DIFFERENTIAL OBJECT MARKING IN SPANISH: THE EFFECT OF AFFECTEDNESS*

MARCATGE DIFERENCIAL D'OBJECTE EN ESPANYOL: L'EFECTE DE L'AFECTACIÓ

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Abstract: Affectedness is a key property of patient arguments that has been shown to be an important factor in argument selection and case marking. In addition, it has been proven to be relevant for differential object marking (DOM). However, few studies have investigated the influence of affectedness on DOM in Spanish. Furthermore, previous studies have been based on corpus analyses that focus on the diachrony of DOM. This paper assumes a notion of affectedness developed within the framework of force dynamics, according to which an affected argument is defined as the recipient of the force that is specified by the verbal content. Following this definition, we present an empirical investigation based on experimental data from a forced-choice questionnaire involving 326 speakers of Modern European Spanish. The study shows that affectedness has a significant influence on the acceptability of DOM. Furthermore, a close inspection of the experimental data reveals the observation that DOM is not only favoured by the affectedness of the direct object, but also by its agentivity.

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Key words: affectedness; agentivity; differential object marking; forced-choice task; verbal semantics.

Resum: L'afectació és una propietat clau dels arguments pacients que ha demostrat ser un factor important per a la selecció argumental i el marcatge de cas. A més, també és rellevant per al marcatge diferencial d'objecte (MDO). Tanmateix, hi ha molt pocs estudis que investiguin la influència real de l'afectació en l'MDO en espanyol. A més, aquests estudis anteriors es basen en anàlisis de corpus centrades en la diacronia de l'MDO. Aquest article assumeix la noció d'afectació desenvolupada en el marc de la dinàmica de forces, segons la qual un argument afectat es defineix com el receptor de la força especificada pel contingut verbal. Seguint aquesta definició, presentem una investigació empírica basada en dades experimentals d'un qüestionari d'elecció forçada fet a 326 parlants d'espanyol europeu. L'estudi mostra que l'afectació té una influència significativa en l'acceptabilitat de l'MDO. A més, una inspecció detinguda de les dades experimentals revela l'observació que l'MDO no només es veu potenciat per l'afectació de l'objecte directe, sinó també per l'agentivitat d'aquest.

Paraules clau: afectació; agentivitat; marcatge diferencial d'objecte; semàntica verbal; tasca d'elecció forçada.

1. INTRODUCTION

Differential object marking (DOM) is a cross-linguistically widespread phenomenon that is attested in many languages, including most Romance languages such as Catalan, Romanian, Sardinian, Sicilian, and Spanish (see, among others, Bossong 1998 for a cross-linguistic overview and García García & Caro Reina accepted for Romance languages). It is broadly defined as a split-phenomenon, in which only a subset of direct objects is morphologically case-marked depending on semantic and pragmatic features such as animacy or referentiality (see Bossong 1985; Aissen 2003; Witzlack-Makarevich & Seržant 2018, among others). In Spanish, DOM is generally triggered by both of these nominal factors, as well as by the information structural factor of topicality (see Bossong 1991 and Laca 2006, among others). In addition, DOM seems to depend on verbal factors, and specifically on affectedness, telicity and agentivity, though the impact of these features has been less studied. However, there is a growing body of research that is investigating the influence of these verbal factors and addressing the question of how different nominal and verbal factors interact with each other (see Torrego 1998, 1999; von Heusinger & Kaiser 2011; García García 2014, 2018; Mürmann 2021; Romero Heredero 2021, 2022, among others).

This paper focuses on affectedness, which is a widely used criterion for the definition of patients and direct objecthood (see Fillmore 1968; Tsunoda 1981, 1985; Hopper 1986; Dowty 1991; Tenny 1994; Primus 1999; Malchukov 2005; Næss 2006, 2007, among others). Despite its central importance, affectedness is rarely precisely defined (Beavers 2011; Kizilkaya 2021). In the studies that provide a more detailed definition of affectedness, two types of accounts can basically be distinguished: a spatio-temporal approach relying on the idea of a change of the direct object participant (see Tenny 1987, 1994; Beavers 2011, among others), and a conception based on the notion of a transmission of force (see Jackendoff 1990; Croft 1991, 2003, among others).

In the present paper, we will consider the latter notion of affectedness and define an affected argument as the recipient of the force denoted by the lexical meaning of the verb (Croft 1991; Jackendoff 1990). Departing from this definition, we will investigate the influence of affectedness on DOM in Modern European Spanish. We will provide empirical data from a forced-choice experiment showing that affectedness has a significant effect on the acceptability of DOM.

The paper is structured as follows: Section 2 illustrates the main conditions for DOM in Spanish. It focuses on the notion of affectedness and highlight insights from previous literature thereby providing a clear definition and diagnostic tool for this verbal factor within the framework of force dynamics. Section 3 describes the forced-choice experiment we conducted on affectedness and DOM. Section 4 summarizes and discusses the main findings.

2. DOM AND AFFECTEDNESS

2.1 DISTRIBUTION OF DOM IN SPANISH

According to the large body of literature, DOM in Spanish primarily depends on animacy and referentiality, which Laca (2006: 429) refers to as "local factors"; both of these target the nominal properties of the direct object. In addition, it is influenced by what Laca (2006: 429) labels as "global factors", i.e., different kinds of contextual conditions, including topicality and certain verbal parameters such as affectedness. Let us first focus on the local factors.

As in most Romance languages, DOM in Modern Spanish is signaled by the marker *a*, which goes back to the Latin preposition AD 'to'. Its distribution is generally confined to human or at least (non-human) animate referents (see Torrego 1999, among others): for definite human direct objects, DOM is more or less required as in

(1a), while for indefinite human direct objects there is more variation. In general, DOM is obligatory for indefinite human direct objects that are specific, as in (1b). However, direct objects with DOM do not need to be specific. This is illustrated in (1c), where the subjunctive mood of the verb in the relative clause signals a non-specific meaning of the direct object argument, regardless of whether it appears with or without DOM (see Leonetti 2004: 82-86 for discussion).

(1) a. *Anna ve *Ø/a la niña.*
'Anna sees the girl.'
b. *Anna busca *Ø/a una niña que habla catalán.*
'Anna is looking for a girl that speaks Catalan.'
c. *Anna busca Ø/a una niña que hable catalán.*
'Anna is looking for a girl that speaks Catalan.'

With animate non-human direct objects, DOM is optional, even if the direct object is definite as in (2), while with inanimate (definite) direct objects, DOM is generally ungrammatical as in (3); for systematic exceptions, see Barraza Carbajal (2003) and García García (2014), among others.

(2) *Anna ve Ø/a la vaca.*
'Anna sees the cow.'

(3) *Anna ve Ø/*a la presentación.*
'Anna sees the presentation.'

In line with these observations, DOM in Spanish is usually described by means of the animacy scale (4), the referentiality scale (5), or a combination of both (see Aissen 2003: 436.; Laca 2006: 436, among others).

(4) Animacy scale
human > animate > inanimate

(5) Referentiality scale
personal pronoun (pron.) > proper name (PN) > definite NP (def. NP) > indefinite specific NP (spec. NP) > non-specific NP (non-spec. NP)

Following von Heusinger & Kaiser (2005), the general distribution of DOM in Modern European Spanish can be summarized by the cross-classification of the animacy and the referentiality scales given in Table 1. The symbols signal the conditions under which DOM is obligatory (+), optional (±) and ungrammatical (-).

Referentiality → / Animacy ↓	pron. >	PN >	def. NP >	spec. NP >	non-spec. NP
human	+	+	+	+	±
animate	+	+	±	±	-
inanimate	Ø	±	-	-	-

Table 1. DOM in Modern Spanish (von Heusinger & Kaiser 2005: 40)

A more differentiated and accurate picture can be obtained by considering Laca's (2006: 429) "global factors", which include, among others, topicality and different verbal parameters. Among these global factors, the greatest importance has been attached to topicality, especially with regard to the diachronic development of DOM (see Melis 1995; Laca 2006; von Heusinger & Kaiser 2005). However, for Modern Spanish the relevance of this information-structural factor is less evident, since the original link between topicality and DOM has largely been lost (see Iemmolo 2010). In comparison to the local factors of animacy, referentiality, and topicality, verbal factors have received less attention. Nevertheless, a number of scholars have occasionally pointed out their relevance, including traditional grammarians such as Bello (1847), Spitzer (1928), Fernández Ramírez (1986) and Lenz (1920). Furthermore, the influence of verbal factors has been studied systematically, focusing on agentivity (Weissenrieder 1991; García García, Primus & Himmelmann 2018), telicity (Torrego 1998, 1999; Romero Heredero 2021, 2022) and affectedness (von Heusinger 2008; von Heusinger & Kaiser 2011; Romero Heredero 2022). In addition, some work has been done on related constructional parameters, such as ditransitive constructions (Ortiz Ciscomani 2005, 2011; von Heusinger 2018) which generally block DOM, and *accusativus-cum-infinitivo*-constructions (Roegiest 2003; Enghels 2007), which can instead favour DOM. In general, however, global (verbal) factors are considered additional secondary conditions that only become relevant where DOM is optional or not yet fully grammaticalized, as with human indefinite direct objects. This holds true for affectedness in particular.

2.2 DOM and affectedness in Spanish

The relevance of affectedness for DOM in Spanish has been discussed by a number of scholars including Spitzer (1928), Pottier (1968) and Torrego (1998, 1999), although a clear definition of affectedness has not been provided. Torrego (1999: 1791) notes

that in Modern Spanish, direct objects governed by verbs selecting an affected direct object such as *golpear* 'to beat' require *a*-marking even for human participants that are indefinite and non-specific. This is illustrated in (6).

(6) DOM with affected and non-affected direct objects
a. *Golpearon/asesinaron ??Ø*/a *un turista.*
'They beat/murdered a tourist.'
b. *Vieron/encontraron Ø*/a *un turista.*
'They saw/found a tourist.'

While in combination with *golpear* 'to hit' and *asesinar* 'to murder' DOM is clearly preferred, with the verbs *ver* 'to see' and *encontrar* 'to find' DOM remains optional. According to the literature, some of the verbs that are said to select an affected direct object, such as *castigar* 'to punish', *sobornar* 'to bribe' or *odiar* 'to hate', seem to have lexicalized the object marker for all human direct objects (see Leonetti 2004: 84, among others). However, this assumption has never been verified on a solid empirical basis. Furthermore, it is not clear whether the supposed lexicalization really points to affectedness. Note that most of the considered verbs only accept human objects. Thus, DOM might therefore be due to the lexical restriction of the verb for human direct objects rather than to affectedness (von Heusinger 2008: 9). Among the verbs that do not impose this animacy restriction, we find *odiar* 'to hate'. However, verbs such as *odiar* 'to hate' are usually analyzed as psych-verbs entailing an experiencer-subject and a direct object that does not function as a properly affected patient, but rather as the stimulus of the denoted event (see Dowty 1991, among others, and Section 3.3 below).

A first systematic analysis of the relationship between affectedness and DOM in Spanish is provided by von Heusinger (2008) and von Heusinger & Kaiser (2011). In the latter study, the authors follow the spatio-temporal approach relying on the notion of change (see Tenny 1987, 1994; Beavers 2011, among others). More specifically, they define affectedness as the "persistent change of an event participant" (von Heusinger & Kaiser 2011: 593). Moreover, they take affectedness as a gradual notion that is specified by means of Tsunoda's (1985: 388) transitivity or affectedness scale, where different verb classes are ordered with respect to the degree of the affectedness of the direct object argument (see Table 2).

1		2		3	4	5
Direct effect on patient (=effective action)		Perception		Pursuit	Knowledge	Feeling
1a +result	1b -result	2a +attained	2b -attained			
matar 'to kill', *herir*, 'to hurt'	*golpear* 'to hit', *tirar* 'to shoot'	*ver* 'to see', *oír* 'to hear'	*escuchar* 'to listen', *mirar* 'to look at'	*buscar* 'to search for', *esperar* 'to wait for'	*conocer* 'to know', *entender* 'to understand'	*querer* 'to like', *temer* 'to fear'

Table 2. Affectedness scale of Tsunoda (1985: 388, first 5 classes) with Spanish verbs (von Heusinger & Kaiser 2011: 609)

The class on the top of the scale, i.e., EFFECTIVE ACTION, comprises prototypical transitive verbs such as *to kill* or *to hit*. Verbs from the EFFECTIVE ACTION class are supposed to impose the highest degree of affectedness on the corresponding patient. The lower ranging verb classes imply a respectively lower degree of affectedness. Focusing on the five verb classes given in the affectedness scale in Table 2, von Heusinger & Kaiser (2011) carried out a diachronic corpus analysis focusing on the 14 verbs listed in this table. They found correlations between verb classes and the diachronic development of DOM with both definite and indefinite direct objects. Table 3 shows the results for DOM with human indefinite direct objects.

	15th cent.	17th cent.	19th cent.
1a + 1b EFFECTIVE ACTION: *matar* 'to kill', *herir* 'to hurt', *golpear* 'to hit', *tirar* 'to shoot'	18 % (9/51)	40 % (21/53)	79 % (46/58)
2a +2b PERCEPTION: *oír* 'to hear', *ver* 'to see', *escuchar* 'to listen', *mirar* 'to look at'	17 % (1/6)	71 % (22/31)	93 % (27/29)
3 PURSUIT: *buscar* 'to search for', *esperar* 'to wait for'	11 % (1/9)	23 % (8/35)	41 % (17/41)
4 KNOWLEDGE: *conocer* 'to know', *entender* 'to understand'	n/a (0/0)	31 % (5/16)	67 % (14/21)
5 FEELING: *querer* 'to like', *temer* 'to fear'	n/a (0/0)	52 % (11/21)	75 % (15/20)

Table 3. Frequency of DOM with human indefinite direct objects for five verb classes based on material from the Corpus del Español (von Heusinger & Kaiser 2011: 611)

Von Heusinger & Kaiser's (2011) findings suggest that there is at least a partial correlation between diachronic development of DOM and affectedness. For example, there are clearly higher percentages of DOM in each of the centuries for direct objects governed by verbs of the EFFECTIVE ACTION class (e.g., *matar* 'to kill', *golpear* 'to hit') than for direct objects combining with the PURSUIT class (e.g., *buscar* 'to search for', *esperar* 'to wait for').

However, as noted by von Heusinger & Kaiser (2011), the results of the corpus analysis do not fully align with expectations based on Tsunoda's (1985) affectedness scale. The most striking mismatch is found with verbs of FEELING (e.g., *querer* 'to like', *temer* 'to fear'), which in Tsunoda's (1985) affectedness scale represent the lowest ranking verb class. Contrary to expectation, this class shows a much greater affinity for DOM than the higher ranked PURSUIT class (e.g., *esperar* 'to wait for') or the KNOWLEDGE class (e.g., *conocer* 'to know'), which is basically due to the fact that the two selected verbs, i.e., *querer* 'to like' and *temer* 'to fear', behave quite differently: while *querer* 'to like' exhibits the expected lower preference for object marking, *temer* 'to fear' almost always appears with DOM (von Heusinger & Kaiser 2011: 612-613).

A further mismatch concerns the different distribution of DOM within the PERCEPTION verb class. Interestingly, the verbs of auditory perception, i.e., *escuchar* 'to listen' and *oír* 'to hear' show a notably stronger preference for DOM than the visual perception verbs *mirar* 'to look at' and *ver* 'to see' (see also Enghels 2007). The observed mismatches can be accounted for by considering a further verbal parameter conditioning DOM, namely agentivity (see García García 2018 and Section 3.3 below).

Summing up, the literature provides initial evidence for the claim that DOM in Spanish depends to some extent on the affectedness of the direct object. However, the evidence is based only on a few examples obtained by introspection and a few corpus studies, all of wich were conducted from a diachronic perspective (Torrego 1998, 1999; von Heusinger 2008; von Heusinger & Kaiser 2011). Moreover, the latter studies show some mismatches that call for further investigation of the relationship between affectedness and DOM.

2.3 DEFINITION AND TESTS FOR AFFECTEDNESS

There are basically two different ways of understanding the notion of affectedness, a spatio-temporal approach, based on the idea of change (see Tenny 1987, 1994; Beavers 2011, among others) and a second that relies on the concept of the transmission of force (see Jackendoff 1990; Croft 1991, 2003, among others). In the present paper,

we follow this latter notion of affectedness. Consequently, we define an affected argument as the recipient of the force denoted by the lexical content of the verb (Croft 1991; Jackendoff 1990). This definition has proven to be useful for explaining different phenomena related to affectedness, such as causative and resultative constructions (Rappaport Hovav & Levin 2001: 785-790). In order to determine whether a verb selects an affected direct object, we will apply Jackendoff's (1990: 125) test given in (7).

(7) Test for affectedness (Jackendoff 1990: 125)

$$\left\{\begin{array}{l}\textit{What happened to}\\ \textit{What X did to}\end{array}\right\} \textit{ Y was…}$$

As Beavers (2011: 339) acknowledges, this is actually the only specific test that has been proposed to check the affectedness of verbal arguments. While Jackendoff (1990: 125-130) designed it as a diagnostic for a patient argument, which he also defines as an affected entity, Rappaport Hovav & Levin (2001: 787) suggest that it serves instead to identify a force recipient. In terms of force dynamics, the latter characterization fits neatly with the definition of affectedness we have adopted in the present paper. Applying the above test, we classify as affected any direct object which allows for the paraphrases in (7) without causing semantic anomaly. In contrast, any direct object that does not allow for the corresponding paraphrases will be classified as non-affected. This is illustrated in (8), where the direct object of the verb *destrozar* 'to destroy, to wreck' in (8a) passes the test and can thus be characterized as affected, while the one selected by *conocer* 'to know' in (8b) fails the test, suggesting that it is not affected by the verbal event.

(8) Application of the affectedness test
a. *Luis destrozó un coche.*
'Luis wrecked a car.'
Lo que le ocurrió al coche fue que Luis lo destrozó.
'What happened to the car was that Luis wrecked it.'
Lo que Luis le hizo al coche fue destrozarlo.
'What Luis did to the car was to wreck it.'

b. *Luis vio un coche.*
'Luis saw a car.'
#Lo que le ocurrió al coche fue que Luis lo vio.
'What happened to the car was that Luis saw it.'

#Lo que Luis le hizo al coche fue verlo.
'What Luis did to the car was to see it.'

It should be noted that an unacceptable result of the affectedness test for English can sometimes receive an acceptable interpretation in Spanish as for example in (9). However, unlike in cases such as (8a), where the acceptability of the test depends entirely on the semantics of the tested verb, in examples such as (9), it is necessary to add a supporting presupposition in order to achieve an acceptable interpretation.

(9) Presuppositional accommodation with non-affected objects
a. *La policía encontró un ladrón.*
'The police found a thief.'
Lo que le ocurrió al ladrón fue que la policía lo encontró.
[Presupposition (i): The police punish thieves.]
[Presupposition (ii): If the police see a thief, they will arrest him.]
#'What happened to the thief was that the police found him.'

b. *El profesor vio un alumno en el pasillo.*
'The teacher saw a student in the corridor.'
Lo que le ocurrió al alumno fue que el profesor lo vio en el pasillo.
[Presupposition (i): Students must not be in the corridors during school hours.]
[Presupposition (ii): If a teacher sees students in the corridors, they will be punished.]
#'What happened to the student was that the teacher saw him in the corridor.'

As illustrated, the acceptability of the affectedness test in (9a) does not arise from the semantics of the verb *encontrar* 'to find', but rather from an accommodation process that seems to be derived from the presupposition that thieves, who usually hide from the police, are arrested when they are found. In (9b), a similar presuppositional accommodation is necessary to obtain an acceptable result. These observations strongly suggest that although the sentences resulting from the affectedness test may seem acceptable, it is important to distinguish whether this acceptability is caused by the semantics of the verb, as in (8a), or by an extra presupposition that we generate to accommodate the utterance, as in (9). In the former case, we will consider that the direct object is affected by the semantics of the verb, while in the latter we will classify the object as non-affected.

3. FORCED-CHOICE TASK

3.1 HYPOTHESIS AND STUDY DESIGN

Having specified the definition and the diagnostic for affectedness adopted in this study, let us now proceed with our empirical investigation. Based on the data and observations provided by the previous studies presented in Section 2, we have departed from the hypothesis given in (10).

(10) Hypothesis
Direct objects affected by the action of the verb show DOM more frequently than non-affected objects.

In order to test this hypothesis, we opted for a forced-choice questionnaire, which belongs to the set of tests based on so-called grammaticality judgments. This type of test involves the indirect expression of the speakers' perception of acceptability, and makes it possible to gather information on phenomena that do not occur frequently enough in language use. When choosing a response in this type of task, speakers consider their choice to be more acceptable to some extent than the non-choice. Note that this forced-choice questionnaire does not provide information on the size of the difference between conditions, i.e., the questionnaire allows us to see that in a given context, a given participant prefers the option with DOM in contrast to the option with no DOM. However, we cannot know whether this preference is clear, or whether it is in fact a slight preference. Nevertheless, forced-choice questionnaires are designed to detect qualitative differences between different conditions and have the greatest explanatory power, statistically speaking, within tests based on acceptability judgments especially when small effects are at play (Schütze & Sprouse 2013: 32). Since we also expected rather small effects with respect to our hypothesis on the influence of affectedness on DOM, this was the main reason to opt for a forced-choice experiment.

The questionnaire used for this study is part of a larger research project which also considers telicity as a factor that can potentially affect DOM. It is therefore based on a 2x2 design in which both factors, affectedness and telicity, were crossed. However, in this paper, we only present the analysis related to affectedness essentially because it is the only factor that has a significant impact on DOM (for experimental results regarding telicity and DOM, see Romero Heredero 2022). Thus, the present study has affectedness as the only independent variable, i.e., affected vs. non-affected directs objects, and the presence vs. absence of DOM as the dependent variable. We

only considered human indefinite direct objects, since other configurations such as human definite or inanimate direct objects might not show any effect of affectedness, as they either require or block DOM systematically (see Table 1). In order to test for this factor, we chose 32 verbs to create 32 critical test items: 16 of these verbs select an affected direct object, and the other 16 select a non-affected direct object. To decide whether the chosen verbs entail an affected or non-affected object, we carefully applied Jackendoff's (1990) tests as illustrated in Section 2.3. We only consider those direct objects as affected arguments that pass the affectedness test without any additional presuppositional accommodation that might enable an acceptable interpretation (see examples (8) vs. (9) above). Table 4 lists all 32 verbs used in the forced-choice experiment. Each of this verb was used to create one of the 32 critical test items.

+ affected		- affected	
abatir 'to knock down'	*eliminar* 'to eliminate'	*amar* 'to love'	*investigar* 'to investigate'
apalear 'to beat (up)'	*remolcar* 'to tow'	*admirar* 'to admire'	*localizar* 'to locate'
arrastrar 'to drag'	*maltratar* 'to mistreat'	*conocer* 'to meet'	*mencionar* 'to mention'
arrollar 'to run over'	*neutralizar* 'to neutralize'	*descartar* 'to discard'	*oír* 'to hear'
asediar 'to besiege'	*transportar* 'to transport'	*descubrir* 'to spot'	*percibir* 'to perceive'
derribar 'to knock down'	*quemar* 'to burn'	*detectar* 'to detect'	*tener* 'to have'
destrozar 'to destroy'	*vencer* 'to defeat'	*encontrar* 'to find'	*ver* 'to see'
guiar 'to guide'	*zarandear* 'to shake'	*identificar* 'to identify'	*vigilar* 'to watch'

Table 4. Verbs used in the forced-choice questionnaire according to affectedness

The questionnaire consists of three parts: (*a*) a brief introduction, which explains how the test works and restricts access to persons of legal age, who are native speakers of any of the varieties of Spanish spoken in Spain; (*b*) some general questions asking about sociolinguistic parameters of the participants; and (*c*) the battery of test sentences, which constitute the task itself. The task of the participants consisted in choosing the option in each sentence that they considered "sound better", i.e., between an option with DOM and an option without DOM; the aim was to choose the one that sounded most natural to them, or the one they thought they would use. The battery of test sentences is made up of 48 items: 32 critical sentences, 11 control sentences and 5 filler sentences (see the Appendix for the complete list of critical test items). These 48 test items were randomly ordered each time a participant accessed the questionnaire in order to avoid any possible effect arising from the order of the questions.

All three types of test items (critical, control and filler sentences) follow the same pattern, which consists of two parts: an incomplete sentence lacking a direct

object and two possible answer options, of which both represented a human indefinite nominal phrase, with and without *a*-marking, as in (11).

(11) Example of a critical test item
Irene oyó ____ durante horas.
'Irene heard ____ for hours.'
a. *un niño* 'a boy'
b. a *un niño* 'DOM a boy'

As illustrated in (11), the test sentences always contain the following structure: (*a*) an overt subject realized as a personal name; (*b*) one of the verbs that appear in Table 4; (*c*) a blank space for the direct object; and (*d*) an adjunct. The order in which the two response options were presented in each question, i.e., the lexicalizations of the direct object with and without DOM, was also randomized to avoid having any effect on participants' choice. The verb of the test items always appeared in *pretérito perfecto simple* (simple past) and the third person singular. As for the adjunct, the test sentences show greater variation. Whereas the critical test items always contain a prepositional phrase, either denoting a durative adverbial, as in (11), or a time span adverbial (e.g., *in three hours*), the adjuncts of the control and filler items are not subject to any type of restriction. Similarly, the direct objects of the control and filler items also exhibit great variation, including inanimate and human definite nominal phrases. This is illustrated by the examples of the control and filler sentences given in (12) and (13). In (12) the only possible choice is the one marked with DOM because the verb *denunciar* 'to denounce', meaning 'to tell the police about somebody's illegal activities', always needs the direct object to be human and to be introduced by the marker. On the other hand, in (13) both options would be possible, which is why it functions as a filler.

(12) Example of a control item
Sara denunció ____ por hacer demasiado ruido.
'Sara reported ____ for making too much noise.'
a. *a su vecina* 'DOM her neighbor'
b. *su vecina* 'her neighbor'

(13) Example of a filler item
Héctor observó ____ merodeando por el barrio.
'Hector observed ____ hanging around the neighborhood.'
a. *varios policías* 'several police officers'
b. a *varios policías* 'DOM several police officers'

The questionnaire was conducted online with the survey software *Qualtrics* and distributed via a participation link through professional and personal networks.

3.2 results

326 of the 333 participants that accessed the questionnaire completed the study. Since they all achieved at least 90 % correct answers with respect to the control sentences, i.e., they did not have make than one mistake, we decided to consider them all for the analysis. The results presented below are therefore a sample of 326 native speakers of European Spanish, of legal age, who participated in the task on a voluntary basis. The statistical analysis was conducted in R (Team 2019), using the lme4 package (Bates et al. 2015) to perform a mixed-effects logistic regression model (glmer) of the relationship between DOM and affectedness, using the latter factor as a fixed effect and varying intercepts for the participants and the items as random effects.[1]

Figure 1 shows the results of the questionnaire. As can be seen, in both conditions there is a relatively high frequency of DOM, albeit with remarkable differences. Participants chose DOM in 75 % (3,925/5,216) of the sentences with non-affected objects, and in 88 % (4,579/5,216) of the cases with affected objects. The difference between the two categories amounts to 13 percentage points. Crucially, the statistical analysis reveals that this difference is significant (β: 1.288; $p < 0.001$). It can therefore be stated that affectedness had a significant effect on the choice of DOM.

1. An intercept (in a coordinate system) is the distance from the origin to the point at which a curve or a line intersects the axis. In this case, the function of setting the intercept as a random effect for the participants is to rule out effects that might arise from the way each participant evaluates the different questions (see Winter 2019).

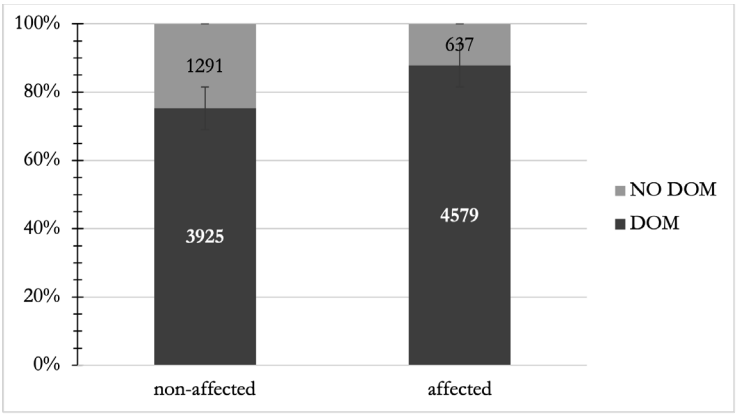

Figure 1. Frequency of forced-choice responses with DOM and no-DOM according to affectedness

A statistical analysis of the results considering sociolinguistic factors (age, gender, level of education, place of origin and mother tongue(s)) included in the questionnaire was also carried out in the opening questions. However, none showed a significant effect.

3.3 DISCUSSION

First of all, the results show that DOM was generally the preferred option, regardless of affectedness. In both the affected and the non-affected condition, participants overwhelmingly chose the option with DOM exhibiting a proportion of 75% (3,925/5,216) and 88% (4,579/5,216), respectively. This result was expected since the test items contained human direct objects, which have a clear preference for DOM in Modern Spanish. For example, the corpus search from García García (2014: 71) based on the *Base de datos de Verbos, Alternancia de Diátesis y Esquemas Sintáctico-Semánticos del Español* (<http://adesse.u-vigo.es>) shows that human direct objects appear with DOM in 72.5% (3,856/5,317) of the cases. This frequency varies according to definiteness. In this respect, Romero Heredero's (2022, ch. 5.4.1) corpus analysis based on the *Corpus del diccionario histórico de la lengua española* (*CDH*) (<https://apps.rae.es/CNDHE/>) reveals that the frequency of DOM with human definite direct objects reaches 93% (1,120/1,200), with human indefinite direct objects it is 70% (299/400).

In addition to the overall high frequency of DOM, the results of the presented forced-choice questionnaire clearly demonstrate that affectedness is a relevant factor for DOM in Spanish. They prove that the difference between affected and non-affected

direct objects has a significant effect on DOM, and thus allow us to conclude that the hypothesis formulated in (10), repeated for convenience in (14), can be confirmed.

(14) Hypothesis
Direct objects affected by the action of the verb show DOM more frequently than non-affected objects.

However, a closer inspection of the data requires further discussion. Interestingly, not all of the chosen verbs behaved in the same manner. While the verbs selecting for affected objects such as *derribar* 'to knock down' or *neutralizar* 'to neutralize' behaved in a consistent way, the verbs in the non-affected class showed greater variation with respect to DOM. This is due to the deviant behavior of some of the predicates, and specially that of the possession verb *tener* 'to have', and also to some extent of the psych-verbs *amar* 'to love' and *admirar* 'to admire' as well as to the perception verb *oír* 'to hear'.

Let us first examine *tener* 'to have', which was used for one of the 32 critical test sentences of our questionnaire:

(15) Critical test item with the verb *tener* 'to have'
Pablo tuvo [*un ayudante / a un ayudante*] *durante varios años.*
'Pablo had [an assistant / DOM an assistant] for several years.'

With regard to this test sentence, participants opted for DOM in only 11 % (35/326) of the cases. As we will argue below, this finding corroborates what has been claimed in the literature and is thus expected. In any case, the result for *tener* 'to have' deviates strongly from that for the other verbs of the non-affected class, for which participants chose the variant with DOM in 79 % (3,890/4,890). We therefore decided to exclude this verb and run the analysis again.

After eliminating the verb *tener* 'to have', the data show that participants opted for DOM in 79 % (3,890/4,890) of the test sentences with non-affected objects, and in 88 % (4,579/5,216) of the cases with affected objects. This variance amounts to 9 percentage points, which is somewhat smaller than the difference observed in Figure 1. However, the statistical analysis reveals that this difference is still significant (β: 0.717; $p < 0.001$). We can conclude that the formulated hypothesis (14) is confirmed, even if we exclude the verb *tener* 'to have'.

As mentioned above, the deviating result for *tener* 'to have' can be expected. Some authors have pointed out that this verb blocks DOM, unless it is used with a secondary predication, which is associated with a change in meaning that affects the

relationship between subject and object (Fábregas 2013: 24; Laca 1987: 298; Torrego 1999: 1793). In addition, some scholars have postulated a definiteness restriction for the direct object of *tener* 'to have', similar to that assumed for the postverbal position of existential constructions (Gutiérrez-Rexach 2000; Partee 1999). Therefore, the problem of the test item with *tener* 'to have' in our questionnaire (15) might be due to the fact that it appears without any secondary predication. Note that this type of construction was excluded because a premise of the methodology was to maintain the same structure in all critical test items. A systematic consideration of secondary predication would undoubtedly have increased the proportion of DOM, since several studies have pointed out that this construction generally favours the case marking of the direct object (Laca 1987; López 2012; Ormazábal & Romero 2007; Torrego 1999). However, we believe that by implementing secondary predication, the results would have been "contaminated" by a factor that was not part of this study which relates more to the direct object's agentivity than to its affectedness (see García García 2014: 106f.).

The agentivity of the direct object might also help to understand the particular results for the other above-mentioned verbs, i.e., the psych-verbs *amar* 'to love' and *admirar* 'to admire', and the perception verb *oír* 'to hear', which all exhibit a remarkably high frequency of DOM in the questionnaire.

The verbs *amar* 'to love' and *admirar* 'to admire' occurred with DOM in 97 % (315/326) and 88 % (286/326), respectively. According to Laca (2006), these results are not particularly surprising. She argues that both stative verbs involving spatial, temporal or degree relationships between subject and object, and those expressing affective attitudes, as is the case of *amar* 'to love' and *admirar* 'to admire', have required DOM from the 12th century onwards (Laca 2006: 451). Although this seems too much of a generalization, it is true that these verbs show a clear diachronic preference for DOM (see Romero Heredero 2022, ch. 5.4). However, the question as to how this preference can be accounted for remains. We can only outline a possible explanation here.

Note that both *amar* 'to love' and *admirar* 'to admire' are psych-verbs, i.e., two-placed predicates entailing an emotionally involved experiencer and a stimulus argument; this does not hold for any other of the predicates considered in the non-affected class (see Table 4). Psych-verbs are known to differ in many respects from core transitive verbs such as *to kill*, especially with respect to linking (see Belletti & Rizzi 1988; Kailuweit 2005; Kutscher 2009; Marqueta Gracia 2015, among others). With these verbs, linking shows great (cross-linguistic) variation allowing for subject experiencer verbs, such as *amar* 'to love' and *admirar* 'to admire', and different kind of object experiencer verbs, including predicates with experiencers coded as direct objects, as in *molestar* 'to bother', or indirect objects, as in *gustar* 'to like'. One of the main reasons

for the great variety of linking patterns found with psych-verbs has been attributed to the fact that the co-arguments of these predicates involve a reduced number of agent features, namely sentience on part of the experiencer and causation on the part of the stimulus. As Dowty (1991: 579) puts it, this "leaves a situation in which each argument has a weak but apparently equal claim to subjecthood". The characteristic role-semantic configuration of psych-verbs may not only lead to marked syntactic verb valencies, but also favor DOM (see Cassarà & Mürmann 2021 who develop this idea with regard to DOM with psych-verbs in colloquial spoken Italian).

A similar line of reasoning can be pursued with respect to the perception verb *oír* 'to hear'. In our questionnaire, this verb showed a relatively high proportion of DOM reaching 87 %, (284/326), which brings it closer to the predicates of the affected class rather than to that of the non-affected class. Interestingly, the perception verb *ver* 'to see' exhibited a lower frequency of 76 % (247/326) of DOM, which corresponds closely to that of the other predicates from the non-affected class (see Figure 2). Our results confirm the particular differences among these perception verbs that have been attested in other empirical studies (see Enghels 2007, 2013; von Heusinger & Kaiser 2011; Romero Heredero 2022, ch. 5.4). As far as argument structure is concerned, perception verbs such as *oír* 'to hear' resemble psych-predicates such as *amar* 'to love', though without involving an emotional component: they entail a subject experiencer and a direct object denoting the perceived referent or situation that might, broadly speaking, be conceived of as the stimulus of the event. However, as has been shown by Enghels (2007, 2013), there is an important role-semantic difference within the class of perception verbs that relates to the modality of the perception. Whereas auditive perception verbs such as *oír* 'to hear' presuppose an agentive stimulus involving some sound or noise production, visual perception verbs such as *ver* 'to see' only presuppose the existence of a stimulus that not does, however, need to be agentive. This is illustrated in (16) where the combination with the direct object *la casa* 'the house', i.e., a stimulus that cannot be straightforwardly interpreted as an agentive participant, is felicitous with the perception verb *ver* 'to see', but odd with *oír* 'to hear'.

(16) Visual vs. auditive perception verbs
  a. *Veo la casa.*
    'I see the house.'
  b. *#Oigo la casa.*
    #'I hear the house.'

According to Enghels (2013: 45), the direct object of an auditive perception verb such as *oír* 'to hear' is more likely to be realized with DOM than that of a visual percepti-

on verb such as *ver* 'to see', since it involves an agentive meaning component and thus departs to a greater extent from the prototypical characteristics of a patient argument.

Summing up, the forced-choice experiment provided solid empirical evidence for the hypothesis that affectedness has a significant effect on DOM in European Spanish. A closer inspection of the data revealed that while the verbs of the affected class pattern quite consistently with respect to DOM, those from the non-affected class exhibited greater variance. As has been shown, this is due to the particular behavior of verbs such as *tener* and *oír* within the non-affected class. More importantly, it has been observed that the deviating results for DOM found with these verbs is determined by other factors such as (the absence of) secondary predication and marked semantic role configurations. Crucially, these factors do not point to the affectedness, but rather the agentivity, of the direct object argument.

4. CONCLUSIONS

Following the idea that DOM in Spanish is not only determined by nominal and information-structural factors such as animacy, referentiality and topicality, but also by verbal factors, we have offered a detailed investigation of the role of affectedness. While previous research has highlighted the relevance of this factor for DOM in Spanish, there are few studies that offer empirical support for this claim (von Heusinger 2008; von Heusinger & Kaiser 2011). Moreover, the previous studies were based on corpus analyses that focused on the influence of affectedness in the diachrony of DOM. The present paper is the first to provide an empirical investigation based on experimental data. Drawing on data from a forced-choice questionnaire based on 10,106 data points from 326 participants, we showed that affectedness has a significant influence on DOM in Modern Spanish.

Note that our findings stem exclusively from the forced-choice questionnaire. Consequently, the present study only provides evidence for affectedness with respect to the acceptability of DOM. Affectedness has also recently been proven to have a significant effect on DOM in corpus data (see Romero Heredero 2022, ch. 5.4.4). Taken together, these results demostrate that affectedness is an important factor in both the acceptability and the actual use of DOM in Modern Spanish.

Though the effect of affectedness seems to be straightforward, it remains unclear how affectedness interacts with other verbal features, and especially with agentivity (García García 2022). The relevance of the latter factor for DOM has been shown in different studies regarding both synchronic and diachronic data (see García García 2014, 2018; von Heusinger & Kaiser 2011, among others). It has also been partly confirmed

in the present paper by revealing that some of the predicates of the non-affected class, such as the psych-verb *amar* 'to love' and the perception verb *oír* 'to hear', showed a remarkably high frequency of DOM, which strongly resembles that of the predicates belonging to the affected class. This suggests that both the affectedness of the direct object and its agentivity have to be considered.

At first glance, it seems contradictory to assume that both the affectedness and the agentivity of the direct object argument favour DOM. Though the present work does not allow for a detailed discussion of this point, in our opinion, there are at least three ways to look at it. First, both notions might be subsumed under the more general concept of prominence, arguing that both agentivity and affectedness may contribute to the prominence of a verbal argument, though in different complementary ways (see Romero Heredero 2022; Kizilkaya 2021). Second, this might be rejected by adhering to the view that agentivity and affectedness are contrasting notions that cannot be subsumed under a more general concept, whether it is prominence or something else. As a consequence, DOM in Spanish should be interpreted as a multifactorial phenomenon influenced by different factors, including some that conflict or compete with each other such as affectedness and agentivity. Third, it might be argued that agentivity and affectedness partly overlap, especially when dealing with human referents, and that some verbs require a more fine-grained analysis. In this vein, some of the verbs we put in the affected class, such as *vencer* 'to defeat', as well as some from the non-affected class, such as *oír* 'to hear', might be analyzed as verbs that presuppose an agentive direct object (see Mürmann 2021). Obviously, this would challenge the straightforward definition of affectedness adopted in this paper, and suggest that DOM is determined by agentivity rather than by affectedness. We will leave further exploration of these three ideas on the interaction of agentivity and affectedness for future research.

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APPENDIX: TEST ITEMS OF THE FORCED-CHOICE QUESTIONNAIRE

This appendix lists all the critical test items that appeared in the questionnaire without control and filler sentences. The items are arranged according to the chosen verbs selecting affected and non-affected direct objects. In the experiment, the order of the test items, including that of the control and filler sentences, was randomly established by the platform (*Qualtrics*) each time a participant accessed the questionnaire. Similarly, the order of the forced-choice options, i.e., the direct objects with and without DOM, was randomized for each participant. Finally, it is important to note that the sentences were not presented as a list, as in this appendix, but consecutively. The participants had access to one question at a time, and they only accessed the next question when they answered the previous one.

CRITICAL ITEMS WITH AFFECTED DIRECT OBJECTS

(1) *Felipe eliminó (a un rehén / un rehén) en pocos segundos.*
'Felipe eliminated a hostage in a few seconds.'

(2) *Amaya neutralizó (a un enemigo / un enemigo) en cinco minutos.*
'Amaya neutralized an enemy in five minutes.'

(3) *Joaquín abatió (a un contrincante / un contrincante) en unos minutos.*
'Joaquín knocked down an opponent within minutes.'

(4) *Martina arrolló (a un peatón / un peatón) en cuestión de segundos.*
'Martina ran over a pedestrian in a matter of seconds.'

(5) *Carlos derribó (a un futbolista / un futbolista) en dos segundos.*
'Carlos knocked down a football player in two seconds.'

(6) *Lucía destrozó (a un oponente / un oponente) en dos asaltos*.
'Lucia destroyed an opponent in two rounds.'

(7) *Mateo quemó (a una bruja / una bruja) en poco más de media hora*.
'Matthew burnt a witch in little more than half an hour.'

(8) *Valentina venció (a un adversario / un adversario) en menos de una hora*.
'Valentina defeated an opponent in less than an hour.'

(9) *Luis zarandeó (a un hombre / un hombre) durante algunos minutos*.
'Luis shook a man for a few minutes.'

(10) *María transportó (a un mochilero / un mochilero) durante todo el día*.
'María transported a backpacker for the whole day.'

(11) *Lucas arrastró (a un soldado / un soldado) durante un buen rato*.
'Lucas dragged a soldier for quite a while.'

(12) *Claudia maltrató (a una compañera / una compañera) durante varios años*.
'Claudia mistreated a classmate for several years.'

(13) *Hugo apaleó (a un rebelde / un rebelde) durante varios minutos*.
'Hugo beat up a rebel for several minutes.'

(14) *Carla asedió (a una contrincante / una contrincante) durante bastante tiempo*.
'Carla besieged an opponent for quite some time.'

(15) *Daniel remolcó (a un enfermo / un enfermo) durante algunos minutos*.
'Daniel towed a sick person for several minutes.'

(16) *Coral guio (a un turista / un turista) durante toda la mañana*.
'Coral guided a tourist for the whole morning.'

CRITICAL ITEMS WITH NON-AFFECTED DIRECT OBJECTS

(17) *Carlos vigiló (a un bebé / un bebé) durante unos minutos*.
'Carlos watched a baby for a few minutes.'

(18) *Irene oyó (a una niña / una niña) durante horas*.
'Irene heard a girl for hours.'

(19) *Pablo tuvo (a un ayudante / un ayudante) durante varios años*.
'Pablo had a helper for several years.

(20) *Isabel vio (a un estudiante / un estudiante) durante toda la mañana*.

'Isabel saw a student for the whole morning.'

(21) *Unai amó (a una joven / una joven) durante varios años*.
'Unai loved a young woman for several years.'

(22) *Valeria admiró (a un cantante / un cantante) durante toda su vida*.
'Valeria admired a singer all her life.'

(23) *Adrián percibió (a una mujer / una mujer) durante algunos minutos*.
'Adrián perceived a woman for a few minutes.'

(24) *Emma investigó (a un político / un político) durante varias semanas*.
'Emma investigated a politician for several weeks.'

(25) *Ismael encontró (a un conocido / un conocido) en cuestión de segundos*.
'Ismael identified an acquaintance in a matter of seconds.'

(26) *Sofía conoció (a un chico / un chico) en un par de días*.
'Sofia met a boy in a couple of days.'

(27) *Martín detectó (a un intruso / un intruso) en un par de minutos*.
'Martín detected an intruder in a couple of minutes.'

(28) *Elena localizó (a una amiga / una amiga) al cabo de dos horas*.
'Elena located a friend within two hours.'

(29) *Alejandro identificó (a un agresor / un agresor) en menos de dos minutos*.
'Alejandro identified an aggressor in less than two minutes.'

(30) *Marta descartó (a un aspirante / un aspirante) en un minuto*.
'Marta discarded an applicant in one minute.'

(31) *Samuel descubrió (a un infiltrado / un infiltrado) en un par de días*.
'Samuel spotted an infiltrator in a couple of days.'

(32) *Alba mencionó (a un actor / un actor) tras varios minutos de reflexión*.
'Alba mentioned an actor after several minutes of reflection.'