

Chapter 17

Transitivity Requirement revisited: Evidence from first language acquisition

Teodora Radeva-Bork

University of Potsdam

The paper investigates null objects in early child grammar in light of the Transitivity Requirement approach (Cummins & Roberge 2005), which states that transitivity is not dependent on the lexical features of the verb but is a universal grammatical property. I review naturalistic and experimental child data from sixteen typologically different languages (including five Slavic representatives) and show that the predictions of the Transitivity Requirement approach are not borne out. Instead, the results suggest that early object omissions reflect the presence of (optional) object drop in the target grammar. Children seem to omit objects only if the target grammar allows for this option, as it is the case, for example, in Russian, Ukrainian and Polish.

Keywords: null objects, child grammar, Transitivity Requirement, Slavic, crosslinguistic data

1 Introduction and preliminaries

While the study of null subjects in Slavic has received much attention (Franks 1995, Lindseth 1998, Fehrmann & Junghanns 2008, Müller 2006, among others), null / missing / implicit direct objects still constitute an under-researched area and the distribution of object drop is still not uniformly capturable. Object drop has not been used extensively as a way to classify languages in a typology. In other words, whereas it is common to talk about pro-drop or null subject languages, references to “object drop languages” or “null object languages” are much less frequent in the literature. One important reason for this classificatory asymmetry is that object drop appears to be much more variable than subject drop. Most attempts to identify a common denominator for null objects have failed in



cross-linguistic terms. Possible restrictions on object drop have been discussed previously, such as, for instance, overt morphological verb-object agreement, which holds for Swahili or Georgian but not for Russian or Chinese; topic drop, holding for German but not for other null-object languages; as well as other conditions like specific structural contexts favouring the appearance of null objects (e.g. sequence of verbs or imperatives). Generally, it is assumed that null objects are a licit option in the grammars of Russian, Polish, to some extent German, European and Brazilian Portuguese, and Chinese, among other languages. Languages such as Bulgarian, Serbo-Croatian or Spanish, on the other hand, disallow null objects.

In this paper, I examine the omission of referential, definite objects as in (1), a type that happens to be ungrammatical in English (1a), but grammatical in other languages, such as Russian (1b). What I leave aside are non-referential null objects, illustrated by (2). For a discussion of the licensing of object drop of indefinite DPs in European Spanish, Modern Greek, and Bulgarian see Campos (1986), Giannakidou & Merchant (1997), and Dimitriadis (1994). See also Dvořák (2017) for a recent in-depth discussion of indefinite and generic null objects in Czech. For the sake of terminological clarity, I use NULL OBJECTS to refer to the phonological non-realisation of direct objects in transitive contexts, as in (1). (Other common terms include “object omission” or “object drop”.)

(1) **Referential/Definite null object**

a. A: What did you do with the newspaper?

B: *I read Ø.

b. A: Čto ty delaeš s étim rasteniem? (Russian)
what you.NOM do.1SG with this plant.INS
‘What are you doing with this plant?’

B: Polivaju Ø. / Ja polivaju ego.
water.1SG I water.1SG it
‘I’m watering it.’

(2) **Non-referential/Indefinite null object**

A: What are you going to do while you wait?

B: I’ll buy a newspaper and I’ll read Ø.

Object realization or omission have both a syntactic component (what kinds of mechanisms govern the licensing and recoverability of null objects) and a lexical component (what types of verbs allow optional realization of their direct object

argument). In this paper, I concentrate on a syntactic approach to transitivity, based on the so-called TRANSITIVITY REQUIREMENT (TR) proposed by Cummins & Roberge (2005). In parallel to the EXTENDED PROJECTION PRINCIPLE (EPP) for subjects, it suggests that the direct-object position is given by Universal Grammar and is not dependent on the lexical features of the verb. The syntactic analysis of null objects is particularly appealing as it provides very concrete and testable predictions about transitivity development in first language acquisition. Under the TR, null objects are predicted to be a part of the default initial setting for acquisition purposes. This view is advocated in Pérez-Leroux et al. (2008), who suggest that children start out with a null cognate object default, and that the initial referential properties of this null cognate object are broader than in the target grammar.¹ Experience serves to block, or narrow down, the referential semantics of the null default. It follows from this that we should be able to find evidence of object omissions in the early stages of language development in typologically different languages, irrespective of the availability of null objects in the target grammar.

The main agenda of this paper is to evaluate the empirical validity of the TR by examining acquisition data from sixteen typologically different languages, including five Slavic representatives; see Table 1 and Table 2. I review the results from studies carried out on these languages with the aim to examine the object (non)omission in the early stages of grammar, especially in light of the TR. Such a secondary approach to primary data is justified since as more research on a given topic within a particular language family emerges, it is valuable to have research that consolidates the studies and elucidates similarities and differences across language families. The Slavic perspective is particularly interesting since Slavic languages vary with respect to the availability of object drop although they share a number of common morphosyntactic features. Additionally, language acquisition in Slavic is still under-researched compared to other languages, and this paper aims to contribute to the cross-linguistic investigation of the early development of objects by presenting and reviewing child data from Slavic.

The paper is organised as follows. §2 sketches some theoretical approaches to object omission, focusing on the discussion of the syntactic transitivity approach

¹Since different languages have different conditions as to where objects are allowed to remain unpronounced, Pérez-Leroux et al.'s (2008) approach is to seek for a common denominator in null object constructions. On the basis of French and English data, they identify a null bare N object to be the common denominator in English and French. The authors suggest that by postulating this common denominator as the minimal default, they can make inferences about what development is required to attain the proper distribution and features of null objects in a given target.

by Cummins & Roberge (2005) and outlining the predictions of this analysis for the acquisition of objects, with respect to the object omissions children are predicted to show. In §3, I discuss experimental and naturalistic child data from Russian, Serbo-Croatian, Bulgarian, Polish, Ukrainian, French, English, Spanish, Catalan, Italian, European Portuguese, Brazilian Portuguese, Romanian, Standard Modern Greek, Cypriot Greek, and Chinese. The participants in the studies are typically-developing monolingual children with the core age 2–4 years, as well as 4–6 years for some languages (for the detailed data description and methodology, see §3.1). The survey of the data shows that the predictions made by the TR are not borne out, and null objects are not a default setting in the early stages of grammar. Based on the empirical findings, I suggest that there is a strong link between children's object omissions and the grammaticality of null objects in the target grammar. This view is compatible with the proposal made in Varlokosta et al. (2016), suggesting that children generally opt for the weakest alternative on the scale pronoun > clitic > null, depending on what is available in their language. Of course, this proposal needs further investigation in studies that test *different* types of objects, i.e. full pronouns, clitics and full DPs.

2 The Transitivity Requirement and its predictions for child grammar

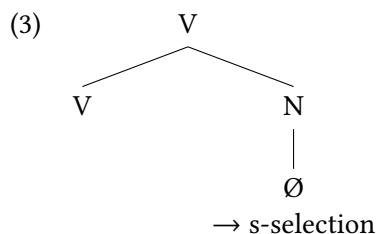
To start off, I briefly sketch the lexically and syntactically motivated approaches to argument structure, with special emphasis on the syntactic transitivity approach by Cummins & Roberge (2005) and its prediction for the development of (direct) objects in the early stages of grammar.

Verbs are flexible as to which and how many argument positions they project (van Hout 2012: 25). According to the lexical approach, the verb's flexibility is incorporated into its lexical representation, i.e. the verb is lexically represented with more than one representation, each of which is linked to a certain verb sub-categorization frame (Chomsky 1965; Emonds 1991). In the case of English generic null objects, Rizzi (1986) assumes that theta roles can be fully saturated in the lexicon. Other, discourse-motivated approaches, such as Groefsema (1995) and Fellbaum & Kegl (1989), associate the use of certain null objects such as generic (non-referential) null objects, cf. (2), with discourse factors and pragmatic considerations.

An alternative analysis is provided by the modular account relying on a strictly syntactic approach to the occurrence of null objects. The Transitivity Requirement (TR) by Cummins & Roberge (2005), parallel to the Extended Projection

Principle (EPP) for subjects, suggests that the direct-object position is given by Universal Grammar and is not dependent on the lexical features of the verb. Thus, the direct-object position is not seen as a characteristic depending on the lexical-semantic features of the verb, but rather as an integral, essential element of the predicate. Under the TR, transitivity is viewed as a universal grammatical property. Null objects are structurally present, and all VPs (i.e. with transitive, unergative, unaccusative verbs, etc.), contain an object position that can be overtly expressed or not (Cummins & Roberge 2005). When an object is not phonologically realized, it remains as a null object in the VP.

Under the TR, (3) is considered to be a universal structural template for objects (Cummins & Roberge 2005; Pérez-Leroux et al. 2008). This template is shown in the tree below, where N is an implicit null object.



The main premises of the TR-based approach, namely that (i) transitivity is a universal grammatical property and (ii) null objects are by default structurally represented in all languages, provide a fruitful ground for making precise predictions about the initial states of human grammar. If null objects are present by default, we should expect children to go through a stage of object optionality (cf. Pérez-Leroux et al. 2008), irrespective of the object-drop capacity of the specific target grammars. An overgeneralization of the free availability of null objects due to a failure to restrict the null structure to the appropriate context is predicted. Omissions should therefore be found in typologically different languages, irrespective of the availability of null objects in the target grammar and without reference to the pronominal system of the specific language. For example, objects are expected to be dropped in the early development of languages with and without clitic systems (such as Bulgarian and English, for example). Such a prediction is particularly challenging since clitic pronouns are generally prohibited from dropping. The emerging research question, namely whether children of all languages go through a null object stage, is addressed in the next section, presenting empirical data from sixteen languages.

3 Null objects in child grammar

In order to test the validity of the predictions made by the TR, I turn to the examination of how children acquiring various languages deal with direct objects in the acquisition process. The comparison of developmental patterns in typologically different languages such as Russian, Greek, French, and Chinese, to name only a few, allows to make hypotheses about universally represented structures at the starting point of linguistic development and about grammatical elements that are specific to particular languages. More importantly, a comprehensive survey of studies conducted on the acquisition of objects in different languages, which summarizes and compares the derived results, can test the predictions made by the TR that children of *all* languages go through a null object stage.

3.1 Data

I review data from experimental studies (see Tables 1 and 2), concerned with both the production and comprehension of direct objects in elicited and naturalistic environments. The data stem from the studies on sixteen typologically different languages. The focus of the present paper is on the five Slavic representatives: Russian, Serbo-Croatian, Bulgarian, Polish and Ukrainian, but the data are also

Table 1: Reviewed studies on the acquisition of objects
(Slavic languages)

Language	Studies	Type of data	Age
Russian	Gordishevsky & Avrutin (2004)	spontaneous	1;9–2;6
	Frolova (2016; submitted)	elicited	2;10–6;1
Serbo-Croatian	Stiasny (2003; 2006)	elicited and spontaneous	1;10–4;7
Bulgarian	Radeva-Bork (2013; 2015)	elicited	2;2–4;3
Polish	Tryzna (2015)	spontaneous	2;1–2;9
		elicited comprehension and production	2;4–5;10
Polish & Ukrainian	Mykhaylyk & Sopata (2016)	elicited	3;0–6;0

Table 2: Reviewed studies on the acquisition of objects
(non-Slavic languages)

Language	Studies	Type of data	Age
French	Hamann et al. (1996); Jakubowicz & Rigaut (2000); Pérez-Leroux et al. (2008)	elicited and spontaneous	2;0–6;0
	Grüter (2006)	comprehension	
English	Bloom (1990)	spontaneous	2;0–3;0
	Grüter (2006)	elicited comprehension	2;0–6;0
	Pérez-Leroux et al. (2008)	elicited	2;9–5;11
Spanish	Wexler et al. (2004); Stiasny (2006); Castilla et al. (2008)	elicited and spontaneous	2;0–5;0
	Mateu (2015)	comprehension	2;0–4;0
Catalan	Wexler et al. (2004)	elicited	2;0–4;0
Italian	Guasti (1993); Cardinaletti & Starke (2000); Schaeffer (2010); Tedeschi (2009)	elicited and spontaneous	2;0–5;0
European Portuguese	Costa & Lobo (2007a,b); Carmona & Silva (2007) Silva (2010)	elicited	3;0–6;6
Brazilian Portuguese	Lopes (2008; 2009)	spontaneous	1;8–3;7
Romanian	Babyonyshev & Marin (2006)	elicited and spontaneous	2;0–3;10
Standard modern Greek	Stephany (1997); Marinis (2000)	spontaneous	1;9–2;9
	Tsakali & Wexler (2003)	elicited	1;9–2;9
Cypriot Greek	Grohmann et al. (2010); Petinou & Terzi (2002); Neokleous (2011)	elicited and spontaneous	3;0–5;11
Chinese	Wang & Lillo-Martin (1992)	elicited	3;0–4;0

placed in a cross-linguistic context by comparing the five Slavic languages to eleven other languages, for which object drop has been studied, namely French, English, Spanish, Catalan, Italian, European Portuguese, Brazilian Portuguese, Romanian, Standard Modern Greek, Cypriot Greek, and Chinese. Tables 1 and 2 give an overview of the languages and the conducted studies, including information about the type of data, i.e. elicited or/and spontaneous, as well as about the ages of tested children.² For French, English, Spanish, and Italian, there is a greater number of studies than for other languages, so only a selection of the most recent and representative studies could be included here.

The overview of studies shows that the acquisition of objects has been well examined over the last three decades, with studies covering a vast number of languages and providing both spontaneous and elicited child data from production and comprehension, something which is rather rare in the assessment of acquisition of other grammatical phenomena. This is particularly beneficial for the present goals, since the TR-based approach predicts object drop in the early stages of language acquisition irrespectively of typological differences found in individual language systems.

Here, I analyse production and comprehension data from Polish, French, English, and Spanish. For Russian, Serbo-Croatian, Bulgarian, Ukrainian, Catalan, Italian, European Portuguese, Brazilian Portuguese, Romanian, Standard Modern Greek, Cypriot Greek, and Chinese, I deal with production data in elicited and spontaneous contexts. The core age of the participants in the studies lies between two to four years, with some languages (Russian, Polish, French, English, and European Portuguese) including older children, four to six year old, in some of the studies. In the majority of the studies participants are controlled for gender. The subjects are typically-developing, monolingual children, recruited from day cares or schools.

The comparison of results from the included studies is legitimate due to the use of a conform and highly comparable experimental methodology, which is described in the next paragraph. In fact, in a recent analysis of meta-megastudies, Myers (2016) shows that methodological differences across studies seem generally insufficient to explain large differences in results, and that what seems to have a bigger effect are typological differences between languages. Whereas a detailed discussion of methodological effects in object elicitation tasks is beyond the scope of this paper, I hold that it is legitimate to compare the results from the

²Ages are given in years and months, i.e. 1;9 indicates 1 year and 9 months of age.

presently included studies mainly due to the use of a common elicitation procedure. However, see Varlokosta et al. (2016), who argue for an effect of the used elicitation methodology on the production of clitic objects in experimental tasks.

Studies on the acquisition of objects employ a standard elicited production task (Schaeffer 2010; Pérez-Leroux et al. 2008; Radeva-Bork 2012; among others) to examine how children use direct objects in transitive contexts of the kind found in (4), where (4a) is a licit option in the adult grammar of some languages, such as Russian or Polish, but not in others, such as Bulgarian or Serbo-Croatian. Examples (4b) and (4c) represent the grammatical choices for Bulgarian, making use of a full NP/pronoun or a clitic, respectively.

- (4) ‘What did the boy do?’
- a. *Toj ritna Ø. (Bulgarian)
 he kicked
 Intended: ‘He kicked it.’
- b. Toj ritna topkata / neja.
 he kicked ball.F.DEF her.ACC
 ‘He kicked the ball.’ / ‘He kicked it.’
- c. Toj ja ritna.
 he it.CL kicked
 ‘He kicked it.’

In such elicitation tasks, participants are shown simple act-outs with toys and props, or picture cards illustrating simple activities, such as kicking a ball, drawing a flower, or building a house. Every activity represents a transitive scenario with a subject and an object. The studies involve a big number of test items, usually between six and twelve. After the visual prompt, participants hear a control question of the kind *What did X do?* without the target object being mentioned. Depending on the specificities of the language, target answers contain a transitive structure with an overt object or with its omission, cf. (4). Transitive verbs such as *kick*, *draw*, *build*, *give*, *hug*, *drink*, *hit*, *push* etc. are elicited in the tasks. A screening prior to the study guarantees that the children understand the object nouns and the verbs denoting the actions in the tasks. An example of a model elicitation of a direct object is given in (5). The use of an overt object is obligatory here. Similar tasks have been used in the elicitation studies presented in Tables 1 and 2. For the spontaneous data, recordings and transcripts are used.

(5) **Model elicitation of direct objects in Bulgarian**

EXPERIMENTER 1:

‘This is Maria. This here is her favourite doll. The doll’s hair is so bushy.’ (utterance accompanied by an act-out of the experimenter combing the doll)

EXPERIMENTER 2:

Kakvo napravi Maria?
what did Maria
‘What did Maria do?’

CHILD 2;6:

Sresa kuklata.
combed doll.DEF
‘She combed the doll.’

(adapted from Radeva-Bork 2012: 79)

3.2 Results

An analysis of the obtained results shows that there is a high degree of variation across languages when it comes to object omission in early grammars. Since it is impossible to give a detailed presentation of the results from the individual studies in this paper, I focus on the Slavic data (marked in bold in Table 3), and present the results from the other languages for the sake of cross-linguistic comparison.

Table 3: General results for the spread of object (non)omission.

Object omission	No object omission	Conflicting data
Russian	Bulgarian	French
Ukrainian	Serbo-Croatian	English
Polish	Spanish	
E. Portuguese	Modern Greek	
Br. Portuguese	Cypriot Greek	
Chinese	Romanian	
Italian		
Catalan		

Generally, we find evidence of object omission in Russian, Ukrainian, Polish, European Portuguese, Brazilian Portuguese, Chinese, Italian, and Catalan, but not in Bulgarian, Serbo-Croatian, Spanish, Modern Greek, Cypriot Greek, and

Romanian. Children in the latter group produce their obligatory objects in transitive contexts from the early stages of language development in a target-like manner. In contrast, Russian, Ukrainian, Polish, European Portuguese, Brazilian Portuguese, Chinese, Italian, and Catalan undergo a stage of object omission, in which obligatory transitive contexts do not yield an object in the early stages of first language acquisition. Regrettably, I had to put French and English aside, since the individual studies on each of these languages yielded contrasting results with respect to how much object omission was found in children. Table 3 summarizes the main results from the studies on the sixteen languages under analysis.

Let me discuss the results in more detail. Although results from individual studies on Spanish vary as to how much omission is found in the early stages, all of the studies support the view that Spanish objects are acquired early, around the age of two to three years. On the basis of the elicitation data from 28 children, Wexler et al. (2004) show that two-year-olds literally never omit objects (omission is at 0%). These results are consistent with the spontaneous data provided in Stiasny (2006). In contrast to Spanish, for Catalan Wexler et al. (2004) find high rates of object omission. Two-year-olds omit objects 74% of the time. The object omission remits as age progresses but does not disappear by the age of four years.

Italian patterns with Catalan with respect to object omission – the rate of object omission is high in both languages for ages two to four. Object omissions in Italian have been evidenced both in spontaneous speech (a.o. Guasti 1993) as well as in elicitation data (Schaeffer 2010). The two-year-olds in Schaeffer's study omit objects at high rates of up to 64%. Object omission at 15% is still present in the production of three-year-olds. These findings are confirmed by similar rates of object omission for the same ages in Tedeschi (2009). It is not before the age of four that Italian children cease omitting their objects and omissions fall to 0%. So whereas Spanish children produce overt objects from the early on, Italian children go through an initial phase of object omission (ending at around four years).

In an experimental study for Romanian, Babyonyshev & Marin (2006) find that Romanian-speaking children “produce object clitics freely as soon as they are able to produce utterances that are long enough to contain them” (p. 31). The authors divide their population into groups according to MLU and not according to age.³ The results indicate object omission of 82% for children with MLU

³MLU refers to Mean Length of Utterance, a technique often used in L1 acquisition research to measure the complexity of a child's speech by calculating the number of words (or morphemes, on some approaches) per utterance.

smaller than two, and omission of 13% for children with MLU greater than two. Since Babyonyshev and Marin show that object omission in Romanian is due to production limitations (such as low MLU) instead of a grammatical constraint, we can conclude that the initial stage of language development in Romanian is not characterized by object omission.

When it comes to Slavic languages, Bulgarian and Serbo-Croatian pattern alike since the children in the studies did not omit objects (Radeva-Bork 2013; 2015; Stiasny 2006). No object omission or misplacement has been found in Serbo-Croatian in either elicited or naturalistic production (Stiasny 2006). The same holds for Bulgarian; objects do not get omitted and are used in a target-like manner already around the age of 2;3 on (Radeva-Bork 2015). If we compare Italian and Bulgarian, we see that Italian two-year-olds omit objects 64% of the time (Schaeffer 2010), whereas their Bulgarian peers omit objects only about 30%, so about half as much as in Italian. Null objects fully disappear in Bulgarian towards the end of year three, which is not the case in Italian. Therefore the study results clearly indicate the lack of object omission in the acquisition of Bulgarian. In contrast, in Polish, Ukrainian and Russian, null objects are the preferred option for children (Tryzna 2015; Mykhaylyk & Sopata 2016; Gordishevsky & Avrutin 2004; Frolova 2016). In Polish and Ukrainian, children prefer to use null arguments up to the age of five. At the age of three they omit objects at 89% in Polish and at 68% in Ukrainian (Mykhaylyk & Sopata 2016). The onset of direct object use seems to be semantically affected since around the age of five, clitics/pronouns are used more often for animate referents, and it is only around the age of six that they start being used also for inanimate objects (Mykhaylyk & Sopata 2016).

In Russian, Ukrainian, and Polish, children do not only omit direct objects in obligatory transitive contexts, but they overproduce the null option when compared to adults (in the contexts where NO is allowed). This holds particularly for Russian, where three- to six-year old children produce more null objects than adults in the contexts where object omission is a grammatical possibility. Object omission at around 80% was found for the age of three years (Frolova 2016). Even at the age of five, Russian children omit referential objects at 73% and non-referential ones at 54%. As Frolova (submitted) shows, Russian children even omit direct objects in strongly transitive (perfective) contexts where adults tend to use overt nouns but where the null object is still grammatical. Generally, production of null objects in Russian is attested at a similar rate across all age groups up to the age of six, and it is higher than for adults (Frolova 2016). In non-referential contexts, a gradual decrease in object drop, an increase in lexical object (i.e., full DP object) use and a low production of pronouns is observed

with the age progression. The rate of null objects is higher in referential contexts, where we rarely find lexical objects while the percentage of pronouns is higher. Similarly to their Russian peers, children acquiring Polish overuse null objects in comparison with adults, and the omission rate decreases as language development progresses (Mykhaylyk & Sopata 2016; Tryzna 2015).

From a cross-linguistic perspective, Chinese, European Portuguese, Brazilian Portuguese, Italian, and Catalan pattern with Russian, Ukrainian, and Polish in terms of the attested object omission in the early stages (for ages two to four and above). Spanish, Modern Greek, Cypriot Greek, and Romanian behave like Bulgarian and Serbo-Croatian in that they are not characterized by object drop in the acquisition process, and objects are present already at the age of two. The latter finding is in contradiction with the predictions made by the Transitivity Requirement (see §2).

3.3 Discussion and implications

The data survey from sixteen typologically different languages (including five Slavic representatives: Bulgarian, Serbo-Croatian, Russian, Ukrainian, and Polish) challenges the obligatory structural presence of null objects postulated by the TR, and calls for re-evaluation of this theoretical analysis of the null object phenomenon in adult grammars. The prediction made by the Transitivity Requirement that children of *all* languages should go through a null-object stage is not borne out – out of the sixteen languages, eight allow object omission in early grammar, six languages do not, and two languages (French and English) show conflicting results. Therefore, there is no evidence that null objects are a default initial setting for acquisition purposes. Instead, there seems to be a clear division between languages with and without object drop already in the early stages.

How can the division between languages in terms of object (non)omission be accounted for? Based on the results presented in §3.2, a parallel between children's performance and the actual permission or prohibition of object drop in the target grammars emerges. Children omit objects only if their target grammar provides the null object option, which is the case for Russian, Ukrainian, Polish, European Portuguese, Brazilian Portuguese, Italian, Catalan, and Chinese. In contrast, Bulgarian, Serbo-Croatian, Spanish, Modern Greek, Cypriot Greek, and Romanian do not allow object drop, in the sense of example (1), and children seem to act according to the target grammar rules and produce objects from early on. Hence, early object omissions seem to reflect the presence of (optional) object drop in the target grammar. Children overgeneralize novel intransitives out

of novel transitives and drop objects at higher rates than adults, provided that their target grammar has that option. They seem to be faithful to the syntax of the input. This observation is generally supported by experimental evidence in the language acquisition literature, indicating strong input sensitivity in acquisition and target-like omissions in spontaneous data (Ingham 1993). In addition, the data discussed here supply support to the proposal in Varlokosta et al. (2016) that children generally opt for the weakest alternative, in accordance with the scale pronoun > clitic > null, depending on what is available in their language.

Children seem to be faithful to the syntax of the input as their object drop reflects the presence of (optional) object drop in the target grammar and gives no evidence that null objects are a default setting for all languages. Furthermore, for the languages in which children omit objects, they seem to overgeneralize the null option. Data from Chinese as well as from European and Brazilian Portuguese confirm that children tend to overuse the option of object-dropping, licensed by their target grammar in some contexts, as late as at the age of five (Wang & Lillo-Martin 1992, Costa et al. 2012, Lopes 2009). In addition, it seems that if a null argument is available in the grammar, the discourse-pragmatic or semantic features of the direct object referent play an important role in argument realization. This is supported by studies showing a semantic effect on the use of direct objects, for example in Polish, where overt objects (clitics/pronouns) are used more often for animate referents around the age of five. Around the age of six, they are used for inanimate referents. It may be the case that null objects are different from null subjects in that semantic and discourse factors play a greater role in the presence and interpretation of the null object. This, however, needs further investigation.

4 Conclusion

The aim of this paper was to investigate object omission in early child grammar in light of the Transitivity Requirement (TR) approach (Cummins & Roberge 2005), which states that transitivity is not dependent on the lexical features of the verb but is a universal grammatical property. Within this approach, null objects are predicted to be a default initial setting for language acquisition. If null objects are indeed default, we expect to find evidence for object drop in the early stage of development in various languages, irrespective of the (non)omission capacity of the specific target grammars.

The paper reviewed naturalistic and experimental child data from sixteen typologically different languages and showed that out of the sixteen languages,

eight languages (Russian, Ukrainian, Polish, European Portuguese, Brazilian Portuguese, Italian, Catalan and Chinese) allow object omission in early grammar, six languages (Bulgarian, Serbo-Croatian, Spanish, Modern Greek, Cypriot Greek, and Romanian) do not, and two (French and English) show conflicting results. The predictions of the TR approach are not borne out and the idea of null objects being a default setting in the early child grammar is invalidated. Instead, there is a clear division between languages with and without object drop in the early stages. In fact, the results from the studies suggest that early object omissions reflect the presence of (optional) object drop in the target grammar. In other words, children seem to omit objects only if their target grammar allows for this option, as it is the case, for example, in Russian, Ukrainian and Polish.

Abbreviations

1	first person	F	feminine
ACC	accusative	INS	instrumental
CL	clitic	NOM	nominative
DEF	definite	SG	singular

Acknowledgements

I am grateful to two anonymous reviewers for their insightful comments.

References

- Babyonyshev, Maria & Stefania Marin. 2006. Acquisition of pronominal clitics in Romanian. *Catalan Journal of Linguistics* 5. 17–44. DOI:10.5565/rev/catjl.71
- Bloom, Paul. 1990. Subjectless sentences in child language. *Linguistic Inquiry* 21(4). 491–504. <https://www.jstor.org/stable/4178692>.
- Campos, Hector. 1986. Indefinite object drop. *Linguistic Inquiry* 17(2). 354–359. <https://www.jstor.org/stable/4178492>.
- Cardinaletti, Anna & Michal Starke. 2000. Overview: The grammar (and acquisition) of clitics. In Susan M. Powers & Cornelia Hamann (eds.), *The acquisition of scrambling and cliticization*, 165–189. Dordrecht: Kluwer.
- Carmona, Jaqueline & Carolina Silva. 2007. A aquisição de clíticos dativos em PE: Teste piloto. In Maria A. Coutinho & Maria Lobo (eds.), *XXII Encontro Nacional da APL*, 199–210. Lisboa: Colibri.

- Castilla, Anny P., Ana Teresa Pérez-Leroux & Alice Eriks-Brophy. 2008. Syntax and the lexicon in early omission of Spanish clitics. In Harvey Chan, Heather Jacob & Enkeleida Kapia (eds.), *BUCLD 32: Proceedings of the 32nd Annual Boston University Conference on Language Development*, 72–83. Somerville, MA: Cascadilla Press.
- Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.
- Costa, João & Maria Lobo. 2007a. Clitic omission, null objects or both in the acquisition of European Portuguese? In Sergio Baauw, Frank Drijkoningen & Manuela Pinto (eds.), *Clitic omission, null objects or both in the acquisition of European Portuguese?* Amsterdam: John Benjamins. DOI:10.1075/cilt.291.06cos
- Costa, João & Maria Lobo. 2007b. Complexidade e omissão de clíticos: O caso dos reflexos. In Maria A. Coutinho & Maria Lobo (eds.), *XXII Encontro Nacional da APL*, 303–313. Lisboa: Colibri.
- Costa, João, Maria Lobo & Carolina Silva. 2012. Which category replaces an omitted clitic? The case of European Portuguese. In Maria Pilar Laranaga & Pedro Guijarro-Fuentes (eds.), *Which category replaces an omitted clitic? The case of European Portuguese*, 105–130. Berlin: de Gruyter. DOI:10.1515/9783110238815.105
- Cummins, Sarah & Yves Roberge. 2005. A modular account of null objects in French. *Syntax* 8(1). 44–64. DOI:10.1111/j.1467-9612.2005.00074.x
- Dimitriadis, Alexis. 1994. Clitics and island-insensitive object drop. In James H. Yoon (ed.), *Studies in the Linguistic Sciences 24(2): Proceedings of the 5th Annual Conference of the Formal Linguistics Society of Mid-America*, 153–170. University of Illinois at Urbana-Champaign.
- Dvořák, Věra. 2017. *Generic and indefinite null objects*. New Brunswick, NJ: Rutgers University dissertation.
- Emonds, Joseph E. 1991. Subcategorization and syntax-based theta-role assignment. *Natural Language & Linguistic Theory* 9(3). 369–429. DOI:10.1007/BF00135353
- Fehrmann, Dorothee & Uwe Junghanns. 2008. Subjects and scales. In Marc Richards & Andrej L. Malchukov (eds.), *Linguistische Arbeitsberichte 86: Scales*, 189–220. Leipzig: University of Leipzig.
- Fellbaum, Christiane & Judy Kegl. 1989. Taxonomic structures and cross-category linking in the lexicon. In *Proceedings of ESCOL '89*, 93–104. The Ohio State University.
- Franks, Steven. 1995. *Parameters of Slavic morphosyntax*. Oxford: Oxford University Press.

- Frolova, Anna. 2016. Verbal transitivity development in first language acquisition: A comparative study of Russian, French and English. In Pedro Guijarro-Fuentes, Katrin Schmitz & Natascha Müller (eds.), *The acquisition of French in multilingual contexts*, 94–117. Bristol: Multilingual Matters.
- Frolova, Anna. Submitted. *Optional object omission stage in child Russian*. Submitted to Teodora Radeva-Bork (ed.), *First language acquisition of syntax in the Slavic languages*, University of Potsdam.
- Giannakidou, Anastasia & Jason Merchant. 1997. On the interpretation of null indefinite objects in Greek. In Jannis Veloudis & Maria Karali (eds.), *Studies in Greek Linguistics: Proceedings of the 17th Annual Meeting*, 290–303. Aristotle University of Thessaloniki.
- Gordishevsky, Galina & Sergey Avrutin. 2004. Optional omissions in an optionally null subject language. In Jacqueline van Kampen & Sergio Baauw (eds.), *Proceedings of GALA 2003*, 187–198. Utrecht: LOT.
- Groefsema, Marjolein. 1995. Understood arguments: A semantic/pragmatic approach. *Lingua* 96(2–3). 139–161. DOI:10.1016/0024-3841(95)00002-H
- Grohmann, Kleanthes, Eleni Theodorou, Natalia Pavlou & Evelina Leivada. 2010. *Object clitics in typically-developing and language-impaired Cypriot Greek children*. Presented at *Let the Children Speak: Learning of Critical Language Skills across 25 Languages*.
- Grüter, Theres. 2006. *Object clitics and null objects in the acquisition of French*. McGill University dissertation.
- Guasti, Maria Teresa. 1993. Verb syntax in Italian child grammar: Finite and non-finite verbs. *Language Acquisition* 3(1). 1–40. DOI:10.1207/s15327817la0301_1
- Hamann, Cornelia, Luigi Rizzi & Uli Frauenfelder. 1996. On the acquisition of subject and object clitics in French. In Harald Clahsen (ed.), *Generative perspectives on language acquisition*, 309–334. Amsterdam: John Benjamins.
- Ingham, Richard. 1993. Input and learnability: Direct object omissibility in English. *Language Acquisition* 3(2). 95–120. DOI:10.1207/s15327817la0302_1
- Jakubowicz, Celia & Catherine Rigaut. 2000. L'acquisition des clitiques nominatifs et des clitiques objets en français. *Canadian Journal of Linguistics/Revue canadienne de linguistique* 45(1–2). 119–157. DOI:10.1017/S0008413100017631
- Lindseth, Martina. 1998. *Null-subject properties of Slavic languages*. München: Sagner.
- Lopes, Ruth. 2008. Acquiring a null object language: When children sound target-like, but really aren't. In Sergio Baauw, Jacqueline van Kampen & Manuela Pinto (eds.), *The acquisition of Romance languages: Selected papers from The Romance Turn II*, 113–126. Utrecht: LOT.

- Lopes, Ruth. 2009. Aspect and the acquisition of null objects in Brazilian Portuguese. In Acrisio Pires & Jason Rothman (eds.), *Minimalist inquiries into child and adult language acquisition: Case studies across Portuguese*, 105–128. Berlin: de Gruyter.
- Marinis, Theodoros. 2000. The acquisition of clitic objects in Modern Greek: Single clitics, clitics doubling, clitic left dislocation. In Nanna Fuhrhop (ed.), *ZAS Papers in Linguistics 15: Papers on language change and language acquisition*, 260–283. Berlin: ZAS.
- Mateu, Victoria Eugenia. 2015. Object clitic omission in child Spanish: Evaluating representational and processing accounts. *Language Acquisition* 22(3). 240–284. DOI:10.1080/10489223.2014.962232
- Müller, Gereon. 2006. Pro-drop and impoverishment. In Patrick Brandt & Eric Fuß (eds.), *Form, structure, and grammar*, 93–115. Berlin: Akademie-Verlag.
- Myers, James. 2016. Meta-megastudies. *The Mental Lexicon* 11(3). 329–349. DOI:10.1075/ml.11.3.01mye
- Mykhaylyk, Roksalana & Aldona Sopata. 2016. Object pronouns, clitics, and omissions in child Polish and Ukrainian. *Applied Psycholinguistics* 37(5). 1051–1082. DOI:10.1017/S0142716415000351
- Neokleous, Theoni. 2011. *Clitic (mis)placement in early grammars: Evidence from Cypriot Greek*. Presented at *Generative Approaches to Language Acquisition 2011*.
- Pérez-Leroux, Ana Teresa, Mihaela Pirvulescu & Yves Roberge. 2008. Null objects in child language: Syntax and the lexicon. *Lingua* 118(3). 370–398. DOI:10.1016/j.lingua.2007.07.002
- Petinou, Kakia & Arhonto Terzi. 2002. Clitic misplacement among normally developing children and children with specific language impairment and the status of Infl heads. *Language Acquisition* 10(1). 1–28. DOI:10.1207/S15327817LA1001_1
- Radeva-Bork, Teodora. 2012. *Single and double clitics in adult and child grammar*. Frankfurt am Main: Peter Lang.
- Radeva-Bork, Teodora. 2013. Single clitics and clitic doubling in Bulgarian: Perspectives from child grammar. In Steven Franks, Markus Dickinson, George Fowler, Melissa Whitcombe & Ksenia Zanon (eds.), *Formal Approaches to Slavic Linguistics 21: The Third Indiana Meeting 2012*, 260–274. Ann Arbor, MI: Michigan Slavic Publications.
- Radeva-Bork, Teodora. 2015. The nature of single clitics and clitic doubling in early child grammar: New evidence from Bulgarian. In Cornelia Hamann &

- Esther Ruigendijk (eds.), *Language acquisition and development: Proceedings of GALA 2013*, 360–379. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Rizzi, Luigi. 1986. Null objects in Italian and the theory of pro. *Linguistic Inquiry* 17(3), 501–557. <https://www.jstor.org/stable/4178501>.
- Schaeffer, Jeannette. 2010. *Asymmetries in the acquisition of different types of clitics in European Portuguese*. Vincent Torrens, Linda Escobar, Anna Gavarró & Juncal Gutiérrez (eds.). Newcastle upon Tyne: Cambridge Scholars Publishing, 361–388.
- Silva, Carolina. 2010. Asymmetries in the acquisition of different types of clitics in European Portuguese. In Vincent Torrens, Linda Escobar, Anna Gavarró & Juncal Gutiérrez (eds.), *Movement and clitics: Adult and child grammar*, 361–388. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Stephany, Ursula. 1997. The acquisition of Greek. In Dan I. Slobin (ed.), *The crosslinguistic study of language acquisition*, vol. 4, 183–334. Hillsdale: Lawrence Erlbaum.
- Stiasny, Andrea. 2003. *The acquisition of pronominal clitics in Croatian*. Manuscript, University of Michigan.
- Stiasny, Andrea. 2006. *The acquisition of clitics in Croatian and Spanish and its implications for syntactic theory*. University of Michigan dissertation.
- Tedeschi, Roberta. 2009. *Acquisition at the interfaces: A case study on object clitics in early Italian*. Utrecht University dissertation.
- Tryzna, Marta. 2015. Acquisition of object clitics in child Polish: Evidence for three developmental stages. *Lingua* 161, 67–81. DOI:10.1016/j.lingua.2014.10.009
- Tsakali, Vina & Kenneth Wexler. 2003. Why children omit clitics in some languages but not in others: New evidence from Greek. In Jacqueline van Kampen & Sergio Baauw (eds.), *Proceedings of Generative Approaches to Language Acquisition 2003*, 493–504. Utrecht: LOT.
- van Hout, Angeliek. 2012. *Event semantics of verb frame alternations: A case study of Dutch and its acquisition*. New York: Routledge.
- Varlokosta, Spyridoula, Adriana Belletti, João Costa, Naama Friedmann, Anna Gavarró, Kleanthes K. Grohmann, Maria Teresa Guasti, Laurice Tuller, Maria Lobo, Darinka Anđelković, Núria Argemí, Larisa Avram, Sanne Berends, Valentina Brunetto, Hélène Delage, María-José Ezeizabarrena, Iris Fattal, Ewa Haman, Angeliek van Hout, Kristine Jensen de López, Napoleon Katsos, Lana Kologranic, Nadezda Krstić, Jelena Kuvac Kraljevic, Aneta Miękisz, Michaela Nerantzini, Clara Queraltó, Zeljana Radic, Sílvia Ruiz, Uli Sauerland, Anca Sevcenco, Magdalena Smoczyńska, Eleni Theodorou, Heather van der Lely, Alma

- Veenstra, John Weston, Maya Yachini & Kazuko Yatsushiro. 2016. A cross-linguistic study of the acquisition of clitic and pronoun production. *Language Acquisition* 23(1). 1–26. DOI:10.1080/10489223.2015.1028628
- Wang, Qi & Diane Lillo-Martin. 1992. Null subject versus null object: Some evidence from the acquisition of Chinese and English. *Language Acquisition* 2(3). 221–254. DOI:10.1207/s15327817la0203_2
- Wexler, Kenneth, Anna Gavarró & Vincent Torrens. 2004. Feature checking and object clitic omission in child Catalan and Spanish. In Reinike Bok-Bennema, Bart Hollebrandse, Brigitte Kampers-Manhe & Petra Sleeman (eds.), *Romance Languages and Linguistic Theory 2002: Selected papers from Going Romance 2002*, 253–269. Amsterdam: John Benjamins.