THE ACQUISITION OF PROSODIC FOCUS AND CLEFTS IN TURKISH

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The Acquisition of Prosodic Focus and Clefts in Turkish

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ABSTRACT

The Acquisition of Prosodic Focus and Clefts in Turkish

This thesis explored Turkish-speaking children's comprehension of prosodic focus and clefts. Experiment 1 examined preschoolers' comprehension of prosodic focus concerning subject and object-focused sentences. Results indicate that children perform significantly better in object-focused sentences than subject-focused ones until age five. Thus, Turkish-speaking children comprehend the prosodic focus gradually and perceive the object focus as default in the early years of development. Experiment 2 considered the effects of pragmatic felicity, age, and cleft type on cleft comprehension. The findings demonstrate that Turkish-speaking children achieved a high level of competence in interpreting both types of clefts regardless of the factors. Experiment 3 aimed to understand whether the methodology used in Experiment 2 impacted children's performances and explored their comprehension with a more complex experimental paradigm. Results of Experiment 3 provided more evidence that Turkish-speaking children can comprehend both cleft types at a similar accuracy level. In conclusion, this research suggests that Turkish-speaking children exhibit differences in comprehension of prosodic focus and cleft structures. The acquisition of prosodic focus predisposes an object advantage. There is no asymmetry in the cleft acquisition process. Our experiments demonstrate that Turkish's unique syntactic characteristics significantly affect children's language acquisition process, and they allow children to employ different strategies to comprehend subject- and object-clefts. Consequently, this thesis is notable for being the first attempt to examine Turkish prosodic focus and cleft sentence structures, and it serves as a comprehensive foundation for future research.

ÖZET

Türkçe'de Prozodik Odak ve Ayrık Tümcelerin Edinimi

Bu tez Türkçe edinen çocukların prozodik odak ve ayrık tümceleri kavrama becerilerini incelemektedir. Deney 1 okul öncesi çocukların prozodik odağı yorumlama yeteneklerini sorgulamaktadır. Sonuçlar erken yaş gruplarındaki çocukların prozodik nesne odağını özne odağına göre daha başarılı olarak yorumladıklarını göstermiştir. Beş yaş ve sonrasında çocukların özne odağını algılama becerileri artmaktadır. Deney 2 pragmatik uyumun, yaşın ve tümce türünün ayrık tümce edinim performanslarındaki etkisini incelemektedir. Deney 2 bulguları çocukların bahsi geçen faktörlerden bağımsız olarak özne ve nesne odaklı ayrık tümceleri başarıyla yorumladığını göstermiştir. Deney 3 çocuklardaki yüksek ayrık tümce kavrama performansının deneysel paradigmadan etkilenip etkilenmediğini sorgulamaktadır. Bulgular, çocukların uygulanan paradigmadan bağımsız olarak her iki ayrık tümce türünde de yüksek başarı gösterdiğini vurgulamaktadır. Sonuç olarak, bu araştırma ayrık tümce ve prozodik odak kavrama becerileri arasında farklar olduğunu ortaya koymaktadır. Prozodik odak kavrama becerilerinde nesne odaklı tümceler için bir avantaj söz konusuyken ayrık tümce ediniminde özne ve nesne odaklı ayrık tümceler çocuklar tarafından eşit oranda başarılı olarak yorumlanmıştır. Çalışmamız Türkçe'nin özgün sözdizimsel yapısının Türkçe edinen çocukların kavrama becerileri üzerinde önemli etkileri olduğunu öne sürmektedir. Türkçe edinen çocukların özne ve nesne odaklı tümceleri farklı stratejiler doğrultusunda yorumladıkları iddia edilebilir. Bu tez prozodik odak ve ayrık tümce yapılarının edinimini Türkçe dili bağlamında inceleyen ilk araştırma olması ve gelecekteki çalışmalar için kapsamlı bir temel oluşturması bakımından önemli bir kaynaktır.

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DEDICATION

To all Cognitive Science students,

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ABBREVIATIONS

ACC	Accusative
ANOVA	Analysis of Variance
C	Conceptualiser
COP	Copula
GEN	Genitive
NP	Noun Phrase
OR	Object Relative Clause
PART	Participle
POSS	Possessive
PROG	Progressive
SING	Singular
SR	Subject Relative Clause
TOP	Topicaliser
SVO	Subject - Verb - Object
OSV	Object - Subject - Verb
S	Subject
O	Object
OVS	Object - Verb - Subject
XP	X Phrase
NOM	Nominal

CHAPTER 1

INTRODUCTION

Mechanisms involved in the acquisition of human languages are of fundamental concern to a researcher interested in learnability. Research on the acquisition of simplex, canonical/default, or more frequent linguistic structures has taught us a great deal about the path children follow in learning their languages, however, it is through the study of complex linguistic structures, that we can gain more insights about learnability. Any linguistic structure that deviates from the default construction such as passives as opposed to actives, relativised constructions as opposed to non-relativised ones, or clefted sentences as opposed to declarative sentences may pose learnability problems. In the present study, we investigate the acquisition of cleft sentences in Turkish in an attempt to throw light on both the Turkish-specific and language-general learning mechanisms that may operate in the comprehension and processing of such constructions.

Cleft sentences are focus structures. Successful comprehension of clefts is thus based on to what extent the child is sensitive to the prosodic structure of a sentence and, hence can compute information structure. In a cleft sentence such as (1a) in English, the accented constituent is [*a squirrel*]; hence, it is new information and the background knowledge is in the form of a relative clause [*that the dog is chasing*].

(1) a. It is a squirrel that the dog is chasing.

b. Köpeğin kovaladığı bir sincap.

Similarly, in the Turkish cleft (1b), the focused noun phrase (NP) [*bir sincap*] is the new info and the relative clause [*köpeğin kovaladığı*] is the discourse given constituent. Both in English and Turkish, proper interpretation of cleft sentences relies on to what extent the child can link the current utterance to the prior discourse context. To put an other way, unlike declarative sentences in (2), in the examples given above, the clefted clause must be given, hence must be established prior to the utterance, thus proper interpretation of such sentences is based on the extent to which the child can accommodate this presuppositional content.

(2) a. The dog is chasing a squirrel.

b. Köpek bir sincap kovalıyor.

So, the acquisition of clefts provides a test ground for investigating a child's sensitivity to prosody and her take on the discourse-pragmatic conditions that render the use of such sentences felicitous.

Cleft sentences are also of interest from a syntactic perspective as they involve displacement. For example (1a), an example of an object-cleft in English, does not conform to the Subject-Verb-Object (SVO) word order of English, as the surface order is Object-Subject-Verb (OSV) hence may pose a learning problem, if the child opts for following the Agent-First heuristics and maps the agent role onto the first NP. In contrast to this, the Turkish object-cleft (1b) aligns with the Subjec-Object-Verb (SOV) order of Turkish in terms of the positions of the subject (S) and object (O). The sentences in (3), as examples of subject-cleft constructions show an opposite pattern in terms of to what extent they conform to the surface orders of English and Turkish; (3a) exhibits an order of SVO, whereas the Turkish counterpart in (3b) has a surface order of Object-Verb-Subject (OVS), thus may challenge the child. This variation in the ordering of the constituents has been of interest primarily

to acquisition researchers, as it provides a platform for an investigation of how child learners compute sentences that conflict with the canonical word order.

(3) a. It is a dog that is chasing a squirrel.

b. Sincabı kovalayan bir köpek.

Just as in the case of the object clefts in (1), a proper comprehension of subject clefts is based on to what extent the child discerns that in subject-clefted sentences such as (3), [*a dog*] and [*bir köpek*] host prosodic focus and the relative clauses carry presuppositional content, hence are discourse given.

Taken together, investigation of cleft sentences is of special interest as it can potentially equip us with information regarding how prosody, discourse-pragmatic constraints and syntax work together in the successful understanding of a complex linguistic structure. From an acquisition perspective, this complex structure can pose various challenges to the child learner; however, at the same time, it may provide valuable insights into the investigation of learning mechanisms at work.

The current study examines Turkish-speaking children's comprehension of cleft sentences. As briefly laid out above, the cleft structure exhibits both prosodic and presuppositional sensitivity. Thus, successful cleft comprehension requires processing the varied prosodic emphasis in the sentence. Hence, learners must comprehend differences in prosodic focus-marking and detect which specific elements are prosodically emphasised in a given context.

To investigate the acquisition of clefts in Turkish, we designed three experiments; our first experiment attempts to tap into children's ability to detect focus-marking and differences in focus-marking. If Turkish-speaking children are unable to perceive the prosodic differences between subject-clefts and object-clefts, that would suggest that they are not able to use prosodic cues that are crucial in the

cleft comprehension process. However, if children can comprehend prosodic focus and differences in prosodic focus marking in the context of a simple declarative sentence, we can conjecture that they would be able to make use of prosodic cues in the context of cleft structures as well. By assessing children's identification and comprehension of focus, thus we can clarify the comprehension strategies used by Turkish children.

In Experiment 1, we tested prosodic focus in the context of simple declarative sentences to see whether children would dissociate between subject- and object-focused NPs. Cross-linguistically the neutral position for prosodic focus is generally claimed to be the object of the sentence (Liberman & Prince, 1977). Subjects, however, are assumed to host stress through stress shift. Although object-focus is the default structure and subject-focus is marked. In the first experiment we looked into to what extent Turkish-speaking children can identify these differences in focus-marking, especially in the context of subject-focus sentences. We conjecture that if Turkish-speaking children face difficulties in interpreting the prosodic focus placed on a particular element - either the subject or the object - in a simple sentence, they might struggle with cleft sentences as well. To exemplify, in the declarative sentence given in (2) above, the neutral focus position is the object, that is, *a squirrel*. Such a sentence can be uttered out of the blue, that is, no discourse-givenness is expected for the interpretation of this sentence, however when the accented entity is *the dog*, that is when the prosodic focus is placed on the subject, then the child has to immediately construe the presence of a contrast set, whereby the dog is contrasted with some other animal. Successful interpretation of contrastive focus, thus requires the computation of certain background assumptions which are false and which are corrected through entities introduced as subject-focused NPs.

More precisely, if a speaker uses contrastive focus on the subject NP in a clefted sentence she must be correcting a false background assumption. For the cleft sentence under discussion, the implication is that it is the dog, not some other animal, as falsely claimed, *that is chasing the cat*.

To recap, when the prosodic focus shifts from the neutral structure, Turkish-speaking children might face difficulties processing the focus of the simple sentence. In line with this, children might also struggle with the interpretation of subject clefts due to their incongruence with the canonical word order.

Experiments 2 and 3 are designed to investigate Turkish-speaking children's comprehension of cleft sentences. By observing children's grasp of the complex interplay between syntax, prosody and information structure, we attempt to explain how young learners process syntactic restructuring and prosodic alterations in the comprehension of clefts and in so doing, we hope to gain insights into the language acquisition mechanisms and early cognitive development of Turkish monolinguals.

The thesis is structured as follows: Chapter 2 gives a brief background on the characteristics of prosodic focus and cleft structure, and it also lays out studies done on the acquisition of prosodic focus and clefts. Chapter 3 presents the experiment on the acquisition of prosodic focus. Chapter 4 presents the experiments on the acquisition of clefts and finally Chapter 5 contains conclusions and future directions.

CHAPTER 2

BACKGROUND

2.1 Introduction

Cleft constructions have certain interpretive properties that set them apart from declarative sentences. Rather than using a declarative sentence, if a speaker opts for using a cleft sentence such as *It is a squirrel that the dog is chasing*, then she must be interested in conveying and highlighting two key things in the exchange that she has with her addressee. Namely, '*You and I both know that the dog is chasing something*' hence the relative clause is discourse-given; '*You falsely believe that the dog is chasing an X, however, this info has to be corrected as the dog is not chasing an X, but a squirrel*' hence the new info, the so-called pivot is *the squirrel*, and it bears the main focus. Together, a cleft sentence has two obligatory components, a pivot that bears the main focus and a relative(-like) clause that is deaccented, hence the discourse given. Thus, successful comprehension of a cleft sentence requires developing an awareness of those interpretive properties that pertain to the structure of a cleft, the already present information in the common ground and the new information the focus constituent introduces.

This section will provide a background on the relationship between focus and the presuppositional content of cleft constructions. The syntactic characteristics of cleft sentences will then be briefly examined by touching upon the key issues that are pertinent to the acquisition of clefts. This section is structured as follows: 2.2 will look into how focus plays out in cleft construction and present some views that are offered to account for the relationship between presupposition and focus. 2.3 will provide a brief account of the syntactic properties of English and Turkish clefts. 2.4

presents studies on the acquisition of focus, and finally, 2.5 describes the existing studies on the acquisition of English and Japanese clefts.

2.2 Prosody, focus-marking and clefts

The term prosody encompasses phonetic and phonological properties of speech that are not primarily determined by the use of individual words or word segments. As elucidated by Wagner and Watson (2010), various factors seem to influence the prosodic pattern of a linguistic unit, including the semantic and syntactic relationship among elements, rhythmic grouping of items, the placement of vocal emphasis by the speaker, turn-taking dynamics between speakers, and some psychological features such as the attitude and emotional state of the speaker. Some features, such as syllable structure, intonation, fundamental frequency, duration, and intensity, can enable us to discern the prosodic pattern. These features also play a role in sentence parsing and disambiguation of meaning. Thus, it is reasonable to argue that human prosodic sensitivity is notably powerful. Prosody also plays a significant role in focus-marking. Thus, understanding how and when people develop an awareness of speech rhythm is key to learning language structures with distinct prosodic patterns including clefts.

In the literature, the concept of focus of a sentence has been defined from various angles. Focus can be conceptualised as a linguistic division that serves to highlight salient information by effectively directing the psychological attention of the hearer to the at-issue entity (Chafe, 1976; Clark, 1973; Jackendoff, 1972). In line with that, Szendrői (2002) offers a simplified definition of focus and states that it is the most significant segment of a sentence that contains new and emphatic information. More precisely, prosodic focus refers to pitch, stress, and rhythm

variations used to highlight an element in a sentence. As is well known, focus highlights the part of an answer that corresponds to the wh-part of a question. Thus, using wh-questions as probes (Halliday 1967; Chomsky 1977), it is possible to identify the focus pattern of a sentence. Focus, in general, is realised on one part of a sentence. So, the subject, the object or the verb of a sentence can be narrowly focused but a larger part of a sentence can be focused as well. (1a) for example, is an answer to the question '*What happened?*', the entire sentence is focused (The subscript F indicates focus). In (1a), though the entire sentence is all-new, one part is assumed to stand out, i.e., the object; thus, the pitch accent (indicated in capital letters) is on the object. This is what is called neutral focus, and across languages – in an out of the blue context– the pitch accent, in general, falls on the object, so object-focus is considered to be the default pattern (Liberman & Prince, 1977). (1b') is provided as an answer to (1b), where the pitch accent is on the subject, thus the subject is narrowly focused; similarly in (1c') pitch accent is on the object, thus the focused entity is the object.

(1) a. [Gül found a BOOK]$_F$ (Neutral focus)

b. Who found the book?

b'[GÜL]$_F$ found the book. (Subject-focus)

c. What did Gül find?

c'. Gül found [the BOOK]$_F$. (Object-focus)

In Turkish, just as in the case of many languages such as English, German, French, among others (Cinque, 1993; Reinhart, 2004) the neutral position for focus is considered to be the object position. As the object in the default order of constituents in Turkish happens to occupy the preverbal position, in general, in Turkish, the preverbal position is considered to host neutral focus (Erguvalı-Taylan,

1984). The differences in focus marking between a sentence such as (1a), where the object hosts a pitch accent, but the sentence has neutral focus, and (1b') and (1c'), where the subject and the object are narrowly focused, requires a deeper understanding of what focus embodies. In what follows, I will briefly look into the accounts that attempt to tap into these differences.

Focus, as defined in Krifka (2008), indicates the presence of alternatives that are relevant to the interpretation of linguistic expressions. Krifka, inspired by Rooth (1985, 1992) thus suggests that the focused part of the sentence introduces a set of alternatives. In (1b') $[\text{GÜL}]_F$ is the focus, the question presupposes that *somebody found the book*, so *found the book* is the non-contrastive part of the sentence, the background, and GÜL is the contrastive part. In (1c') $[\text{the BOOK}]_F$ is the focus, the question presupposed that *Gül found something* which is again the background and BOOK is the contrastive part.

Féry (2017) suggests that focus comes in different guises, and she dissociates among various types of foci such as selectional focus, correction focus, parallel focus and ranks them with respect to their focal strength. To exemplify, in the so-called selectional focus as in (2a) the speaker can select the answer from a list of options given in the question. In correction focus, focus serves for correcting the false assertion as in (2b). In parallel focus, as proposed in Rooth (1992) use of focus highlights parallels in interpretation (2c).

(2) a. Kitabı bulan Gül mü, Ayşe mi?

'Who found the book, Gül or Ayşe?'

a'. $[\text{GÜL}]_F$

'Gül.'

b. Kitabı Ayşe buldu.

'Ayşe found the book.'

b.' Hayır, [GÜL]$_F$ buldu

'No, GÜL found (it).'

c. GÜL kitabı buldu ve AYŞE dergiyi.

'Gül found the book and Ayşe the journal.'

According to Féry's proposal, among the different focus types, the weakest focus type is the *neural focus* (1a), then comes the informationally *narrow focus* elicited by a wh-question as in (1b') and (1c'), if narrow focus has exhaustive interpretation as in (2a), the elicited focus is assumed to be stronger, and finally the strongest focus of the proposed hierarchy is assumed to be the so-called *corrective focus* as in (2b').[1] We believe that in cleft sentences, what is at issue is the corrective focus, and it could be that a marked syntactic structure may further increase the strength of the focus as proposed in Calhoun (2010) and Féry (2013). Thus, unlike declarative sentences (3), in cleft sentences, the word order is changed, and the focus phrase precedes the relative clause as in (4a) and (4b). The Turkish counterparts of the clefted sentences (3 & 4) also reveal word order changes and unlike English the focused constituents follow the relative clause in Turkish. (__ indicates prosodic boundary).

(3) Gül found the book.

(4) a. It was [the BOOK] $_F$ that Gül found _____. (Object-Cleft)

b. It was [GÜL]$_F$ who _____ found the book. (Subject-Cleft)

[1] According to Féry (2017), in terms of focus strength, parallel focus comes after narrow focus.

(5) a. Gül kitabı buldu. (declarative sentence)

b. Kitabı bulan $[GÜL]_F$ (Subject-cleft)

c. Gülün bulduğu $[KİTAP]_F$ (Object- cleft)

Cleft structures both in English and Turkish are marked syntactic structures, and the use of such sentences is favoured for attentional factors, that is, the speaker may intend to help the listener to process what is said more efficiently. That may be the reason that the focus X phrase (XP) is either at the beginning, i.e., English or at the end of a sentence, as in Turkish in cleft sentences.

To summarise thus far, focus marking is usually regarded as a mechanism to evoke semantic alternatives (Rooth, 1985, 1992, 1996). More precisely, focus marking indicates alternative options related to the focused element and the pitch accent on a sentence constituent can be construed to first evoke and then exhaust potential alternatives. It is essential to ask now whether cleft sentences can also be considered as a linguistic form that might evoke semantic alternatives as they are recognised as a syntactic sentence construction that involves focus-marking.[2]

[2] As elucidated a research (Destruel et al., 2019), cleft structures are argued to carry three main types of information referred to as Halvorsen components (Halvorsen, 1978; Lambrect, 1995). The components consist of at-issue content, existential inference and exhaustive inference. The first one, called the at-issue content has been defined as the proposition conveyed by the canonical form of the cleft. The existential inference has been defined as the component which implies the existence of an entity that corresponds to the clefted description. The final component, named the exhaustive inference, explains the suggestion that the clefted entity is the only one that satisfies the description.

(1) Aysun opened the door.

(2) It was Aysun who opened the door.

If we analyse the cleft sentence (2) in the light of Halvorsen components, the first component can be regarded as the information that was stated in the declarative form (1). Accordingly, the existential inference can be explained as the fact that an agent opened the door, and that person was Aysun. Finally, the exhaustive inference assumes that the door is opened by no one else but her. Considering the exhaustive inference, it seems impossible to regard cleft structure in terms of the Semantic Alternatives approach as proposed in Rooth (1985). In contrast, it has been demonstrated that some languages seem flexible regarding exhaustive inference (Destruel et al., 2019). Thus, it seems reasonable not to consider the exhaustive inference as a strict universal principle.

Research examining cleft structures (Destruel & Velleman, 2014) suggests that clefts similar to simple sentences involve focus to convey contrast and evoke alternatives (Sarnicola, 1988; Haries-Delisle, 1987; Umbach, 2004; Patten, 2012; Jespersen, 2013). To elaborate, the contrastive focus in clefts demonstrates a contrast between the pivot and other alternatives. As Delin (1992) mentioned, presupposition is challenged through alternative entities or scenarios that contrast with the focused element. Overall, the consensus among researchers working on clefts aligns with the explanation provided by Vallduvi and Vilkuna (1998) that contrast implies generating a set of alternatives to the pivot, and it allows semantic computation to consider membership in the set. Consequently, this suggestion appears to align with Rooth's (1985) Alternative Semantics approach that has been offered for focus. In an alternative approach, Zimmerman (2008, 2011) defines contrast by introducing a psychological dimension regarding the speaker's and hearer's expectations. The focal element of the cleft is considered contrastive when the speaker predicts that the hearer will not consider the focus as a part of the common ground. This view also supports the inherent presuppositions of cleft structures, as the presupposition contains the contrast between focused and alternatives in the case when the speaker believes that the hearer does not perceive the focal point as the present information in the common ground. Importantly, this definition is aligned with the idea of the corrective function of cleft proposed by Delin (1992). Following the claim, we can argue that clefts presuppose alternatives that are challenged by emphasising a particular element.

The research on cleft structure provided evidence that speakers tend to use cleft sentences infrequently when other sentence forms are available for the discourse context (Destruel & Velleman, 2014). For example, instead of saying, '*It*

was Ateş who fixed the car.' the speaker could simply say, '*Ateş fixed the car'*, by providing the emphasis through subject focus. Since clefts share the same truth-conditional characteristics with simple declarative forms, the proposition expressed through clefts could be expressed in the simple declarative form, while the contrastive focus could enable the emphasis on a particular element. In contrast to other focus-marking forms, cleft sentences necessitate particular presuppositions to be met as the emphasis part depends on the context they enable. individuals prefer other linguistic forms to avoid confusion when these presuppositions are not relevant or salient in the discourse context.

In this section I attempted to briefly touch upon the interplay between focus, the semantic alternatives that focus evokes for contrast, and how these interpretive components are at work in the cleft interpretation. The next section will provide information about the syntactic characteristics of clefts and introduce Turkish cleft sentences.

2.3 Syntactic characteristics of clefts in English and Turkish

Cleft constructions in many languages such as English, French, etc. consist of a copular main clause that involves a cleft pronoun (i.e., an expletive or a demonstrative pronoun), a copula (COP) and a focused NP, which is then followed by a relative clause. (6a) is an example in English, (6b) an example in French.

(6)	a.	It	is	a cat	who has the bottle.
		Pronoun - copula		focus XP	relative clause
	b.	C'est		le chat	qui a la bouteille.
		Pronoun - copula		Focus NP	relative clause

'It is the cat who has the bottle.'

As exemplified above, cleft sentences in general consist of a pivot, that is the focused NP, which carries the prosodic focus, and the cleft clause which is akin to a relative-like clause with an A-bar gap, as discussed in Hedberg (1990) and Aravind, Hackl and Wexler (2018). Reeve (2011) further suggests that it is possible to conceptualise cleft sentences as restricted relative clauses.[3] The two main approaches offered to account for the syntax of English it-clefts are Focus Movement and Predicate Inversion. Under the Focus Movement account, the cleft pivot originates within the cleft clause and undergoes A-bar movement to the specifier of a focus position for an it-cleft (7a). The landing site is assumed to host info regarding the semantic/ pragmatic, i.e. the interpretive components of clefts (Chomsky, 1977; Kiss, 1998; Drubig, 2003). As the cleft clause in the so-called pseudo-clefts is a free relative, a barrier for A-bar movement, this account does not hold for pseudocleft as in (7b).

(7) a. It is [a dog] [that _____ is chasing the squirrel]
Pivot cleft clause

b. [What _____ is chasing the squirrel] is [a dog].

Under the predicate inversion, however, both it-clefts and pseudoclefts have been considered as double-NP copular sentences in which the underlying predictive argument of the copula has been inverted to build the cleft structure. Hence, the second view suggests that it-clefts are derived from pseudoclefts after an additional movement. Turkish clefts depart from English clefts in many ways.

[3] In addition to it-clefts, English also has the so-called pseudoclefts as in (i) below.
(i) What the dog is chasing is a squirrel.

First and foremost, Turkish does not necessitate an explicit copula.[4] In English and also in Japanese –the only two languages for which cleft acquisition data is available - there is an expletive and a coupla in use - Turkish, however, lacks both of these forms in a cleft sentence. Additionally, the cleft structure in Turkish, that is, the cleft clause, contains a relative clause.

(8)	a.	Köpek sincabı kovalıyor.	(declarative sentence)	
	b.	Sincab-ı kovala-yan	[bir KÖPEK]$_F$.	(Subject-cleft)
		Cleft clause	pivot	
	c.	Köpeğ-in kovala-dığ-ı	[bir SİNCAP]$_F$	(Object-cleft)
		Cleft clause	pivot	

The cleft clauses are relative clauses and the markers for relativisation are -(y)An for the subject relative (SR) (b) and -DIK for the non-subject, i.e., object relative (OR). Thus, Turkish departs from English in that respect as well, as there are

[4] The copula is the type of verb which links the subject of a sentence with a subject complement. The complement may occur in various forms, such as nouns, adjectives, or prepositional phrases. The copula's form may vary between languages. Most European languages possess an explicit copula. For instance, the most common copula in English is the verb "to be" (1) and its various forms (am, is, are, was, were) that change depending on the tense, number and person. Similarly, the verb "être" (2) and its forms can be considered the most common copula in French.

(1) The sky is blue.
(2) Le ciel est bleu. 'The sky is blue'

Nevertheless, the forms of a copula might also change in relation to other parameters. For instance, the Japanese equivalent of "to be" だ (da) is used as default (3a) while its alternative です (*desu*) represents its polite form (3b).

(3) a. Sora wa aoi 'The sky is blue'
b. Sora wa aoi da.
c. Sora wa aoi desu.

In English and French, explicit copulas are critical for sentence structure and grammar. However, enabling this function does not require possessing an explicit standalone verb and its alternatives in all languages. As for Turkish, the zero-copula rule is valid for Turkish (Konfilt,1996).

(4) a. Gökyüzü mavi.
b. Gökyüzü mavidir.

Therefore, Turkish does not require a copula verb to convey the intended meaning and generally omits explicit copulas. However, all Turkish sentences do not necessarily follow the zero-copula rule. Alternatively, suffixes "-dır" and "-dir" can be added to a noun and adjective to imply the copula (4b). Explicit use of suffixes may provide emphasis, certainty and formality depending on the context. This alternative is mainly used to express general truths and facts.

distinct markers for relativisation, hence potentially they can be important cues that the child relies on during acquisition. Unlike the English case, the pivot is the final constituent of the cleft sentence in Turkish. Thus, in English there is a prosodic break/boundary after the pivot and in Turkish there is a prosodic break before the pivot which can be construed as a potential heuristic for indicating contrast or correction in the case of cleft structures. Furthermore, it appears that a relative clause and a cleft sentence mainly differ from each other with respect to prosody as briefly laid out in the examples below:

(9) a. Sincab-ı kovala-yan [bir KÖPEK]$_F$. (Subject-cleft)
'It is a dog chasing a squirrel.'

b. Sincab-ı kovala-yan bir KÖPEK$_F$ gördüm.
'I saw a dog chasing a squirrel.'

c. Köpeğ-in kovala-dığ-ı [bir SİNCAP]$_F$ (Object-cleft)
'It is a squirrel that the dog is chasing.'

d. (Bir) Köpeğ-in kovala-dığ-ı bir SİNCAP gördün mü?
'Have you seen a squirrel that a dog is chasing?'

Turkish cleft structures resemble English pseudoclefts more closely than it-clefts with respect to the order of the constituents. In Turkish, the focused element appears at the end of the sentence as in (9a & b). Furthermore, the deaccented noun in a subject-cleft is affixed with the accusative marker as in (9a), and the deaccented noun in an object-cleft (9c) with a genitive marker. These can be further disambiguating cues that a child can rely on during acquisition.

As for the cleft structure in Japanese, as seen in the examples below (10a & b), Japanese clefts also have the same word-order pattern as Turkish. Sentence (10a) exemplifies a Japanese subject cleft, while (10b) is an object cleft. As seen in this

sentence example below, the subject of the sentence is marked with an accusative (ACC), a progressive (PROG), a conceptualiser (C), a topicaliser (Top) with nominals (NOM).

(10) a. Nezumi o oikake-teiru no wa neko(-ga)i desu.
Mouse-ACC chase-PROG C Top cat-NOM Cop
'It is a cat that is chasing the mouse.'

b. Neko-ga oikake-teiru no wa nezu(-o)imi desu.
Cat-NOM chase-PROG C Top mouse-ACC Cop
'It is the mouse that the cat is chasing. '

While there is a universal harmony between syntax and semantics considering clefts, each language enables this harmony with distinct syntax. In English and Japanese explicit copulas are required to form clefts. English uses pronouns for constructing clefts. Turkish and Japanese share a similar word-order and they do not possess a cleft pronoun. Given these linguistic variations, we can anticipate that the acquisition of cleft structures may differ based on these unique structural characteristics of each language.

2.4 Acquisition of focus

The key questions that researchers have attempted to address regarding the acquisition of focus appear to revolve around several major themes: a. Is focus interpretation and production an inbuilt ability? b. Is it an ability that develops over the course of acquisition? c. Is it tightly linked to developing Theory of Mind (ToM) skills and implementation of social cues? Another important issue that researchers have attempted to resolve on the acquisition of focus is why, in contrast to the acquisition of other components of grammar where comprehension precedes

production, in focus interpretation, the reverse pattern has been observed. In this section, I will briefly lay out research that addresses these questions.

Research on the acquisition of focus reveals that children can produce prosodically marked focus at around two years of age, however, quite intriguing, comprehension of focus is observed to lag behind production. Various studies on the issue suggest that children are not competent in focus comprehension before the age of six (Gualmini et al., 2003; Paterson et al., 2003; Szendrői, 2004). This asymmetry is puzzling, as in general, in language acquisition, comprehension of most linguistic structures precedes production. In an attempt to find out whether children's incompetence in focus comprehension can be tied to cognitive limitations such as immature ToM skills which may result in failure in interpreting communicative cues, a certain line of research investigated atypically developing children with respect to their focus production and comprehension. Baltaxe (1984), for example, compared the prosodic focus production performances of autistic, aphasic and typically developing children. The age range of the children tested in this study was 29 months to 146 months. The results showed that all the groups, regardless of their condition (i.e., typically vs. atypically developing), achieved roughly 60% accuracy. However, the findings also showed that typically developing children produced focus more successfully, while the autistic group had the lowest performance. Baltaxe (1984) claimed that the comparatively lower performance of autistic children, compared to aphasic children, for example, might stem from the broader communication challenges faced by autistic individuals. Another study, Furrow (1984), examined the relationship between children's use of prosody and various social cues, including eye contact. The analysis involved videotaping natural conversations between children and adults. The study analysed children's loudness,

pitch and pitch range while also coding and comparing social behaviours that might accompany these prosodic changes. Changes in social behaviours were classified into three categories: no social contact, eye contact, and other, respectively. The results showed that children's use of prosody tends to change when they make eye contact, indicating that prosodic variations are associated with specific social cues in natural settings. Furrow (1984) concluded that children seem to use prosody for communicative purposes. In another study, Szendrői employed a bi-modal elicited production task as developed by Baltaxe (1984) to test focus production in a 13-year-old participant with autism. The task involved showing a picture and an utterance describing it. The participant had to judge the accuracy of the description of the picture and correct it if there were any mistakes. Accurate corrections required the use of contrastive focus. The results of the study have shown that the autistic participant successfully employed appropriate focus-marking in 75% of the trials. On the basis of this result, Szendrői (2010) suggested that focus production must be an inbuilt linguistic ability. On the issue of children's successful use of contrastive focus, in an early study, Hornby and Hass (1970) studied typically developing children's ability to use contrastive focus. Participants consisted of three-to-four-year-old preschoolers. The paradigm involved pictures and sentences, and the participant's main task was to correct inaccuracies in sentences according to the presented pictures. The study found that preschoolers could use prosodic focus accurately. The results of these studies can be interpreted in different ways. On the one hand, the evidence that children can use prosodic focus early in their development supports the generativist perspective that focus is inborn (Baltaxe, 1984; Furrow, 1984; Hornby & Hass, 1970). On the other hand, researchers have pointed to the significance of the relationship between prosody and communicative

abilities to explain their findings (Furrow, 1984; Baltaxe, 1984). These explanations could possibly suggest that developing pragmatic skills also have an impact on children's acquisition of focus.

In sharp contrast to children's documented success in producing prosodic focus, primary research into prosodic focus comprehension has suggested that children do not seem to comprehend prosodic focus before the age-of-six (Gualmini et al., 2003; Paterson et al., 2003; Szendrői, 2004). Since, in many linguistic structures, comprehension typically precedes production, the discrepancy between comprehension and production of focus presents a paradox (Szendrői et al., 2018). Considering this paradox, Szendrői and colleagues (2018) argued that preschool children's poor performance on prosodic focus comprehension might be a result of the preferred methods in earlier studies. They explained that due to children's evolving cognitive abilities, children might not be capable of creating the necessary pragmatic context when it is not explicitly given in the task. Furthermore, the authors hypothesised that if the necessary pragmatic context is supplied, children as young as three years old could achieve an adult-like level of competence in focus comprehension, similar to their success in focus production. Thus, in this recent study, Szendrői and colleagues (2018) examined the comprehension of prosodic focus among children aged three, four, five and six whose native languages were German, English, and French. Participants of this research involved 52 English-, 47 French- and 59 German-speaking children. Also, 33 adults participated in the study. The experiment aimed to compare children's performances regarding the focus type: subject and object. A sample visual from Szendrői et al. (2018) is presented in the figure below. In the main task, the sentences were presented with visuals. The visuals included animal and object sets that were arranged in pairs to create a

contrastive focus context for each test item. The test sentences consisted of declarative sentences, object-focus sentences and subject-focus sentences. Figure 1 shows a sample item of the experiment.

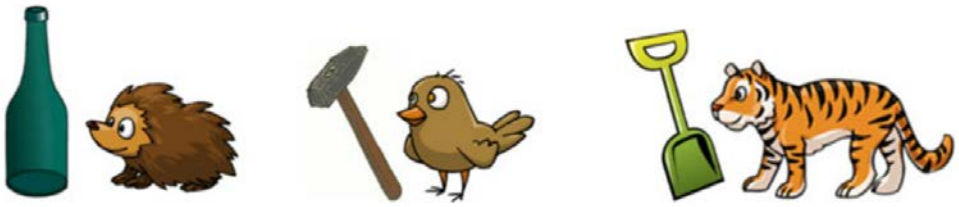


Figure 1. Szendrői et al. (2018) sample item
Note: Figure 1 shows the example item of the original study. Reprinted from "Acquisition of prosodic focus marking by English, French, and German three-, four-, five-and six-year-olds." by Szendrői, K., Bernard, C., Berger, F., Gervain, J., & Höhle, B., 2018, *Journal of Child Language, 45*(1), p. 230.

In the study the experimenter told the children that they would be asked to correct verbal descriptions of pictures. The children then corrected the experimenter's verbal statements based on what they saw in the pictures. Thus, upon presentation of a visual as in Fig. 2, the children were invited to evaluate the sentences given in (1) and (2).

(1) The BIRDIE has the shovel, right? (Subject-focus)

(2) The birdie has the SHOVEL, right? (Object-focus)

Children were then asked to correct the experimenter based on what they observed in the pictures. For instance, if the experimenter emphasised the subject of the sentence as in (1), the child was expected to correct the sentence as '*No, the TIGER has.*'; if the object of the sentence is emphasised by the experimenter, like in sentence (2), a child who comprehends the prosodic focus pattern should have referred to the object by answering, '*No, he has the HAMMER.*' Thus, since the prosodically focused constituent of the sentence is required to be either an object or a subject (animal), researchers predicted that if children comprehend the prosodic

focus, their corrections should be based on the focused element but not the other NP in the sentence. It has been also discussed that the default position of prosodic focus is typically on the object in several languages (Cinque, 1993; Reinhart, 2004; Szendrői et al., 2018). Thus, the subject focus requires an extra prosodic operation described as a stress shift. In other words, when it comes to sentences that involve the subject focus, the default position of the object has changed. Accordingly, object-focused utterances can be considered default concerning their neutral prosody, while subject-focused utterances are deemed to be marked. They explained that this distinction suggests speakers might handle utterances with stress shifted to the subject differently than those with neutral object stress.

Notably, considering this set-up, children could also make double corrections and refer to both elements by giving corrections such as '*The birdie has a hammer, and the tiger has a shovel*.' As for coding the responses, the authors defined three types of corrections: true, reversed and double correction. If children understood the prosodic focus correctly, they should refer to the subject or object in the test sentence. This type of correction is coded as a true correction. However, if children preferred the deaccented element instead of the one that carries focus, their answer was accepted as the reversed correction. Researchers suggested that the children who comprehend focus successfully were expected to give subject correction responses in the subject condition and vice versa. However, if young children were not capable of interpreting the focus type correctly, they were expected to be prone to make reversed corrections.

The results have shown that the focus type affects children's understanding of focus. The percentage of subject corrections was determined as the dependent variable by Szendrői et al. (2018). Hence, the subject correction percentages of

participants were compared, considering the object and subject conditions. This study's findings indicated that children gave more answers to subject correction questions in the subject condition than in object correction. Thus, a main effect of the condition has been observed in the research. In addition, the research mentioned slight cross-linguistic differences among language groups. It has been demonstrated that English participants tend to make more subject corrections than their French counterparts. Additionally, it has been emphasised that German participants of all ages made more double corrections than English participants, regardless of the type of focus condition. However, these cross-linguistic differences did not reach statistical significance in the French, English and German contexts. Since there was no effect of age, Szendrői et al. (2018) concluded that children as young as three years old could understand prosodic focus in an adult-like fashion when the pragmatic context was properly established in the experimental setting. The results of Szendrői et al. (2018) basically suggest that comprehension does not lag behind production, and young children can produce and comprehend focus when the pragmatic requirements are met. However, it is unclear whether they use the same strategies as adults do or not. Understanding how Turkish-learning children interpret prosodic focus can provide deeper insights into the problem of whether the focus is an inbuilt ability or not. Furthermore, the literature indicates that asymmetries can exist between subject and object focus in many complex sentence structures (Aravind et al., 2016), which could also impact focus comprehension and production.

2.5 The acquisition of clefts in English and Japanese

Cleft sentences, due to their unique combination of prosody and syntax, have drawn significant attention in the linguistics literature. Initial research on the acquisition of cleft structures predominantly focused on English-speaking children. Early studies in this domain revealed a significant asymmetry in children's ability to comprehend subject cleft and object clefts. Researchers have attempted to explain the observed differences in cleft sentence acquisition by suggesting two main approaches: The Agent-First Strategy (Tavakolian, 1981; Friedmann & Novogrodsky, 2004; Aravind et al., 2016) and syntax-based heuristics (Dick et al., 2004; Roland et al., 2007). Building on this, this section will explore key studies that focus on children's acquisition of cleft sentences.

Lempert and Kinsbourne (1980) conducted a seminal study to examine the sentence comprehension skills of children ranging from two years and five months to six years and three months. The experimental setup included 16 sentences designed to evaluate how children would interpret active, passive, cleft, and scrambled cleft structures. In this study, they presented the test sentences verbally and invited the children to act out the events described in the sentences with the toys provided. In one of the test sentences, the child was provided with a toy wagon and toy truck and was asked to enact the sentence, *'It is a truck that the wagon is bumping.'* The results of the study demonstrated that children were competent in acting out active sentences from an early age, however, they encountered considerable challenges when interpreting passive and cleft sentences. Thus, children had difficulties comprehending complex syntactic structures. Additionally, children's proficiency in comprehending subject cleft sentences was found to be higher, almost adult-like, in comparison to their performance in object clefts. Thus, Lempert and Kinsbourne's

(1980) findings suggested that there is an asymmetry in children's comprehension of subject vs. object clefts, and the researchers attributed this asymmetry in performance to children's incomplete syntactic knowledge.

Based on the findings, it is suggested that unlike adults, in the processing of cleft sentences, children might be relying on a cognitive shortcut which in the literature is referred to as the Agent-First Strategy. Initially proposed by Tavakolian (1981), this strategy has been explained as a comprehension heuristic that maps the first noun of a sentence onto the agent role. This strategy is claimed to be a general cognitive bias that applies automatically in children's comprehension process. Let us consider the cleft constructions below to explain how the Agent-First Strategy is purported to be at work in the successful comprehension of subject-clefts. The order of the constituents in (10a) below conforms to the default word order of English, where the subject, for the most part, maps onto the agent and the object to the patient semantic role. Basically, the cat is in the subject position in the clefted sentence (10a), hence it maps onto the agent role. In (10b), however, the first NP –that is the object of the sentence –has the Patient semantic role, thereby potentially posing a challenge in interpretation.

(10) a. It's a cat that is chasing the bird. (Subject-Cleft)

S V O

b. It's a bird that the cat is chasing. (Object-Cleft)

O S V

Thus, researchers advanced the idea that children have an advantage when interpreting subject clefts, as the Agent-First Strategy allows them to identify the agent easily (Friedmann & Novogrodsky, 2004; Aravind et al., 2016). However, the

same strategy may lead to difficulties when interpreting object clefts, resulting in lower comprehension performance.

In another study on comprehension of clefts, Dick and colleagues (2004) explored sentence comprehension abilities of participants aged between five and 17 years old. The experiment was designed to test participants' comprehension across a range of sentence structures such as active, passive, subject-clefts and object-clefts. Participants were asked to listen to sentences presented through headphones and match the sentences to corresponding images displayed on a screen. The results of this study again showed that participants successfully matched subject clefts with corresponding images, however, they encountered difficulties when it came to matching object clefts. In light of these results, Dick et al. (2004) proposed that the asymmetry in comprehension might be stemming from a different strategy. According to this claim, subject clefts might provide a processing advantage due to their resemblance to active sentence structures (Dick et al., 2004; Roland et al., 2007). Researchers posited that this similarity could facilitate easier interpretation, as the syntactic patterns of subject clefts are aligned with those of traditional active sentences. The challenges faced by participants when interpreting object clefts imply a deeper cognitive or syntactic complexity that hinders straightforward comprehension. This complexity might be related to the less intuitive syntactic patterns of object clefts, making the processing more challenging for children and adolescents.

To recap, in English, subject clefts exhibit a syntactic structure similar to active sentences, maintaining a SVO order like. However, object clefts have a different structure than the default structure of an active sentence, following an OSV.

(11) a. It is [a cat] [that _____is chasing the bird]. (Subject-Cleft)

b. It is [a bird] [that the cat is chasing _____] (Object- Cleft)

As seen in the example above, object clefts deviate from the typical active sentence pattern. This structural difference has been suggested as a possible reason why object clefts are more challenging to process and evaluate for children and adolescents (Dick et al., 2004; Roland et al., 2007).

To summarise thus far, research on the acquisition of clefts demonstrated an asymmetry between subject and object cleft sentences. According to some researchers, children's superior performance on subject clefts as opposed to object clefts is correlated with children's immature syntax, thus can be explained by a linguistic heuristic, that is Agent-First strategy, a shortcut that young learners use in mapping the first Noun with the Agent role. According to other researchers, objects are harder to interpret as children might be relying on syntax-based heuristics, which tap into displacement. The second explanation attributed the difficulty to the relative rarity of object clefts, making them less familiar and more challenging for children to understand.

A recent study (Aravind et al., 2016) argued that the observed asymmetry in processing subject and object-cleft sentences does not originate from children's lack of adult-level linguistic knowledge. Instead, it suggested that the methodological approaches used in earlier research might be responsible for these discrepancies. Hence, they proposed that the experimental setup and testing methods could have influenced the observed outcomes.

In earlier work on the issue, children were asked to act out sentences with toys without being given any contextual information. For instance, Lempert and Kinsbourne (1980) provided children with toys corresponding to the subject and the object of a cleft sentence and asked children to act out the sentence. Therefore, they

were given a dog and a cat puppet and then expected to act out the sentence, '*It is a dog that the cat is chasing'*. In another study, children were shown two images: one depicting a dog chasing a cat and the other showing a cat chasing a dog. Participants were then asked to determine which image matched the sentence '*It is a dog that the cat is chasing*' (Dick et al., 2004; Hirsch & Wexler, 2006). Overall, these experimental setups were designed to investigate how children comprehend cleft sentences by either acting out the scenes or matching the clefts to the correct images.

Aravind, Hackl and Wexler (2018) demonstrated that previous studies did not provide sufficient pragmatic context to children. As a result, they proposed that the observed asymmetric performance in cleft sentence comprehension could have been influenced by this methodological problem. This lack of context might have led children to rely on cognitive shortcuts or other heuristics, impacting their ability to accurately interpret sentences in an adult-like fashion. To remedy this, they developed a new experimental paradigm where questions provided a pragmatically felicitous context for interpreting cleft sentences. In this new setup, the questions contained relative clauses that conveyed presuppositional information. Hence, the question word allowed either the subject or object to be emphasised as new information in the cleft. This new approach aimed to create a pragmatic context that supports more accurate comprehension of cleft sentences by children. More precisely, researchers expected that when pragmatic requirements are met, children will be fully competent in cleft comprehension. In their experimental paradigm, the question sentence that introduces the pragmatic context preceded the cleft sentences. For instance, let's consider the two pictures depicted in Figure 2. Picture A was shown accompanying the context sentence (2a) in the experiment. Following this, picture B was presented with the cleft sentence. In this way, the cleft sentence (2b)

was felicitous, while the cleft sentence (2c) was infelicitous according to the pragmatic context. Figure 2 illustrates occluded and unoccluded events of the study.

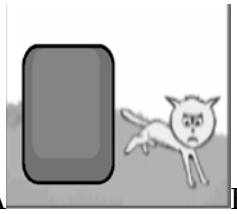
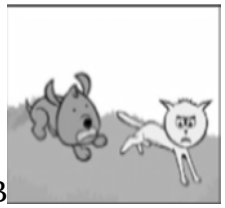
A  B 

Figure 2. Aravind et al. (2018) sample item
Note: Figure 2 shows the example item of the original study. Reprinted from "Syntactic and pragmatic factors in children's comprehension of cleft constructions" by Aravind, A., Hackl, M., & Wexler, K., 2018, *Language Acquisition, 25*(3), p. 275.

(1) a. Look! Something is chasing the cat. I wonder what it is! (context)

b. It is a dog that is chasing the cat. (felicitous)

c. It is the cat that a dog is chasing. (infelicitous)

Sentence (2b) fulfils the condition for the focus phrase to carry new information as '*a dog*' is new information. The relative clause that follows satisfies the presupposition condition since it refers to the previously mentioned context. This ensures that the cleft sentence is pragmatically felicitous, fulfilling both the presupposition and new-information conditions. Thus, considering pragmatic felicity, sentence (2b) should be considered as correct. On the other hand, sentence (2c) is pragmatically infelicitous, as the object '*the cat*' has already been given in the previously provided context. Therefore, sentence (2c) is incorrect as '*the cat*', that is, already introduced info is in the focus phase, while the previously unmentioned *'a dog is chasing something'* is in the relative clause, incorrectly implying presupposed information.

In this experimental setup, object cleft sentences were tested using the context outlined in (3a), where the first image was altered to conceal the cat instead of the dog. In this scenario, sentence (3b) carries the new information that was not presupposed in the given context. Therefore, considering the pragmatic context, sentence (3b) is correct, while sentence (3c) is pragmatically infelicitous due to its misalignment with the context, it is incorrect.

(3) a. Look! The dog is chasing something. I wonder what it is! (context)

b. It is a cat that the dog is chasing. (felicitous)

c. It is the dog that is chasing the cat. (infelicitous)

Using this experimental paradigm, researchers examined 48 children aged between four and seven years (mean age: five years and 11 months) and 45 adults in a modified version of the Truth-Value-Judgement Task (Crain & McKee, 1985; Crain & Thornton, 1998). In their study, researchers investigated the effects of pragmatic felicity (congruent/incongruent) and cleft type (subject/object) on participants' cleft comprehension. The findings revealed that when sentences are pragmatically felicitous, children successfully identified the subject and object clefts, with an accuracy rate of 84% and 83%, respectively. These results suggested that children as young as five years old can understand the syntactic structure of cleft sentences and their pragmatic relevance within a given context.

In sharp contrast, children could not successfully comprehend both types of clefts when the sentences were not pragmatically felicitous. In this case, children could only assess the accuracy of subject clefts with 82% success, while they faced significant challenges with object clefts, achieving only 34% accuracy. The research suggested that children may develop a unique interpretation strategy when they encounter pragmatically incongruent sentences, possibly relying on word-order.

Taken together, children struggled with object clefts as the English SOV sequence in a sentence (3c) aligns with this strategy, whereas sentence (3b) does not. Aravind and colleagues (2018) later applied the same experimental setup to a different group of 26 children without providing the context. Hence, rather than providing the full pragmatic context like in sentences (2a & 3a), they only used the command '*Look!*' as a prompt. In this situation, children interpreted subject clefts with nearly 80% accuracy, while their performance on object clefts appeared random, achieving a success rate of about 50%.

In the study, participants' response times were also analysed to compare the conditions. The results of this analysis highlighted an asymmetry between subject clefts and object clefts. Both adults and children required more time to process object clefts compared to subject clefts. More precisely, among the structures requiring longer processing times, pragmatically infelicitous cleft sentences have been found to exhibit the longest response times. These sentences were also the most inaccurately interpreted clefts, with a correct interpretation rate of only 34%. This result suggests that while participants took longer to process these sentences, they struggled to find a way to align them with the given pragmatic context.

To summarise, the study's results have shown that children around four years of age can comprehend both subject and object clefts at an adult level when the pragmatic context is provided. However, when tested without contextual cues, the subject-object asymmetry in cleft comprehension persisted, and children could not interpret object clefts successfully. These results indicate the importance of pragmatic context in children's acquisition of clefts. Together, analyses on accuracy and response time have provided evidence that contextual cues can be regarded as essential for an accurate comprehension of clefts.

In the second experiment, Aravind and colleagues (2018) introduced a third parameter: truth value (true/false), in addition to pragmatic felicity (congruent/incongruent) and cleft type (subject/object). Also, the visuals of the second experiment involved a new pair of animals to be able to create false and true cleft sentences. To exemplify, with a visual context like the one provided in picture C with the pragmatic context (4a). Figure 3 shows the updated version of Aravind et al. (2018) visuals.

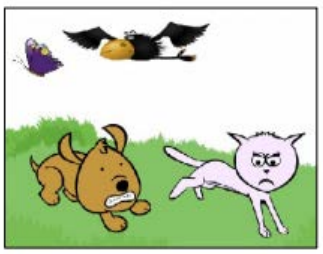


Figure 3. Aravind et al. (2018) sample item – II
Note: Figure 3 shows the example item of the original study. Reprinted from "Syntactic and pragmatic factors in children's comprehension of cleft constructions" by Aravind, A., Hackl, M., & Wexler, K., 2018, *Language Acquisition, 25*(3), p. 275.

(4) a. Look! Something is chasing the cat. I wonder what it is!

b. It is a bird that is chasing the cat.

c. It is a cat that a bird is chasing.

Sentence (4b) aligns with the context, yet it is incorrect, as the cat is actually being chased by a dog. Sentence (4c), however, does not align with the context, and it is also incorrect, as the bird is actually chasing a butterfly. The results of the second experiment showed that children successfully identified the truth values of both cleft types when the clefts were incorrect.

Finally, Aravind et al. (2018) included another experiment to test English pseudoclefts, that is, sentences such as '*What the dog is chasing is a cat vs. What is chasing the cat is a dog*.' The participants consisted of 36 children (aged four - seven) and 47 adults. This final experiment used the same parameters with the former ones: pragmatic felicity, cleft type and truth-value. The findings of the experiment revealed that adults achieved 100% accuracy across all cleft types. Children, on the other hand, demonstrated similar performance levels with pragmatically felicitous subject and object clefts, with success rates of 87% and 86%, respectively. With pragmatically infelicitous true sentences, success rates were 53% for subject and 73% object clefts. When it comes to the pragmatically infelicitous false sentences, children's success rate was 79% for subject and 93% for object clefts. Hence, these findings demonstrated that the subject-object asymmetry only occurred in infelicitous conditions.

Overall, this comprehensive study on English cleft comprehension has provided evidence that children are capable of processing subject and object cleft structures successfully when pragmatic context is given in the experimental paradigm. However, in the absence of contextual cues, their performance is not above chance for object clefts. In addition, it has been shown that false object cleft sentences that are also pragmatically infelicitous present considerable processing challenges and require longer response times. Finally, the subject-object asymmetry was not sharp for pseudoclefts. Researchers explained that object pseudoclefts, unlike object it-clefts, align more closely with the standard English order. Thus, this might have offered an implicit processing shortcut.

The question of whether the observed asymmetry in English cleft sentences would occur in languages with different word-orders has been investigated in studies

on Japanese. Initial findings from Hayashibe (1975) and Hakuta (1981) indicate that Japanese-speaking children performed better in comprehending subject clefts compared to object clefts similarly to their English peers. However, in the study by Ohba and Yamakoshi (2018), it was found that when provided with appropriate context, Japanese children were fully competent in both cleft sentence types.

In a recent research, Ohba, Yamashoki and Sano (2019) questioned the adequacy of methods used in previous research (Aravind et al., (2018); Ohba & Yamashoki, 2018). Using a new experimental design with three-character visuals, their study revealed that Japanese-speaking children actually performed better in comprehending object-cleft sentences compared to subject-clefts. In light of this conclusion, researchers suggested that in contexts where the event pattern inherently assigns the patient role to one character, the default assumption would be that the cat is the patient. Consequently, when children hear '*It is the dog that is chasing the cat'*, they might quickly infer that the agent role is likely to be the dog, allowing children to determine the truth of the sentence without needing to hear the entire sentence.

To tackle this possible problem, Ohba et al. (2019) modified their experimental setup to avoid such alternative strategies by including three-character visuals two of which are concealed as in Figure 4. For example, in the context of (5a), the accompanying visual for child participants featured an elephant, which could be interpreted as both the agent and the patient. Hence, this design allowed candidates for both roles and prevented children from relying on simpler contextual cues to interpret the sentence.

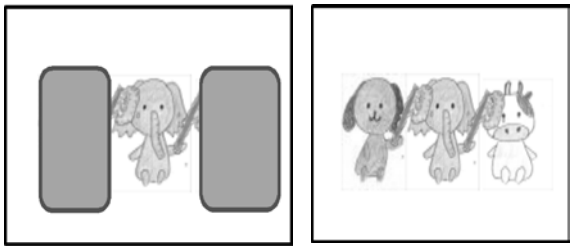


Figure 4. Ohba et al. (2019) sample item
Note: Figure 4 shows the example item of the original study. Reprinted from "Children's Acquisition of Clefts Revisited: New Evidence from Japanese." by Ohba, A., Sano, T., & Yamakoshi, K., *Proceedings of BUCLD 43*, 573-584.

(5) a. Look! Something is washing the elephant and the elephant is washing something.

b. It is a cow that is washing the elephant.

The Truth-Value-Judgement Test (Crain & Thornton, 1998) has been employed in the experiment, and Japanese-speaking children were asked to interpret both subject clefts and object clefts. An example of a subject cleft, (5b), was presented in a context where an elephant was described as both washing and being washed. According to visual context this sentence can be regarded as incorrect. Because it is not a cow washing the elephant, indicating that for correct evaluation, children must pay attention to the final focus phrase.

Similarly, for an object cleft, the context was presented with the first picture depicted in Figure 5. When the cleft test sentence was presented in the context given below in Figure 5, the expected response was incorrect. The visual context suggests that the pig is washing not a dog, but a rat. Hence, the sentence (6b) is not true according to the visual context. Again, this requires children to correctly evaluate the focus phrase at the end of the sentence to determine its truth value. Thus, in both subject clefts like sentence (5b) and object clefts (6b), the second noun in the sentence played a critical role in accurate interpretation. In this way, the paradigm

removed the possibility of children relying on case markers attached to the first noun for evaluation.

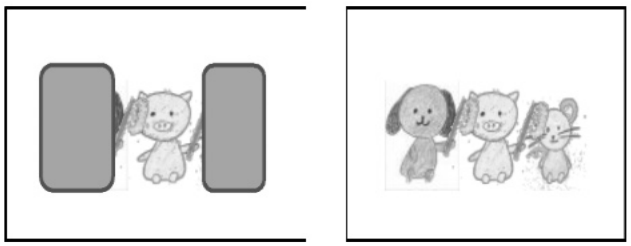


Figure 5. Ohba et al. (2019) sample item - II
Note: Figure 5 shows the example item of the original study. Reprinted from "Children's Acquisition of Clefts Revisited: New Evidence from Japanese." by Ohba, A., Sano, T., & Yamakoshi, K., *Proceedings of BUCLD 43*, 573-584.

(6) a. Look! Something is washing the pig, and the pig is washing something.

b. It is the dog the pig is washing.

The participants of this experiment consisted of 23 Japanese-speaking children. Results revealed that children aged six (four participants) successfully interpreted subject clefts with a 94% accuracy rate, while the success rate lowered to 81% for object clefts. In contrast, younger age groups showed varied results. While younger groups successfully comprehend object clefts (four-year-olds at 88.6%, five-year-olds at 100%), they struggled with subject clefts (four-year-olds at 59%, five-year-olds at 56%).

According to Ohba and colleagues (2019), this finding suggested that when interpreting a sentence like (5b), Japanese-speaking children tend to assign the agent role to the first noun despite its case marking, consistent with the previous studies (Hayashibe 1975; Hakuta 1981), following the Agent First strategy (Tavakolian, 1981; Friedmann & Novogrodsky, 2004; Aravind et al., 2016). Successful

interpretation of subject clefts, however, required assigning the patient role to the first noun and the agent role to the second noun in the phrase.

Overall, Ohba et al. (2019) found that the asymmetry between subject and object clefts persists in Japanese-speaking children, especially in the younger age groups. Children had fewer difficulties with processing object clefts, while finding subject clefts comparably more challenging. Consequently, the study revealed that children at different developmental stages employ different strategies to interpret cleft sentences. According to the results, the Agent First strategy is relevant at the early stages of development, leading to misinterpretation in cases where a correct reading requires the opposite role assignment.

This study investigates the comprehension of prosodic focus and cleft sentence structures in Turkish-speaking monolingual preschoolers. As laid out in the previous chapter, crosslinguistic research on the acquisition of cleft constructions in English and Japanese provides mixed results with respect to how children interpret cleft sentences. According to this line of research, children exhibit an asymmetry in their acquisition of cleft sentences. They tend to perform better in comprehending subject-cleft sentences compared to object-cleft ones (Aravind et al., 2018; Ohba et al., 2019). This documented asymmetry is mainly examined under two main approaches: the Agent-First Strategy and the syntax-based heuristics. The former approach proposes that children tend to assign the agent role to the first noun in a sentence context; the latter, however, emphasises the role of the default word order or other language-specific cues in the interpretation of clefts. Nevertheless, both views support the idea that children do not attain the adult comprehension level in their early years, and they rely on cognitively less effortful strategies in sentence comprehension.

Despite these, current research also highlights the role of pragmatic felicity in cleft comprehension by suggesting that when the pragmatic requirements of the experimental setup are met, children are able to reach full competence in cleft sentence acquisition.

The present study explores how Turkish-speaking children interpret cleft sentences and whether they predispose an asymmetry in the acquisition process. Considering the importance of licit prosodic focus comprehension in cleft sentence acquisition, our first experiment investigates Turkish-speaking children's comprehension of prosodic focus.

CHAPTER 3

THE ACQUISITION OF PROSODIC FOCUS IN TURKISH

3.1 Research questions and hypotheses

We conjecture that Turkish-speaking children may experience difficulties in comprehending prosodic-focus marking – along the lines as laid out in cross-linguistic findings (Szendrői et al., 2018) – and may opt for object-corrections in sentences where the subject is accented. Thus, we predict that Turkish children would perform better on object-focus marking using a strategy based on the default focus pattern of Turkish. Furthermore, we expect older Turkish children to be more sensitive to differences in focus marking –like their English, German and French agemates– and hence to perform better in sentences which require subject-focus corrections. Thus, we expect to observe a developmental difference between younger and older learners of Turkish. That said, we also would like to underscore the fact that research on the acquisition of focus does not appear to distinguish between neutral focus and corrective focus; rather, those different focus types appear to be collapsed into one category. As this approach would give rise to very misleading conclusions, we diverge from that stance. In testing children's handling of focus in Turkish, what we are testing is, in fact, their take on corrective/ contrastive focus.

In Experiment I, our objective was to explore the following questions:

1. Are Turkish-speaking preschool children proficient in their understanding of focus in the context of sentences which require a focus-correction?
2. Is there a significant asymmetry in how Turkish-speaking children process and interpret subject- vs. object-focus marked sentences?

3. Are there variations in accuracy among different age groups with respect to prosodic focus marking?

To assess children's sensitivity to prosodic focus, in particular corrective/ contrastive focus and to determine whether they can comprehend focal differences in sentences we used an experimental paradigm that consisted of a sentence correction task as proposed in Szendrői et al., (2018). The task required participants to listen to a sentence and correct potential false assertions produced by the experimenter based on the visual presented.

In the experiment, Turkish-speaking children were presented with visuals that involved 3 sets of animal-object pairs such as *a dog and a flower*; *a bird and a bottle*, *a crab and a clock*, etc. (see Figure 6). In the test sentence, the child learners were exposed to sentences that differed in terms of accent placement on the SUBJECT or the OBJECT of the sentence. For example, upon presentation of a visual where *a dog has a flower* and *a bird has a bottle* and a third animal-object pair as a distractor, the child was invited to evaluate the accuracy of the sentences such as i. '[*KÖPEĞİN*] *çiçeği var'* where the accented entity is the subject or ii. 'Köpeğin [ÇİÇEĞİ] var' where the focus marked entity is the object. Thus, for examining children's comprehension of the focused entities, we probed whether children refer to the focused element in their corrections or not. More precisely the contrast set for (i) must be the set of animals –hence the subject– in the visual, for (ii) the set of items- hence the object. The type of focus has been designed as a between-subjects factor. Participants were assigned to either the subject or the object condition.

3.2 Participants

Participants of the experiment were 31 (16 girls) native Turkish-speaking children between three- and five years of age (mean age: 4.8, range: 3;2-5;9). Parents of all the participants signed a consent form prior to the administration of the experiment. The participants of the experiment were recruited from preschools in Bursa. All participants belong to a middle socioeconomic background. Additionally, none of the participants were reported to have any developmental issues. Participants were rewarded with a sticker for their involvement in the experiment. Table 1. below illustrates the number of children tested in the Subject and Object conditions.

Table 1. The Participants in Experiment 1

	SUBJECT			OBJECT		
Age Group	Sample Size	Mean Age	Age Range	Sample size	Mean age	Age Range
3	*N* = 3	3;5	(3;2-3;9)	*N* = 5	3;5	(3;2-3;8)
4	*N* = 5	4;4	(4;3-4;6)	*N* = 3	4;5	(4;2-4;7)
5	*N* = 7	5;5	(5;3-5;8)	*N* = 8	5;6	(5;1-5;9)

3.3 Experimental design

Between-subjects design: 2 (Focus Type: subject/object) x 4 (Age Group: 3, 4, 5, 6)

3.4 Materials and procedure

The experiment examined the ability of preschool children to comprehend prosodic focus using a procedure adapted from Szendrői et al. (2018). In the experiment, children's success in understanding prosodic focus was measured by manipulating the speech context and the type of focus within a sentence (subject-focus/object-focus). The experiment consisted of three phrases: the welcome, the warm-up, and the test. Our cartoon characters are shown in Figure 6.



Figure 6. Zog and Blip

In the first phase of the experiment, the cover story is read aloud by the experimenter to children for introducing them to the main characters Zog and Blip (see Figure 6). The characters are designed and animated by the experimenter. As seen in the figure, the characters differed only in terms of some facial features and colours. Three welcome screens (see in Figure 7) supporting the story preceded the warm-up phase. The cover story that is read by the experimenter can be found below.



Figure 7. Experiment I welcome screens

Turkish

Heyooo! Harika bir uzay yolculuğuna çıkmaya ne dersin? Sevimli uzaylılara Türkçe öğretmek için yardımına ihtiyacımız var! Şahane resimler, komik cümleler ve süper görevlerle dolu bir macera seni bekliyor. Bu heyecanlı yolculuğa hazır mısın? Başlamak için bu tuşa (SPACE'e) bas! Uzayda, çok uzaklarda bir yerlerde, Zog ve Blip adında iki tatlı uzaylı vardı. Galaksiler arası yolculuk yaparken, bir hata sonucu Dünya'ya düştüler! Sonra ne oldu biliyor musun? Evlerine dönebilmek için insanlarla konuşmayı öğrenmeleri gerektiğini fark ettiler. Zog ve Blip Türkçe öğrenmeye çalışıyorlar! Harika bir Dünyalı çocuk olarak, Zog ve Blip'in Türkçe öğrenmelerine yardım etmek için seçildin. Blip de Zog da öğrendiklerini sana göstermek için sabırsızlanıyor. Şimdi ekrana Blip ve Zog'un okuduğu kitaptaki resimler gelecek. Zog ve Blip de resimleri sana anlatmaya çalışacaklar. Ama bilmen gereken bir şey var. Her ikisi de Türkçe'yi yeni öğrendiği için çok fazla hata yapıyorlar. Onların hatalarını düzeltebilir misin? Hazırsan görevine ışınlanalım!

English

In a faraway galaxy, there were two adorable aliens named Zog and Blip. While travelling between galaxies, they made a mistake and ended up on Earth! Do you know what happened next? To begin, press SPACE! They realised that they needed to learn how to communicate with humans to return home. Zog and Blip have just started learning Turkish! As an awesome Earthling, you have been chosen to help Zog and Blip to learn Turkish. Both Blip and Zog are eager to show you what they have learned. Now, on the screen, you will see pictures from the book Blip and Zog are reading. They will also try to describe the pictures to you. But there is one thing

you should know. Since they just started learning Turkish, they make many mistakes. Can you correct their mistakes? If you are ready, let's teleport to your mission!

Following the welcoming phase, the warm-up phase was introduced to participants. In the warm-up phase, children were asked to help Zog and Blip in defining colours. In this phase, four pictures that consisted of solid colours (see in Appendix A) were presented to children next to the videos of Zog and Blip (see in Figure 3.3). All verbal stimuli, including colour guesses and focus sentences (see in Appendices B and C) were presented via videos of these characters. The videos of Zog and Blip were pre-recorded using Adobe Character Animator 2023. Warm-up videos contained four different colour guesses. Children were expected to correct the character when the character could not define the colour correctly. For instance, if Zog uttered sentence (1) accompanying Figure 8, the child was expected to correct Zog by saying, “No, it is green.”.

(1) Bu renk mavi, değil mi?

‘This colour is blue. Right?’

Overall, the warm-up phase consisted of four items and the experimenter provided feedback for each item. Four different visuals each consisting of three animal-object sets were created for the test phase as in Figure 8. All test visuals (see in Appendix D) have been drawn and edited by the experimenter. The test sentences consisted of ten sentences including four subject-focus, four object-focus and two control items (see in Appendices E and F). Each participant saw 6 items in the test session as the focus type was a between-subjects variable in the experimental design. All test sentences were also introduced through the videos of Zog and Blip. Unlike the warm-up phase, the experimenter did not provide any feedback to children during the test session.

Children were rewarded with a sticker after they completed the test phase. Figure 8 illustrates one of the test visuals we used in Experiment 1.



Figure 8. Experiment 1 sample visual

In the test session, accompanying the display of the visual given above, the children were asked to assess the accuracy of the sentences in Table 2 based on their truth values, and to correct those that were false. In the subject condition, children needed to compare the subject of the sentences, that is the animals with the subject of the contrast set. In the object condition, they were expected to compare the objects in the set (that is, the clock, flower, bottle, etc.) as they were the accented entities in the sentence.

Table 2. Sample Test Sentences and Expected Answers

Truth-Value	Subject-focus Condition	
1	a. [KÖPEĞİN] çiçeği var, değil mi? Evet	a. [THE DOG] has a flower, right? Yes
0	a'. [KUŞUN] çiçeği var, değil mi? Hayır, [KÖPEĞİN] (çiçeği var)	a'. [THE BIRD] has a flower, right? No, [THE DOG] (has a flower)
	Object-focus Condition	
1	b. Köpeğin [ÇİÇEĞİ] var, değil mi? Evet	b. The dog has a [FLOWER], right? Yes
0	b'. Köpeğin [ŞİŞESİ] var, değil mi? Hayır, [ÇİÇEĞİ] (var.)	b'. The dog has a [BOTTLE], right? No, [A FLOWER] (it has.)

In the subject-focus condition, sentence (a), where the prosodic focus is on the dog, is correct, while sentence (a'), where the prosodic focus is on the bird, is incorrect. Hence, children are expected to say '*Yes*' to sentence (a) as the sentence's truth-value is (1). However, children are expected to say "No" in the case of sentences having the truth-value of (0) and are also invited to correct the false assertion by referring to the focused element. According to the visual, the bird does not have a flower. Instead, the dog has a flower. Since the truth-value for the sentence with an emphasis on the word "bird" is (0), a child who correctly interprets the prosodic focus should infer that the subject is being questioned in the sentence. Hence, the child is expected to correct this incorrect sentence as '*THE DOG has a flower, not the bird.*'

Likewise, children should understand that the truth-value of sentence (b') is zero and the object is accented. Hence, they are expected to compare objects in the object-focus condition. The child who comprehends the focus-marking correctly is expected to correct the sentence as '*No, the dog has a FLOWER.*'

Overall, the experiment included four questions in the warm-up phase; and six questions in the test phase. The test items contained four focus questions and two control questions. Each participant responded to ten items in total, consisting of four warm-up, four focus and two control sentences. The experimenter designed four plain colour visuals for the warm-up phase and four visuals with sets of three animal-object pairs for the test phase. Twenty videos were created with the sentences voiced by the experimenter.

The results were assessed through analyses based on the responses given by the children. Responses were considered correct when children answered *'Yes'* for sentences with a truth-value of 1 (True). However, for those with a truth-value of 0 (False) children were expected to refer to the subject or the object in accordance with the prosodic focus in the sentence. Thus, as outlined in Table 2, children were expected to correct subject-focused sentences by referring to the subject, and object-focused sentences by referring to the object. However, considering the possibility of answers that may not align with expectations, we included the following categories to our coding scheme:

Children could correct the sentence's subject in the object condition or vice versa. This type of correction is categorised as reversed correction; ii. Children could correct both elements. This type of correction is categorised as double-correction. For instance, children might respond as '*No, the dog has a flower and the bird has a bottle*.', referring to both the subject and the object in their answer. Thus, the coding process included these options for participants' responses: wrong answer, reversed correction, correct correction and double-correction, respectively. Thus, children received 0 points for a wrong answer, 1 point for reversed correction, 2 points for correct correction, and 3 points for double correction. For instance, if a

participant corrected the object in the subject-focused condition, they would receive 1 point, if they corrected the subject, they would receive 2 points and if they corrected both, they would get 3 points. If a participant made no correction, the answer was coded as incorrect. The results of the study were statistically analysed to compare the correct responses given by children based on the type of focus and the age group.

3.5 Results

The control items were examined prior to the main hypotheses to determine whether children understood the task. The accuracy results revealed that children correctly assessed the control items at a rate of 76.31%. The Kruskal-Wallis test was used to determine whether the accuracy in evaluating control items differed based on age and focus type variables. The results indicated that neither focus type (χ^2 (1) = 3.4436, p = 0.0635) nor age (χ^2 (3) = 3.8175, p = 0.2819) had a significant effect on the evaluation of control items. The data's prerequisites were assessed to choose the appropriate statistical method for testing the main hypotheses. The Shapiro-Wilk test revealed a significant deviation from a normal distribution for the performance scores, which we defined as the dependent variable (W = 0.92, p = 0.09). Consequently, the Kruskal-Wallis test was used to evaluate the impact of age and focus type on children's ability to perceive prosodic focus. The results confirmed that both focus type (H= 5.41, p = 0.02) and age (H = 16.95, p < 0.001) have a statistically significant effect on children's performance in comprehending prosodic focus. The percentage distribution of response types according to age and focus type is given in Figure 9.

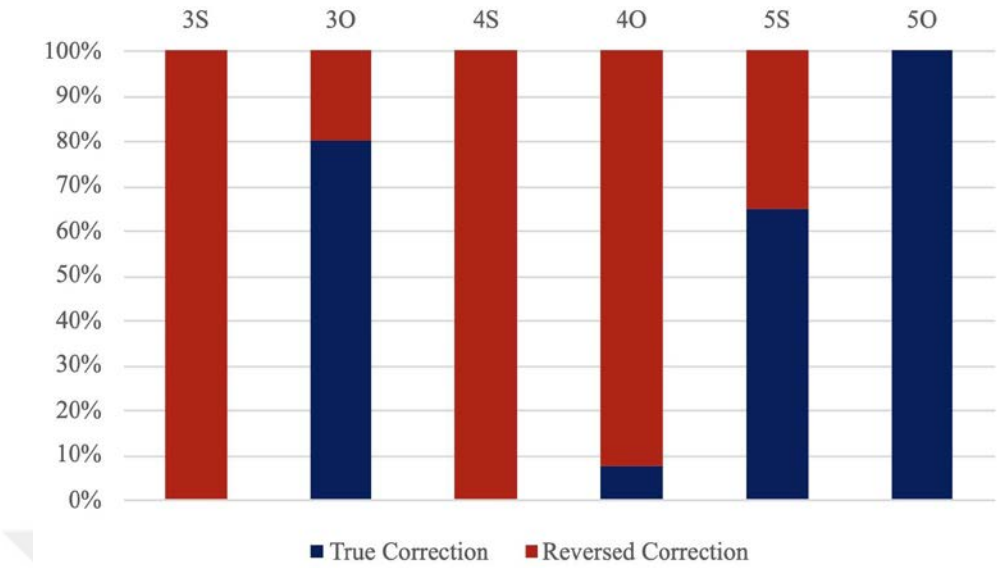


Figure 9. The correction types according to age groups and focus (S = Subject, O = Object)

As the figure illustrates, three-year-old children exhibited a distinct pattern in their sentence corrections compared to older learners. In sentences that demand subject-focus corrections, three-year-old learners opted for object-marked responses; in contrast, they showed a success rate of 80% in correcting object-focus sentences; that is, only in 20% of their answers, they opted for a subject-focus correction in a sentence that requires an object-marked response. This object-focus tendency persisted among four-year-olds as well; like the three-year-olds, they could not accurately correct subject-focused sentences. Furthermore, quite peculiarly, four-year-old children performed very poorly in the object condition as well. Overall, the four-year-old group corrected both subjects and objects reversibly, unlike the other age groups. By age five, children showed a noticeable improvement in comprehending both subject- and object-focus marked sentences compared to the younger groups. Hence, five-year-olds corrected all object-focus marked sentences

accurately and obtained a success rate of 65% in correcting subject-focus marked sentences. These findings suggest a significant development in the comprehension of prosodic focus as children grow older, with a particularly pronounced improvement by the age of five.

Overall, the results suggested that participants performed better in the object-focus condition (M = 5.16, SD = 2.98) compared to the subject-focus condition (M = 3.25, SD = 2.07). This finding indicates that Turkish-speaking children, in the early stages of development, have difficulty in interpreting subject-focus sentences. Based on the results as laid out in Figure 9, children tend to correct focus inaccurately in the subject-condition. For instance, '*The DOG has a bottle, right?*' should be corrected as '*No, the BIRD has a bottle.*'. However, three-and-four year olds referred to the object of the sentence instead and answered the question as '*No, the dog has a FLOWER*'. The children aged five demonstrated better comprehension of prosodic focus in the subject-focus sentences.

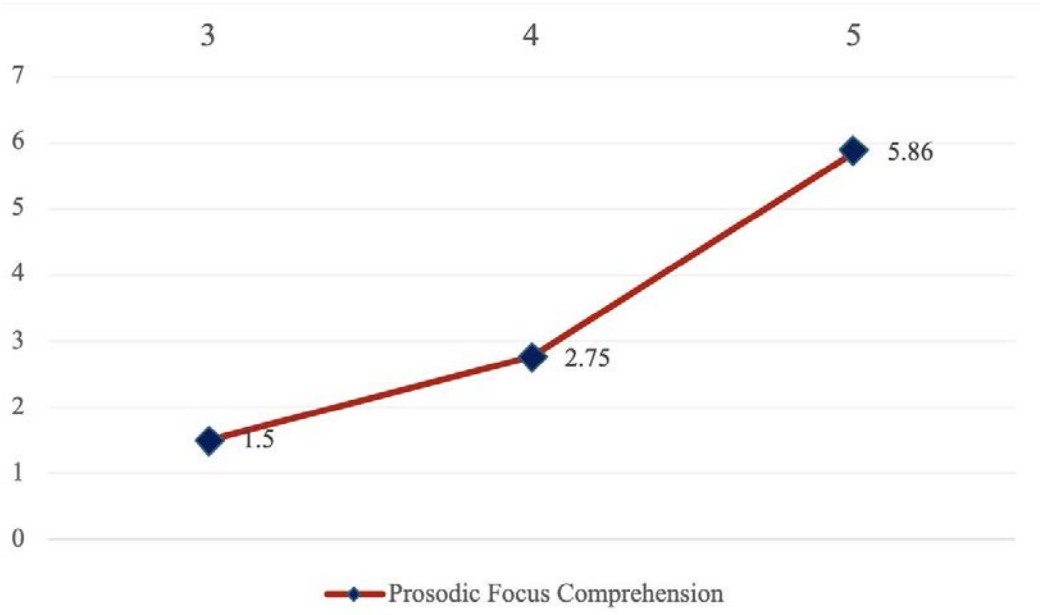


Figure 10. Accuracy means of focus comprehension by age

In a nutshell, the results of our study revealed that Turkish-speaking children are not fully sensitive to the prosodic focus marking differences. Younger children across the board showed an object correction bias in their interpretation of the subject-focus sentences. This pattern led to significant differences in the accurate interpretation of subject- and object-focus sentences, especially in children's early years of development. Thus, Turkish-speaking children exhibit gradual progress in comprehending prosodic focus, with significant differences between age groups and focus types. The findings demonstrated that while younger children provided more object corrections, that is placed the focal accent on the object constituent for subject corrections, comprehension eventually becomes more balanced by age five.

3.6 Discussion

Experiment 1 aimed to examine Turkish-speaking preschoolers' comprehension of prosodic focus. Considering the potential effects of the participants' developmental stage in the acquisition process, our paradigm was designed as a cross-sectional study that includes three different age groups. We adapted the paradigm Szendrői et al. (2018) used and introduced it with a new cover story and a more automatised set-up. This new paradigm enabled us to probe into the frequently discussed subject-object asymmetry in prosodic focus marking in simple sentences.

The experiment involved 31 children and was instructed to help some cartoon characters learn Turkish. The participants saw a picture involving three animal-object pairs and were invited to evaluate the truth of the sentence with respect to the given picture. Children were asked to correct any utterance produced by Zog or Blip if that appeared to be in conflict with the visual. In the test session, six sentences, either carrying subject- or object-focus, were introduced to children,

and the participants were expected to correct the sentences by referring to the focused element for providing a true correction. The analysis regarded all possible correction types: true, reversed, and double, respectively.

The results showed that Turkish-speaking children, unlike their European agemates, do not demonstrate an adult-like understanding of focus before the age of five. Furthermore, there was a striking asymmetry in the comprehension of subject vs. object-focus sentences, with Turkish-speaking children performing much better in the latter. Age appeared to affect participants' accuracy levels significantly. Three- and four-year-olds were found not to comprehend subject-focus at all, as they resorted to object-focus corrections in all the experimental items that demanded subject-corrections. Furthermore, quite surprisingly, unlike other age groups, the four-year-old group corrected subjects and objects interchangeably. By age five, children's ability to understand both object- and subject-focus sentences was found to increase noticeably. The five-year-old group corrected all object-focused sentences accurately and corrected the subject-focused sentences with a success rate of 65%.

We believe that these results provide insights to some of the questions raised in the relevant literature on focus acquisition. Szendrői (2010) suggested that focus production is language-specific and is independent of children's pragmatic skills, hence lack of mature mentalisation abilities may not affect children's focus production, hence correct focus interpretation emerges early. On the other hand, Furrow (1984) provided evidence of a tight relationship between the use of prosody and mentalization skills as reflected in the social cues that children use. Gradual development in focus identification and comprehension in Turkish children cast doubt on the idea that focus identification is inbuilt. That said, it is also important to distinguish between different types of focus. It could be that neutral focus is

available early on. There is compelling evidence suggesting that newborns, infants, are sensitive to prosody early on, so it is likely that neutral focus is inbuilt (Kuhl, 2004), however, to comprehend other types of focus such as the corrective focus the child has to develop semantic/ pragmatic skills to entertain alternatives and then to judge the truth or falsity of an evoked alternative.

Recall that in language acquisition, in general, comprehension precedes production. In the case of production and comprehension of focus, however, the results were mixed. Many studies reported that whereas children can successfully produce focus (Baltaxe, 1984; Furrow, 1984; Hornby & Hass, 1970), comprehension of focus lags way behind, and is not fully developed until the age of six (Gualmini et al., 2003; Paterson et al., 2003; Szendrői, 2004). Seeking to explain this reverse pattern in focus comprehension, Szendrői, Bernard, Berger, Gervain and Höhle (2018), devised a new experimental paradigm to investigate whether this asymmetry might be due to the set-up used in earlier studies on focus. Previous work on focus identification and interpretation tested focus without providing a proper, felicitous context to the participants. Szendrői et al. (2018), building on Féry (2013) who suggests that correction is the strongest cue for focus identification, implements corrective contexts in their experimental set-up. Using this paradigm, and testing a sizable number of English-, French- and German-speaking children, they concluded that comprehension of focus appears to be developed as early as age three.

This first-ever study done on the acquisition of focus in Turkish has shown; however, that focus comprehension is immature in younger children and appears to improve over the course of acquisition. In particular, five-year-old Turkish-speaking children were adult-like in their comprehension of object-focus and performed relatively better in subject-focus sentences compared to younger children; however,

subject-focus comprehension was far from being adult-like in this group. Children aged three and four exhibit a tendency to place focus on objects. This bias may have been stemming from the default neutral focus position. In Turkish, the default position for neutral focus is the preverbal position, hence the object (Erguvanlı-Taylan, 1984) or the preverbal domain (Özsoy & Göksel, 2002). Based on stress cues, it is likely that our participants found placing focus on objects easier because it aligns closely with the default stress pattern observed in Turkish.

One shortcoming of our study is that, apart from the five-year-old group that had seven children in the Object Condition (OC) and eight in the Subject Condition (SC), the number of children tested in the younger groups was relatively small. In the three-year-old group we had three children in OC and 5 in SC. In the four-year-old group we again had a total of eight children (OC = 5 and SC = 3). Due to the limited number of participants, we could not conduct parametric analyses. A large pool of participants may have yielded more conclusive results about children's comprehension skills. Though the number of children tested is few in the younger groups, children's failure in comprehending subject focus is not that surprising, as subject-focus is the marked focus construction, hence an object-focus bias may be an expected outcome. What is surprising, however, is the reverse pattern that four-year-old children showed. That object-focus sentences were corrected by subject-focus is somewhat puzzling. four years of age is usually considered to be an important milestone in the development of ToM skills, so it could be that around that age children are in the process of computing hypotheses regarding the felicitous use of focus, and the erroneous hypotheses they entertain may have yielded errorful productions.

Unlike in the case of the English (2a), German (2b), and French (2c) examples that Szendrői et al. (2018) used in testing children in the respective languages, in Turkish we had to use the existential predicate ‘var’ and the genitive-possessive construction where the subject-focused noun was attached the genitive (3a) and the object-focused noun, the possessive (3b).

(2) a. The BIRDIE has the bottle, right?

b. Der VOGEL hat die Flasche, richtig?

c. L’OISEAU a la bouteille, c’est ça?

(3) a. KUŞUN şişesi var, değil mi?

b. Kuşun ŞİŞESİ var, değil mi?

So, in the Turkish sentences, the targets of foci diverged from the nouns used in other languages in appearing with case markers. In Turkish in a genitive-possessive construction stress falls on the possessed, i.e., the possessive attached noun. This Turkish specific fact might have confounded the results, by tipping the balance against subject-focus and in favour of object-focus corrections. Thus, this might be one further reason that there was object bias, that is, object corrections in subject-focus sentences.

Based on this study's findings, additional experiments can be designed to potentially eliminate the effects of object-correction bias on the subject-focus sentences. Due to the scrambling nature of Turkish, a subject that is intended to be focused can be flexibly positioned immediately before the verb for emphasis. Given this flexibility in word order, it is worth questioning whether shifting the placement of elements would result in more balanced outcomes. Our experiment compared children's performances based on sentences like (4a & b), however, it is also possible to test prosodic focus with sentences such as (5a & b). In this hypothetical design the

sentences do not have an existential predicate, they have a zero copula or they can surface with -DIR; in (a) the subject is focused and in (b) the object, and the mean length of the utterance is kept equal between subject and object conditions. So, in this hypothetical design, the position of the focused item is reversed, compared to the sentences in (4). Although slight semantic differences might occur between the two versions, the design renders subject-focus possible and though it is always the object that is close to the existential verb in (4a & b), we would this time have the possessor close to the verb, rather than the possessed. In so doing we would be equalising the proximity of the focused item to the implicit zero copula.

(4) a. KÖPEĞİN kalemi var, değil mi?

b. Köpeğin KALEMİ var, değil mi?

(5) a. Kalem KÖPEĞİN(dir), değil mi?

B. KALEM köpeğin(dir), değil mi?

Hence, these example sentences are ideas for further investigation into the acquisition of prosodic focus in Turkish. Another shortcoming of both Szendrői et al. (2018) and our study could be the use of animate nouns in the subject position and inanimate nouns in the object. According to Aissen (1999) and Comrie (1989), as cited in Szendrői et al. (2018) animate things are usually given, thus deaccented, inanimate things constitute the foci. In future studies, the experimental design can be improved to circumvent this pattern as well.

Future research with larger sample sizes could provide more detailed insights into focus comprehension in Turkish. Investigating adults' strategies could provide valuable insights into how they differ from those employed by children. Considering our results, adults might also comprehend object-focus structures more efficiently

than subject-focus. By examining adult comprehension and production patterns, we can better explain the developmental trajectory of prosodic focus. Finally, exploring adult strategies might help to determine which focus features are universal and which are more susceptible to language-specific influences.

CHAPTER 4

ACQUISITION OF CLEFTS

To examine the comprehension of cleft structures in Turkish-speaking children, we created two experimental paradigms based on the studies by Aravind et al. (2018) and Ohba et al. (2019). In both experiments, the main task for the children was to listen to a pair of sentences and then assess the accuracy of the answers based on the question and the accompanying visual context.

4.1 Research questions and hypotheses

In Experiment 2, we addressed three main questions:

1. Is there a significant asymmetry in the processing of subject- vs. object-clefts?
2. Does the pragmatic felicity of the sentences affect the accurate comprehension of subject- vs. object-clefts and the time it takes for a participant to process clefted sentences?
3. Are there differences in accuracy and reaction time across different age groups?

We hypothesise that felicitous sentences would yield higher accuracy rates and shorter reaction times than infelicitous ones. We expect older children to exhibit greater accuracy and faster response times than younger ones. Finally, we predict two potential outcomes for the processing of subject- vs. object-clefts: When contextual information aligns with sentence felicity, similar comprehension rates are anticipated for both subject and object clefts, reflecting a context-driven processing strategy. When contextual cues are infelicitous, however, Turkish-speaking children may rely on structural cues to differentiate between subject- and object-clefts. This could lead to superior performance on object clefts due to a match with the default

word order of Turkish. Thus, we expect children to perform better with object clefts than subject clefts and to demonstrate higher speed in processing object clefts. Experiment 2 used a paradigm that consisted of a timed-version of the Truth-Value Judgement Task (Crain & Thornton, 1998) to examine children's comprehension of cleft sentences. In the experiment set-up, Turkish-speaking children were asked to evaluate the two types of clefts (subject/object) according to the given visuals. Each cleft sentence was presented as an answer to a context question. The clefts contained felicitous and infelicitous sentences. The type of the context has been introduced as a between-subjects factor. Participants were assigned either to the subject- or the object-condition. We asked children to judge the truth-value of the subject- or the object-clefts. In addition, we examined children's response time in all the test conditions.

4.2 Participants

The distribution of participants by age and condition is shown in Table 3.

Table 3. The Participants in Experiment 2

	Object Cleft	Subject Cleft
Age Group	Sample Size	Sample Size
3	2	1
4	7	5
5	11	12
6	3	4

Participants of the experiment consisted of 45 preschool children (25 females). The ages of the participants ranged from three to six years (M = 4.82, SD = 0.84). Children who attended the experiment were recruited from preschools located in Bursa. All participants belong to a middle socioeconomic background. Additionally, none of the participants were reported to have any developmental issues. Consent was obtained from their parents and/or teachers for the test. Participants were rewarded with a sticker for their involvement in the experiment. Due to some technical problems, reaction times were evaluated using data from 39 participants; accuracy measurements, however, were obtained from 45 participants.

4.3 Experimental design

This study used a 2 x 2 x 2 mixed design. The design incorporated two between-subjects factors—cleft type with two levels (subject and object) and age with four levels (3, 4, 5, 6)—as well as a within-subjects factor for felicity with two levels (Felicitous and Infelicitous).

4.4 Materials and procedure

Experiment 2 adopted a new paradigm based on Aravind et al. (2018; 2019) to investigate Turkish-speaking children's cleft sentence comprehension. The experiment focused on the differences between subject- and object-clefts by considering the effects of pragmatic felicity. Hence, the cleft type and pragmatic felicity were manipulated in this new paradigm. Measurements in the experiment were carried out using the Truth-Value-Judgement Test (Crain & Thornton, 1998), and response times were recorded during the test.

The experiment involved the welcome, the warm-up and the test, respectively. In the welcome phase, the cover story was introduced to the participants. Like in Experiment 1, the cover story consisted of the story of Zog and Blip, the main characters who further uttered all the sentences, including the context and the test. The videos of Zog and Blip were pre-recorded using Adobe Character Animator 2023.

In the first session, the experimenter read the cover story given in Experiment 1 to children through three corresponding welcome screens that were created on Photoshop 2023. Hence, the children were invited to help Zog and Blip again in their Turkish lessons. The purpose of the warm-up session was to teach children to listen to the dialogue between Zog and Blip and evaluate the truth value of the descriptive sentences according to the picture on the left side of the screen.

All sentences were presented as question-answer pairs with trial images shared in Appendix G. Hence, Zog or Blip asked the question, '*What is happening in the picture?*'. Following this, four descriptive sentences were introduced (see in Appendices H and I) as the other character's answers. For instance, '*The penguin carries the fish.*'. If the sentence is true, children were expected to reply as True or Yes. However, if the sentence is false, children were expected to reply as False or No. The experimenter asked the question '*Why?*' after each answer to motivate children to explain their answers. During the warm-up session, the experimenter provided feedback to the children.

Similar to the warm-up phrase, each item in the test session consisted of two distinct question-and-answer pairs of characters. The question phase involved the introduction of the context sentence. During this first phase, the child saw a partially occluded event. All test visual items are shared in Appendix J. Either the character

corresponding to the object or to the subject of the event depicted in the picture was hidden in the first picture (see Figure 11 & 12). Notably, the context was introduced as a between-subject variable. Thus, the character of the event corresponding to the subject of the sentence was hidden for the participants who were assigned to the subject condition and vice versa.



Figure 11. Sample test item of Experiment 2



Figure 12. Sample test item of Experiment 2 – II

All test sentences regarding their conditions and types are shared in Appendices K, and L. Table 4 and 5 illustrate the test sentences according to the figures above that illustrate subject and object conditions (Fig. 11 & 12).

Table 4. Experiment 2 Test Sentences in Turkish

	True Sentences		False Sentences	
	Subject Clefts	Object Clefts	Subject Clefts	Object Clefts
Felicitous	Bak! Bir şey köpeği kovalıyor. Acaba ne? Köpeği kovalayan BİR AYI	Bak! Ayı bir şeyi kovalıyor. Acaba neyi? Ayının kovaladığı BİR KÖPEK	Bak! Bir şey köpeği kovalıyor. Acaba ne? Köpeği kovalayan BİR KUŞ	Bak! Ayı bir şeyi kovalıyor. Acaba neyi? Ayının kovaladığı BİR KELEBEK.
Infelicitous	Bak! Ayı bir şeyi kovalıyor. Acaba neyi? Köpeği kovalayan BİR AYI	Bak! Bir şey köpeği kovalıyor. Acaba ne? Ayının kovaladığı BİR KÖPEK	Bak! Ayı bir şeyi kovalıyor. Acaba neyi? Köpeği kovalayan BİR KUŞ	Bak! Bir şey köpeği kovalıyor. Acaba ne? Ayının kovaladığı BİR KELEBEK.

Table 5. Experiment 2 Test Sentences in English

	True Sentences		False Sentences	
	Subject Clefts	Object Clefts	Subject Clefts	Object Clefts
Felicitous	Bak! Bir şey köpeği kovalıyor. Acaba ne? Köpeği kovalayan BİR AYI	Bak! Ayı bir şeyi kovalıyor. Acaba neyi? Ayının kovaladığı BİR KÖPEK	Bak! Bir şey köpeği kovalıyor. Acaba ne? Köpeği kovalayan BİR KUŞ	Bak! Ayı bir şeyi kovalıyor. Acaba neyi? Ayının kovaladığı BİR KELEBEK.
Infelicitous	Bak! Ayı bir şeyi kovalıyor. Acaba neyi? Köpeği kovalayan BİR AYI	Bak! Bir şey köpeği kovalıyor. Acaba ne? Ayının kovaladığı BİR KÖPEK	Bak! Ayı bir şeyi kovalıyor. Acaba neyi? Köpeği kovalayan BİR KUŞ	Bak! Bir şey köpeği kovalıyor. Acaba ne? Ayının kovaladığı BİR KELEBEK.

For instance, the participants in the subject condition saw the first screen depicted in the figure with the context sentence in (1). According to this context, the cleft sentence in (2) is pragmatically felicitous and true.

(1) Bak! Bir şey köpeği kovalıyor. Acaba ne?

Look, something is chasing the dog. I wonder what it is!

(2) Köpeği kovalayan bir ayı.

It is a bear that is chasing the dog.

However, our experimental design also introduced other possible sentences to children as in the examples below:

(3) Köpeği kovalayan bir kuş.

It is a bird that is chasing the dog.

(4) Ayının kovaladığı bir köpek.

It is a dog that the bear is chasing.

(5) Ayının kovaladığı bir kelebek.

It is a butterfly that the bear is chasing.

Sentence (3) is pragmatically felicitous, yet it is false. Sentence (4) is true, yet it is pragmatically infelicitous. Sentence (5) is pragmatically infelicitous and false. Hence, all clefts except the sentence in (2) should be considered as false by children. On the other hand, sentence (4) is the only cleft that is pragmatically felicitous and true for the object condition.

Since the context was an inter-subject variable, the experiment was designed in two versions. In both versions, sixteen sentences were used; four were descriptive, and twelve were clefts. Additionally, the study included sixteen context sentences that contained the context and appeared with the first phase of each item. All sentences were evenly divided in terms of subject and object clefts and balanced in terms of their truth-value and pragmatic consistency.

For the warm-up phase, the experimenter created four context illustrations that involved occluded parts and four images featuring pairs of animals for the test. Eight context illustrations (including half object, half subject occluded parts) and

four test images featuring groups of four animals accompanied cleft sentences in the test session.

Finally, the experimenter produced fifty videos containing either Zog or Blip, two context videos, eight test videos for the warm-up phase, eight context videos, and thirty-two test videos for the test phase. The experimenter, who is a native speaker of Turkish, voiced Zog and Blip in all videos.

Thus, a participant evaluated sixteen sentences, including the warm-up items. The test phase involved the evaluation of twelve cleft sentences (see in Appendices K and L). During the test phase, the experimenter always asked the Why question following the child's answer for each item without providing any feedback to ensure the accuracy of the answers. Children's responses were recorded for accuracy and response time. After the test phase was completed, participants were given stickers as a token of appreciation.

Accuracy analysis was conducted using R Studio, with participant responses to 12 cleft sentences coded as 1 or 0. Participants' responses were recorded as audio clips for each cleft sentence to examine their response times. The experimenter examined all answers using Audacity Software. Participants with problematic audio recordings were excluded from the response time analysis. Consequently, the experimenter conducted response time analyses by transferring data derived from the examination of 480 audio recordings from 40 participants into R Studio. Statistical analyses were conducted to examine the children's cleft comprehension skills, considering the manipulated factors of felicity requirements, cleft sentence types, and age.

4.5 Results

Since the prerequisites for parametric analysis were not met, the Kruskal -Wallis test was chosen to test the hypotheses related to accuracy levels. The results indicated that the variables of felicity ($H = 0.46$, $p = 0.83$), sentence type ($H = 0.07$, $p = 0.78$), and age ($H = 2.70$, $p = 0.44$) had no statistically significant impact on the comprehension of clefts. According to Figure 13, children demonstrate a high level of accuracy in assessing all types of cleft constructions, regardless of the context or the felicity, suggesting a near-ceiling effect in their performance.

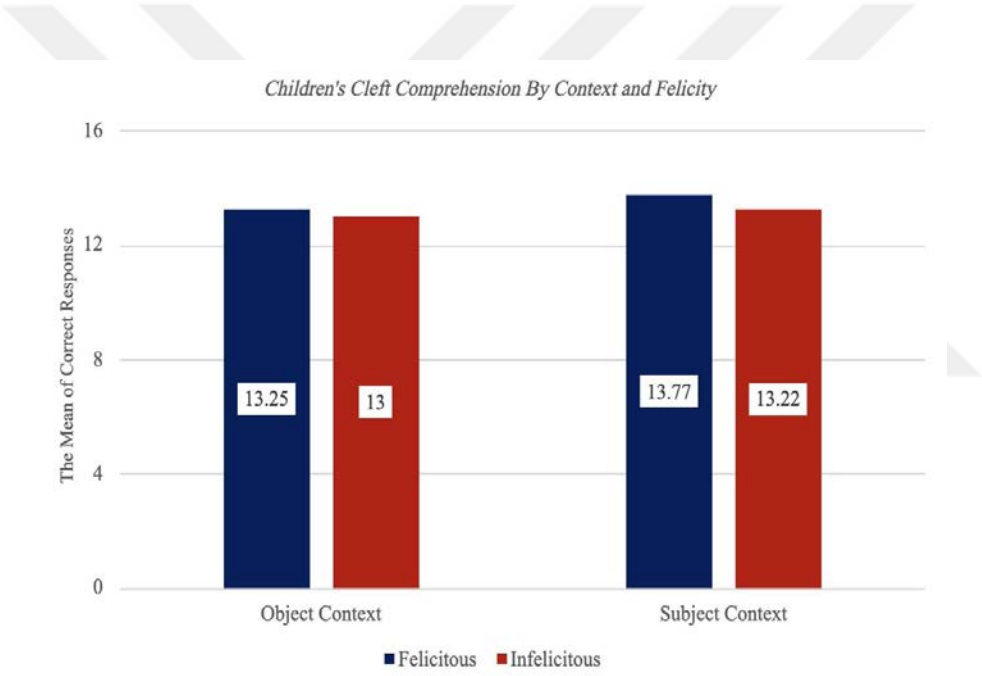


Figure 13. Accuracy levels of cleft comprehension by context

Participants' performance suggests that Turkish-speaking children are partially competent in understanding cleft constructions, with no observed asymmetry in their comprehension of subject- vs. object-clefts. The results indicate that children could successfully comprehend felicitous object clefts at an accuracy rate of 82.81%, and infelicitous object clefts at a rate of 81.25%.

(6) a. Bak! Bir şey köpeği kovalıyor. Acaba ne?

Look! Something is chasing the dog. I wonder what it is.

b. Ayının kovaladığı bir köpek.

It is a dog that is chased by the bear.

For instance, in this context (6a), the question is inquiring about the subject performing the action (i.e., what is chasing the dog). The response in (6b), *'Ayının kovaladığı bir köpek'* is infelicitous because it forms an object cleft that incorrectly shifts the focus to the object rather than addressing the subject of the question. This misalignment between the question's focus on the subject and the response's focus on the object makes the response pragmatically inappropriate.

Similarly, the comprehension rate for felicitous subject clefts was 86.06% while for infelicitous subject clefts it was 82.64%. These findings demonstrate a high level of comprehension in both subject and object clefts. Additionally, when we examined the distribution of correct responses between subject and object clefts under both felicitous and infelicitous conditions, we found an even split, each type accounting for 50% of the correct answers as illustrated in Figure 14.

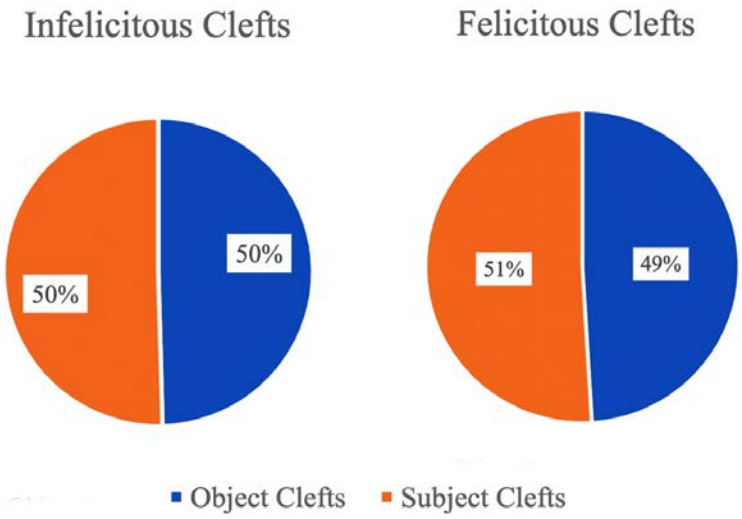


Figure 14. The accuracy percentages of cleft types and felicity

Upon examining the age groups, we noticed that the averages for the three-, four -, five -, and six - year-old groups were quite similar. Figure 15 shows the average comprehension scores for subject and object clefts according to these age groups. Figure 15 demonstrates participants' cleft comprehension levels according to different age groups.

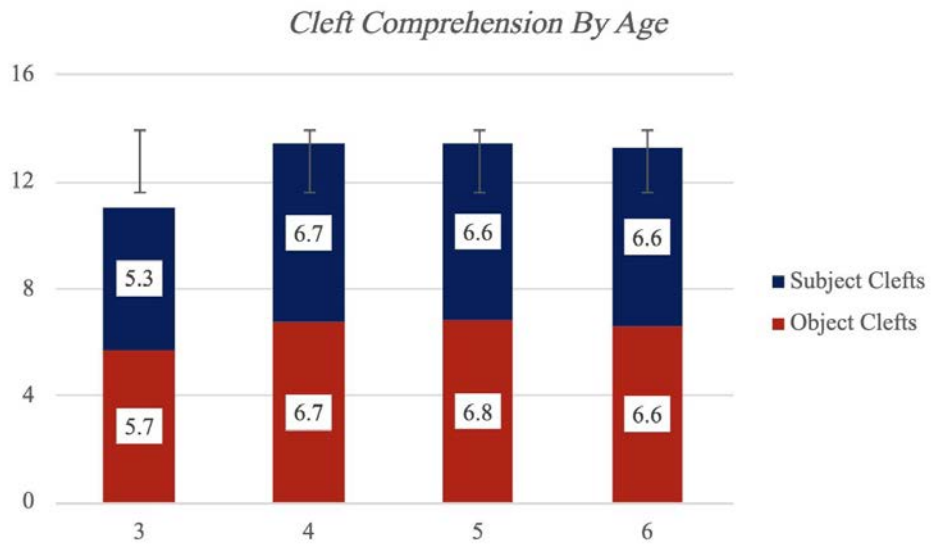


Figure 15. Cleft comprehension means by age groups

To examine the reaction times involved in the comprehension of cleft sentences, a 2 (Pragmatic Felicity: Felicitous vs. Infelicitous) x 2 (Cleft Sentence Type: Subject-focused vs. Object-focused) x 4 (Age: 3, 4, 5, and 6 years) three-factor Analysis of Variance (ANOVA) was conducted. The results from this analysis indicated that neither the pragmatic felicity nor the cleft sentence type (whether subject-cleft or object-cleft) had a significant impact on reaction times, as both showed non-significant p-values ($p > 0.05$). This result suggests that these factors did not significantly influence reaction times among the participants in the study. However, the age variable was found to have a significant main effect on reaction time ($F(3, 40) = 8.99$, $p < 0.001$). The source of the main effect was investigated using the Tukey HSD test, but the groups contributing to the effect could not be determined due to the lack of statistical significance in the test results ($p > 0.05$). Figure 16 illustrates the documented differences according to the type of context questions.

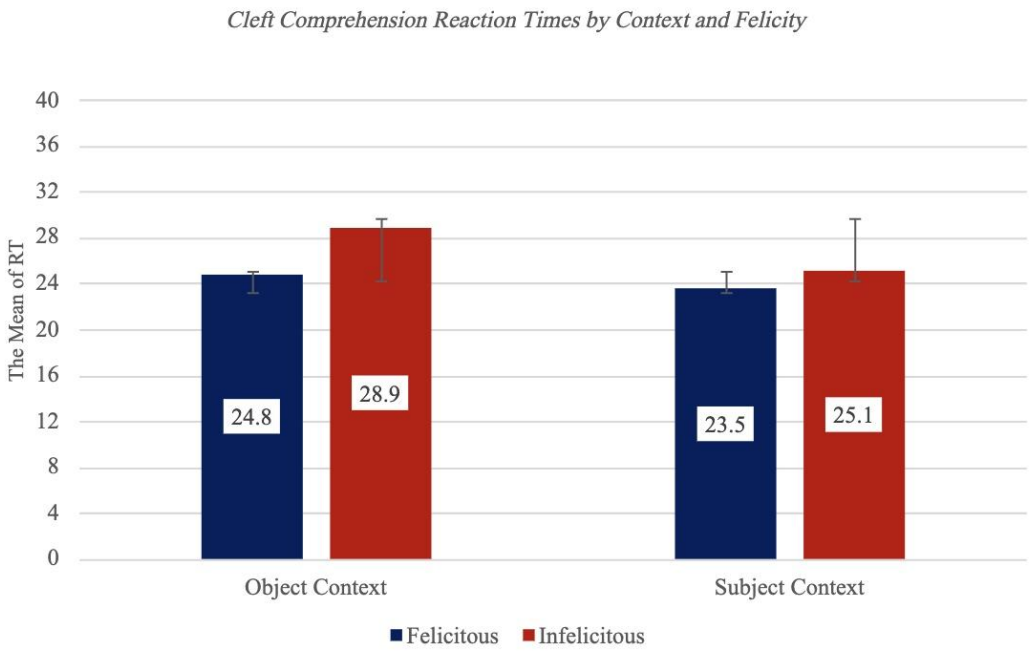


Figure 16. Cleft comprehension reaction times by context and felicity

Similar to the findings of Aravind et al. (2018; 2019), our research revealed that felicitous items were answered more quickly in both subject and object contexts (see Figure 16). While the differences observed in the response times appear visually noticeable in the graph, they were not statistically significant. On average, participants took 26.42 seconds (*SD* = 15.92) to comprehend subject clefts and 24.97 seconds (*SD* = 15.06) for object clefts.

We encountered a surprising and nonlinear result when evaluating the source of the main effect found in age and examining the means. Contrary to expectations, response time did not decrease inversely with age. The means for each age group can be reviewed in the figure below. Similar to the case with accuracy, it is noteworthy that no substantial differences were observed in reaction times. Figure 17 illustrates the reaction time mean levels by cleft types.

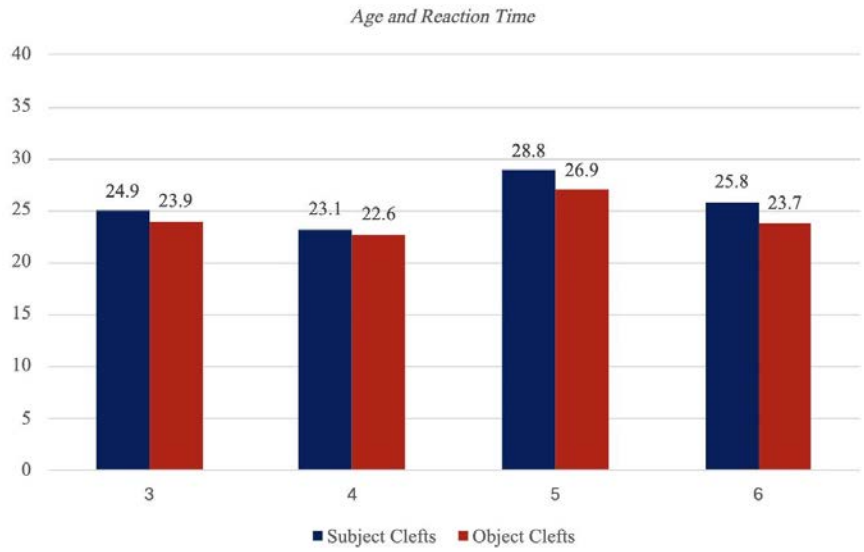


Figure 17. Comprehension response times by cleft types

In conclusion, our study explored the comprehension of cleft sentences, focusing on accuracy and reaction times, with a 2 x 2 x 4 design examining pragmatic felicity, cleft sentence type and age. Using the Kruskal-Wallis test, the analysis showed no statistically significant impact of felicity, cleft type or age on accuracy. Turkish-speaking children demonstrated high accuracy rates across all contexts. In the examination of reaction times, a three-factor Analysis of Variance (ANOVA) indicated that neither pragmatic felicity nor cleft sentence type had a significant impact on reaction times. The significant main effect for age can be disregarded because further analysis using the Tukey HSD test could not pinpoint the exact source of the effect, suggesting that the result might not indicate a consistent pattern. The average reaction times for subject clefts and object clefts were quite similar.

The results indicate that the felicity of sentences did not significantly affect accuracy or reaction times. Despite expectations that felicitous sentences would lead to more accurate responses and shorter reaction times, the data showed no statistically significant differences. Age had a significant main effect on reaction times, but further analysis could not identify the exact source of this effect. This suggests that the impact of age on reaction times does not follow a consistent pattern. No significant differences in reaction times between subject and object clefts indicated that children processed both types similarly. Overall, these results suggest that comprehension accuracy is consistently high across various factors, and reaction times did not significantly differ between our conditions. Hence, Turkish-speaking children demonstrated a high level of competence pattern in cleft acquisition.

4.6 Discussion

The study examined Turkish-speaking preschoolers' cleft comprehension abilities concerning various factors that might play a role in the processing, such as pragmatic felicity, the cleft type and age groups of children. Similar to Experiment I, this experiment used a cross-sectional design to assess developmental trajectory. The experimental paradigm has been adapted from the study of Aravind et al. (2018; 2019). We used our own cover story, including the story of the cartoon characters Zog and Blip. Similarly, the experiment contained a Truth-Value Judgement Task (Crain & Thornton, 1998). Participants' responses were recorded and transcribed to assess the reaction times. We aimed to see whether there is a subject-object asymmetry in Turkish-speaking children's acquisition of clefts. More elaborately, we aimed to compare the full competence view, which suggests that children can fully understand clefts when the felicity conditions are met, and the partial competence view, which suggests that children's understanding of clefts is not fully developed even when the felicity conditions are met.

Our participants were 45 (25 females) aged between three-to-six in the experiment. We added a welcoming session to the original paradigm to introduce the cover story and cartoon characters created for the experiment. The paradigm included three sessions: a welcome, warm-up and test. Children were asked to evaluate the truth values of the sentences uttered by the character, either Zog or Blip, according to the provided contexts with both a picture and a context sentence. The test of each item involved two phrases. In the first phase, a partially occluded image appeared on the left side of the screen, and the character introduced the context sentences that were either felicitous for the subject or object. The context and age groups were designed as between-subjects factors, while the cleft types, including

subject and object, were introduced as a within-subjects variable. In total, children were asked to judge the truth values of 12 cleft sentences in the test session. Aravind (2018; 2019) suggested that preschool children can reach the full competence level while the felicity conditions are met in the experimental paradigm.

We hypothesised that pragmatical felicity would affect children's responses both regarding the reaction time and the accuracy of the responses. Accordingly, we expected children to perform better when the felicity requirements are met while also demonstrating a sentence processing speed. Also, the older age groups were expected to outperform younger groups by providing accurate and fast responses. Two possible scenarios were predicted regarding the effects of the cleft type. In line with the previous research, if Turkish-speaking children could not reach full competence, they were expected to follow a strategy based on syntactic heuristics or the thematic role.

The second view describes Agent First, and it has been suggested to explain the subject-object asymmetry in the acquisition of complex syntax structures. However, if Turkish-speaking children use syntactic heuristics such as the default word order, there is a higher possibility for them to be predisposed to an object-cleft advantage.

The results provided evidence that Turkish-speaking children could reach partial competence in cleft acquisition at a very early stage of development. Surprisingly, none of the effects of our factors reached statistical significance. The goal of this session is to clarify and evaluate the possible reasons behind these findings. To this end, our paradigm and data will be described and compared to previous research.

First, none of the factors were distributed normally in the data set, which contained participants' accuracy levels. This situation might be explained as a conclusion that occurred due to the participants' high level of accuracy. Since the findings were significantly close beyond factors, they prevented statistically relevant comparisons. Considering this outcome, our results might be interpreted in various ways. We can consider that Turkish clefts share the same syntactic structures with Turkish relative clauses. Hence, children might have been exposed to cleft-like sentences, and the task might have only measured whether or not they could assess the prosodic focus of the sentence. However, considering the results of Experiment 1, this assumption does not seem probable.

Another explanation could be derived from Ohba and colleagues' (2019) concerns about the adaptation of Aravind et al. (2018;2019) method to languages that are structurally different from European languages. Ohba et al. (2018) adapted the paradigm of Aravind et al. (2018;2019) to examine Japanese-speaking children's acquisition of clefts. The results of their first experiment, similar to our findings, provided evidence that children do not exhibit an asymmetry when the cleft sentences were presented in a pragmatic context. However, the paradigms' validity was later interrogated to assess cleft comprehension. Japanese, like Turkish, is a language that uses case markers on the nouns, hence can dissociate between objects and subjects through markers. Thus, Ohba et al. (2019) suspected that Japanese-speaking children can infer the truth value of the test sentence from the provided context without the need to hear the full cleft. In order to prevent this possibility, they updated their experimental paradigm and preferred to use three characters instead of two. In this way, children would be forced to listen to the whole utterance before giving their truth judgements based on the Agent First Strategy. In sharp

contrast to their first experiment, (Ohba et al., 2018) which could not point out any differences between the comprehension of subject and object clefts among different age groups, their novel paradigm has detected different strategies for various age groups (Ohba et al., 2019). Specifically, they concluded that children might rely on the Agent First Strategy in their early years of development. Older children, however, do not appear to follow this strategy to process clefts accurately.

Our first experiment suggested that Turkish-speaking children cannot comprehend corrective focus well especially when it appears on the subject, however they performed better with object-focus sentences and this outcome might be influenced by default neutral focus in Turkish. It seems reasonable to compare our results with the studies that previously examined Turkish-speaking children's relative clause comprehension abilities with respect to the subject and the object conditions.

Yumrutaş (2009) investigated Turkish-speaking children's acquisition of relative clauses from the point of to what extent the children are aware of different relativizers, i.e. SR -(y)An and/or -DIK and whether they make any generalisations about their use. The experiment consisted of a picture-cued production task. The findings indicated that there is an asymmetry between children's production of subject and object-relative clauses. Turkish-speaking children produced subject-relative clauses more accurately than non-subject-relative clauses. Furthermore, they were found to use SR in contexts requiring OR The research argued that children acquired the subject relativiser suffix -(y)An in their early development stages. Since cleft structures are syntactic twins of Turkish relative clauses, processing the structure of subject clefts might have been more accessible due to this familiarity.

Essentially, the suffix -(y)An, which has been described as the default relativiser in (Yumrutaş, 2009), occurred only in the case of the subject clefts. This

detail is important to compare the findings we reported in the scope of our experiments. Early competence in the -(y)An use would be expected to boost subject clefts. That said, Turkish clefts, however, did not show an asymmetry as in the case of relative clauses.

In another study, Özge et al. (2009) investigated the comprehension of relative clauses by Turkish-speaking children. The research demonstrated that children aged between five-to eight have been more successful in interpreting subject-relative clauses than object-relative clauses. Notably, researchers emphasised that children's understanding of the object-relative clauses gradually improved throughout the years. Hence, considering the evidence of the previous research, it can be argued that Turkish-speaking children's high performance on subject clefts is not necessarily found to be a result of methodological issues. Regardless of the statistical insignificance, the slight differences between the mean values of the various levels of our factors appear to be as expected.

Building upon the relative clause acquisition literature and the results of Experiment 1, it seems possible to argue that Turkish-speaking children are noticeably successful in cleft comprehension. On the other hand, whether children employ the same strategy in interpreting both cleft types seems as crucial as whether their strategies differ from adults. The object advantage might stem from employing various strategies based on the general stress pattern of Turkish, proximity or the word order. When it comes to subject clefts, however, children's comprehension might have been facilitated by other factors, such as familiarity with the participle -y(A)n or Agent First, as suggested by Ohba et al. (2019).

Unlike the accuracy data, the reaction time data was normally distributed. We applied a three-factor Analysis of Variance (ANOVA) to investigate the probable

main effects and interactions of our variables. Unfortunately, none of the factors was found to have a significant effect in this analysis, either. Our study is limited by the small sample size. It is possible that different results could be obtained with a larger sample size. Future research with a more substantial sample is necessary to confirm and extend our findings.

To summarise, our study investigated Turkish-speaking preschoolers' comprehension of the clefts, examining factors such as felicity, cleft type and age. Despite the comprehensive paradigm, our results did not yield statistically significant outcomes concerning the factors. Participants exhibited very high levels of accuracy. Thus, the experimental paradigm might have provided rich contextual cues. As a result, the task might have been simplified with these cues. Comparing our findings with previous research, it is clear that different languages may require distinct experimental approaches. Turkish's unique characteristics might explain why our results differ from other language studies. As briefly mentioned in the previous chapter, Turkish follows the zero copula rule, and the omission of overt syntactic cues seems to be the default form of the language. Hence, while introducing richer pragmatic cues is required to assist children's comprehension performances in other languages, Turkish does not necessitate overt cues to convey the intended meaning. In other words, the cues used for signalling the pragmatic context might have been perceived as too salient for native speakers of Turkish.

Given these findings, we suggest exploring methodological improvements for future studies to increase task complexity. Future research could also investigate if children and adults employ unique strategies for cleft comprehension.

The results of our study, using the paradigm from Aravind et al. (2018), revealed that Turkish-speaking children could interpret both subject and object clefts

with high accuracy. However, we did not conduct a sufficiently sensitive analysis to determine the factors affecting children's comprehension of cleft sentences. Ohba et al. (2019) suggested that in highly inflectional languages like Japanese, young children might successfully interpret subject-focused sentences even if they deviate from the canonical word order without listening to the entire sentence using the Agent First strategy due to the experimental paradigm. We designed a new experimental setup similar to the paradigm of Ohba et al. (2019) to investigate whether the balanced comprehension of subject and object clefts in Turkish could be attributed to the visual materials with two characters used in our second experiment and to explore if the success in subject-focused clefts by Turkish-speaking children stems from employing the Agent First strategy. Thus, our third experiment investigates Turkish learner's cleft comprehension with a different paradigm.

4.7 Acquisition of clefts Experiment 3

In Experiment 3, we aimed to clarify whether the experimental paradigm adapted from Aravind et al. (2018; 2019) has affected our results on children's understanding of clefts. Thus, we combined the paradigm suggested by Ohba et al. (2019) and Aravind et al. (2018; 2019) to assess Turkish-speaking children's cleft comprehension performances. We also simplified this experiment by introducing all variables except age as within-subjects factors.

4.8 Research questions and hypotheses

The analysis focused on children's accuracy on cleft comprehension. We asked two main questions:

1. Does including three characters affect children's performance in cleft comprehension?

2. Are there differences in children's accuracy levels between subject and object clefts?

3. Is there a difference between five- and six-year olds?

Based on these questions, we aimed to compare the results of the third experiment with the second to determine whether the high comprehension skills of Turkish-speaking children in understanding subject and object clefts demonstrated in the second experiment resulted from the paradigm used by Aravind et al. (2018). We predicted that if Turkish-speaking children owe their high accuracy performance on subject clefts to using the Agent First Strategy, as Ohba et al. (2019) suggested, changing the experimental paradigm by adding an extra character to the visual context might have decreased their accuracy performance. In this case, there would be an asymmetry between their accuracy performance levels among subject and object clefts, with a higher accuracy on the object ones. On the other hand, if unique characteristics of the Turkish language facilitate easy interpretation of both subject and object clefts, then the results would likely resemble the ones obtained in Experiment 2, with children able to successfully interpret both types of clefts regardless of the type and age. Since our range was limited, we did not expect to observe any effects on age.

4.9 Participants

The participants of Experiment 3 consisted of 32 preschool children (13 females) aged five -to-six (M = 5.47, SD = 0.75). The data collection was executed in a preschool located in İstanbul. All participants belonged to a middle socio-economic

background. None of the participants had any developmental issues. The consent was obtained from their teachers. All children were rewarded with a sticker for their participation in the experiment. The distribution of participants is shown in Table 6.

Table 6. The Participants in Experiment 3

	Object Cleft	Subject Cleft
Age Groups	Sample Size	Sample Size
5 & 6	14	17

4.10 Experimental design

This experiment has been designed as the 2 (Age groups: 5, 6) x 2 (Cleft type: subject, object) within-subjects design.

4.11 Materials and procedure

Experiment 3 introduced a novel paradigm, a fusion of the approaches used by Aravind et al. (2018; 2019) and Ohba et al. (2019). Ohba and colleagues (2019) proposed that a paradigm featuring two characters could aid children using the Agent First strategy. To ensure that children listened to the entire utterance, they suggested using three characters. We adopted this suggestion, manipulating the cleft type while maintaining pragmatic felicity, to investigate the impact of character number on children's cleft sentence interpretation performances. As in the second experiment, the task was a Truth-Value-Judgement Test (Crain & Thornton, 1998), and we assessed children's accuracy levels.

The paradigm consisted of the welcome, the warm-up and the test phrases. The welcome phase introduced the cover story again and the cartoon characters Zog

and Blip. All utterances were presented by the videos created using Adobe Character Animator 2023 of Zog and Blip as a dialogue. The first session included three welcome screens, providing additional information about the context. The participant's task was to help the characters to learn Turkish.

Following the welcome session, children evaluated four descriptive sentences according to the picture on the left side of the screen (Figure 18). The experimenter gave the children feedback to ensure they understood the task. All sentences were given as question-answer pairs. The participant was expected to reply with a True, '*Yes*', '*False*', or '*No*' to judge the sentences. For each item, children were asked to explain their answers to the experimenter. Thus, the experimenter asked the question of why following each answer. The test phase involved eight items. The test involved two separate phrases: a question that provides the pragmatic context and the answer that contains the cleft. In the first phase, the child saw an occluded event. The event's subject and object were hidden in the picture (see Figure 18). In addition, the context was introduced as a within-subject variable. Hence, half of the context sentences questioned the event's subject, while the other half questioned the object. All test visuals of Experiment 3 can be found in Appendix M.



Figure 18. Sample test item, Experiment 3

In contrast to Experiment 2, the context variable was a within-subjects factor and included both the questions involving the subject and object. Thus, we reduced the number of test sentences. Participants evaluated twelve sentences throughout the test phase, comprising four control sentences and eight cleft sentences. All cleft sentences regarding conditions can be found in Appendices N and O. The truth-values of the sentences were balanced. For instance, we can consider the images shown in the figure above with the given sentences below.

(6) Bak! Bir şey köpeği yıkıyor. Acaba ne?

Look, something is washing the dog. I wonder what it is.

(7) Bak! Köpek bir şeyi yıkıyor. Acaba neyi?

Look, the dog is washing something. I wonder what it is.

Sentence (6) represents the subject-condition, while (7) the object context. The answer to the first sentence has been presented as (8) and the truth-value of the cleft in (8) is zero. However, the clefted sentence in (9) which is the answer of (7) is a true sentence in the given context.

(8) Köpeği yıkayan bir kedi.

It is a cat that is washing the dog.

(9) Köpeğin yıkadığı bir kedi.

It is a cat that the dog is washing.

So, based on this, a child should judge (8) as incorrect and the (9) as correct. Each item was randomly presented in the experiment. Importantly the felicity requirement was kept constant and all sentences were felicitous.

The experimenter created eight illustrations, half of which involved an occluded event for the warm-up session which were accompanied by eight videos of Zog and Blip. Similarly, the test session involved eight images, half depicting the

occluded events. In addition, ten videos that introduce context questions and twelve videos consisting of cleft sentences were recorded by the experimenter.

Thus, one participant judged twelve sentences in total, including the warm-up sentences. Feedback was not provided in this session.

The participants were given stickers after they completed the test session. Participants' accuracy levels were analysed in the R studio. The correct responses coded as 1 while the incorrect answers were coded as 0. Statistical analyses were conducted to examine children's cleft comprehension skills, considering the cleft types and age.

4.12 Results

The normality of the variables was assessed using the Shapiro-Wilk test. The results indicated that all variables did not display normal distribution ($p < .05$). Thus, we compared subject and object scores using the Wilcoxon Signed-Rank Test. The results indicated no statistically significant difference between children's subject and object interpretation scores ($W = 88$, $p = 0.26$).

In addition, we used Mann-Whitney U to assess the differences between the two age groups. The results show no statistical difference ($W = 130.5$, $p = 0.88$). According to Figure 4.9, children successfully interpret all types of cleft constructions, and adding three-characters did not influence our findings. Notably, the maximum score was 4 for both cleft types. Hence, our results are quite similar to the results of Experiment 2. Figure 19 illustrates children's performances regarding cleft type and age.

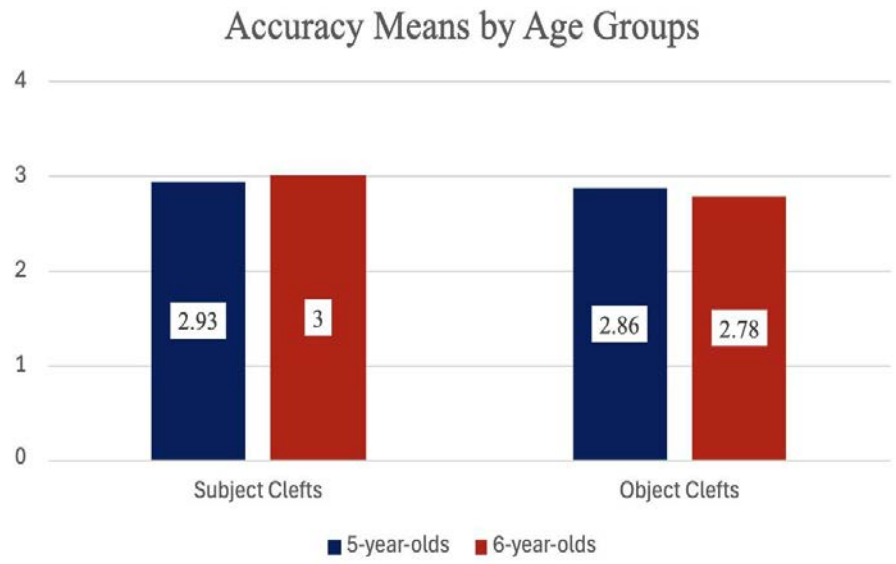


Figure 19. Children's accuracy levels by cleft type and age

Children's performance indicates that Turkish-speaking children are competent in interpreting cleft constructions, with no observed asymmetry in their comprehension of subject and object clefts. Our data suggest that children could comprehend subject clefts at a rate of 74.25% and object clefts at a rate of 70.25%. These findings indicate again a high level of comprehension in both cleft types.

The results also show that while there is no statistically significant difference in subject and object cleft interpretation scores, there is a slight difference in the accuracy rates that shows that children understand subject clefts slightly better. Despite this minor discrepancy, both rates indicate a relatively high level of comprehension in young Turkish-speaking children.

4.13 Discussion

The research explored Turkish-speaking children's cleft comprehension skills concerning the effect of age and cleft type. Just as in the case of Experiments 1 and

2, our sample size was limited, however in this experiment we could not involve a wide range of age groups, hence only five-to-six-year-olds participated in Experiment 3. We aimed to see whether the paradigm offered by Ohba et al. (2019) would affect children's accuracy levels in cleft comprehension. We introduced our cover story and presented the task via two cartoon characters called Zog and Blip. The experiment consisted of a Truth-Value Judgement Task (Crain & Thornton, 1998). Participant's accuracy responses were coded as 1 and 0. We asked whether there is a subject-object asymmetry in children's acquisition of clefts. More specifically, we aimed to compare the results of Experiment 2 with those obtained in this experiment and see whether children keep their balanced accuracy levels between two cleft types.

Our participants consisted of 31 (13 females) aged between five and six. Experiment 3 involved the welcome, warm-up, and test sessions. Children were required to evaluate the truth values of presented sentences according to the provided context. The test of each item consisted of the context and the cleft phases, as in Experiment 2.

The significant difference between Experiment 3 and 2 was the visuals that contained the context and the cleft phase. Instead of two characters, with one being hidden, we presented two hidden characters in the context phase. Hence, only through the question –but not the picture– the participant was able to retrieve and address the intended element of the cleft sentence, that is whether it is, the subject or the object. However, children could not directly detect the questioned element on the visuals. This made the experimental paradigm more complex than the paradigm of Experiment 2. In the original experiment of Ohba et al. (2019), they introduced the context shown in the sentence (10).

(10) Look! Something is washing the dog, and the dog is washing something.

Thus, they did not give the context in a question form. We suspected that giving the direct question of a sentence as in (10) might have resulted in creating an ambiguous sentence and we kept the question form. Our paradigm combined Ohba et al. (2019) and Aravind et al. (2018; 2019). Since the type of clefts was designed as a within-subjects factor, we eliminated the number of sentences. The felicity requirement was kept constant, and all sentences were felicitous. Overall, children responded to eight cleft sentences in the test session.

We predicted that if children used the Agent First Strategy, as Ohba et al. (2019) suggested, their accuracy would drop when introducing a third character. This could lead to a discrepancy in their interpretation of subject and object clefts. On the other hand, if the language-specific heuristics support straightforward comprehension of these structures, we expect results to be similar to those of Experiment 2. Thus, children could accurately interpret both subject and object clefts regardless of the number of characters and age. Due to the narrow age range in our participant pool, we did not anticipate significant age-related differences in the outcomes.

The results indicated that regardless of the changes in the paradigm, Turkish-speaking children could interpret both types of clefts in similar levels. Although we updated the paradigm, similar to Experiment 2, our variables did not illustrate a normal distribution. Participants exhibited high levels of accuracy—the paradigm of the third experiment aimed to reduce the richness of contextual cues by increasing the number of characters. The character appearing in the middle could have been referred to as the subject or the object, depending on the context of the question.

Compared to the visuals used in Experiment 2, assigning the right thematic role (agent/patient) was cognitively more effortful due to this update.

Based on the interpretation of the results of Experiment 2, we probed whether children's success in both types of clefts is a result of the employment of the Agent First Strategy. However, it is also acquired successfully because Turkish-speaking children excel in subject relative clauses, which share the same syntactic form with clefts. The previous research (Yumrutaş, 2009) explained that this result stems from children's early acquisition of the suffix -(y)An. Considering this explanation, it seems more accurate to suggest that Turkish-speaking children rely on specific language-specific cues in interpretation rather than the Agent First strategy. Regarding subject clefts, the inherent structure of Turkish, the specificity indicated by the accusative marker (Enç, 1991) could explain why even young children find it relatively easy to interpret these clefts, facilitated by these mentioned cues available in Turkish grammar.

To conclude, our third experiment examined how Turkish-speaking children aged five to six interpret subject and object clefts, exploring the impact of cleft type to clarify the possible effects of the experimental paradigm. Overall, 31 children participated in Experiment 3, which involved a Truth-Value-Judgement Task (Crain & Thornton, 1998). Turkish-speaking children evaluated the truth values of eight cleft sentences based on contextual information.

Unlike earlier experiments, this one featured two hidden characters, requiring children to focus on the utterances. The study aimed to determine if introducing additional characters would affect children's ability to interpret clefts accurately. We predicted that if adding a character increases the complexity, children's performance levels may drop, and there might be a discrepancy between subject and object clefts.

However, results similar to those in Experiment 2 were expected if the language-specific characteristics facilitate comprehension.

Our results indicated that Turkish-speaking children could accurately interpret both subject and object clefts partially yet on a high level, regardless of the changes in the experimental paradigm. Given the success in subject relative clauses and clefts, this accuracy might stem from language-specific cues such as the early-acquired suffix -(y)An and the syntactic structure of Turkish, including the specificity denoted by the accusative marker and SOV word order.

CHAPTER 5

GENERAL DISCUSSION AND CONCLUSION

5.1 Overview

The research examined the comprehension of prosodic focus and cleft sentences in Turkish. Three experiments were conducted to explore Turkish-speaking children's comprehension skills. Experiment 1 investigated the acquisition of prosodic focus and probed the existence of subject-object asymmetry in the context of Turkish. A total of 31 preschool children participated in the study. The experimental paradigm was adapted from Szendrői et al. (2018). The participant's task was to correct the presented sentences according to the focused element.

The results from Experiment 1 revealed a significant asymmetry in the acquisition of subject- and object-focused sentences. The children performed significantly better in interpreting object-focused sentences compared to subject-focused sentences. Participants could not reach full competence in understanding subject-focused sentences until the age of five. This result indicates that the comprehension of object-focus precedes that of subject-focus among Turkish-speaking children. Moreover, experiment 1 provided evidence that the comprehension of subject focus gradually improved over the years.

Experiment 2 explored the acquisition of cleft sentences with respect to various factors such as pragmatic felicity, age, and cleft type (subject vs. object). We adopted the research paradigm used by Aravind et al. (2018, 2019) for this experiment. This study involved 45 preschoolers. The timed version of the Truth-Value-Judgement Task (Crain & Thornton, 1998) was used in the study. Participants

evaluated the truth value of twelve cleft sentences and their response time was measured simultaneously.

Experiment 2 did not demonstrate an asymmetry in the comprehension of subject and object-cleft sentences. The results indicated that Turkish-speaking children achieved a high level of competence in interpreting both types of clefts.

Experiment 3 investigated whether children's successful comprehension of cleft sentences in Experiment 2 stemmed from the use of the paradigm offered by Aravind et al. (2019). In Experiment 3, we combined the paradigms of Aravind et al. (2019) and Ohba et al. (2019) to reduce the possibility of reliance on the Agent-First-Strategy. 31 children (13 females) aged between five to six participated in the experiment. In the experiment, the Truth-Value Judgement Task (Crain & Thornton, 1998) has been introduced as the main task. Participants evaluated eight cleft sentences containing subject- and object-clefts. The results have shown that regardless of the paradigm implemented in testing children, Turkish-speaking children reached equal accuracy levels in both cleft types. Despite the fact that Turkish children could not reach full competence, their overall accuracy levels were high.

Overall, the present study provides valuable insights into the comprehension patterns among Turkish-speaking children and reveals essential distinctions between two sentence structures. The results also suggest a developmental trajectory where the comprehension of object-focused sentences precedes that of subject-focused ones in terms of prosodic focus. In contrast, cleft comprehension shows a more balanced performance across subject and object types at an early stage of development.

5.2 General discussion

The main objective of our research was to examine the acquisition of prosodic focus, in particular corrective/contrastive focus and cleft sentences in Turkish. There is consensus among scholars that prosodic focus can be inbuilt. Following this perspective, Szendrői and colleagues (2018) suggested that children, including three-year-olds speaking German, English and French, are fully competent in prosodic focus comprehension. Contrary to their results, we found that Turkish-speaking children gradually become sensitive to differences in focus marking, and their accuracy levels in contexts that require the proper interpretation of corrective focus improve with age. Thus, our participants were partially competent in their interpretation of the focal differences, accurately comprehending object-focused sentences while failing to notice the prosodic focus in subject-focused sentences in their early years.

As a result, the outcomes of Experiment 1 suggest that focus comprehension does not necessarily point to a language-specific rule. However, the younger participants might have interpreted sentences with various heuristics influenced by those rules. Considering the close relationship between social cues and prosody, it raises the question of whether older children use a pragmatic-based approach instead of syntax-based heuristics.

To conclude, focus comprehension seems to be influenced by both pragmatic and syntactic rules. It does not appear to be governed by a specific rule or strategy in Turkish, and children seem to learn to interpret subject focus as they develop other cognitive abilities, such as mentalisation, over the years.

Experiment 2 and 3 focused on cleft comprehension, considering various factors. While the results showed that Turkish-speaking children achieved a partial

competence in cleft comprehension early, we observed a high level of accuracy concerning participants' comprehension performances.

On one hand, our task might have been too simple due to the risk of contextual cues. On the other hand, we can explain our findings, which are different from the previous work, in light of unique syntactic features of Turkish. Turkish cleft sentences share the same syntactic features with relative clauses, indicating that children might have had prior exposure to cleft-like structures. Thus, Turkish speaking children seem to acquire the suffix -(y)An which occurs in subject clefts in their early years of development and this situation might have facilitated the comprehension of subject clefts. In addition, the accusative marker "-i" plays a role in emphasising specified objects, which could contribute to the salience of object clefts. Furthermore, the similarity between clefts and relative clauses might have facilitated comprehension due to their common inflectional patterns. In this view, we can suggest that Turkish can provide distinct language-specific cues to facilitate the comprehension of both types of clefts and children not necessarily rely on one eminent strategy.

5.3 Implications. and future directions

Our research highlighted the importance of syntax-based heuristics in focus comprehension. The high level of competence among Turkish-speaking children suggests that contextual cues and prosodic patterns play a significant role in cleft comprehension. Future studies should consider more complex experimental designs that reduce contextual cues and focus on more detailed measurements, such as reaction times, to further explore these findings. In planning future studies, it is essential to design the experimental paradigm with sensitivity to the cross-linguistic

variations, ensuring that the characteristics of the experimental paradigm are profitable for the learners of the specific language that has been planned to be examined. For example, in Turkish, where syntactic cues like suffixes are prevalent due to their highly inflectional nature, experimental paradigms may not accurately gauge the comprehension of intricate syntactic structures, as children might rely more on psychologically prominent cues. Therefore, future studies should consider such linguistic nuances when designing experimental paradigms. Regardless of the proven ethical approval (see Appendix P), we could not reach a high number of preschools that were accepted to support our research. Thus, the number of participants in our study was relatively low. A larger sample size would enable a more thorough investigation of children's abilities to comprehend prosodic focus and cleft structures.

Another area for future research is the exploration of adult strategies in focus and cleft comprehension. Understanding how adults process clefts and prosodic focus can provide insights into the developmental trajectory that children exhibit over the time course of acquisition. Investigating differences between children and adults could elucidate which acquisition strategies are universal and which are specific to particular language developmental stages. Despite observing no age-related changes among the children in our study, we lacked direct data comparisons with adults to discern how these processes operate. By evaluating similar factors in adult studies, we could compare differences between pragmatic cues and syntax-based heuristics. For instance, while children may not exhibit pragmatic felicity as an effective factor due to their reliance on syntax-based heuristics, adults may demonstrate variations over time, albeit not in pragmatic felicity, but in metrics like time response accuracy. Thus, understanding whether the comprehension skills

demonstrated by children in early developmental stages arise from the same cues used by adults can be elucidated.

5.4 Conclusion

Our study examined the comprehension of prosodic focus and cleft sentences in Turkish. The results suggested that Turkish-speaking children are partially competent in prosodic focus interpretations, favouring object focus in all conditions. The comprehension success of subject focus increases parallel to children's age. Age and focus type significantly affect children's comprehension sentences. In contrast to the partial competence that young Turkish learners displayed in the comprehension of subject- vs. object-focus, they were relatively more competent in cleft comprehension.

Our findings suggest that the unique syntactic characteristics of Turkish involving rich inflections have a significant role in children's language acquisition process. The omission of syntactic elements can be regarded as the default for the Turkish language. Thus, particular elements could quickly become salient when the omission is rendered to provide pragmatic context. Younger children employ different strategies in the sentence interpretation process, and children's familiarity with syntactic cues, such as suffixes, might influence their performance. Our study illustrates notable cross-linguistic differences in the acquisition of both simple and contextual structures. Due to the unique syntactic structures employed by different languages, the levels of pragmatic requirements may vary accordingly. For instance, Turkish is a language that allows for the omission of many syntactic cues, including the copula. In such cases, the overt appearance of these structures may render the components they signify more prominent and salient, thereby facilitating

comprehension. Considering variables such as proximity and these syntactic factors is crucial for research investigating the acquisition of complex structures. In addition, adult studies might shed light on the different strategies younger children employ during the partial competence phase. In addition, similarly to English, cleft structures are less common in Turkish than simpler sentence constructions. While we lack the means to conduct a corpus analysis, this observation can be inferred. This prompts the need for further inquiry into the prevalence and roles of cleft constructions in different languages. Consequently, this study is the first attempt to understand the prosodic focus and cleft sentence structure in Turkish and provides a valuable foundation for future research.

APPENDIX A

EXPERIMENT 1 TRIAL VISUALS

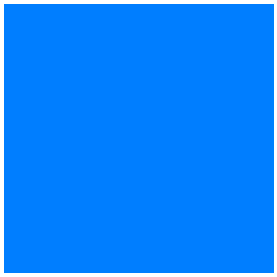


Figure 20. Blue trial item

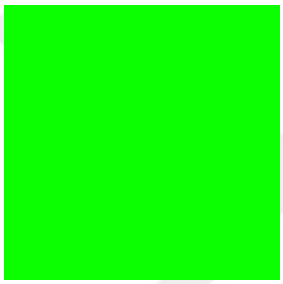


Figure 21. Green trial item

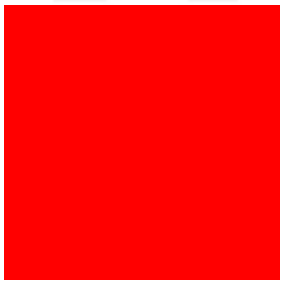


Figure 22. Red trial item

Figure 23. Yellow trial item

APPENDIX B

EXPERIMENT 1 TRIAL SENTENCES

1. This colour is blue. Right?
2. This colour is green. Right?
3. This colour is red. Right?
4. This colour is yellow. Right?

APPENDIX C

EXPERIMENT 1 TRIAL SENTENCES (TURKISH)

1. Bu renk mavi. Değil mi?
2. Bu renk yeşil. Değil mi?
3. Bu renk kırmızı. Değil mi?
4. Bu renk sarı. Değil mi?

APPENDIX D

EXPERIMENT I TEST VISUALS

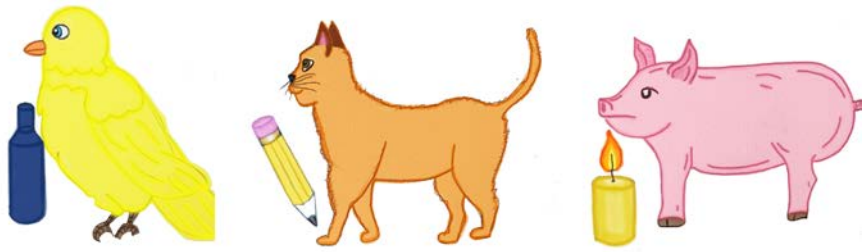


Figure 24. Test item – I



Figure 25. Test Item – II



Figure 26. Test item – III



Figure 27. Test item - IV

APPENDIX E

EXPERIMENT 1 TEST SENTENCES

1. The dog has a BOTTLE. Right?
2. THE DOG has a bottle. Right?
3. The pig has a PENCIL. Right?
4. THE PIG has a pencil. Right?
5. The sheep has a CLOCK. Right?
6. THE SHEEP has a clock. Right?
7. The rabbit has a SPOON. Right?
8. THE RABBIT has a spoon. Right?
9. There is a banana in the picture. Right?
10. There is a bird in the picture. Right?

APPENDIX F

EXPERIMENT 1 TEST SENTENCES (TURKISH)

1. Köpeğin ŞİŞESİ var. Değil mi?
2. KÖPEĞİN şişesi var. Değil mi?
3. Domuzun KALEMİ var. Değil mi?
4. DOMUZUN kalemi var. Değil mi?
5. Koyunun SAATİ var. Değil mi?
6. KOYUNUN saati var. Değil mi?
7. Tavşanın KAŞIĞI var. Değil mi?
8. TAVŞANIN kaşığı var. Değil mi?
9. Resimde bir muz var. Değil mi?
10. Resimde bir kuş var. Değil mi?

APPENDIX G

EXPERIMENT 2 TRIAL VISUALS



Figure 28. Trial item – I



Figure 29. Trial item – II



Figure 30. Trial item - III



Figure 31. Trial item – IV



Figure 32. Trial item – V



Figure 33. Trial item - VI

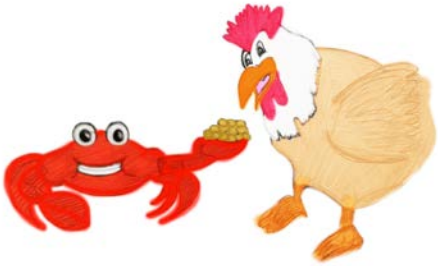


Figure 34. Trial item – VII

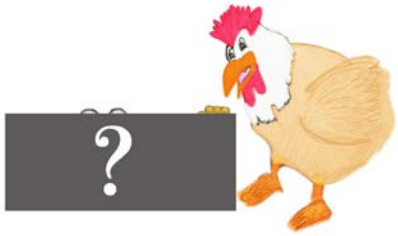


Figure 35. Trial item - VIII

APPENDIX H

EXPERIMENT 2 TRIAL SENTENCES

1. Look! What is going on in the picture?
2. Look! What is going on in the picture?
3. Look! What is going on in the picture?
4. Look! What is going on in the picture?
5. The owl is kissing the mouse.
6. The fish is feeding the cockerel.
7. The dog is watching the snail.
8. The penguin is carrying the fish.

APPENDIX I

EXPERIMENT 2 TRIAL SENTENCES (TURKISH)

1. Bak! Resimde neler oluyor?
2. Bak! Resimde neler oluyor?
3. Bak! Resimde neler oluyor?
4. Bak! Resimde neler oluyor?
5. Baykuş fareyi öpüyor.
6. Yengeç horozu besliyor.
7. Köpek salyangozu izliyor.
8. Penguen balığı taşıyor.

APPENDIX J

EXPERIMENT 2 TEST VISUALS

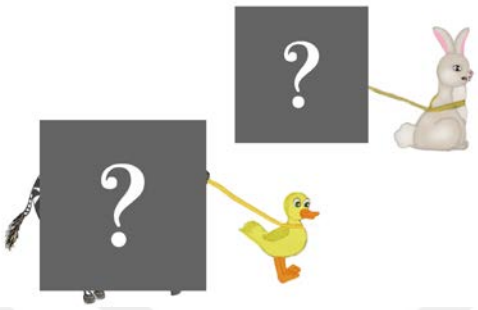


Figure 36. Subject context item - I

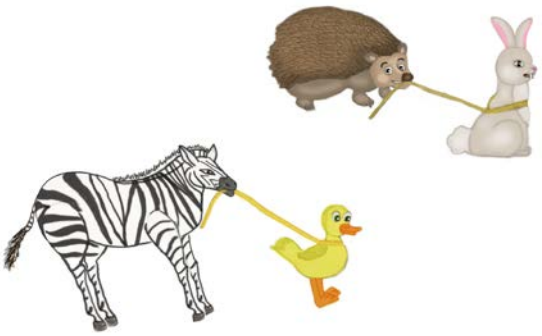


Figure 37. Subject cleft item - I

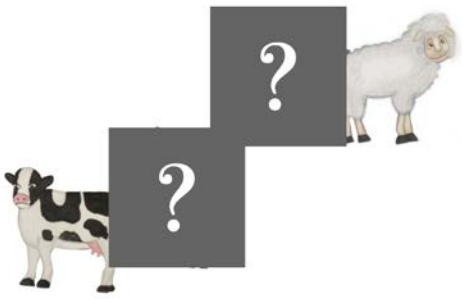


Figure 38. Subject context item - II



Figure 39. Subject cleft item - II

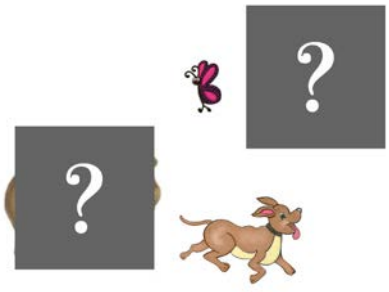


Figure 40. Subject context item - III



Figure 41. Subject cleft item - III

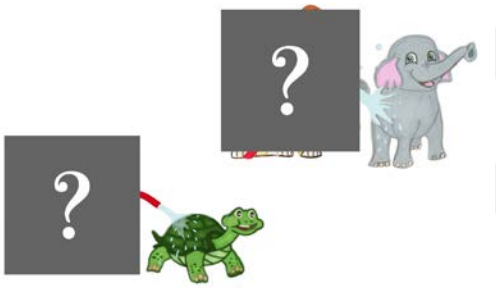


Figure 42. Subject context item - IV



Figure 43. Subject cleft item - V

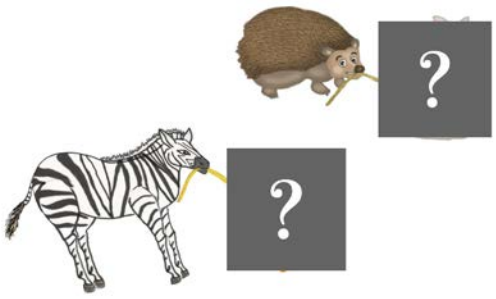


Figure 44. Object context item - I

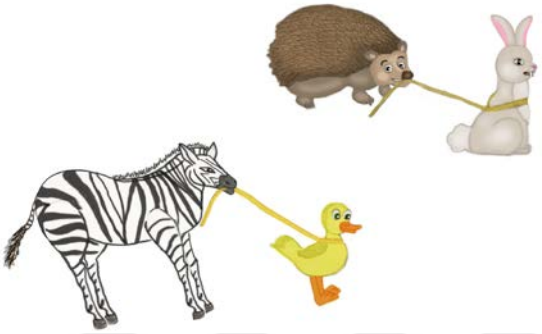


Figure 45. Object cleft item - I

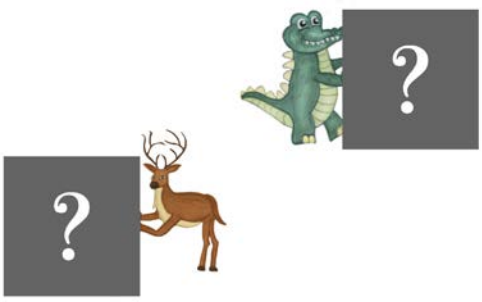


Figure 46. Object context item - II



Figure 47. Object cleft item - II

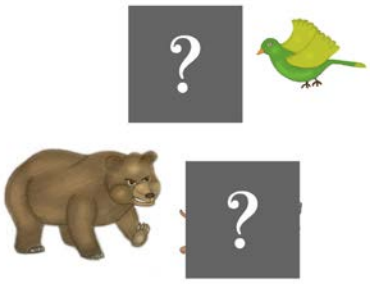


Figure 48. Object context item - III



Figure 49. Object cleft item - III

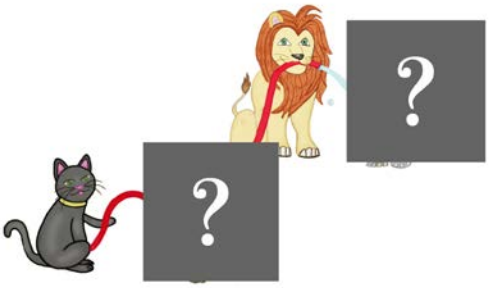


Figure 50. Object context item - IV



Figure 51. Object cleft item – IV

APPENDIX K

TEST SENTENCES EXPERIMENT 2

Table 7. Infelicitous Object Cleft Sentences of Experiment II

Object Clefts				
	Truth-Value	Felicity	Context	Cleft Sentence
1	1	infelicitous	Look! Something is chasing the dog. I wonder what it is.	It is a dog that the bear is chasing.
2	1	infelicitous	Look! Something is pulling the duck. I wonder what it is.	It is a duck that the zebra is pulling.
3	1	infelicitous	Look! Something is pushing the sheep. I wonder what it is.	It is a sheep that the crocodile is pushing.
4	1	infelicitous	Look! Something is washing the elephant. I wonder what it is.	It is an elephant that the lion is washing.
5	0	infelicitous	Look! Something is chasing the dog. I wonder what it is.	It is the butterfly that the bear is chasing.
6	0	infelicitous	Look! Something is pulling the duck. I wonder what it is.	It is a rabbit that the zebra is pulling.
7	0	infelicitous	Look! Something is pushing the sheep. I wonder what it is.	It is the cow that the crocodile is pushing.
8	0	infelicitous	Look! Something is washing the elephant. I wonder what it is.	It is a turtle that the lion is washing.

Table 8. Felicitous Object Cleft Sentences of Experiment II

Object Clefts				
	Truth-Value	Felicity	Context	Cleft Sentence
1	1	felicitous	Look! The bear is chasing something. I wonder what it is.	It is a dog that the bear is chasing.
2	1	felicitous	Look! The zebra is pulling something. I wonder what it is.	It is a duck that the zebra is pulling.
3	1	felicitous	Look! The crocodile is pushing something. I wonder what it is.	It is a sheep that the crocodile is pushing.
4	1	felicitous	Look! The lion is washing something. I wonder what it is.	It is an elephant that the lion is washing.
5	0	felicitous	Look! A bear is chasing something. I wonder what it is.	It is the butterfly that the bear is chasing.
6	0	felicitous	Look! The zebra is pulling something. I wonder what it is.	It is a rabbit that the zebra is pulling.
7	0	felicitous	Look! The crocodile is pushing something. I wonder what it is.	It is the cow that the crocodile is pushing.
8	0	felicitous	Look! The lion is washing something. I wonder what it is.	It is a turtle that the lion is washing.

Table 9. Infelicitous Subject Cleft Sentences of Experiment II

Subject Clefts				
	Truth-Value	Felicity	Context	Cleft Sentence
1	1	infelicitous	Look! The bear is chasing something. I wonder what it is.	It is a bear that is chasing the dog.
2	1	infelicitous	Look! The zebra is pulling something. I wonder what it is.	It is a zebra that is pulling the duck.
3	1	infelicitous	Look! The crocodile is pushing something. I wonder what it is.	It is a crocodile that is pushing the sheep.
4	1	infelicitous	Look! The lion is washing something. I wonder what it is.	It is a lion that is washing the elephant.
5	0	infelicitous	Look! A bear is chasing something. I wonder what it is.	It is a bird that is chasing the dog.
6	0	infelicitous	Look! The zebra is pulling something. I wonder what it is.	It is a hedgehog that is pulling the duck.
7	0	infelicitous	Look! The crocodile is pushing something. I wonder what it is.	It is a deer that is pushing the sheep.
8	0	infelicitous	Look! The lion is washing something. I wonder what it is.	It is a cat that is washing the elephant.

Table 10. Felicitous Subject Cleft Sentences of Experiment II

Subject Clefts				
	Truth-Value	Felicity	Context	Cleft Sentence
1	1	felicitous	Look! Something is chasing the dog. I wonder what it is.	It is a bear that is chasing the dog.
2	1	felicitous	Look! Something is pulling the duck. I wonder what it is.	It is a zebra that is pulling the duck.
3	1	felicitous	Look! Something is pushing the sheep. I wonder what it is.	It is a crocodile that is pushing the sheep.
4	1	felicitous	Look! Something is washing the elephant. I wonder what it is.	It is a lion that is washing the elephant.
5	0	felicitous	Look! Something is chasing the dog. I wonder what it is.	It is a bird that is chasing the dog.
6	0	felicitous	Look! Something is pulling the duck. I wonder what it is.	It is a hedgehog that is pulling the duck.
7	0	felicitous	Look! Something is pushing the sheep. I wonder what it is.	It is a deer that is pushing the sheep.
8	0	felicitous	Look! Something is washing the elephant. I wonder what it is.	It is a cat that is washing the elephant.

APPENDIX L

EXPERIMENT 2 TEST SENTENCES (TURKISH)

Table 11. Infelicitous Subject Clefts of Experiment II in Turkish

Subject Clefts				
	Truth-Value	Felicity	Context	Cleft Sentence
1	1	infelicitous	Bak! Ayı bir şeyi kovalıyor. Acaba neyi?	Köpeği kovalayan bir ayı.
2	1	infelicitous	Bak! Zebra bir şeyi çekiyor. Acaba neyi?	Ördeği çeken bir zebra.
3	1	infelicitous	Bak! Timsah bir şeyi itiyor. Acaba neyi?	Koyunu iten bir timsah.
4	1	infelicitous	Bak! Aslan bir şeyi yıkıyor. Acaba neyi?	Fili yıkayan bir aslan.
5	0	infelicitous	Bak! Ayı bir şeyi kovalıyor. Acaba neyi?	Köpeği kovalayan bir kuş.
6	0	infelicitous	Bak! Zebra bir şeyi çekiyor. Acaba neyi?	Ördeği çeken bir kirpi.
7	0	infelicitous	Bak! Timsah bir şeyi itiyor. Acaba neyi?	Koyunu iten bir geyik.
8	0	infelicitous	Bak! Aslan bir şeyi yıkıyor. Acaba neyi?	Fili yıkayan bir kedi.

Table 12. Felicitous Subject Clefts of Experiment II in Turkish

Subject Clefts				
	Truth-Value	Felicity	Context	Cleft Sentence
1	1	felicitous	Bak! Bir şey köpeği kovalıyor. Acaba ne?	Köpeği kovalayan bir ayı.
2	1	felicitous	Bak! Bir şey ördeği çekiyor. Acaba ne?	Ördeği çeken bir zebra.
3	1	felicitous	Bak! Bir şey koyunu itiyor. Acaba ne?	Koyunu iten bir timsah.
4	1	felicitous	Bak! Bir şey fili yıkıyor. Acaba ne?	Fili yıkayan bir aslan.
5	0	felicitous	Bak! Bir şey köpeği kovalıyor. Acaba ne?	Köpeği kovalayan bir kuş.
6	0	felicitous	Bak! Bir şey ördeği çekiyor. Acaba ne?	Ördeği çeken bir kirpi.
7	0	felicitous	Bak! Bir şey koyunu itiyor. Acaba ne?	Koyunu iten bir geyik.
8	0	felicitous	Bak! Bir şey fili yıkıyor. Acaba ne?	Fili yıkayan bir kedi.

Table 13. Felicitous Object Clefts of Experiment II in Turkish

Object clefts				
	Truth-Value	Felicity	Context	Cleft Sentence
1	1	felicitous	Bak! Ayı bir şeyi kovalıyor. Acaba neyi?	Ayının kovaladığı bir köpek.
2	1	felicitous	Bak! Zebra bir şeyi çekiyor. Acaba neyi?	Zebranın çektiği bir ördek.
3	1	felicitous	Bak! Timsah bir şeyi itiyor. Acaba neyi?	Timsahın ittiği bir koyun.
4	1	felicitous	Bak! Aslan bir şeyi yıkıyor. Acaba neyi?	Aslanın yıkadığı bir fil.
5	0	felicitous	Bak! Ayı bir şeyi kovalıyor. Acaba neyi?	Ayının kovaladığı bir kelebek.
6	0	felicitous	Bak! Zebra bir şeyi çekiyor. Acaba neyi?	Zebranın çektiği bir tavşan.
7	0	felicitous	Bak! Timsah bir şeyi itiyor. Acaba neyi?	Timsahın ittiği bir inek.
8	0	felicitous	Bak! Aslan bir şeyi yıkıyor. Acaba neyi?	Aslanın yıkadığı bir kaplumbağa.

Table 14. Infelicitous Object Clefts of Experiment II in Turkish

Object clefts				
	Truth-Value	Felicity	Context	Cleft Sentence
1	1	infelicitous	Bak! Bir şey köpeği kovalıyor. Acaba ne?	Ayının kovaladığı bir köpek.
2	1	infelicitous	Bak! Bir şey ördeği çekiyor. Acaba ne?	Zebranın çektiği bir ördek.
3	1	infelicitous	Bak! Bir şey koyunu itiyor. Acaba ne?	Timsahın ittiği bir koyun.
4	1	infelicitous	Bak! Bir şey fili yıkıyor. Acaba ne?	Aslanın yıkadığı bir fil.
5	0	infelicitous	Bak! Bir şey köpeği kovalıyor. Acaba ne?	Ayının kovaladığı bir kelebek.
6	0	infelicitous	Bak! Bir şey ördeği çekiyor. Acaba ne?	Zebranın çektiği bir tavşan.
7	0	infelicitous	Bak! Bir şey koyunu itiyor. Acaba ne?	Timsahın ittiği bir inek.
8	0	infelicitous	Bak! Bir şey fili yıkıyor. Acaba ne?	Aslanın yıkadığı bir kaplumbağa.

APPENDIX M

EXPERIMENT 3 TEST VISUALS



Figure 52. Context item - I



Figure 53. Cleft item - I

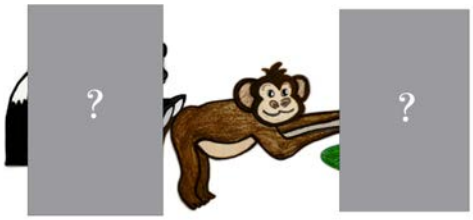


Figure 54. Context item - II



Figure 55. Cleft item - II

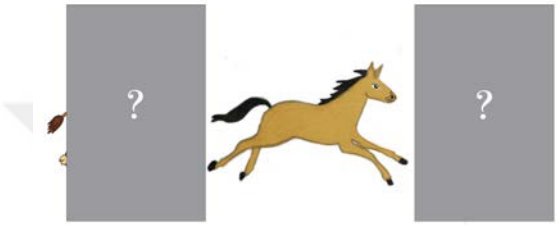


Figure 56. Context item - III



Figure 57. Cleft item - III



Figure 58. Context item - IV



Figure 59. Cleft item - IV

APPENDIX N

EXPERIMENT 3 TEST SENTENCES

Table 15. Subject Cleft Items of Experiment III

Subject Clefts			
	Truth-Value	Context	Cleft
1	1	Look! Something is chasing the horse. I wonder what it is.	It is a lion that is chasing the horse.
2	0	Look! Something is washing the dog. I wonder what it is.	It is a cat that is washing the dog.
3	1	Look! Something is pushing the monkey. I wonder what it is.	It is a panda that is pushing the monkey.
4	0	Look! Something is pulling the camel. I wonder what it is.	It is a racoon that is pulling the camel.

Table 16. Object Cleft Items of Experiment III

Object Clefts			
	Truth-Value	Context	Cleft
1	0	Look! The horse is chasing something. I wonder what it is.	It is a lion that the hose is chasing.
2	1	Look! The dog is washing something. I wonder what it is.	It is a cat that the dog is washing.
3	0	Look! The monkey is pushing something. I wonder what it is.	It is a panda that the monkey is pushing.
4	1	Look! The camel is pulling something. I wonder what it is.	It is a racoon that the camel is chasing.

APPENDIX O

EXPERIMENT 3 TEST SENTENCES (TURKISH)

Table 17. Subject Cleft Items of Experiment III in Turkish

Subject Clefts			
	Truth-Value	Context	Cleft
1	1	Bak! Bir şey atı kovalıyor. Acaba ne?	Atı kovalayan bir aslan.
2	0	Bak! Bir şey köpeği kovalıyor. Acaba ne?	Köpeği yıkayan bir kedi.
3	1	Bak! Bir şey maymunu itiyor. Acaba ne?	Maymunu iten bir panda.
4	0	Bak! Bir şey deveyi çekiyor. Acaba ne?	Deveyi çeken bir rakun.

Table 18. Object cleft items of experiment III in Turkish

Object Clefts			
	Truth-Value	Context	Cleft
1	0	Bak! At bir şeyi kovalıyor. Acaba neyi?	Atın kovaladığı BİR ASLAN.
2	1	Bak! Köpek bir şeyi yıkıyor. Acaba neyi?	Köpeğin yıkadığı BİR KEDİ.
3	0	Bak! Maymun bir şeyi itiyor. Acaba neyi?	Maymunun ittiği BİR PANDA.
4	1	Bak! Deve bir şeyi çekiyor. Acaba neyi?	Devenin çektiği BİR RAKUN.

APPENDIX P

ETHICAL COMMITTEE APPROVAL

Evrak Tarih ve Sayısı: 17.01.2023-108386

T.C.
BOĞAZİÇİ ÜNİVERSİTESİ
SOSYAL VE BEŞERİ BİLİMLER YÜKSEK LİSANS VE DOKTORA TEZLERİ ETİK İNCELEME KOMİSYONU
TOPLANTI KARAR TUTANAĞI

Toplantı Sayısı : 37
Toplantı Tarihi : 30.11.2022
Toplantı Saati : 16:00
Toplantı Yeri : Zoom Sanal Toplantı
Bulunanlar : Prof. Dr. Feyza Çorapçı, Doç. Dr. Arhan S. Ertan, Dr. Öğr. Üyesi Yasemin Sohtorik İlkmen, Dr. Öğr. Üyesi Ayşegül Metindoğan
Bulunmayanlar: Doç. Dr. Senem Yıldız, Dr. Öğr. Üyesi Harun Muratoğulları

Gülfem Sarı Bilişsel Bilimler

Sayın Araştırmacı,

"Türkçe'de Ayrık Tümce Yapısının Edinimi" başlıklı projeniz ile ilgili olarak yaptığınız SBB-EAK 2022/81 sayılı başvuru komisyonumuz tarafından 30 Kasım 2022 tarihli toplantıda incelenmiş ve uygun bulunmuştur.

Bu karar üyelerin toplantıya çevrimiçi olarak katılımı ve oy birliği ile alınmıştır. Onay mektubu üye ve raportör olarak Yasemin Sohtorik İlkmen tarafından toplantıya katılan bütün üyeler adına e-imzalanmıştır.

Saygılarımızla, bilgilerinizi rica ederiz.

Dr. Öğr. Üyesi Yasemin
SOHTORİK İLKMEN
Öğretim Üyesi

e-imzalıdır
Dr. Öğr. Üyesi Yasemin Sohtorik
İlkmen
Öğretim Üyesi
Raportör

SOBETIK 37.10.11.22

Bu belge, güvenli elektronik imza ile imzalanmıştır.

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