just as their English counterparts. It is possible that they would struggle if the morpheme markers that facilitate processing in the Spanish construction are not available in English. We can hypothesize that erroneous productions would reveal a pattern of preverbal experiencers if rather than using a word order strategy they follow a thematic role order, as is the tendency in Spanish. There are a number of alternatives to consider in addition to influence from their L1 such as UG access, semantic/animacy cues, volition properties of the experiencer, impediment by acquisitional order, and, of course, avoidance. Fortunately, some studies have been done on the acquisition of the psych verb by learners of both English and Spanish. First we will look at the results of studies on the acquisition of the English psych verb then discuss other studies that will help us to consider the role of a variety of strategies and variables.

### **Literature Review**

Few studies have investigated the acquisition of the English psych verb by speakers of other languages. These studies set out to determine if the learners have difficulty with processing thematic roles of the arguments and on what basis this difficulty results.

White, Brown, Bruhn-Garavito, Chen, Hiraakawa and Montrul (1999) carried out a study on argument assignment of both constructions of English psych verbs: the object as experiencer (OE) and the subject as experiencer (SE). The study also aimed to determine if the Malagasy, Japanese, French and Spanish speaking participants were influenced by L1 or thematic hierarchy, a ranking of thematic roles that places the experiencer higher in order than the theme/source of the psychological stimulus. They posited that if guided by the thematic hierarchy, learners would place the experiencer in primary position at the head of the sentence. This would cause learners to have difficulty with the OE construction but not with SE constructions. The hypothesis was confirmed in that subjects did not show difficulty mapping experiencers as subjects. When in doubt learners of all four language backgrounds were constrained by thematic hierarchy and placed the experiencer in subject position.

Sato (2003), a near replication of White et al., studied Japanese learners' acquisition of English psych verbs. Through the use of sentence completion tasks and grammaticality judgement tasks, Sato supported the findings of White et al. that Japanese learners' difficulty is largely confined to the object experiencer construction of this verb. Sato concluded that the Japanese participants first relied on morpheme markers, which are bound in Japanese, to judge grammaticality of OE constructions. With the absence of a bound morpheme, the doubtful participants' secondary strategy was to rely on canonical mapping constrained by the thematic

hierarchy placing the experiencer in subject position.

Witoon and Singhapreecha (2012) also reached the same conclusion in the processing of sentences with English psych verbs by Thai learners; The object experiencer constructions pose more difficulty to Thai learners than do subject experiencer constructions. Because this construction is absent in Thai, these learners avoided the construction in English. Further, constraint by thematic hierarchy caused the learners to elevate the experiencer to a higher syntactic position. Their primary strategy of avoidance on the basis of L1 influence caused them to rely on the thematic hierarchy as the secondary strategy.

Collectively these studies conclude that the object experiencer construction of the English psych verb causes more difficulty in sentence processing and agency assignment for learners of a variety of language backgrounds. The difficulty does not seem to be idiosyncratic to any language or language typology. The reliance upon thematic hierarchy and L1 influence co-exist; Both play an important role. Despite the reliance upon both of these strategies, L1 appears to interfere with acquisition of the OE construction while thematic hierarchy appears to facilitate SE constructions.

If we consider that all the languages under study have difficulty with the OE construction in English, we should be able to eliminate L1 transfer as a basis for this difficulty (Ellis & Barkhuizen, 2005, p. 65). In terms of error analysis, this would hold true. But the production of OE constructions versus SE constructions do not pertain to errors since both are grammatically correct (The dog frightens Juan/Juan fears the dog). Moreover, these three studies concluded that L1 transfer is the primary strategy relied upon by the learners. The contribution of L1 as a factor that causes the tendency to produce pre- or post-verbal experiencers must not be excluded.

Among these studies, only White et al. included speakers of Spanish. The four languages chosen, Malagasy, Japanese, French and Spanish, were chosen for their surface properties that diverge from English. While Malagasy and Japanese have case markers that could be relied upon as cues in argument assignment, the study asserted that, “[T]he task of the French or Spanish speaking learner of English SE and OE psych verbs consists mainly of figuring out the meaning of the individual lexical items. Once this is done, the L2 argument structure behaves in a way similar to the L1” (White et al., 1999, p. 180). This implies that the French and Spanish speaking learners need only possess a semantic understanding of the individual lexical items and they will produce a grammatical construction that carries the same contextual meaning. This assertion does not hold true as table 1 above demonstrates, especially when both of the arguments are [+animate]. Lexical comprehension does not necessarily qualify as comprehensible input because meaning and propositional content are not attended to (VanPatten & Cadierno, 1993, p. 46). Rather, lexical comprehension can merely result in incomprehensible input and an erroneous meaning derived (Juan fears the dog  $\neq$  Juan scares the dog). Both are grammatically correct but have divergent meaning and use. A more comprehensive analysis of the role of Spanish and French in White et al. should have been considered. In the literature there has been no serious consideration of the cues that would guide Spanish speaking learners of this feature in its interpretation and production.

Animacy is a salient property that accounts for the tendency of the learner to choose SE constructions over OE because these semantic cues can play a role in assigning agency and subject-hood. If both arguments are [-animate] or [+animate], the semantic cue cannot be relied upon and assignment to theme or experiencer must be determined employing other strategies. As

in our example above, if we were to substitute one of the animate arguments for an inanimate one, the arguments would not be reversible. Juan can be afraid of a tornado but a tornado cannot be afraid of Juan. It is possible for Juan to be afraid of the dog and for the dog to be afraid of Juan. Since both are possible, the learner can rely on semantic interpretation of the input.

The importance of animacy has been unevenly accounted for in the study of the psych verb. White et al. (1997) adjusted mid study to build in the variable of animacy noting that, “animacy was in some way being used as a cue to the argument structure, leading to a high degree of accuracy” (p. 183). Toribio and Nye (2005) concluded that heritage speakers primarily rely upon animacy to assign subject-hood in Spanish psych verb constructions. Levin and Grafmiller (2012) in their corpus study designated animacy as the most important influencer of argument realization (p. 5). Some studies are less reliable in that they do not account for animacy in the design of the study (Sato, 2003, as an example). A significant portion of the participants’ productions could be skewed due to the ability to rely on semantic role assignment.

Strategies and cues that affect interpretation and production of argument construction with psych verbs are not necessarily as clear cut as above. Some studies conclude that L1 transfer is a primary influence and thematic hierarchy secondary (Sato, 2003; White et al., 1999; Witoon & Singhapreecha, 2012) while other studies nuance the reliance upon these two variables and tease apart differential L1 influence. Montrul (1998) showed the latter to be the case. In a study of English and French learners of the Spanish psych verb, both groups had access to the thematic hierarchy but surface structure impeded access to deep structure for the English learners because French is more typologically similar to Spanish. The purpose of understanding this distinction shows that L1 influence does uniformly affect learners of differing L1 backgrounds.

Rather, some L1 transfer can facilitate acquisition of the psych verb while transfer from others can interfere. Also important to note is the level of involvement of the thematic hierarchy. It may play a more prominent role for some L1 backgrounds than for others.

Although not limiting their study to the psych verb, MacWhinney, Bates and Kliegl (1984) studied sentence interpretation in German, Italian and English to determine which cues take priority when in competition. The Competition Model claimed that during sentence processing different cues are utilized by learners to determine subject-hood in probabilistic form-function mappings. They claimed that validity of a cue is idiosyncratic to that learners' native language. In testing reliance on competing cues in different learners, they selected word order, agreement and animacy, constructing the following hierarchy of cue validity (p. 142):

English: word order > agreement and animacy

Italian: agreement > animacy > word order

German: animacy > agreement > word order

The typological properties of each language determine the hierarchy of cues in competition. Italian is a highly inflected language making subject-verb agreement a reliable cue for argument assignment. Conversely, because English is not a highly inflected language agreement is an unreliable cue and word order is the strongest indicator. Considering all the variables that these studies under review have shown us, while trying to determine if and why Spanish speaking learners of English find the psych verb problematic, we must keep in mind the Competition Model and not generalize results from other learners to Spanish learners. On the basis of the Competition Model, there may be a hierarchy of cues idiosyncratic to Spanish learners just as MacWhinney et al. has shown for speakers of English, Italian and German. Of further concern is that the Competition Model does not test for the involvement of thematic hierarchy. Because

Montrul (1998) provided evidence that learners do access deep structure, the interpretation of thematic role as one of the competing cues should be considered in future studies.

Language acquisition is a highly complex process frequently involving more than one strategy or influence at play simultaneously. There are many other considerations besides L1 influence, thematic hierarchy or semantic properties that should be explored as the cause or explanation for the problematic grammatical feature of psych verbs. We will now turn to other studies pertinent to our topic that may help us to consider alternative variables.

Difficulty with acquisition and argument assignment of this structure can depend upon individual learning strategies and task requirements. This was observed in Montrul (1998) that tendency is difficult to pin down because not all learners are constrained by the same strategy (p. 46). On an interpretation task approximately one-third of English speakers identified the agent in object position. On a GJT however, the French speaking learners outperformed the English speaking learners. Not all English speakers relied on the same strategy, there was within group variance. Performance variation between French and English speakers occurred only on the GJT, not on the interpretation task. Lopez-Jimenez (2003) also studied the acquisition of *gustar* type verbs for English speaking learners of Spanish. It was shown that in two of three different instrument measurements given as pretests and posttests to a control group and a treatment group, the treatment group showed more improvement using a communicative instructional approach. However, just as Montrul revealed, Lopez-Jimenez concluded, “There was considerable individual variation not only in the students’ language learning outcomes but also in their own language strategies” (p. 268). Problematic acquisition of a feature can occur intra-group and inter-group as well as within individuals and across tasks. This underscores the

importance of statistically significant results before generalizations to the population can be made.

Related to the variance that can occur within a group is levels of proficiency. Evidence that certain L1 backgrounds find psych verbs problematic could depend upon the proficiency levels within the group. White et al. (1999) concluded high proficient Malagasy speakers had less errors in argument assignment than the intermediate proficiency level Malagasy speakers. The study posited that the results may not hold for lower levels. When a full range of proficiency levels were included in the study of the psych verb (low to high), difficulty with the feature does dissipate with time but very gradually (Sato, 2003), indicating that problematic interpretation of argument roles in psych verbs could persist as language acquisition progresses.

In adult second language acquisition, especially within a communicative approach, one of the very first tasks is to introduce oneself and express likes and dislikes, generally requiring the use of psychological verbs. From a pragmatic perspective this task is fundamental. But from an acquisitional perspective, this feature may be impractical to teach at a beginning level.

Acquisition order is a variable that has not been studied in any of the literature pertaining to the English psych verb. In some cases of explicit instruction, any given feature under study cannot be taught more effectively because the feature is not yet teachable in accordance with the order of acquisition (Pienemann's Teachability Hypothesis as referred to in Lopez-Jimenez, 2003). Such orders are important to understand to explain the difficulty of acquisition and effectiveness of pedagogical approaches. If this feature were unteachable at lower proficiency levels because it were to be deemed out of acquisitional order, reevaluation of including this feature in introductory language classes would be called for.

Some research has highlighted the importance of saliency of feature in the L2 data input coming from native speakers (De Prada Perez & Pascual y Cabo, 2011; Miglio & Flores, 2012; White et al., 1999). It is presumed that if a feature is more salient in usage by native speakers that that saliency will be noticed by the learner causing usage to be overgeneralized. On the basis that, "...[heritage speakers] in some respects are more similar to native speakers, since they have a sense of what is more frequently used in the language..." (p. 1587), Miglio and Flores (2012) concluded that heritage learners rejected grammatical preverbal subjects and grammatical post verbal experiencers in favor of preverbal experiencers due to overgeneralizing the more frequently used construction for the psych verb. De Prada Perez and Pascual y Cabo (2011) concluded that acquisitional difficulty was due to the variation in native speakers' interlanguage influence (p. 117). Contradicting these results, and on the basis that thematic hierarchy was restraining OE constructions, Spanish speaking learners of the English psych verb did not overgeneralize the more frequent and salient OE construction (White et al., 1999, p. 190). In spite of a higher frequency of OE constructions, the participants favored SE constructions. The influence of the frequency of the feature in the L2 data as well as how the learner notices and interprets that frequency has yet to be determined in regards to the psych verb.

Pragmatic constraints may be the key to understanding when we consider "John fears the dog" versus "The dog frightens John". We must look beyond grammaticality and meaning to usage of the feature to see when English distinguishes between a SE versus an OE construction. Within a functional analysis framework of the Spanish psych verb, Vazquez Rozas (2012) performed a corpus analysis in terms of person and number, which is related to describing one's own experience rather than another person's. She concluded that volition, topicality and

involvement of the experiencer constrained choice of form. Melis and Flores (2007) studied diachronic change concluding that Spanish OE psych verbs fulfill the need to offer variety in topicalization for discourse purposes. These studies highlight that more important than choices on a grammatical level, “Speaker perception of roles rather than fixed case assignment” can reflect our pragmatic intentions (Whitley, 1995, p. 578). In a corpus study on frequency of usage for the fear/frighten opposition, Levin and Grafmiller (2012) showed that frequency of usage of the two constructions is balanced; Whether the arguments of the verb are concrete/abstract or the construction is causative, it is dictated by discourse function. Pragmatic needs may constrain English and Spanish choice of psych verb construction and perhaps a functional framework can offer the more effective manner of understanding the oppositions in construction as well as the best pedagogical approach.

It is apparent that there has been substantial research done on the psych verb. However, our interest here lies specifically in the acquisition of the English psych verb, primarily in the process of argument structure dictated by these verbs, by the Spanish speaking learner. Although several studies have been done on the acquisition of the English psych verb (Sato, 2003; White et al., 1999; Witoon & Singhapreecha, 2012), only one included Spanish speaking learners (White et al., 1999). At the same time, little attention was paid to the typological differences between Spanish and English to explain the possible role of L1 influence.

The question must be clarified if Spanish speaking learners’ difficulty with the object experiencer constructions is confirmed. If so, the cause of this difficulty should be explored. Therefore, our purpose here is to do a preliminary exploration on argument structure in English sentences with psych verbs as processed by Spanish speaking learners. The following questions

will be explored:

1. Do Spanish speaking learners of English struggle with the acquisition of the English psychological verb in terms of argument assignment and surface structure?
2. Do any tendencies surface in erroneous production?
3. Is it possible to determine the cause of these tendencies?

### **Participants**

The participants ( $N=13$ ) are adult native Spanish speaking residents of Buenos Aires, all speaking the argentine littoral dialect as their native tongue. Enrolled in business English in a private institute, they all primarily use English as the daily means of communication in their work duties for their American corporate employers. They had been previously assessed by the English language institute and placed into proficiency levels accordingly. Most began studying English as young children in a formal classroom setting, with the exception of two participants that began study as adults. Nine of the participants are experienced language learners having also studied either French, Italian or Portuguese. The mean age to begin the study of English is 8.2 while the mean number of years studying English is 13.7. Table 2 below summarizes the sample.

	Mean age to begin studying English	Mean years studying English	Number of participants studied other language
$N=13$	8.2	13.7	9
Advanced $n=11$	9.2	13.9	9
Intermediate $n=2$	5.5	12.5	0

### **Instrument**

Two separate sections were joined into one instrument that was administered in class for approximately thirty minutes: A grammaticality judgement portion and a free translation portion.

The grammaticality judgement test (GJT) was chosen because it has been deemed to be an appropriate measure of L2 learner's interlanguage system. Mandell (1999) concluded that to

measure the interlanguage competency of the learner, the GJT is a reliable test. A GJT does not demand that the learner produce any construction. It is an accurate reflection of the learner's developing system, making it a more appropriate measurement of form-meaning connection with the psychological verb.

For this reason, pairs of sentences were used in the GJT. The first sentence was given in their native language so that the intended meaning could be properly interpreted. They were asked if the given English translation of the Spanish sentence correctly expressed the same meaning of the Spanish version. In this way, form was being mapped onto meaning through access to the learners' interlanguage. They were then asked to identify any unacceptable grammatical forms and make changes accordingly so that meaning was maintained in both versions.

From eight pairs of sentences, three of the Spanish psych verbs chosen were of direct construction (experiencer maps as preverbal subject) and five were reverse (experiencer maps as post-verbal object). Of the paired English translations, six were direct construction and two were reverse. In the translated English sentences, four intentionally had inverted arguments to change the meanings. In this way, a variety of syntactical constructions which required direct and reverse argument structure was presented. In addition, some presented both arguments as [+animate] and [-animate] to test their ability to map form onto meaning once morpheme markers and animacy cues could not be relied upon. Table 3 below summarized the structure of the GJT.

Question #	Spanish	English	Inverted Arguments?
1	reverse	direct	no
2	direct	direct	no
3	direct	direct	inverted
4	direct	direct	inverted
5	reverse	direct	no
6	reverse	direct	no
7	reverse	reverse	inverted
8	reverse	reverse	inverted

The second portion of the instrument comprised twenty Spanish sentences with reverse construction verbs (OVS strings) where the participants were asked to produce translations of the sentences into English. These sentences were taken from the internet, and thus, extracted from authentic contexts. In this way, the examples could not be perceived as manufactured by a native English speaker (the researcher) and unnatural or ungrammatical in their construction.

Where other studies supplied the verb in the questions (MacWhinney et al., 1984; Sato, 2003; White et al., 1999; Witoon and Singhapreecha, 2012), this portion of the instrument was designed to elicit creatively constructed production on the part of the participants. In other words, the goal in instrument design was to avoid influencing the answer of the participants if provided with the lexical item, giving them as much freedom and flexibility in lexical, pragmatic and syntactic construction as possible while still eliciting a construction with a psych verb and two arguments. For example, the first item, *Este es uno de los temas que más lo preocupa a él*, can be translated with the experiencer as subject or object: This topic is the one that most

concerns him/This is one of the topics he is more worried about. The production to be avoided by the participant is \*He worries this topic, or any similar construction.

The variance in participants' production (how they map thematic roles with grammatical form according to choice of direct or reverse construction English verb) will allow for analyzing their tendencies and strategies. Whether they freely elect or avoid the use of a reverse construction verb, mapping the experiencer onto grammatical object or raising grammatical prominence of [+animate] arguments will all be looked at. Table 4 below summarizes the structure of the prompts in the free translation portion of the instrument.<sup>2</sup>

	[+animate] experiencer	[-animate] experiencer	Total agent
[+animate] agent	4	0	4
[-animate] agent	11	1	12
Total experiencer	15	1	16 OVS string prompts

### Design and Methodology

In order to determine if the production of OE constructions depends upon any of the independent variables discussed above, a rigorous design is required which would include a large enough sample size to detect relationships between the variables and groups (control, proficiency levels, languages, etc.) between which comparisons can be made. Without such a design, inferences cannot be made to generalize to the population. This instrument was designed solely with the intention to explore potential difficulty with this feature in the population. Therefore, results will be analyzed and discussed in terms of percentages and tendencies only.

<sup>2</sup> Four sentences on the free translation portion of the instrument were discarded for being poor samples, each for the following reason: too complex of a sentence structure, inability to translate into an English reverse construction, ambiguity in meaning from lack of context and use of direct construction Spanish verb.

### Results

As previously stated, statistical inferences will not be used in the analysis of this data. The small sample size does not allow us to detect significant relationships between variables. Similarly, the nature of the feature under study at times does not render a correct or incorrect answer given that arguments can be structured in the direct or reverse, both being grammatically acceptable (John fears ghosts/Ghosts frighten John). When the question does not permit a reverse construction, it can still be correct due to the complexity of various possibilities and explanations available to express the same meaning. Nonetheless, neither a raw score or mean score is possible, impeding the use of inferential statistics. The analysis will be limited to percentages rather than significance, and discussed in terms of tendencies.

On the GJT, questions 1, 2, 5 and 6 offered correct English translations of the Spanish renderings. No changes were needed and all 13 participants should have approved them as correct. However, they made some interesting changes.

Seven of the 13 participants amended the Spanish prompt elevating the experiencer marked with the preposition *a* to a preverbal position for question #1:

given: *Le gusta la empleada al empresario* (The businessman likes the employee)  
correction: *Al empresario le gusta la empleada* (The businessman likes the employee)

Even though the contrasting forms are both grammatical in Spanish representing target structures with parallel meanings (Miglio and Flores, 2007, p. 1578), 54% of the participants saw a need for a change to the Spanish construction. All of the participants correctly judged the argument structure given in the English translation as correct. However, as anecdotal interest, it was observed by the researcher that once the participants detected the pattern of the questions, they repeatedly returned to this dual [+animate] argument sentence to recheck their answer.

Question #5 gave a similarly structured Spanish sentence, also with a reverse construction verb:

given: *Su capacitación le fascina* (She is fascinated by her training)

No correction was offered here by the participants; All 13 approved it and its English translation as not needing any changes. Unlike in question #1, the experiencer was not overt but only represented by the morpheme marker, the indirect object pronoun *le*. Also different from question #1 is the preverbal, inanimate agent *su capacitación* (her training), where in #1 the agent *la empleada* (the employee) is in its more frequently occurring post-verbal position. The participants accepted flexibility in Spanish syntactic position for a [-animate] agent but if the [+animate] experiencer is overtly expressed, the participants required its syntactical prominence at the head of the sentence. In spite of their judgements of grammaticality on the Spanish sentence, all subjects easily recognized correct argument assignment in both of these English translations for questions 1 and 5.

For question #6, 10/13 deemed both the Spanish and English versions as correct. Rather than reorder the argument structure, 3/13 participants (23%) changed the reverse construction Spanish verb to a direct construction:

Given: *A los gerentes les importa una cadena de suministro efectiva*. (Managers value an effective supply chain) Corrected: *Los gerentes valoran una cadena de suministro efectiva*. (Managers value an effective supply chain)

Most obviously, this lexical change was made because *valorar* is the Spanish cognate for the given English translation “to value”. The participants were amending for literal correspondence of the pair. However, it must be noted that *importar* (to import/be of value) is a reverse construction verb while *valorar* is direct construction and corresponds syntactically as well as

lexically, to its English cognate “to value”. Nonetheless, of these four prompts offered to the participants for judgement of grammaticality, all correctly accepted the English translation as offered and had no difficulty in identifying the correct argument structure and surface structure.

Questions 3, 4, 7 and 8 on the GJT offered English translations with the arguments inverted from the target grammatical structure. Questions 3 and 4 used direct mapping verbs for both Spanish and English while questions 7 and 8 used reverse mapping verbs for both. The participants needed only to invert the noun phrases of the English translation to correct it. This is what occurred for questions 3 and 4; All 13 participants recognized the inverted noun phrases and made the necessary changes.

However, the corrections they offered for the reverse structure verbs in #7 and #8 was more complex. Number 7 was as follows:

*Le conviene el control de producción al departamento de distribución.* The department of distribution suits the control of production.

No corrections were offered by 3/13 participants. Without recognizing or compensating for the incorrect English translation, 6/13 participants elevated the syntactical position of the indirect object experiencer *al departamento de distribución* to the head of the Spanish sentence. In the English sentence, 3/13 participants corrected the inverted arguments by changing the reverse structure English verb “to suit” to alternative direct structure English verbs: “should have”, “is responsible for” and “prefers”, all converting the experiencer “the department of distribution” into the preverbal agent. In the English translation for #7, 9/13 did not recognize the incorrect argument structure and of the 4/13 (31%) who did, 3/13 dispreferred a post-verbal object experiencer. Only one participant simply inverted the arguments in the English translation to correct it, leaving in tact the reverse construction verb “to suit”. This is significant in that s/he

maintained the same verb, correctly recognized the argument structure this verb dictates and placed the [+animate] experiencer in the predicate rather than the preverbal subject position.

The corrections made by the participants on question #8 were more complex and varied.

*Le duele a la distribución la falta de recursos.* Distribution harms the lack of resources. Making no changes to the sentences, 4/13 deemed them acceptable. The IO experiencer *a la distribución* was elevated to the head of the Spanish sentence by 4/13. Of those, 3/4 did recognize the inverted argument structures and recasts the Spanish into a direct syntactical construction by changing the verb. The agent *la falta de recursos* in the Spanish version was elevated to the front of the sentence by 2/13, changing the verb into direct construction and leaving the incorrect argument structure intact. This means that 10/13 did not adjust for the incorrect argument structure of the [-animate] noun phrases in the English. Of the 6/13 who did change the Spanish sentence, 3/13 (23%) dispreferred the post-verbal object experiencer. Only 3/13 simply inverted the noun phrases in English to correct for the erroneous argument structure, leaving intact the English reverse structure verb with the [-animate] experiencer as object.

In sum, the the GJT shows the following results: 100% of the participants correctly judged the argument structure of the pairs with English direct construction verbs (questions 1-6, as shown in table 2). Where the participants had difficulty with correct argument assignment is when the pair contained a Spanish reverse structure verb mapped onto an English translation using a reverse structure verb. The additional variable of animacy appears in questions 7 and 8 as well. Both arguments, the agent and experiencer, in both of these questions are [-animate], eliminating the participants' ability to rely on animacy in interpretation. Figure 1 below summarizes the results of the GJT portion.

For the free translation portion of the instrument, not all participants provided a translation for every Spanish prompt. Only the given answers will be considered and the lack of

■ Target English Translation Given      ■ Inverted English Argument Structure Given

an answer will not be analyzed or calculated in the results. From the 16 Spanish prompts (all with a reverse construction verb and an OVS string) the 13 participants provided a total of 117 English translations. Of these 117 productions, all correctly assigned argument structure according to the semantic and syntactic requirement of the verb chosen. In other words, there were no English translations where the experiencer and agent were incorrectly mapped onto grammatical structure (\*He worries this topic, as an example).

Placing the thematic experiencer in the grammatical object position, 24 of the 117 productions (21%) utilized a reverse construction English verb. This reveals that 79% of the productions include a direct construction verb, mapping the experiencer onto the grammatical subject. When these productions are considered according to animacy, 40% of the productions map experiencer onto object with a reverse construction English verb when both arguments are [+animate]. This number decreases as the animacy of the arguments decrease. When the experiencer is [+animate] and the agent is [-animate], only 16% of the English translations are constructed with a reverse construction verb and object experiencer. When both agent and experiencer are [-animate], none of the productions used a reverse construction verb. Table 5 summarizes the usage of reverse constructions in the participants' free translation productions.<sup>3</sup>

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<sup>3</sup> Vazquez Rozas (2012) addresses the fact that less than 100% of the corpus samples analyzed are animated experiencers when the expectation would be that an argument that can experience a psychological state must be [+animate]. She gives the example that ideologies (a [-animate] argument) can suffer a radical change (footnote 6).

Animacy of Agent in Spanish Prompt	Animacy of Experiencer in Spanish Prompt	Number OE Productions/ Total English Productions	Percentage OE productions/ Total responses
[-animate]	[-animate]	0/5	0%
[-animate]	[+animate]	13/83	16%
[+animate]	[+animate]	11/29	40%
All Combinations of Argument Animacy		24/117	21%

### Discussion

Based on the findings in the exploratory study, it appears that participants do not misassign arguments in psych verb production. There may be a tendency, however, to avoid object experiencer constructions. Further, the possibility exists that interpretation of arguments in processing of psych verb constructions may be problematic when both arguments are either [+animate] or [-animate]. This confirms findings in previous studies (Sato, 2003; White et al., 1999; Witoon and Singhapreecha, 2012).

Past studies have tried to assign primary constraint in argument assignment to either thematic hierarchy or cues from L1 influence (Montrul, 1998; White et al., 1999). However, these constraints may not be mutually exclusive. Learners of a second language may very well be more influenced by the thematic hierarchy than they are by L1, but in the case of Spanish these properties coincide. The more accepted syntax of the preverbal experiencer in Spanish coincides with the thematic hierarchy of placing the experiencer in prominent position. In the case of Spanish, distinguishing between the constraint by thematic hierarchy and L1 influence may be impossible. Previous studies show that English learners have difficulty with Spanish psych verbs because English users rely on word order (L1 influence dictates SVO strings) to interpret the

sentences (VanPatten & Cadierno, 1993) and English word order does not correspond with thematic hierarchy. There is, however, a correspondence in Spanish. Regardless if the psych verb construction is OVS or SVO, the thematic order will always be Experiencer-Verb-Agent (EVA). Moreover, Spanish speakers tend to view “the experiencer as the semantic, non-agentive subject” (Toribio and Nye, 2005, p. 264). On the basis of knowing that English is a rigid SVO language, Spanish speaking learners of English may tend to put the experiencer in subject position whether they are constrained by thematic hierarchy, word order, or semantics. Their criteria for mapping may not be Spanish grammatical subject → English grammatical subject but rather Spanish semantic/thematic subject → English grammatical subject. All constraints would manifest identical productions with a preverbal experiencer.

An extension of Levin and Grafmiller’s (2012) corpus study done on the verbs “fear” and “frighten” should be conducted to include other psych verbs. Without a description of usage of the oppositions of subject vs. object experiencer constructions from a functional approach, there is no standard to measure against. As studies have shown for Spanish (Vazquez Rozas, 2012), discourse analysis revealed that speakers are guided by pragmatic properties like volition of the experiencer or topicalization. Levin and Grafmiller revealed that abstract or concrete properties constrained grammatical construction. In this study, it may be true that participants were not able to interpret argument structure on one item because contextualization would be required. The English psych verb and interpretation and assignment of its arguments may need to be done within the framework of a pragmatic context.

The design of the instrument has clearly allowed for the participants to use the strategy of avoidance. As Schacter (1974) pointed out in his seminal paper, we must consider production in

the context of obligatory usage. It cannot be presumed that the participants find the reverse construction problematic on the basis that the responses in the FT portion only supplied 21% OE constructions. They could be avoiding the construction for other reasons. The GJT gives us further evidence of avoidance since a number of participants chose to adjust the Spanish construction to match the meaning of its English pair rather than the inverse. We must remedy the instrument so that responses will be obligatory and valid for reliable inferences. Animacy has been proven to be such an important independent variable that precision in controlling for it is called for in future studies. Obtaining a larger sample size and including a control group would be required as well.

### **Conclusion**

This exploratory study has shown that Spanish speaking learners of the English psych verbs do not necessarily misassign arguments in production but do tend to avoid the production of object experiencer constructions and favor the subject experiencer. A rigorously designed study is merited to further investigate the relationship between the independent variables, such as different cues in L1 influence, animacy, thematic processing, etc., and the dependent variable of object experiencer production. Only with further investigation can it be determined if this population misinterprets/misassigns agency of arguments in obligatory contexts. On this subject, much work remains to be done.

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