Hacettepe University Graduate School of Social Sciences

Department of English Linguistics

CONTEXT TYPE EFFECTS ON ATTACHMENT PREFERENCES IN DISAMBIGUATING TURKISH RELATIVE CLAUSES

Yasemin AYDIN

Master's Thesis

Ankara, 2024

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ACCEPTANCE AND APPROVAL

The jury finds that Yasemin AYDIN has on the date of 16.01.2024 successfully passed the defense examination and approves her Master's Thesis titled "Context Type Effects on Attachment Preferences in Disambiguating Turkish Relative Clauses".

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ETİK BEYAN

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ÖZET

AYDIN, Yasemin. *Türkçe Ortaç Yantümcelerinde İki Anlamlılığın Ortadan Kaldırılmasında Bağlam Türünün Etkisi.* Yüksek Lisans Tezi, Ankara, 2024.

Psikodilbilimde tümcelerin işlenmesini ve anlaşılmasını anlamak için, ortaç yantümcesi yapıları yaygın olarak incelenmektedir. Karmaşık yapıları nedeniyle, ortaç yantümceleri araştırmacıların önemli bulgular elde etmelerini sağlamaktadır. Bu çalışmanın amacı, bağlam türü etkilerinin özne ortaç yantümce eki *-(y)An* kullanılarak kurulan Türkçe ortaç yantümcelerinin iliştirme tercihlerinde etkili olup olmadığını ortaya çıkarmaktır. Mevcut çalışma, iliştirme tercihinin nötr ve bağlamsal ortamlarda farklılaşıp farklılaşmadığını görmek için durumsal bağlamı (makul olma) ve dilsel bağlamı manipüle etmektedir. Türkçe anadil konuşucuları, ortaç yantümcesi iliştirme tercihlerinin değerlendirilmesi için çevrimdışı bir anketi (N = 100) ve iliştirme yeri seçme hususunda tepki sürelerinin incelenmesi için çevrimiçi kendi hızında okuma testini (N = 40) tamamlamıştır. Bu çalışmanın sonuçları, nötr bağlamlarda gözlemlenen düşük bağlanma tercihinin (NP1), NP2 yanlı durumsal bağlam (makul olma) ve dilsel bağlam varlığında Türkçe ortaç yantümcelerinde iki anlamlılığın ortadan kaldırılması hususunda yüksek bağlanma tercihine (NP2) dönüştüğünü ortaya koymaktadır. Her iki bağlam türünün de nötr bağlamlara kıyasla tepki sürelerini azaltmada etkili olduğu gözlenmiştir. Bulgular ayrıca dilsel bağlamın durumsal bağlamdan daha etkili olduğunu göstermektedir.

Anahtar Sözcükler

Psikodilbilim, Ortaç Yantümceleri, İliştirme tercihleri, Bağlam etkileri, Makul olma, Durumsal Bağlam, Dilsel Bağlam

ABSTRACT

AYDIN, Yasemin. *Context Type Effects on Attachment Preferences in Disambiguating Turkish Relative Clauses*. Master's Thesis, Ankara, 2024.

In psycholinguistics, for understanding the processing and comprehension of sentences, relative clause structures are widely studied. Because of their complex structures, relative clauses allow researchers to derive significant findings. The goal of this study is to find out whether context type effects are effective in attachment preferences of Turkish relative clauses constructed using subject participle suffix -(*y*)*An*. The current study manipulates situational context (plausibility) and linguistic context to see if attachment preference differs in neutral and context-dependent settings. Turkish native speakers complete an offline questionnaire (N = 100) to assess their preferences for relative clause attachment site and an online self-paced reading task (N = 40) to examine the reaction times in opting for an attachment site. The results reveal that the low attachment preference (NP1) observed in neutral contexts transforms into a high attachment preference (NP2) when the NP2-biased situational context (plausibility) and linguistic context are presented in disambiguating Turkish relative clauses. Both types of contexts have been demonstrated to be effective in reducing reaction times when compared to neutral contexts. The findings further suggest that linguistic context is more effective than situational context.

Keywords

Psycholinguistics, Relative Clauses, Attachment preferences, Context effects, Plausibility, Situational Context, Linguistic Context

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LIST OF ABBREVIATIONS

RC	Relative Clause
NP	Noun Phrase
PL	Plural
3SG	Third Person Singular
POSS	Possessive
ACC	Accusative Case
PART	Participle
LOC	Locative Case
1SG	First Person Singular
NOM	Nominative Case
PAST	Past Tense
GEN	Genitive Case
DAT	Dative Case
SUB	Subordinator
SRC	Subject Relative Clause
ORC	Object Relative Clause
DP	Determiner Phrase
S	Sentence
NP1	First Noun Phrase
NP2	Second Noun Phrase
V	Verb
INST	Instrumental Case
L1	First Language
SVO	Subject-Verb-Object
VSO	Verb-Subject-Object
OSV	Object-Subject-Verb
SOV	Subject-Object-Verb

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INTRODUCTION

Both the comprehension and production of linguistic structures by the human mind had been sparking linguists' interest for some time at the end of the nineteenth century. However, the name psycholinguistics was first spotted in the book written by Sebeok and Osgood (1954). Psycholinguistics, as a relatively recent branch of linguistics, engages in the psychological processes involved in comprehending, producing, and remembering syntactic structures. In other words, psycholinguistics studies the way the human brain processes language.

Since the fundamental aim of the field is to investigate the assembly of speech and writing, comprehension, and vocabulary storage (Field, 2004), sentence processing studies allow us to examine the nature of language processor. As Papadopoulou (2006) states, all sentence processing theories aim to figure out the way people interpret the given sentences in a certain way. Papadopoulou (2006) reported that the main issues studied in sentence processing are, the universality and the architecture of the human parser, the biases implemented by people in computing the structural analysis of the sentence, the timing of the non-grammatical factors in sentence comprehension and finally, the issue of having a separate syntactic processor or not.

Within the context of sentence processing studies, three main aspects of sentence processing, which are grammar, parser, and processor, have gained prominence (Lin & Bever, 2006). According to Lin and Bever (2006), the concept of the processor is inclusive of both the grammar and the parser; the grammar refers to the syntactic competence of the parser, which processes inputs and then creates syntactic outputs accordingly. In other words, the parser encapsulates the grammar. Overall, the concept of processing in sentence processing studies includes the components above, which are related and somehow distinctive at the same time.

CHAPTER 1: THE STUDY

1.1. BACKGROUND TO THE STUDY

There are two models of parsing: autonomous and interactive models. Autonomous models employ only syntactic information in the initial stages of the syntactic processor, namely the parsing, whereas interactive models can make use of various sources other than syntactic information, such as semantic and pragmatic information in the initial stages (Harley, 2001). However, within the scope of the issues investigated in the sentence processing studies, there hasn't been a consensus on the process of parsing, in other words, whether the semantic and pragmatic information are also employed in the initial stages of parsing along with the syntactic information or the semantic and pragmatic information are only used after the initial syntactic analysis is debatable. These debatable properties underlying sentence processing can be clarified through the manipulation of ambiguity. Ambiguous sentences disrupt the regular flow of reading, thus giving rise to the observation of the nature of sentence processing, which occurs in the human brain.

Temporary or local ambiguity occurs when the number of potential analyses is more than one at some point in the sentence, even though the ambiguity is resolved by the following linguistic units in the sentence. Thus, by the end of the sentence, there is just one possible analysis.

Papadopoulou (2006) gives the following example:

(1)
I knew the solution was wrong.

(taken from Papadopoulou, 2006, p. 2)

The abovementioned sentence is a temporarily ambiguous sentence due to the fact that the subcategorization of the verb *know* can be realised by either a determiner phrase or a complement phrase. In this case, the ambiguity is resolved when the verb is encountered; thus, the ambiguity is resolved towards the complement clause analysis.

The well-known example of Bever (1970) illustrates a similar situation:

(2)
The horse raced past the barn fell.

(taken from Bever (1970), as cited in Papadopoulou, 2006, p. 2)

When the verb *raced* is reached, there are two possible analyses: main clause analysis and reduced relative clause analysis. The embedded verb *raced* is taken for the main verb initially; however, when the main verb *fell* is encountered, the whole sentence is re-parsed towards the reduced relative clause analysis.

Unlike global ambiguities in which all the structural analyses are correct, local ambiguities provide information on whether parsing is in a parallel fashion or serial fashion. According to Gibson and Pearlmutter (2000), serial parsing occurs when the parser maintains only one structural interpretation at a time, while parallel parsing occurs when the parser entertains more than one structural interpretation at a time. As in (2), relative clauses allow us to unravel the complex nature of sentence processing owing to their ambiguous structures. Moreover, as Dinçtopal-Deniz (2010) reports, syntactic ambiguities such as relative clause attachment ambiguities have also gained popularity due to the cross-linguistic difference when it comes to the processing of these ambiguities by speakers of different languages. This situation can be exemplified in the following example:

(3)
Someone shot *the servant* of *the actress* who was on the balcony.

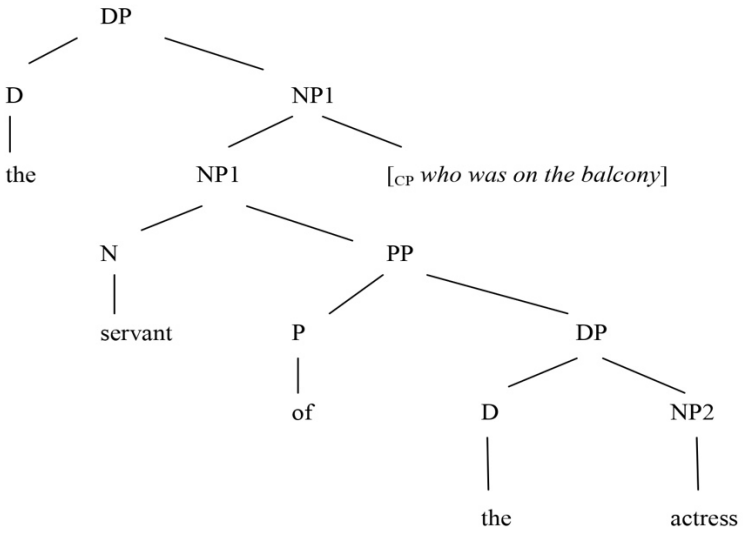
(taken from Dinçtopal-Deniz, 2010, p. 27)

In (3), ambiguity results from the fact that there are two noun phrases (i.e., *the servant*, known as high attachment or *the actress*, known as low attachment) that the relative clause can modify; however, the resolution of this ambiguity varies cross-linguistically. Low attachment preference in ambiguity resolution of relative clauses is observed in Arabic (Quinn, Abdelghany, & Fodor, 2000), English (Carreiras & Clifton 1993, 1999; Cuetos & Mitchell, 1988; Fernández, 2003; Frazier & Clifton, 1996), Norwegian, Romanian and Swedish (Ehrlich, Fernández, Fodor, Stenshoel, & Vinereanu 1999) while high attachment is preferred in Dutch (Brysbaert & Mitchell, 1996), French (Zagar, Pynte, & Rativeau 1997), German (Hemforth, Konieczny, Scheepers & Strube, 1998; Wijnen, 1998), Japanese (Kamide & Mitchell, 1997), Russian (Sekerina, 1997) and Spanish (Carreiras & Clifton, 1993, 1999; Cuetos & Mitchell, 1988).

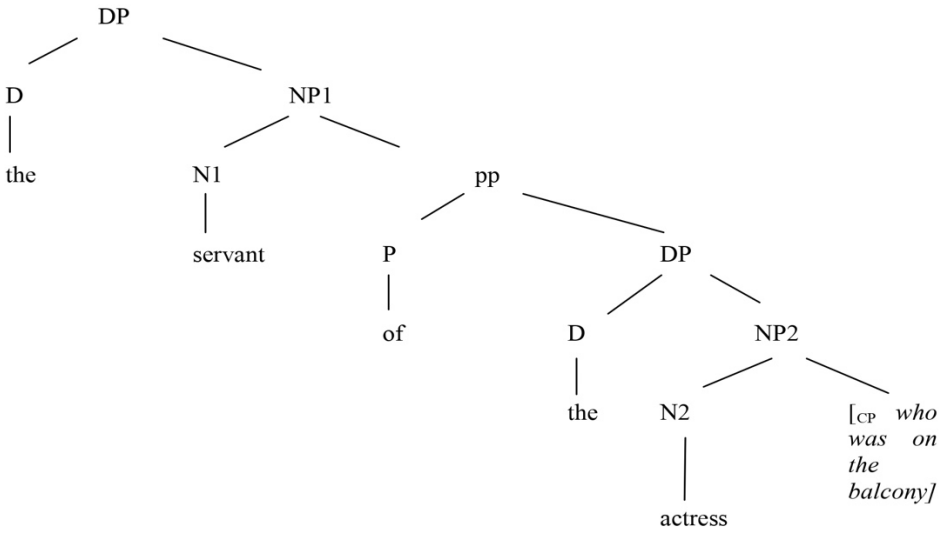
The observation of these language-specific preferences has led to the development of parameterised models of parsing in opposition to universal parsing models, which include mainly the *Garden Path model* and its principles *Late Closure* and *Minimal Attachment* introduced by Frazier (1978). Several accounts of parameterised models have been proposed to deal with the cross-linguistic differences in relative clause processing, such as the *Modifier-straddling strategy* (Cuetos, Mitchell & Corley, 1996), the *Head Attachment model and the Anaphor Resolution model* (Hemforth et al., 1998; Konieczny et al., 1997) and the *Recency/Predicate Proximity model* (Gibson, Pearlmutter, CansecoGonzalez & Hickok, 1996). Besides these parameterised models, some accounts of universal parsing models, such as *Construal Hypothesis* (Frazier & Clifton, 1996), and experience-based models, such as the *Tuning Hypothesis* (Brysbaert & Mitchell, 1996; Mitchell et al., 1995), have been found to be effective in explaining the diversity in cross-linguistic attachment preferences.

Figure 1:
(a) NP1 attachment interpretation; (b) NP2 attachment interpretation

a. NP1 attachment



b. NP2 attachment



Note. Reprinted from Başer, 2018, p. 27.

First off, Frazier and Fodor (1978) introduced the Garden Path model, which is among the universal parsing theories. This model assumes that sentence processing is in a serial

manner, and thus it is two-staged. Late Closure and Minimal Attachment were proposed by Frazier (1978) as two main principles of the Garden Path model. The principle of Late Closure predicts that new constituents should be attached to the constituent that is currently being processed (Frazier, 1987; Frazier & Fodor, 1978); in this case, a relative clause should be attached to the most recent noun phrase, which is *the actress* in sentences such as (3), favouring low attachment, as well. The principle of economy may be said to have an impact on the low attachment preference since only the closest unit is modified by the relative clause. Thus, the least effort is exerted. On the other hand, the principle of Minimal Attachment requires that new elements should be attached in a manner that the fewest number of nodes are utilised (Frazier, 1987; Frazier & Fodor, 1978). Frazier (1987) reports that when these two principles are in conflict, Minimal Attachment wins; however, when the number of nodes of these two analyses is the same, Late Closure takes precedence.

Construal Hypothesis was developed as another universal parsing model by Frazier and Clifton (1996). The theory itself makes a syntactic classification between two relations as primary and non-primary relations. Primary relations refer to the subject and main predicate of finite clauses, along with the obligatory units and the complements (Frazier & Clifton, 1996). These primary relations or primary phrases are assumed to be determined by structural preferences such as the universal parsing principles of Late Closure and Minimal Attachment. On the other hand, non-primary relations include all other kinds of structural constructions, such as complex relative clauses, and the abovementioned universal structural preferences do not apply to them (Frazier & Clifton, 1996; Gilboy et al., 1995). According to the Construal Hypothesis, since relative clauses are not classified under the primary relations, a relative clause will not be associated with the most recent noun phrase; however, it will be attached to the extended maximal projection of the last theta-role assigner. The attachment site is thus determined via the Referentiality Principle, stating that the noun phrase that is referential receives attachment (Frazier & Clifton, 1996; Gilboy et al., 1995).

The fact that NP1 attachment is favoured in Spanish, unlike the NP2 attachment preference in English, put forward one of the abovementioned parameterised theories of

parsing, namely, the Modifier-straddling strategy by Cuetos and Mitchell (1988). This strategy is assumed to work only in post-modifying languages such as Spanish since they have post-nominal adjectives, thus explaining the high attachment preference in Spanish. However, it is not supported by further data. Another parameterised model is the Anaphor Resolution model (Hemforth et al., 1998; Konieczny et al., 1997). This model hypothesises that relative clause processing is a process of binding the relative pronoun to its antecedent, and this relative clause attachment is said to be an occurrence of the Anaphor Resolution strategy (Papadopoulou, 2006). Even though this model works for certain languages such as German, Dutch, and Russian, in which relative pronouns are subject to binding, other languages, such as English, are not considered to be sensitive to this anaphoric binding. This approach is frequently found to be inadequate because relative pronouns in English can be totally removed or substituted with a complementiser, namely, *that*. The Recency / Predicate Proximity model is based on the attachment sites observed in English and Spanish listed as follows in (4) (Gibson et al., 1996):

Attachment to the third DP:
(4a) the lamps near the paintings of the *house* that *was* damaged in the flood
(4b) las lámparas cerca de las pinturas de la *casa* que *fue* dañada en la inundación

Attachment to the second DP:
(5a) the lamps near the *painting* of the houses that *was* damaged in the flood
(5b) las lámparas cerca de la *pintura* de las casas que *fue* dañada en la inundación

Attachment to the first DP:
(6a) the *lamp* near the paintings of the houses that *was* damaged in the flood
(6b) la *lámpara* cerca de las pinturas de las casas que *fue* dañada en la inundación

(taken from Gibson et al., 1996, p. 27)

In the examples listed above, the least preferred noun phrase is the middle one (5a, 5b). Thus, according to Gibson et al., (1996), there are two strategies at work in the attachment site process. One of them is named Recency and prefers low attachment (4a, 4b), whereas the other one is called Predicate Proximity and prefers high attachment (6a, 6b). Similar to the Late Closure Principle, Recency requires the upcoming constituents to be added to the most recently processed ones. On the other hand, Predicate Proximity predicts that new constituents are attached to the units as close as possible to the main predicate of the sentence, a verb argument. Thus, the explanation for the freer word order in certain languages, such as German, Greek, and Turkish, can be attributed to Predicate Proximity. Besides, working memory limitations are thought to favour Recency and Predicate Proximity, unlike the middle DP (determiner phrase, yet it is beyond the scope of thesis, thus, it will be named as noun phrase or NP in short) preference (Papadopoulou, 2006).

Experience-based models, such as the Tuning Hypothesis, are based on the statistical records of the ways structural ambiguities are generally resolved. Thanks to these frequency records, initial analysis is purely made according to the way an ambiguity is most frequently resolved in the language (Papadopoulou, 2006). Thus, lexical, pragmatic, or other factors are ignored in the initial stages. For instance, if a relative clause ambiguity is resolved in a certain way frequently, this experience affects the preference of the speakers. The Tuning Hypothesis was tested in English (Cuetos et al., 1996), Spanish (Cuetos et al., 1996) and French (Baltazar & Kister, 1995; Mitchell et al., 1995; Pynte, 1998; Zagar et al., 1997); however, there are still some discrepancies obtained from the corpus data and the experiments (Gibson et al., 1996; Brysbaert & Mitchell, 1996; Mitchell & Brysbaert, 1998; Mitchell et al., 2000). Constraint Satisfaction models predict that besides frequencies of structures, the frequency of lexical items is also taken into consideration (Papadopoulou, 2006). Therefore, all the constraints (lexical, pragmatic, and syntactic) interact with each other during an analysis. There is not a purely syntactic stage; lexical and syntactic information is processed at the same time.

1.2. STATEMENT OF THE PROBLEM

Several sentence processing models stated above have been postulated and tested in some languages to unravel the architecture of the parser in terms of serial vs. parallel, modular vs. interactive sentence processor, and universal vs. parameterized or experience-based models. Studies on relative clause processing are mainly concentrated on two aspects. One is based on the processing differences between subject and object relative clauses (e.g., Aydın, 2007; Bulut, 2012; Gordon, Hendrick, & Johnson, 2001; King & Kutas, 1995; Özge, Marinis, & Zeyrek, 2009; Özge, Marinis, & Zeyrek, 2010; Özge, Marinis, & Zeyrek, 2015; Slobin, 1986; Traxler, Morris, & Seely, 2002; Boran, 2018; Bulut, Yarar, & Wu, 2020; Betancort, Carreiras, & Sturt, 2009; Bulut et al., 2018; Bulut et al., 2016; Carreiras et al., 2010; Chen et al., 2008; Hsiao & Gibson, 2003; Kwon, Gordon, Lee, Kluender, & Polinsky, 2010; Lin & Bever, 2006; O'Grady, Lee, & Choo, 2003; Traxler, Morris, & Seely, 2002; Turan, 2018; Ueno & Garnsey, 2008; Wang, Yue, Li, & Li, 2017; Xu, Duann, Hung, & Wu, 2019) and the other one demonstrates which processing model is more effective for resolving ambiguous relative clauses, and is based on processing models (e.g., Akal, 2021; Brysbaert & Mitchell, 1996; Carreiras & Clifton 1993, 1999; Cuetos & Mitchell, 1988; Cuetos et al., 1996; Dinçtopal-Deniz, 2010; Ehrlich, Fernández, Fodor, Stenshoel, & Vinereanu, 1999; Fernández, 2003; Frazier & Clifton, 1996; Frazier, 1978, 1987, Gibson et al., 1996; Hemforth, Konieczny, Scheepers & Strube, 1998; Kamide & Mitchell, 1997; Kırkıcı, 2004; Mitchell et al., 1995; Papadopoulou, 2005, 2006; Quinn et al, 2000; Sekerina, 1997; Wijnen, 1998; Zagar, Pynte, & Rativeau 1997). As may be noticed, the latter research area has received significantly less emphasis in Turkish than the earlier one. Additionally, while some of these studies in the latter one suggest that there is a structural tendency, others suggest that the rationale is not at all structural, requiring further research on this topic. Studies in the field of context effects on Turkish relative clause processing models are likewise scarce.

In Turkish, Akal (2021), Dinçtopal-Deniz (2010), and Kırkıcı (2004) test the processing models of Turkish relative clause attachment preferences. Dinçtopal-Deniz (2010) reveals that the results of the study are in line with the Construal Hypothesis. Kırkıcı (2004) indicates that the semantic features of the constituents mostly influence the

Turkish relative clause ambiguity resolution, and a fully syntactic parsing account is not favourable in Turkish, which supports Construal Hypothesis. Offering a different viewpoint than others, Akal (2021) postulates that the Turkish relative clause attachment preferences are caused by a structural tendency like Recency by considering Gibson et al. (1996)'s proposal on ambiguous relative clause attachments.

According to prior research on the topic, low attachment (NP1) is the generally preferred attachment site in Turkish. It has yet to be determined, though, whether this tendency for relative clause attachment results from a certain structural or contextual factor.

1.3. AIM OF THE STUDY

The primary objective of the present study is to examine whether structure or context has a greater influence in neutral and context-dependent settings. In addition, the study aims to look into whether situational context (plausibility) or linguistic context plays a more significant role in Turkish relative clause attachment preferences.

1.4. RESEARCH QUESTIONS

According to the aims given above, the present study investigates the following research questions:

1. What could be the relative clause processing model in Turkish in cases of ambiguity resolution?

2. How does the preference for relative clause attachment site in Turkish alter in the presence of context compared to the preferred attachment site in a neutral context and what is the attachment site that is preferable in situational context and linguistic context?

3. Among linguistic context and situational context (plausibility), which context effect is more effective in the ambiguity resolution of Turkish relative clauses?

1.5. OVERVIEW OF THE CHAPTERS

This thesis consists of five chapters, and the chapters are outlined as follows:

The first chapter is an introduction part expressing the background to the relevant study, which consists of sentence processing studies, ambiguity, the contribution of relative clause studies to sentence processing, the statement of the problem, the aims of the study and the research questions. Furthermore, theoretical definitions of the processing strategies, such as the Garden Path Theory, Construal Hypothesis, Recency, Predicate Proximity, and Tuning Hypothesis, are introduced.

The second chapter expands the theoretical background and reviews the previous research on the topic of the relevant thesis. Relative clauses in Turkish are given in detail and further offers thorough information on relative clause processing models. Furthermore, the research conducted on relative clause processing models and context effects on relative clauses is presented.

The third chapter introduces the pilot study carried out prior to the main study. Also, it offers information on the methodology implemented in the study and delivers information about the participants, data collection tools, data analysis, and procedure within the constraints of the theoretical framework.

The discussion of the findings is covered in the fourth chapter and offers the results of the current self-paced reading task, including reaction times and accuracy of the questions regarding attachment site preferences, and the results of the offline questionnaire. In addition, the chapter provides a discussion of the models related to the findings of the present thesis.

The study's research questions are addressed in the fifth chapter, which also serves as the conclusion. The limitations of this thesis are given at the end of the chapter. A further suggestion is also made to leave room for future research on the topic.

CHAPTER 2: REVIEW OF LITERATURE

2. 1. RELATIVE CLAUSES IN TURKISH

Relative clauses are used to modify noun phrases. Contrary to English, Turkish as a head-final language is prenominal and relative clauses are positioned before their heads. Also, no overt relative pronoun such as "who," "which," "that," "whom," "whose," "where," etc. is observed in Turkish. The Turkish equivalents of the English relative pronouns are the participle suffixes *-(y)An* and *-DIK*, as exemplified in (7), and (8) (Göksel & Kerslake, 2005):

(7)
oyuncak-lar-ın-ı kır-*an* (küçük) kız
toy-PL-3SG.POSS-ACC break-PART little girl
'the (little) girl *who* breaks/has broken her toys'

(8)
her gün okul-da gör-*düğ*-üm kız
every day school-LOC see-PART-1SG.POSS girl
'the girl *whom* I see at school every day'

(taken from Göksel and Kerslake, 2005, p. 380)

Subject relative clauses and object relative clauses are the two kinds of relative clauses in Turkish. Both kinds of Turkish relative clauses come before the noun phrase they modify, with *ki* clauses being the sole exception (Göksel & Kerslake, 2005). Subject relative clause (SRC) construction is given in (9):

(9)
Çiçeğ-i ver-en çocuk

flowers-ACC give-PART boyNOM
'The boy who gave the flowers'

The suffix *-(y)An* in (9) is the marker used for subject relative clause construction in Turkish. As in the following example (10), each relative clause, according to Underhill (1972), originates from the underlying sentence:

(10)
Çocuk çiçeğ-i ver-di.
Boy.NOM flowers-ACC give-PAST.3SG
'The boy gave the flowers.'

In (10), the underlying sentence, "The boy gave the flowers," modifies the head noun phrase (NP) *boy.* Thus, the relative clause construction in (9) derives from the underlying sentence "The boy gave the flowers" in (10). Besides, the head noun phrase (NP) *boy* is positioned to the right of the relative clause.

Object relative clause (ORC) construction is exemplified in (11):

(11)
Kadın-ın ders ver-diğ-i öğrenci-si
womanGEN lectureNOM give-PART 3SG student-3SG.POSS
'Her student to whom the woman gave lecture'

The suffix *-DIK* is the marker for object relative clauses in Turkish. Similar to that of subject relative clauses, object relative clauses derive from the following underlying sentence:

(12)
Kadın öğrenci-si-ne ders ver-di.
womanNOM student 3SG.POSS-DAT lectureNOM give-PAST.3SG
'The woman gave lecture to her student.'

As can be observed in (12), the head noun phrase (NP) of the object relative clause (5) is derived as the object of the underlying sentence, *öğrenci.* Furthermore, similarly to subject relative clauses, it is once more positioned to the right of the relative clause.

Relative clauses can be classified as restrictive and non-restrictive relative clauses. According to Göksel and Kerslake (2005), restrictive relative clauses provide an identifying purpose by expressing a restriction on the scope of the noun they modify. For instance, the relative clause in *the ring which the man owns*, "adamın sahip olduğu yüzük", restricts the reference to *ring* to one that the man owns. However, non-restrictive relative clauses only describe the referents they offer extra information about without requiring the referent to be described. For example, the relative clause in *the girl who studies law*, "hukuk okuyan kız", adds details about *the girl*.

As Underhill (1972) states, the relative clause suffixes such as *-(y)An* and *-DIK* take the place of the tense suffixes, subject relative clause and object relative clause, respectively. Except for *ki*, which is not a suffix, these suffixes are the primary indicators in relative clause construction in Turkish. They are the non-finite relative clauses which constitute the most common kind. Although the *ki* form is rare, finite relative clauses that include the subordinator *ki* do exist (Göksel & Kerslake, 2005). Similar to a relative pronoun, *ki* introduces finite relative clauses which appear after their head noun, unlike the majority of relative clauses in Turkish that are non-finite as illustrated in (13):

(13)

Berkay *ki*, her zaman çok tatlıdır, herkesi eğlendirdi.
Berkay SUB always so sweet everyone-ACC amuse-PAST.3SG
‘Berkay, who's always so sweet, amused everyone.’

In (13), *ki* generates a non-restrictive relative clause by providing more details about the head noun *Berkay*. Besides, according to Göksel and Kerslake (2005), while the relative clause suffixes *(y)An, -DIK, -(y)AcAK,* or *-mIş*, must be attached to the verb, the subordinator *ki* serves as a stand-alone relative pronoun. The fact that *ki* adopts the general borrowed pattern for subordinate clauses—a pattern that was adopted from the

Persian language—distinguishes these two ways of constructing relative clauses in Turkish (Kornfilt, 1997).

Hani creates yet another exemption in establishing relative clauses in Turkish without employing participle suffixes, and it is often used to identify the common referent in place of the relative clause construction with suffixes (Slobin & Zimmer, 1986). The pertinent word *hani*, which roughly translates to *you know*, is used to describe the referent as illustrated in (14):

(14)
Hani siz-in ev-de büyük bir yatağı-n-ız var ya, o-nun gibi.
HANİ, your houseLOC big a bed1ST.PL.POSS there is YA, itGEN like
HANİ there is a big bed in your house YA, it's like that.

(taken from Slobin and Zimmer, 1986, p. 279)

The above sentence corresponds the following (15) that is created with a participle suffix:

(15)
sizin evde ol-an büyük yatak gibi
'like the big bed that is in your house'

As mentioned earlier, Turkish constructs non-finite relative clauses, which are the most common, by employing participle suffixes such as *(y)An, -DIK, -(y)AcAK,* or *-mIş*, which correspond to relative pronouns in English. A non-finite verb form with any of these suffixes is not inflected for case or person agreement. However, participle suffixes are selected based on how the head noun interacts with the relative clause, not randomly. The following table presents the participles that can be employed to relativise certain constituents of a sentence, as detailed by in Figure 2 (Göksel & Kerslake, 2005, p. 387) below:

Figure 2:

An Overview of the Relativisation Strategies in Turkish

(i)	Relativizing subjects	*-(y)An*
(ii)	Relativizing direct objects	*-DIK/-(y)AcAK*
(iii)	Relativizing oblique objects	*-DIK/-(y)AcAK*
(iv)	Relativizing adverbials	*-(y)An*
		-DIK/-(y)AcAK
(v)	Relativizing possessors	
(a)	which are part of subjects	*-(y) An*
(b)	which are not part of subjects	*-(y) An*
	or	*-DIK/-(y) AcAK*
(vi)	Relativizing possessed constituents	
(a)	which are part of subjects	*-(y) An*
(b)	which are not part of subjects	*-DIK/-(y) AcAK*

Note. Reprinted from Göksel and Kerslake, 2005, p. 387.

As Figure 2 demonstrates, subjects, adverbials, possessors and possessed constituents which are parts of subjects are relativised by -(y)An. Conversely, direct objects, oblique objects, adverbials, possessors and possessed components which are not parts of subjects are relativised by the non-subject participles *-DIK* and *-(y)AcAK*.

To apply the example in (9) above, in the subject relative clause, the relativised head noun is the subject of the relative clause since *çocuk* serves as the subject of the verb phrase *çiçeği veren*. Consequently, the verb *ver-* accepts the subject relative participle *-(y)An*. However, in (11), the head noun *öğrenci-si* is the object of the verb phrase *ders verdiği*

and the relativised head noun. The object relative participles *-DIK* and *-(y)AcAK* differ from the subject relative participle *-An* in that they take person and number agreement morphemes (Bulut, 2012). An example of relativising objects with *-(y)AcAK* is shown below in (16):

(16)
Ayşe'nin okuyacağı kitap
AyşeGEN read-PART.3SG bookNOM
'The book which Ayşe will read'

In the example given above (16), the relative clause verb *okuyacağı* has the head noun *kitap* as its object. Similar to *-DIK*, the suffix *-(y)AcAK* is used to make object relative clauses, albeit the tenses are different. The suffix *-DIK* typically relates to cases that have already occurred or are currently occurring whereas the suffix *-(y)AcAK* is typically used to describe situations that will occur in the future. In this regard, Yarar (2005) clarifies relative clause participles in the example below (17a) and (17b):

(17a) Uyuy-an/uyu-muş/uyu-yacak çocuk (SRC participles)
'sleep-SRC participle' 'child'
(17b) Oku-duğu/oku-yacağı kitap (non-SRC participles)
'read-non-SRC participle' 'book'

(taken from Yarar, 2005, p. 132)

(17a) demonstrates the addition of subject relative participles to the verb *uyu-* (sleep), while (17b) shows the addition of non-subject, that is, object relative participles to the verb *oku-* (read). While *uyu-muş* (who slept/has slept) and *uyu-yacak* (who will sleep), respectively, relate to past and future tenses in (17a), *uyu-yan* lacks tense agreement, making the tense of the verb unclear. In (17b), which consists of non-subject relative participles, the tense of *okuduğu* is uncertain. However, *okuyacağı* has a particular tense that is future tense since it implies "which s/he will read." As stated earlier, different from subject relative participles, object relative participles exhibit morphemes that indicate agreement in terms of person and number, which can be seen in (17b) *oku-duğ-u* and *oku-*

yacağ-ı. The rightmost suffixes *-u* and *-ı*, respectively, are inflected with the third singular person. Person and number agreement in object relative participles also reveal itself in (11), *Kadın-ın ders verdiğ-i öğrenci-si,* (her student to whom the woman gave lecture) in which the genitive case is used to denote the agent of the clause, and the verb is inflected with a possessive marker to agree with the subject noun phrase of the clause (Underhill, 1972).

Furthermore, the utilisation of the auxiliary verb *ol-* allows for the inclusion of certain tense and aspect markers, as demonstrated by the following instances in (18a) and (18b) (Yarar, 2005):

(18a) Uyu*muş olan*/uyu*yacak olan*/uyu*makta olan* çocuk (SRC participles)
'sleep-SRC participle' 'child'
'The child who slept-has slept/will sleep/is sleeping-was sleeping'

(18b) Oku*yacak olduğu*/oku*muş olduğu*/oku*makta olduğu* kitap (non-SRC participles)
'read-non-SRC participle' 'book'
'The book which s/he will read/read-has read/is reading-was reading'

(taken from Yarar, 2005, p. 132)

It is observed that in the constructions *uyu-yan çocuk* and *oku-duğ-u kitap*, as presented in (17a) and (17b) respectively, the relative participles *–(y)An* and *-DIK* lack tense agreement, resulting in structures that are also ambiguous in terms of tense and agreement. *Uyu-yan çocuk* can be interpreted as referring to the act of sleeping, whether in the present, past, or future tense. Similarly, *oku-duğ-u kitap* can be understood as denoting the act of reading, regardless of the tense. However, this ambiguity can be removed through the utilisation of the auxiliary verb *ol-* as exemplified in (18a) and (18b).

According to Göksel and Kerslake (2005), similar to the omission of "who is," "which was," and other similar phrases in relative clauses in English, the word *olan* can be

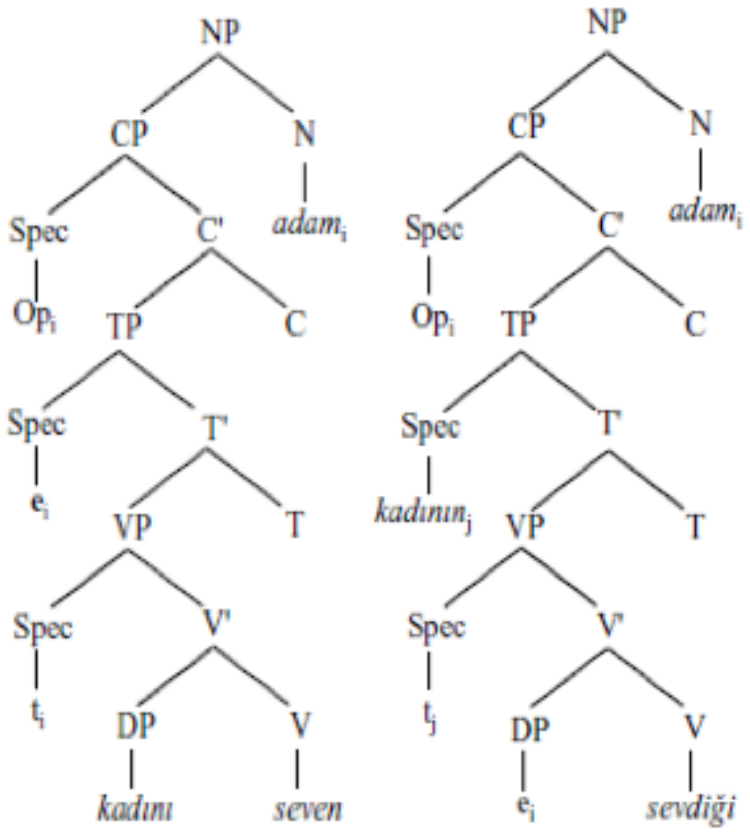
omitted as well in truncated relative clauses in Turkish in the forms of *-mIş olan* and *-(y)AcAk olan* as illustrated in (19) and (20):

(19)
çok çekmiş (olan) kıyafet
a lot shrink-SRC PART clothing
'a clothing which shrank a lot'

(20)
okuyacak (olan) çocuk
study-SRC PART child
'the child who will study'

According to Aydın (2007), the disparities observed in Turkish between subject relative clauses and object relative clauses can be explained by two factors: linear distance, which refers to the distance between the filler (head noun) and the gap (extraction site), and structural distance, which refers to the syntactic depth of the gap within the relative clause as shown in Figure 3 by Aydın (2007):

Figure 3:
The Differences Between Subject Relative Clauses and Object Relative Clauses



Note. Reprinted from Aydın, 2007, p. 299.

While the right parse tree above illustrates an object relative clause, the left parse tree above shows a subject relative clause. The linear distance, as stated before, or the number of words that stand between the filler (adam*i*) and the gap (e*i*) in Turkish subject relative clauses is at least two words (kadını and seven), yet in object relative clauses, this distance is only one word (sevdiği). In other words, compared to object relative clauses, the head noun (adam) and extraction point are located farther apart in subject relative clauses. Object relative sentences are differentiated based on their structural distance, determined by the presence of hierarchically deeper gap positions and a greater number of syntactic nodes.

2. 2. RELATIVE CLAUSE PROCESSING MODELS AND RELEVANT STUDIES

Different models are used to analyse the processing and comprehension of relative clauses. Regarding subject relative clause and objective relative clause processing, as well as their explanations based on structural models and constraint-based accounts, relative clause constructions appear to vary among languages. These cross-linguistic variations have been attempted to be explained by various theories, yet considering a full discussion of all theories, which are mostly covered in Chapter I of this study, would be outside the purview of this study.

According to structural models, firstly, the Garden-Path Theory (Frazier, 1979, 1987), which has two main principles—Minimum Attachment and Late Closure—sentence processing operates on the premise of a two-stage account. The argument goes that syntactic information is used in the initial stage, and additional information—like plausibility, frequency, animacy and referential or linguistic context—is only used in the second stage. These types of additional information are known as the constraint-based or constraint-satisfaction models proposed by MacDonald et al. (1994) and further studied by McRae et al. (1998), which is based on the fact that nonsyntactic information is activated along with the syntactic information simultaneously. Construal Hypothesis (Frazier & Clifton, 1996), on the other hand, postulates that the basis for resolving ambiguity in modifier attachment is lexical-semantic information rather than just syntactic information. However, the literary basis of this study is formed by the structural models of Recency and Predicate Proximity (Gibson et al., 1996) and the constraint-based models mentioned earlier.

2. 2. 1. Structural Models of Relative Clause Processing

As stated earlier, attachment preferences exhibit cross-linguistic variance. In order to provide a rationale for this occurrence, Gibson et al. (1996) put up the theoretical models of "Recency Preference" and "Predicate Proximity" as potential explanations for the observed cross-linguistic differences in relative clause attachment. Besides, different

classifications were also made to explain the variance such as Cuetos et al. (1996) establishing a distinction between languages based on the low attachment and high attachment preferences. Languages where adjectives follow the nouns, such as Spanish, Italian, and French, are said to favour high attachment; on the other hand, languages where nouns are pre-modified, such as English, Dutch, and German, are said to favour low attachment. Later, Papadopoulou (2005) presents a compilation of languages that exhibit two distinct types of relative clause attachment preferences. English, Swedish, Norwegian, and Arabic languages tend to attach the relative clause to the second noun phrase, whereas Spanish, French, German, Dutch, and Greek languages tend to attach the relative clause to the first noun phrase. These differences are formulated within Recency Preference and Predicate Proximity as stated below.

2. 2. 1. 1. Recency Preference

Principle of Late Closure of the Garden Path Theory is known as a universal principle that encourages attachments to the most recent sites. Recency Preference is known as a form of Late Closure since Recency also favours attachments to the structures built more recently. Cuetos and Mitchell (1988) reached the conclusion that the principle of Late Closure cannot be seen as universally applicable to the sentence processing mechanism due to the fact that while the least recent attachment site is favoured in Spanish, most recent one is favoured in English, exhibiting a clear difference between languages in relative clause processing. Thus, they postulate that a new model like Recency Preference rather than Late Closure can explain the cross-linguistic variance better. Frazier (1978) defines Late Closure as follows:

(21)
Late Closure:
When possible, attach incoming lexical items into the clause or phrase currently being processed (i.e., the lowest possible nonterminal node dominating the last item analyzed).

For a while, the claimed universal principle of Late Closure only applied to English, therefore in order to observe the cross-linguistic differences across different languages, Cuetos and Mitchell (1988) and Mitchell and Cuetos (1991) investigate the preferences for attaching relative clauses to prospective noun phrase attachment sites in both Spanish and English, as exemplified by the following example in (22):

(22a) E1 periodista entrevisto a la hija del coronel *que* tuvo el accidente.
(22b) The journalist interviewed the daughter of the colonel *who* had had the accident.

(taken from Cuetos & Mitchell, 1988, p. 77)

The ambiguity in sentence (22a) arises from the relative clause *que tuvo el accidente* (who had had the accident), which can potentially modify either the noun phrase headed by *coronel* (colonel), or the noun phrase headed by *hija* (daughter). According to the principle of Late Closure, people tend to have a tendency for attaching relative clause to the most recent noun phrase, in this case, *coronel* (colonel).

In the Spanish version of the sentence reflected upon above (22a), Cuetos and Mitchell (1988) discovered that the first noun phrase *hija* was the favoured relative clause attachment site, suggesting that Late Closure is not the approach favoured by the Spanish speakers unlike their English counterparts in the equivalent sentence.

Similar differences were observed in the relative clause processing between English and Spanish by the studies conducted by Carreiras and Clifton (1993) and Gilboy et al. (1995). To provide greater complexity by adding one more attachment site, a study by Gibson et al. (1996) was conducted utilising the three attachment sites previously discussed in Chapter 1. The results are displayed below by Gibson et al. (1996):

Attachment to the third DP:
(23a) the lamps near the paintings of the *house* that *was* damaged in the flood

(23b) las lámparas cerca de las pinturas de la *casa* que *fue* dañada en la inundación

Attachment to the second DP:

(24a) the lamps near the *painting* of the houses that *was* damaged in the flood

(24b) las lámparas cerca de la *pintura* de las casas que *fue* dañada en la inundación

Attachment to the first DP:

(25a) the *lamp* near the paintings of the houses that *was* damaged in the flood

(25b) la *lámpara* cerca de las pinturas de las casas que *fue* dañada en la inundación

(taken from Gibson et al., 1996, p. 27)

According to the study, the highest and lowest sites are favoured above the intermediate site *painting (pintura)* in (24a) and (24b), indicating that there may be underlying principles that allow for this preference. According to Gibson et al. (1996), rejecting Recency Preference, a variant of the previously mentioned Late Closure principle, as a rule governing the way that humans process sentences does not align with an analysis of how similar formulations are processed across languages. On the contrary, the results favour the existence of this principle defined below (Gibson et al., 1996):

(26)

Recency Preference:

Preferentially attach structures for incoming lexical items to structures built more recently.

(taken from Gibson et al. 1996, p. 26)

Recency Preference can interact with other attachment preferences and is applicable to all possible attachment sites. Furthermore, the diverse preference order in Spanish and English suggests the presence of a second principle, which is Predicate Proximity.

Akal (2021) investigated the Turkish relative clause attachment preferences of native Turkish speakers through a pair of experiments using offline comprehension tasks. Unlike previous research conducted by Dinçtopal-Deniz (2010) and Kırkıcı (2004) to examine the preferences for relative clause attachment in the Turkish language, Akal (2021) argues that the underlying factor influencing relative clause attachment preferences in Turkish may not be Avoid Ambiguity as put forward by Dinçtopal-Deniz (2010) and Kırkıcı (2004), but rather a structural factor as defined by Gibson et al. (1996) in their assumptions of 'Recency Preference' and 'Predicate Proximity'. Two different sets of collection tasks are utilised.

In the initial set of sentences, the two possible attachment sites (NP1 and NP2) are positioned directly between the relative clause and the main verb. However, in the subsequent set of sentences, intervening adjuncts are situated between NP2 and the main verb to examine the potential impact of Predicate Proximity on attachment site preferences. The word order (S - [RC] - NP1 - NP2 - V) is examined in the first experiment, revealing a greater inclination towards low attachment compared to high attachment, in other words, the preference towards NP1 clearly surpasses that of NP2. The observed result indicates that the principle of Recency preference is operative in the context of ambiguous relative clause attachment in Turkish. Akal (2021) challenges the assumptions of Dinçtopal-Deniz (2010) and Kırkıcı (2004) based on the Construal Hypothesis and Avoid Ambiguity Principle building on the presence of another alternative construction in Turkish that also resolves ambiguity in relative clause attachment with two noun phrases. This alternative construction diverges from prior research that proposed the word order as [NP1 RC NP2]. The elimination of the same relative clause attachment ambiguity is also achieved by the structure [RC NP1 adjective NP2] as exemplified in the sentence below by Akal (2021):

(27)

Sekreter salonda bekley*en* oyuncunun *becerikli* yardımcısıyla konuştu.
Secretary hall-Dat wait-Part actor-Gen *skillful* assistant-Inst talk-Pst
[Relative Clause] [NP1] [NP2]

'The secretary talked to the actor's skillful assistant who was waiting in the hall.'

(taken from Akal, 2021, p. 147)

Since high attachment is required in the previously proposed word order [NP1 RC NP2] attributable to the Norman and Saxon genitive divergence in English, low attachment is required in the second word order introduced by Akal (2021), as can be seen in (27). Therefore, as Akal (2021) states, two separate word orders, each of which removes any potential ambiguity, result in the establishment of two separate attachment sites for the relative clause. If this is the case, then the Avoid Ambiguity Principle and, thus, Construal hypothesis may not be able to adequately account for the 'low attachment' preference since the parser will be unable to find a viable option to select. The low attachment preference overall confirms the assumptions of Gibson et al. (1996), positing that Recency Preference results from the universal qualities of human short-term memory.

The word order S - [RC] - NP1 - NP2 - *Adjunct* – V is given as the second set of the sentences in which there exists a group of adjuncts that intervene between NP2 and the main verb, as given in the sentence (28) below by Akal (2021):

(28)

Sekreter [salonda bekleyen] oyuncunun yardımcısıyla *çekinerek sakince* konuştu.

Secretary hall-Dat wait-Part actor-Gen assistant-Inst *timidly calmly* talk-Pst

'The secretary talked timidly and calmly to the assistant of the actor who was waiting in the hall.'

(taken from Akal, 2021, p. 148)

The rationale for inserting an adjunct group between NP2 and the main verb is to examine the potential impact of Predicate Proximity on the participants' preferences for relative clause attachment since the strength of Predicate Proximity may be influenced by the average distance between the head of a predicate and its arguments as put forward by

Gibson et al. (1996). In the event that the distance increases, it becomes necessary for the predicate to be activated with a stronger force. Based on the finding that languages exhibiting VOS, VSO, SOV, or OSV word orders tend to display strong Predicate Proximity effect, a notable preference towards attaching relative clauses to the high attachment site in instances of ambiguity is observed. Since Turkish has also SOV word order and meets all criteria regarding the constituents intervening between the predicate head and its arguments, the Predicate Proximity is anticipated to have an impact on Turkish. An increase in high attachment preference is observed in the second experiment when compared to the first experiment, which can be explained via the Relativized Relevance Principle proposed by Frazier (1990), suggesting that when there are multiple grammatically correct and contextually appropriate interpretations, the parser tends to interpret a phrase as being relevant to the main assertion of the sentence. The concept being discussed is closely connected to the Referentiality Principle, which argues that the heads of phrases are referential in nature as they introduce discourse entities. As a result, there exists a tendency for heads to function as the hosts for attachments, as noted in Gibson et al. (1996)'s postulation that the main assertion of the sentence serves as the predicate. However, the second set of results demonstrates that even in cases where there is a longer distance between the noun phrases and the main predicate, low attachment preference still prevails over high attachment preference, which supports the Recency effect in Turkish language over the Predicate Proximity effect which will be defined thoroughly in the further section.

2. 2. 1. 2. Predicate Proximity

Predicate Proximity is the second principle Gibson et al. (1996) offered as a means of explaining the cross-linguistic variance of the relative clause attachment preferences along with the abovementioned principle of Recency Preference.

Expanding upon an extended version of Relativized Relevance as Predicate Proximity, it is postulated that the core predicate structure, consisting of the predicate and its arguments, is more highly valued for attachment since a predicate is present in every sentence. If only a few attachment sites are available to be attached to, then attachment

sites linked with a predicate phrase, the core of the sentence as early mentioned, will be easier to reach than others. In cases with ambiguous relative clause attachments, the principle of Predicate Proximity tends to prefer the higher attachment site due to its structural proximity to the predicate phrase. This principle, as articulated by Gibson et al. (1996), is presented in (29):

(29)
Predicate Proximity:
Attach as close as possible to the head of a predicate phrase.

(taken from Gibson et al. 1996, p. 41)

In instances where there are two noun phrase attachment sites, the ambiguity is ultimately resolved based on the relative strength of the factors present in the language under examination. Gibson et al. (1996) further postulates that the strength of Predicate Proximity in a language is determined by the average distance between the head of a predicate (verb) and its arguments (subject and object) claiming that greater average distance between a verb and its arguments requires a stronger initial activation of the predicate in that language. Hence, in languages characterised by a greater average distance between a verb and its arguments, the cost incurred when violating Predicate Proximity is correspondingly higher, which ultimately allows for a strong Predicate Proximity effect in languages that use more flexible word ordering such as VOS, VSO, SOV, or OSV. On the other hand, it is projected that languages with inflexible word ordering of SVO such as English or OVS have a low attachment preference, which counteract the effect of Predicate Proximity and maintain the effect of Recency because these languages have low initial activation levels for predicates. According to Gibson et al., (1996), in the Spanish language, the SVO word order is prevalent, however, it permits alternative word orders such as VOS, wherein the subject argument is comparatively distanced from the predicate; therefore, the level of activation of the predicate in Spanish surpasses that of English, leading to a higher degree of Predicate Proximity strength in Spanish. In this case, Turkish, whose word order is relatively flexible, might exhibit outcomes consistent with Predicate Proximity. However, Akal (2021) suggests that, in the context of ambiguous relative clause attachment in Turkish, an overall Recency

preference effect tends to prevail over that of Predicate Proximity since the most recent noun phrase is more commonly attached to the relative clause. However, the effect of Predicate Proximity becomes more evident as the distance between the arguments and the main predicate grows, but Recency preference remains the main determinant.

2. 2. 2. Constraint-Based Models of Relative Clause Processing

As indicated before, structural models like Late Closure, Recency Preference, and Predicate Proximity do not incorporate non-syntactic information during the initial stage of processing, hence supporting a two-stage or modular model. In contrast, constraint-based models (MacDonald, Pearlmutter, & Seidenberg, 1994; McRae, Spivey-Knowlton, & Tanenhaus, 1998; Trueswell, Tanenhaus, & Kello, 1993; Trueswell et al., 1994), incorporate both syntactic and non-syntactic information, such as context types, frequency, animacy, and plausibility, during the initial stage; thus, they are interactive models. Furthermore, according to these models, each potential analysis of ambiguity is simultaneously activated, and the activation is determined by how much support the analyses receive from different information sources. The following subsections will examine the effect of different non-syntactic information:

2. 2. 2. 1. Animacy

Animals and humans are examples of animate nouns that are more likely to act as the "doers" of the activity that the verb denotes, and these nouns are called *agents*. The "undergoers" of the activity the verb indicates are more likely to be inanimate nouns and are called *patients,* as illustrated by Lee and Watson (2012):

(30) a. The researcher *examined*...
b. The data *examined*…

(taken from Lee and Watson, 2012, p. 392)

The verb *examined* in (30) has the ability to function as both a past tense verb and a past participle. It functions as a main verb when it is followed by a patient such as *the issue* which represents the thing under examination by the researcher or the data. In instances where a sentence is succeeded by a by-phrase containing an agent, such as *by the police*, who assumes the responsibility of examining either the researcher or the data, the verb adopts the form of a past participle within a reduced relative clause, as exemplified by the sentence '*The data (that was) examined by the police was confiscated*.'

In contrast to constraint-based models, modular models such as Garden Path Theory and its principles, Late Closure and Minimal Attachment, propose that the parser does not initially process animacy information, indicating a preference for analysing the sentence based on the main verb. Instead, these models suggest that animacy information is only considered when an ungrammaticality occurs within the sentence. In relation to approaches, which favour the use of animacy information initially, an inanimate noun that is in the subject position is more likely to be interpreted as the verb's patient, while an animate noun in the subject position is more likely to be interpreted as the verb's agent. According to constraint-based approaches, it is easier to process (30b) than (30a) when reduced relative clause sentences are preceded by a by-phrase (by the police), which reveals that initial processing is influenced by subject noun phrase animacy information.

A similar conclusion was drawn when Clifton et al. (2003) Ferreira and Clifton (1986) and Trueswell et al. (1994) conducted experiments manipulating animacy effect. Their research conducted comparisons between ambiguous reduced relative clauses featuring an animate NP1 (defendant) or an inanimate NP1 (evidence) and unreduced relative clauses disambiguated by the subsequent words following the noun as in 'The *defendant/evidence* examined by the lawyer turned out to be unreliable.' Due to the nature of the verb *examined*, an ambiguity arises because it can be used with both animate and inanimate patients. Further research revealed that reduced relative clauses that have animate head nouns are more challenging to process than the unambiguous sentences (e.g., Binder et al., 2001; Britt, Perfetti, Garrod, & Rayner, 1992; Clifton et al., 2003; Ferreira & Clifton, 1986; McRae et al., 1998; Rayner et al., 1983; Trueswell et al., 1994, as cited in Traxler and Gernsbacher, 2011, p. 467).

Ferreira and Clifton (1986) stated that even if the head noun was inanimate, the challenge with reduced relative clauses prevailed, claiming that animacy was not processed initially. With a more sensitive experiment design, Clifton et al. (2003) found that this processing difficulty observed in reduced relative clauses that have inanimate head nouns was not entirely abolished, although lessened.

2. 2. 2. 2. Frequency

The frequency effect primarily posits that the processing of a structure becomes increasingly easier as its frequency of occurrence increases. Frequency effect is one of the additional information types operating in the constraint-based models. Traxler and Gernsbacher (2011) report that these kinds of effects nearly always conflict with Garden-Path theory since principles like Minimal Attachment don't address frequency effect. However, evidence for early effects of frequency would support them (Clifton, Frazier, & Connine, 1984; J. D. Fodor, 1978; Ford, Bresnan, & Kaplan, 1982; Mitchell & Holmes, 1985, as cited in Traxler and Gernsbacher, 2011, p. 461), as frequency plays a very natural function within constraint-based models.

The term *grain size* as defined by Mitchell, Cuetos, Corley, and Brysbaert (1995), lays the foundation for what constitutes the extent of frequency by raising whether it is related to lexicon or construction. Lexical frequency can be exemplified by the frequency with which specific verbs are used in a specific composition. For instance, some verbs such as *run* are most frequently used intransitively, while others such as *offer* are more frequently used transitively. During the process of ambiguity resolution, it is possible to favour either the most frequent analysis of each verb, as previously noted, or the most frequent analysis of the construction above the other. Put differently, the processor might favour construction-based analysis; thus, focusing on the bigger picture in that language and disregard the frequency of lexical-based verb analysis.

According to Mitchell et al. (1995), the processor only analyses coarse-grained information, that is, information unrelated to lexical data, during initial processing. However, this runs counter to the main argument made by constraint-based models, which

favour all types of information, including fine-grained information associated with specific lexical data.

a. Construal Hypothesis and Referentiality Principle

Regarding the frequency-driven cross linguistic difference in the attachment of relative clause, the Construal Hypothesis, proposed by Frazier and Clifton (1996), presents a processing model integrating various principles of structural parsing. This model suggests that principles like Late Closure and Minimal Attachment are only employed dealing with structures involving primary syntactic relations, that is, arguments. However, for non-primary relations, which encompasses relative clause attachment, the processor immediately turns to non-syntactic information. Since what we have is a non-primary relation activity, the low attachment and high attachment preference is somewhat deduced from the construction-based frequency information exemplified by Cuetos and Mitchell, (1988):

(31)

(a) El periodista entrevisto a la hija del coronel que tuvo el accidente.

(b) The journalist interviewed the daughter of the colonel who had had the accident.

(taken from Cuetos & Mitchell, 1988, p. 77)

According to Frazier and Clifton (1996), the preference for low attachment in English can be attributed to the higher frequency of the Saxon genitive construction ("the colonel's daughter"). Consequently, when the Norman genitive construction ("the daughter of the colonel") is employed, it signifies a lower attachment of the relative clause. Yet, this dilemma about the English language does not extend to the Spanish language, as it lacks an alternative way of establishing a Saxon genitive construction equivalent to the Norman genitive form found in English. Frazier and Clifton (1996) further propose that in the presence of these two alternative ways of genitive constructions, Saxon and Norman, low attachment is preferred in Norman genitives. This preference arises due to the fact that in

Saxon genitives, the only possible site for the attachment of a relative clause is the noun phrase *daughter* in *colonel's daughter.*

Grice (1989) indicates four Maxims of Conversation, one of which is Maxim of Manner or Avoid Ambiguity Principle. According to Avoid Ambiguity, which primarily suggest that 'steer clear of wording that is unclear or can be comprehended various ways', the usage of the Norman genitive denotes low noun phrase attachment (*the colonel* in the daughter of *the colonel*) in languages that have two genitives such as Saxon and Norman in that in cases when the speaker wants to attach the noun *daughter* to the relative clause, s/he has the option to choose the Saxon analysis (the *daughter* in the colonel's *daughter*).

Construal Hypothesis also states that a relative clause will be associated to the extended maximal projection of the last thematic role assigner, suggesting the high noun phrase *the daughter* or the low noun phrase *the colonel* or their maximal projections in (24b). The attachment site that is sufficiently *referential* prevails in this situation, according to the *Referentiality Principle* (Frazier & Clifton, 1996; Gilboy, et al., 1995). As the heads of maximal projections—that is, the head of the noun phrase *daughter* in (24b)—have referential aspects since they introduce entities, according to the Referentiality Principle.

According to the research conducted offline by Kırkıcı (2004), no statistically significant preference for attachment is found when both noun phrases are classified as animate. Yet when the noun phrases are classified as inanimate, a preference for low NP attachment is observed. Construal Hypothesis seems to provide an explanation for the low attachment preference observed in relative clause constructions in cases where noun phrases are in the form of inanimate. As previously explained, Kırkıcı (2004) posits that the Turkish language has an alternative way of constructing relative clause. This allows for the positioning of the relative clause between the two noun phrases, which explains the high attachment preference like the example below (32):

(32) NP1 RC NP2

Yazar, ülkenin parklarıyla ünlenen başkentini ayrıntısıyla anlattı.

(taken from Kırkıcı, 2004, p. 6)

As can be seen above in (32), Kırkıcı (2004) states that given that there is already an unambiguous alternative form—a relative clause that appears between the first and second noun phrases—where the high attachment interpretation is the sole option. According to the Avoid Ambiguity Principle, in sentences containing ambiguity, individuals tend to opt for the interpretation of low attachment *ülkenin* as shown in the sentence below (33):

(33) RC NP1 NP2
Yazar, parklarıyla ünlenen ülkenin başkentini ayrıntısıyla anlattı.

(taken from Kırkıcı, 2004, p. 9)

Hence, the study conducted by Kırkıcı (2004) suggests that Construal Hypothesis provides a general framework for explaining the processing of relative clause attachment ambiguities in Turkish and further argues that despite the limitations of the study, the Turkish parser demonstrates an elevated susceptibility to lexical-semantic information rather than the solely structural or locality-based constraints. This is evident in the significant impact that changes in lexical-semantic information, specifically conveyed through inanimate noun phrases, have on the observed attachment preferences in the GEN condition and lexical/thematic postpositions such as *yanında* which resulted in subjects demonstrating a relatively strong preference for low attachment.

A similar situation was investigated by Dinçtopal-Deniz (2010) using a self-paced reading task and an offline questionnaire and examining the preferences for relative clause attachment among Turkish second language (L2) speakers of English. The animacy information mentioned above is manipulated as illustrated by Dinçtopal-Deniz (2010) in (34):

(34)

Animacy-Forced Condition

[NPhigh The author]/of [NPlow the play]/[RC that was killed last month]/ was famous. (High attachment forced)

[NPhigh The play]/of [NPlow the author]/[RC that was killed last month]/ was famous. (Low attachment forced)

[NPhigh The father]/of [NPlow the author]/[RC that was killed last month]/ was famous. (Globally ambiguous)

Inanimacy-Forced Condition

[NPhigh The ship]/of [NPlow the captain]/[RC that was painted blue]/ looks gorgeous. (High attachment forced)

[NPhigh The captain]/of [NPlow the ship]/[RC that was painted blue]/ looks gorgeous. (Low attachment forced)

[NPhigh The pole]/of [NPlow the ship]/[RC that was painted blue]/ looks gorgeous. (Globally ambiguous)

(taken from Dinçtopal-Deniz, 2010, p. 35)

As evidenced by the examples above, in the condition where animacy is forced, the relative clause resolves in favour of an animate noun while in the condition where inanimacy is forced, it resolves in favour of an inanimate noun (Dinçtopal-Deniz, 2010)

Once again, the Construal Hypothesis appears to be the cause of the low attachment preferences for Turkish relative clauses since there exists an existing way of constructing relative clauses that eliminates ambiguity which involves placing the relative clause between the two noun phrases, in accordance with the Avoid Ambiguity Principle. The attachment preferences of the L2 group in this study, different from those of the Turkish monolinguals or English monolinguals, seem to be determined more by lexical-semantic than by structural information in line with the results of the study carried out earlier by Kırkıcı (2004), and the findings overall indicate that speakers of Turkish and those of English exhibit a preference for attaching relative clauses to lower noun phrases which aligns with the expectations set out by the Construal Hypothesis. According to Dinçtopal-Deniz (2010), the general tendency observed towards low attachment preference

contradicts the theory of Predicate Proximity put forward by Gibson et al. (1996), which suggests that languages with somewhat flexible word order, like Turkish, tend to prefer high attachment. However, the reason behind the L2 group's inclination towards attaching the relative clause high in the offline condition remains unknown.

A study implemented by Turan (2020) examined attachment site preferences in Turkish relative clauses via eye-tracker and comprehension questions. Compared to the low attachment, the high attachment site was found to cause a little less cognitive burden. Syntactic considerations were revealed to be effective during initial processing. Yet, in the presence of a structural ambiguity, the lexical-semantic information prevails over the syntactic information. High attachment sentences were found to be processed more quickly than low attachment sentences. Therefore, Turkish was revealed to favour high attachment. He pointed out that the high attachment preference is corroborated by the outcomes of by Kırkıcı (2004) and Dinçtopal-Deniz (2010) as stated by Turan, 2020, p. 263-264) ‘’HA (high attachment) sentences take the parser shorter to process compared to the LA (low attachment) sentences, which is supported by Kırkıcı (2004) and Dinçtopal-Deniz (2010).’’

b. Tuning Hypothesis

Studies of Spanish speakers' high attachment site preferences for relative clause (Cuetos and Mitchell, 1988; Mitchell and Cuetos, 1991; Mitchell, Cuetos, and Zagar, 1990) lay the groundwork for theories like Tuning Hypothesis proposed by Mitchell and Cuetos, (1991), which challenge universal principles such as Late Closure on the grounds that differences are observed in the attachment site preferences of relative clauses across languages. Tuning Hypothesis posits that the processing of language is influenced by the individual's language experience and that there is a preference for the linguistic structure that is used most frequently. Initially, Cuetos and Mitchell (1988) asserted that languages are not subject to the previously mentioned universal principles yet are influenced by language-specific structural frequencies. The concept of structural frequencies was further broadened by incorporating lexical and semantic frequencies into the conceptual framework (Mitchell, et. al., 1995). To put it differently, it is important to consider not

only the larger structural constituents, but also the smaller constituents making up the structure, along with their lexical and semantic attributes. It is assumed that when presented with an ambiguity, the individual will first choose the option that has historically proven to be the most appropriate rather than any universal principle though the Tuning Hypothesis, according to Cuetos, Mitchell, and Corley (1996), is grounded in its own set of universal principles arguing that in all languages, the initial interpretation of an ambiguous item is influenced by the statistical characteristics of that ambiguity within the language being examined.

Spanish has once again been one of the most studied languages regarding the structural frequencies with the findings of high attachment preference (Carreiras & Clifton, 1993, 1999; Cuetos, Mitchell & Corley, 1996; Gibson, Pearlmutter & Torrens, 1999; Igoa, Carreiras & Meseguer, 1998; Thornton, MacDonald & Gil, 1999 as cited in Uzunca, 2021, p.67). Similar high attachment preferences have been observed for Afrikaans (Mitchell et al., 2000), Dutch (Brysbaert & Mitchell, 1996; Mitchell, Brysbaert, Grondelaers & Swanepoel, 2000; Wijnen, 1998 as cited in Uzunca, 2021, p. 67), French (Baltazar & Kister, 1995; Frenck-Mestre & Pynte, 2000; Mitchell, Cuetos, & Zagar, 1990; Zagar, Pynte & Rativeau, 1997), and German (Hemforth, Konieczny, Scheepers, & Strube 1998). Conversely, low attachment preference has been observed for Brazilian Portuguese (Miyamoto, 1998), English (Carreiras & Clifton, 1993, 1999; Cuetos, Mitchell & Corley, 1996; Fernandez, 1998; Frazier & Clifton, 1996; Henstra, 1996), and Norwegian, Romanian, and Swedish (Ehrlich, Fernandez, Fodor, Stenshoel & Vinereanu, 1999).

2. 2. 2. 3. Plausibility and Context Types: Situational Context and Linguistic Context

The incorporation of plausibility information can be influenced by real-world knowledge. Animacy has been extensively manipulated to evaluate the influence of plausibility on relative clause processing as it offers a good opportunity to do so (e.g., Ferreira & Clifton, 1986; Trueswell et al., 1994; Mak, Vonk & Schriefers, 2002, as cited in Boran, 2018, p. 26-27). Indeed, one crucial test case for the modularity or interactiveness of the processor has been the incorporation of plausibility information into the processing of sentences

(Traxler and Gernsbacher, 2006, p. 466). Besides, the animacy feature is believed to be the reason why subject relative clauses are perceived as easier than object relative clauses. The reason is that the processor tends to give animate noun phrases theta roles like "an agent" or "an experiencer" in subject relative clauses. Yet, it is tricky to do the same with inanimate noun phrases in object relative clauses. Most research on relative clause processing have manipulated sentences containing inanimate nouns in object relative clauses, which is likely to cause processing problems with object relative clauses. As demonstrated in the study carried out by Mak, Vonk, and Schriefers (2002), animacy information as a plausibility driver for relative clause processing functions as a processing asymmetry-reducing or eliminating factor between subject relative clauses and object relative clauses, which further reveals that the animacy of the head noun phrase impacts the difficulty observed for the object relative clause processing. According to the study's conclusions, there is strong support for the plausibility factor in relative clause processing, unmasking that manipulating the animacy information of head noun phrases may be employed to reduce the workload in object relative clauses and increase the complexity of subject relative clauses.

However, the present study will not look at plausibility through the lens of its animacy-related definition but through the lens of its real-world knowledge-based definition. Consequently, plausibility effect will be used interchangeably with *situational context* which, according to Song (2010), is defined as encompassing the participants' relationships and the time, place, and environment in which the discourse takes place. Yule (2010) asserts that various types of contexts exist. Apart from the linguistic context, which is the surrounding co-text, another context type is named the physical context. Physical context, like situational context, pertains to the mental representation of the physical aspects of the physical world employed to derive an interpretation; that is, this interpretation ability is based on the physical context, specifically the time and place. Furthermore, Fromkin et al. (2011) divides context into two categories: linguistic and situational. They further note that context can be linguistic, referring to preceding words spoken or written used to interpret a certain phrase or sentence, or it can include knowledge of the world, that is, almost anything that is not linguistic in the speaker's surroundings, which is known as situational context. According to Fromkin et al. (2011), the situational context involves the speaker, the hearer, and any other individuals present,

as well as their respective beliefs and their perceptions of each other's beliefs. It encompasses the real-world surroundings, the societal setting, the topic of discussion, and the specific time period. Situational context is, thus, closely related to the plausibility effect since in situational context; words, phrases and sentences are interpreted in the most plausible way within the boundaries of context. According to Ratcliff (1987, p. 485), *Plausibility effect* postulates that usual situations, such as "*The dog chewed the bone*" are processed more quickly and accurately than implausible ones denoting weird or extraordinary events, such as "*The octopus ate the refrigerator*", in reference to the previously mentioned participants' relationship in which the discourse occurs since there is a relationship between *the dog* and *the bone* established by real-world knowledge which sets *the dog* as the eater or, in this case, chewer and *the bone* as the eaten or, accordingly, chewed. The other way around is seen implausible. Alternately, even though *the octopus* is an animate noun phrase, and *the refrigerator* is an inanimate one just like the previous sentence, the doer-undergoer relationship between these two noun phrases is not plausible considering the real-world knowledge.

Speer and Clifton (1998) implemented a study on the possible effects of plausibility effect and argument status: arguments and adjuncts. The effect of plausibility of the prepositional phrase and the function of the prepositional phrase either as an argument or an adjunct of the verb on reading times were tested via self-paced reading task and eye-tracking. They proposed that the first thing to do in evaluating the plausibility of a phrase is to figure out if it operates as an argument or an adjunct. The sample target sentences manipulating arguments, adjuncts and plausibility were given as follows:

(35)

Argument, High Plausible:
The people who lived near Love Canal blamed the toxic waste dump *for their leukemia*, but they never had enough resources to sue.
The wealthy investor paid ten thousand dollars *for a ski vacation*, and never missed the money.

Argument, Low Plausible:

The people who lived near Love Canal blamed the toxic waste dump *for their hairdos*, but they never had enough resources to sue.
The wealthy investor paid ten thousand dollars *for free samples*, and never missed the money.

Adjunct, High Plausible:
The people who lived near Love Canal blamed the toxic waste dump *for several years*, but they never had enough resources to sue.
The wealthy investor paid ten thousand dollars *for reasons of conscience*, and never missed the money.

Adjunct, Low Plausible:
The people who lived near Love Canal blamed the toxic waste dump *for a few moments*, but they never had enough resources to sue.
The wealthy investor paid ten thousand dollars *for the heck of it*, and never missed the money.

(taken from Speer and Clifton, 1998, p. 968.)

The results of the self-paced reading task indicated that high-plausible arguments proved to be more plausible than high-plausible adjuncts. The reading pace for more plausible prepositional phrases is faster than that of less plausible ones, revealing the plausibility effect. The intriguing aspect of the self-paced reading task is that the effect of plausibility is more significant for adjuncts compared to arguments, signalling that arguments are mainly interpreted on grammatical basis while adjuncts rely more on real-world knowledge. This is a critical result for the current study since relative clauses also are classified as non-primary phrases, that is, adjuncts which could be interpreted in a manner that plausibility impacts relative clause processing heavily. Yet, this situation failed to attain statistical significance in the eye-tracking study. The fact that semantic information was interpreted rapidly demonstrated the early effects of plausibility. The study concludes that its findings support Construal Hypothesis by Frazier and Clifton (1996) and further makes the following remarks:

> We will propose the following account of the processing of our materials, largely as a heuristic to guide further research. The account is based on Frazier's (1979, 1987) proposal of a serial parser, and on its elaboration as the construal hypothesis (Frazier & Clifton, 1996). When a postverbal PP is read, it is treated as a potential argument or primary phrase, and it is attached in a determinate fashion as the argument of the preceding verb. Interpretation begins essentially as soon as there is a structure to interpret. The plausibility of the PP as an argument is evaluated by comparing world knowledge about the contents of the postverbal PP with the lexical requirements of the verb. If the PP is an implausible argument of the verb, the parser continues to evaluate it and to explore alternative analyses.
>
> (Speer and Clifton, 1998, p. 975)

Another context type is linguistic context which, according to Song (2010), describes the relationship between words, phrases, sentences, and even paragraphs within a context. Yule (2010) also explains linguistic context, referred to as co-text, as one type of context and refers to the collection of other words employed inside the same phrase or sentence. The co-text surrounding a word significantly influences our interpretation of its likely meaning. In addition, as previously stated, Fromkin et al. (2011) defines the linguistic context as the preceding speech that is used to interpret a particular discourse: phrase or sentence. Usually, linguistic context is in the form of a preceding sentence, or a paragraph connected to a certain statement and allows readers to derive pragmatic connotations which primes them to process the statement in a certain way. For instance, 'bank' meaning a financial institution and a slope near a river, means a financial situation if it is preceded "by a linguistic context such as 'I needed to withdraw some cash'. In other words, context information affects initial decision-making process. Linguistic context, that's why, is somewhat similar to the *referential context* introduced by Altmann and Steedman (1988) and Crain and Steedman (1985). The sentence ''The boy saw the girl with the binoculars'' put forward by Lee and Watson (2012) can be preceded with two alternative referential or linguistic contexts as illustrated in (36):

(36)

a. There was a boy and a girl in the park. The boy saw the girl with the binoculars.

b. There was a boy and two girls in the park. The boy saw the girl with the binoculars.

(taken from Lee and Watson, 2012, p. 392)

As can be seen in abovementioned example (36), the preceding context which is previously named as referential or linguistic context has the ability to alter the interpretation of the sentence following the context and thus resolves the sentence in favour of a certain reading.

Spivey-Knowlton et al. (1993) studied the impact of specific semantic and discourse context on the processing of relative clauses that have temporary ambiguity between a relative clause and a main clause. Three experiments were conducted with 104 undergraduate participants to investigate the impact of referential contexts on parsing decisions. The experiments aimed to determine whether the contexts could provide constraints when encountering ambiguity. The findings indicate that various forms of context can influence the early stages of resolving syntactic ambiguity during online processing and all types of contexts shortened the reading time. Therefore, the results were determined to be consistent with the constraint-based framework.

Desmet et al. (2002) examined how the referential context influences the processing of relative sentences that can be disambiguated towards two NPs as in "Someone shot the *servant* of the *actress* who was on the balcony". Three distinct contexts preceded each sentence. There were two versions of each test sentence: one with an NP1 continuation and another with an NP2 continuation. Regardless of the prior context, there was a consistent preference for NP1 attachment in all structures. This result supports the findings of Zagar et al. (1997), suggesting that context does not affect the relative clause processing following conducting a similar study with the manipulation of referential context earlier in French. They found out that no context effect was obtained reading times and only very small context effect was observed in data collected from the questions.

Pan and Felser (2011) investigated the extent to which referential context impacts the preferences for resolving ambiguity in non-native sentence comprehension, employing both an offline questionnaire and an online self-paced reading task. The target sentences comprised of prepositional phrases (PPs) that modified either the verb phrase (VP) or the previous NP such as in the sentence "Bill glanced at the customer with strong suspicion

(with ripped jeans)." A short contextual paragraph was given providing either one or two potential referents for the postverbal NP. However, the findings indicated that the impact of referential context in the online task varied across native Chinese-speaking English learners and native English speakers. The reading time results of English learners showed the presence of referential context effect. However, native speakers' preferences in resolving ambiguity were influenced by the referential context only in the offline task, suggesting that non-native participants are very receptive to extra-sentential discourse-level information during processing, unlike native speakers.

Pan et al. (2015) conducted an experiment with two NPs where they controlled the extra-sentential referential context to resolve relative clause ambiguity. They observed that the referential context had an impact on the interpretation preferences of both native and non-native speakers in the offline task. However, in a task that involved self-paced reading, only the non-native participants showed a change in their reading patterns. Specifically, they had longer reading times at or after encountering a segment enabling ambiguity resolution. The examination of the reading-time patterns of Chinese and German participants indicated that in a context where NP1 is supported, the reading of NP1 preference was originally favoured. Conversely, in a context where NP2 is supported, ambiguous relative clauses were initially associated with NP2. The native English-speaking participants, however, did not show any noticeable impact from the biased context information while reading the experimental sentences, supporting the idea that native speakers frequently exhibit some latency in their sensitivity to discourse information, whereas non-native speakers can employ discourse-level information quickly and effectively during ambiguity resolution.

Accordingly, Clahsen and Felser (2006) proposed Shallow Structure Hypothesis, which suggests that the perception of non-native people of non-structural signals may be improved since the context in question has a facilitating effect on the comprehension and, of course, ambiguity resolution.

Although the current study builds majorly upon understanding the sentence processing models at work during relative clause processing in Turkish and, thus, is limited to some extent, the following studies in Turkish which are mostly focused on the relative clause

processing difficulty within the presence of context, are essential to discuss since the context forms the second pillar of the present study. Therefore, they are included here solely to demonstrate the effects of context on relative clauses.

Kahraman (2015) examined relative clauses in Turkish within the context in which they appear through self-paced reading task. The relative clauses were examined in two different context types: a neutral context, where the noun phrase lacks information in the subsequent relative clause, and a topic context, where the noun phrase of the subsequent relative clause was presented prior. Whereas both neutral and topic contexts eased relative clause processing, the latter revealed to be more effective. Yet this facilitating effect did not extend to the elimination of processing difficulty between subject relative clauses and object relative clauses. The aim of the study was to assess the Discourse Function Hypothesis in light of the finding that the processing of subject relative clauses and object relative clauses fluctuates depending on the context type; however, the processing asymmetry between subject and object relative clauses remains unexplained by the relevant hypothesis.

Apart from the context effect, Başer (2018) conducted a study examining the structural priming effect of relative clause attachment in two groups: monolingual Turkish speakers and Turkish learners of English with various degrees of English competence through pen-and-paper questionnaire, self-paced reading, and eye-tracking. The study uncovered significant insights on the models at play for both English and Turkish. Başer (2018) manipulated animacy effect which can be accepted as a plausibility factor, according to the framework of the present research. Additionally, high attachment preference was found to be linked to processing difficulties. She further found out another factor affecting attachment site preferences as “the semantic relations between the host NPs and the semantic associations of the host NPs with the proximal and the distal predicate” (Başer, 2018, p. 185).

A study on the context effects of Turkish relative clauses was carried out by Boran, (2018) through eye-tracking measuring fixation points and comprehension questions asked after each item. She elaborated on the subject relative clause and object relative clause processing asymmetry, with earlier findings showing that the former one is processed

easier. Yet, based on the Referential Support Theory by Crain and Steedman (1985), it was expected that when context is integrated with relative clauses, this asymmetry should no longer be observed. However, findings revealed that the subject relative clauses only became more difficult to process in the presence of context, thus it was concluded that context has no major effect on the processing of Turkish relative clauses.

Another study in Turkish within this context is the one implemented by Uzunca, (2021). Animacy factor in relation to plausibility was manipulated to observe semantic attribute in order to find out the effect of conceptual accessibility on Turkish relative clause production by native speakers of Turkish due to the limited number of studies conducted on the topic. Data was collected through the productions of Turkish native speakers obtained with the implementation of Picture Description and Metalinguistic Awareness Tasks, as well as data from the METU Turkish Corpus. The study also aimed to investigate a potential correlation between animacy and frequency of relative clauses. The results of the study indicated that the presence of animacy information has a notable impact on the production of relative clauses by Turkish native speakers in both the Picture Description and Metalinguistic Awareness Tasks. The rate of relative clause passivization was observed to substantially increase when comparing those with an animate object to those with an inanimate object. However, the most notable finding regarding the mentioned study was the fact that the animacy effect revealed to be more important than the structural models like linear distance or structural distance hypothesis as a greater preference for active object relative clauses compared to passive relative clauses was exhibited even when the condition involved animate entities. The discourse and contextual factors influenced the previously stated passivization rate which aligns with the assertions of Referential Support Theory proposed by Crain and Steedman (1985).

CHAPTER 3:
METHODOLOGY

This section will offer complete information regarding the participants, data collection tools, materials, procedure, and analysis employed for both pilot and main studies. The present study conducts a self-paced reading task and an offline questionnaire to collect data. Approval for data collection was obtained from the Hacettepe University Ethics Committee following ethical considerations with the following number: E-35853172-300-00002084840.

3. 1. PILOT STUDY

The pilot study aimed to assess the validity and reliability of the data collection items, including target items and filler items, to observe the effects of context types on relative clauses in Turkish because it establishes whether the items in question were suitable for the assessment of the said topic.

3. 1. 1. Participants

Given that the data collection items used in the online and offline tasks were the same and executing the offline questionnaire via Google Forms was unlikely to create complications compared to the self-paced reading task, it was deemed sufficient to conduct the pilot study for the self-paced reading task. Six native Turkish speakers consisting of at least university students or at least university graduates implemented the pilot study. The participants were chosen based on convenience sampling method, surveying a group of people most convenient to reach. All the participants had normal or corrected-to-normal eyesight, allowing them to see the target and filler items on the screen without difficulty, and without experiencing any holdups in their responses.

3. 1. 2. Data Collection Tool

Data collection of reaction times and accuracy rates for the pilot study was recorded via PsychoPy, an online software programme designed for the implementation self-paced reading task. PyschoPy was chosen as the appropriate data collection tool due to its high degree of accuracy in recording reaction time.

3. 1. 3. Data Collection Procedure and Materials

Participants were able to view the item on the screen before pressing either button on the keyboard to access the question linked with the item they had just read and interpreted. The option A was assigned as NP1, while the option B was assigned as NP2, indicating the potential attachment sites for the corresponding relative clause for each item. The button A was designated as option A, and the button İ was designated as option B due to their respective positions as the leftmost and rightmost buttons on the keyboard, marked with colourful stickers. The participants read the item displayed on the screen and thereafter pressed the space key at their own pace to get to the question regarding the item they just read. Following that, the item on the screen disappeared giving way to a new screen that solely displayed the question along with option A and option B. On this screen, the participants opted for either A or B by pressing the corresponding keys on the keyboard. The duration between tapping the space button to bring up the question and its options on the new screen and selecting option A or B by pushing the marked buttons on the keyboard is referred to as reaction time. The reaction times for each 64 items were measured for each participant applying PsychoPy. In addition to the reaction times, questions were used to determine the preferences of the participants between option A, representing NP1, and option B, representing NP2, as an answer to the item they had just viewed. The accuracy rates for each condition were determined by these questions. Accuracy rates refer to the rate of preference towards NP2 that is influenced by the relevant context. There were four conditions present, each comprising 8 target items. Relative clauses are constructed employing the subject participle suffix *–(y)An*. Sets 1a and 1b, as well as sets 2a and 2b, are grouped together based on the fact that they included the same items, with the sole distinction being the contribution of relevant context in 1b

and 2b. In other words, 1a and 1b included the same items but 1b included situational context (plausibility). In a similar vein, 2a and 2b included the same items but 2b included linguistic context as follows:

(1a) no context present, NP1 and NP2 are equally ambiguous

(1b) situational context (plausibility) present prompting NP2 attachment

(2a) no context present, NP1 and NP2 are equally ambiguous

(2b) linguistic context present prompting NP2 attachment

A total of 64 items, consisting of 32 target items and 32 filler items, were shown to six participants as part of the pilot study. Just before the start of the experiment, participants were instructed to press the space key to access the question only when they believed they had read and comprehended the item on the screen, to achieve the aim of the study. In order to prepare each participant for the experiment, a training session was implemented with three items during which the researcher was present but left the room as soon as the participants started taking the main test. During each session, participants were alone in the room, undertaking the test using a laptop.

3. 1. 4. Data Analysis

As given above, data was categorized into four sets (1a, 1b, 2a, and 2b) where each pair was grouped together for comparison. The reaction time analysis and attachment site preference analysis of 1a and 1b, 2a and 2b, and 1b and 2b were compared separately using the Paired Samples T-Test. For instance, 1a, where no context is present and noun phrases (NPs) are equally ambiguous, and 1b, where situational context favours NP2 were compared with each other. The same procedure was used for 2a, where no context is present, and NPs are equally ambiguous, and 2b, where linguistic context prompts the preference of NP2. In this way, it was aimed to reveal whether there is a noticeable

context effect compared to the same items presented in a neutral context, if this effect is reflected in shorter reading times when context is involved and whether responses to questions favour NP2 in the presence of context. Set 1b which manipulates situational context and set 2b which manipulates linguistic context were then contrasted to reveal which context type effect prevail over another in terms of reaction times and accuracy rates to questions. The Paired Samples T-Test was exclusively chosen as the appropriate method of data analysis in that it allows for the comparison of two separate sets viewed by the same participants. The data was broken down and analysed based on three variables. The independent variables in the study were the reaction time and accuracy rate of the questions. The dependent variables were the subject (each item by each participant) and the set (1a, 1b, 2a and 2b).

3. 1. 5. Findings

The pilot study was implemented without any reported complications by the participants in the design of the items, the data collection tool PsychoPy, and the procedure explained above. As a result, it was determined that the same design would be employed for the self-paced reading experiment in the main study. In other words, the pilot study successfully achieved the goals established within the boundaries of the study, with the data collection tool and procedure working smoothly and the distribution of the data collected aligning with predictions. The reaction time analysis and the attachment site preference analysis were separately carried out using the Paired Samples T-Test comparing sets 1a and 1b, 2a and 2b, as well as 1b and 2b.

3. 1. 5. 1. Pilot Study Reaction Time Analysis of Sets 1a and 1b

Reaction time is the measured time that passes between pressing the space key to display the question and its options on a new screen and selecting option A or B by pressing the designated buttons on the keyboard. Reaction time analysis was executed for sets 1a and 1b, 2a and 2b, as well as set 1b and 2b.

A reaction time comparison analysis was conducted using a Paired Samples T-Test to investigate the difference between sets 1a and 1b, that is, the difference between the absence of any context and the existence of situational context (plausibility).

Table 1:

Pilot Study Results of the Paired Samples T-Test for Reaction Time data of Sets 1a and 1b

Measure 1	Measure 2	t	df	p
1a	1b	7.507	47	<.001

Note. Student's t-test.

Table 2:

Pilot Study Descriptives for Reaction Time data of Sets 1a and 1b

	N	Mean	SD	SE	Coefficient of variation
1a	48	7.545	2.117	0.306	0.281
1b	48	4.979	1.278	0.184	0.257

The results of the Paired Samples T-Test that are shown in Table 1 and Table 2 demonstrate a statistically meaningful difference in reaction time between sets 1a and 1b (p-value < 0.001) and the means are 7.545 seconds for set 1a, and 4.979 for set 1b, revealing a nearly 3-second reduction when situational context in set 1b is involved.

3. 1. 5. 2. Pilot Study Attachment Site Preference Analysis of Sets 1a and 1b

Tables 3 and 4 present the results of a Paired Samples T-Test that was carried out to investigate the difference in attachment site preference between sets 1a and 1b, aiming to compare the absence of any context with the presence of situational context (plausibility).

Table 3:

Pilot Study Results of the Paired Samples T-Test for the Accuracy Rate of the Questions data from Sets 1a and 1b

Measure 1	Measure 2	t	df	p
1a	1b	-5.457	47	<.001

Note. Student's t-test.

Table 4:

Pilot Study Descriptives for the Accuracy Rate of the Questions data from Sets 1a and 1b

	N	Mean	SD	SE	Coefficient of variation
1a	48	0.125	0.334	0.048	2.674
1b	48	0.583	0.498	0.072	0.854

A value approaching 0 indicates a preference for NP1, whereas a value approaching 1 indicates a preference for NP2, as can be observed in the Mean category. The results of the Paired Samples T-Test shown above in Table 3 and Table 4 indicate a significant difference in attachment site preferences for the questions between sets 1a and 1b (p-value < 0.001). This suggests that the situational context or plausibility effect in set 1b had a statistically significant impact on participants' preferences, leading to a shift towards NP2 preference. Conversely, when there was no specific context as in set 1a, NP1 preference was observed.

The findings also indicate that out of 48 occurrences, in set 1a, where there is no context and noun phrases have the same degree of ambiguity, NP1 was chosen more frequently (42/48=87.50%) as the site for the relative clause in Turkish. In contrast, in set 1b, when there is a situational context that favours NP2 as the attachment point, NP2 was chosen more often (28/48=58.33%).

3. 1. 5. 3. Pilot Study Reaction Time Analysis of Sets 2a and 2b

A Paired Samples T-Test was run to compare the reaction times of sets 2a and 2b, focusing on the difference between the absence of any context and the presence of linguistic context.

Table 5:

Pilot Study Results of the Paired Samples T-Test for Reaction Time data of Sets 2a and 2b

Measure 1	Measure 2	t	df	p
2a	2b	10.919	47	<.001

Note. Student's t-test.

Table 6:

Pilot Study Descriptives for Reaction Time data of Sets 2a and 2b

	N	Mean	SD	SE	Coefficient of variation
2a	48	7.942	1.795	0.259	0.226
2b	48	3.651	2.064	0.298	0.565

As shown in Table 5 and Table 6 above, the means of the Paired Samples T-Test are 7.942 seconds for set 2a and 3.651 seconds for set 2b manipulating linguistic context, indicating a statistically significant difference in reaction times between sets 2a and 2b (p-value < 0.001). There is a decrease of over 4 seconds when the linguistic context in set 2b is present.

3. 1. 5. 4. Pilot Study Attachment Site Preference Analysis of Sets 2a and 2b

The results of a Paired Samples T-Test were revealed to explore the difference in attachment site preferences between sets 2a and 2b. The objective was to compare the lack of any context in set 2a with the inclusion of linguistic context in set 2b.

Table 7:

Pilot Study Results of the Paired Samples T-Test for the Accuracy Rate of the Questions data from Sets 2a and 2b

Measure 1	Measure 2	t	df	p
2a	2b	-9.306	47	<.001

Note. Student's t-test.

Table 8:

Pilot Study Descriptives for the Accuracy Rate of the Questions data from Sets 2a and 2b

	N	Mean	SD	SE	Coefficient of variation
2a	48	0.063	0.245	0.035	3.914
2b	48	0.750	0.438	0.063	0.583

As seen in Table 7 and Table 8, there is a significant difference observed in NP preferences for the questions between sets 1a and 1b, according to the Paired Samples T-Test results (p-value < 0.001). This demonstrates that participants' preferences were significantly influenced by the linguistic context, which resulted in a shift in favour of NP2. On the other hand, NP1 preference was noted in the absence of any particular context.

Out of 48 occurrences, the results further suggest that in set 1a, where there is no context, NP1 was selected more frequently (45/48=93.75%) as the favoured attachment site in ambiguous Turkish relative clauses. Conversely, in set 1b, when there is linguistic context that supports NP2 as the attachment site, NP2 was selected more frequently (36/48=75%).

3. 1. 5. 5. Pilot Study Reaction Time Analysis of Sets 1b and 2b

A Paired Samples T-Test was conducted to examine the reaction times of sets 1b and 2b, particularly looking at the difference between the situational context effect and linguistic context effect.

Table 9:

Pilot Study Results of the Paired Samples T-Test for the Accuracy Rate of the Questions data from Sets 1b and 2b

Measure 1	Measure 2	t	df	p
1b	2b	4.190	47	<.001

Note. Student's t-test.

Table 10:

Pilot Study Descriptives for Reaction Time data of Sets 1b and 2b

	N	Mean	SD	SE	Coefficient of variation
1b	48	4.979	1.278	0.184	0.257
2b	48	3.651	2.064	0.298	0.565

The data shown in Table 9 and Table 10 reveals that the mean reaction time for set 1b is 4.979 seconds, whereas for set 2b, manipulating linguistic context, it is 3.651 seconds. These results indicate a statistically significant difference in reaction times between sets 1b and 2b (p-value < 0.001). The presence of linguistic context in set 2b results in a reduction of more than 1.5 seconds.

3. 1. 5. 6. Pilot Study Attachment Site Preference Analysis of Sets 1b and 2b

The findings of a Paired Samples T-Test were disclosed to investigate the difference in attachment site preferences between sets 1b and 2b. The aim was to contrast the impact of the situational context in set 1b with the linguistic context in set 2b.

Table 11:

Pilot Study Results of the Paired Samples T-Test for the Accuracy Rate of the Questions data from Sets 1b and 2b

Measure 1	Measure 2	t	df	p
1b	2b	-1.741	47	0.088

Note. Student's t-test.

Table 12:

Pilot Study Descriptives for the Accuracy Rate of the Questions data from Sets 1b and 2b

	N	Mean	SD	SE	Coefficient of variation
1b	48	0.583	0.498	0.072	0.854
2b	48	0.750	0.438	0.063	0.583

As seen in Table 11 and Table 12, the analysis reveals that participants' preferences for NP2 increased in situational context in set 1b (Mean=0.583) and in linguistic context in set 2b (Mean=0.750). However, the difference between these preferences was not statistically significant (p-value < 0.088).

Among the 48 instances examined, the findings indicate that in set 1b, which includes situational context, NP2 was chosen more often (28/48=58.33%) as the favoured attachment site in ambiguous Turkish relative clauses. In set 2b, where there is linguistic context supporting NP2 as the attachment site, NP2 was chosen more frequently (36/48=75%).

3. 2. MAIN STUDY

The subsequent section will provide a comprehensive overview of the participants taking the tests and the data collection tools. Subsequently, a comprehensive explanation will be provided regarding the method on each data set.

3 .2. 1. Experiment I

Consisting of one pillar of the data collection tools conducted, self-paced reading task via PsychoPy with the same items but different participants was implemented.

3. 2. 1. 1. Participants

40 undergraduate students participated in the self-paced reading task. All the participants were native speakers of Turkish and had either normal or corrected-to-normal vision. The age range of the participants was determined as 18-30, targeting young adult Turkish speakers, in order to ensure similar cognitive and linguistic performance. Native speakers of Turkish accounted for the participants, who were either graduates or at least university students. The data was collected via convenience sampling method, which is a sort of sampling that involves selecting participants based on their closeness, accessibility at a specific time, or their consent to take part.

3. 2. 1. 2. Data Collection Tool

PsychoPy, a software programme, was used to collect online data and provide insights into the processing of disambiguation of relative clauses in Turkish with the effect of context types. PsychoPy's main purpose is to manage the presentation of stimuli and their precise timing. Users are able to create a presentation that fills the entire screen and includes stimuli to be used within the presentation. PsychoPy enables the user to build a sequence of events for regulating the display of stimuli during a trial. Self-paced reading test was designed via PsychoPy to collect reaction times and accuracy rates of the question responses.

3. 2. 1. 3. Data Collection Procedure and Materials

Participants saw the item displayed on the screen and then selected either button on the keyboard to retrieve the question associated with the item they had recently read and understood. A was assigned A, while İ was assigned B based on their positions as the leftmost and rightmost buttons on the keyboard, which were marked with colourful stickers. Each participant was shown a total of randomised 64 items, which were divided into 32 target items and 32 filler items. Except for the linguistic contexts, each item consisted of six words to avoid extra processing difficulty of some items. Prior to start of

the pilot study, participants were given both oral and written instructions to hit the space key in order to get to the questions only when they thought they had read and understood the items displayed on the screen. The participants were required to sign the consent form. A training session was conducted for each participant, consisting of viewing three items before the main self-paced reading task. The training session was conducted in the presence of the researcher, but the researcher left the room once the participants began the main test. Throughout each session, participants were left alone in the room with the laptop in order to neutralize any potential factor that would cause distraction from the task.

The self-paced reading task recorded participants' reading time from the moment they pressed the space button on the keyboard until the moment where they pressed either option A or B on the keyboard in response to the question which also measured the accuracy rate. The data obtained from the reaction time analysis revealed the real-time processing of relative clauses in Turkish, while the attachment site preference analysis provided information about the attachment site preference in disambiguating Turkish relative clauses.

There were 64 questions with an equal number of target and filler items. Whereas questions about the filler items lack complex characteristics which could make processing more challenging, questions regarding the target items were based on resolving the ambiguous relative clauses as shown in (36), (see Appendix I for experimental items):

(36)
Item: Kiracı evi boyayan manavın komşusunu gördü.
The tenant saw the neighbour of the greengrocer who was painting the house.

Question: Evi boyayan kimdir?
Who painted the house?

a) Manav
Greengrocer

b) Komşu
Neighbour

As can be seen in the previous example, following the participants viewed the target item, they pressed the space button. Subsequently, a question emerged on the screen requesting participants to press either A or B as their answer. Following each answer, the next item appeared on the screen.

There were also items with a preceding context, that is, linguistic context. These contexts appeared on the screen concurrently with the items as illustrated in (37):

(37)
Context: Manavın komşusu evi boyadı.
The greengrocer's neighbour painted the house.

Item: Kiracı evi boyayan manavın komşusunu gördü.
The tenant saw the neighbour of the greengrocer who was painting the house.

Question: Evi boyayan kimdir?
Who painted the house?

a) Manav
Greengrocer

b) Komşu
Neighbour

The filler items were simple and complex sentences designed to divert participants' attention from intended goal of the study as given (38):

(38)
Item: Öğrenci çalışmadığı için öğretmenin sorusunu cevaplayamadı.

The student could not answer the teacher's question because s/he did not study.

Question: Soruyu cevaplayamayan kimdir?
Who couldn't answer the question?

a) Öğrenci
Student

b) Öğretmen
Teacher

The target items were designed in the form of 4 sets, with each set consisting of 8 items. Each pair of sets is grouped together in relation to each other. Relative clauses in the target items are constructed with the use of the subject participle suffix *–(y)An*. Set 1a consists of NP1 and NP2, both of which are ambiguous within the relative clause (39):

(39)
Set 1a
Item: Müdür tamirle uğraşan emlakçının kalfasını selamladı.
The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?
Who was engaging in repairs?

a) Emlakçı
Realtor

b) Kalfa
Journeyman

In (39), the ambiguity may resolve on behalf of both NPs since both NPs (realtor and journeyman, respectively) are not associated to the relative clause *tamirle uğraşan* (who engages in repairs).

Related to the set 1a, set 1b was designed in a form prompting the high attachment (NP2) as a result of the plausibility effect or situational effect which means that NP2 is more likely to be the favoured attachment site for the relative clause due to the real-world knowledge:

(40)
Set 1b
Item: Müdür tamirle uğraşan emlakçının elektrikçisini selamladı.
The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?
Who was engaging in repairs?

a) Emlakçı
Realtor

b) Elektrikçi
Electrician

In (40), the plausibility effect or situational effect is manipulated, in other words, NP2 (electrician) is more likely to be the one for the relative clause tamirle uğraşan (who engages in repairs), that is, the more plausible one compared to the NP1 *emlakçı* (realtor) to receive attachment.

Set 2a and 2b were also designed in a way to be grouped together. Set 2a comprises of NP1 and NP2, both of which are ambiguous within the relative clause (41):

(41)
Set 2a
Item: Profesör uykusuz kalan askerin şoförünü selamladı.
The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?
Who couldn't sleep?

a) Asker
Soldier

b) Şoför
Driver

In (41), the ambiguity may resolve on behalf of both NPs since both NPs (soldier and driver, respectively) are not related to the relative clause *uykusuz kalan* (who couldn't sleep).

Related to the set 2a, set 2b was designed in a form facilitating the high attachment (NP2) as a result of the linguistic context effect which means that NP2 is more likely to be the preferred attachment site for the relative clause due to presence of a preceding text:

(42)
Set 2b
Context: Askerin şoförü uykusuz kaldı.
The soldier's driver couldn't sleep.

Item: Profesör uykusuz kalan askerin şoförünü selamladı.
The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?

Who couldn't sleep?

a) Asker
Soldier

b) Şoför
Driver

In (42), the experiment manipulates the linguistic context effect: *Askerin şoförü uykusuz kaldı* (The soldier's driver couldn't sleep). Given that the driver, referred to as NP2, was stated as the one who couldn't sleep in the preceding context, it is more likely to be the attachment site of the relative clause, making it the more likely candidate compared to NP1 *asker* (soldier) for attachment.

3. 2. 1. 4. Data Analysis

The reaction times and accuracy rates data obtained during the self-paced reading are analysed and will be explained thoroughly in Chapter 4. The reaction times and accuracy rates were analysed contrasting sets 1a and 1b, as well sets 2a and 2b. These sets were designed to be compared in terms of the context effect, as previously explained. Paired Samples T-Test was employed to compare set 1a and 1b, and 2a and 2b, regarding both reaction times and accuracy rates.

3. 2. 2. Experiment II

The offline questionnaire, administered through Google Forms, was established as the other pillar of the data collection tools. The same items utilised in the Self-paced reading task were used, yet this questionnaire involved different participants.

3. 2. 2. 1. Participants

100 participants in total engaged in the offline questionnaire via Google Forms. All the participants were native speakers of Turkish. The age range of the participants was set at 18 to 30, aimed at young adult native Turkish speakers who were either university students or university graduates.

3. 2. 2. 2. Data Collection Tool

The offline data was collected via Google Forms. The items were included in the offline questionnaire with the options A and B. Subsequently, the questionnaire link was sent out to the participants via internet and their responses were automatically collected.

3. 2. 2. 3. Data Collection Procedure

To test the context type effects on the Turkish relative clauses from the aspect of NP preferences, offline questionnaire was implemented. The rationale for selecting this method over pen-and-paper questionnaires is the higher capacity to collect data due to the practicality and ease of use of the Internet. Participants meeting the conditions were sent the questionnaire link to register with their e-mail addresses and take the test. Before starting the test, participants were required to complete the tick box in the consent form. In response to the questions, participants were asked to choose either option A or option B, each of which stands for one of the two NPs that could be the attachment site of the relative clause structure.

The data collected consisted of accuracy rates. The items were arranged in a randomised fashion for each participant to prevent them from getting carried away by the objective of the study, and to remove any potential impact on the answers due to fatigue, or inattentiveness caused by the repeating pattern of sentence presentation.

3. 2. 2. 4. Data Analysis

The analysis of the accuracy rate data obtained during the offline questionnaire is presented and explained in detail in Chapter 4. The accuracy rates were analysed in the same two groups explained for the Self-paced reading task, that is, group 1 included set 1a and set 1b, and group 2 included set 2a and set 2b. The objective for developing these sets was to compare them according to the relevant context effect. A Paired Samples T-Test was used to compare sets 1a and 1b, as well as 2a and 2b, in terms of accuracy rates.

CHAPTER 4: FINDINGS AND DISCUSSION

The current study employs a self-paced reading task and an offline questionnaire to examine whether context effects, which are categorized as linguistic and situational (plausibility) effects, or structural effects prevail over the relative clause ambiguity resolution in Turkish. Therefore, both reaction times and accuracy rates are recorded to account for both the processing and attachment site preference aspects of the Turkish ambiguous relative clauses.

4. 1. DATA ANALYSIS

Paired Samples T-Test through JASP, a statistics programme, was utilised to contrast sets 1a and 1b, 2a and 2b, as well as 1b and 2b, regarding both reaction times and accuracy rates of the questions.

4. 1. 1. Experiment I

PsychoPy was used to obtain the online data creating such experiment design in the form of a self-paced reading test as previously explained in Chapter 3. Reaction time data and accuracy rate of the questions were collected via PsychoPy. The duration of time measured from the moment the participant pressed the space button to view the question and its options on a new screen to the moment participant answered the question by pushing A or B is called as the reaction time. The accuracy rates serve a purpose in that it reveals the preference rates of biased-NP2 as relative clause attachment site within the presence of situational context and linguistic context. In other words, participants showed their preferences for NP1 or NP2. Data, consisting of 320 occurrences (8 items by 40 participants) for each of the 4 sets, collected from 40 participants were analysed. The following subsections will disclose the average reaction times and accuracy rates of each target item by 40 participants.

4. 1. 1. 1. Reaction Time Analysis of Sets 1a and 1b

Table 1 and Table 2 below display the average reaction time for each item in sets 1a and 1b, respectively. Each item was viewed by 40 participants.

a. Set 1a

No context is given in set 1a. Each item comprises of two NPs that exhibit the same degree of ambiguity as attachment site, as demonstrated in (43):

(43)
Item: Müdür tamirle uğraşan emlakçının kalfasını selamladı.
The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?
Who was engaging in repairs?

a) Emlakçı
Realtor

b) Kalfa
Journeyman

Table 13:
Average Reaction Time per Item in Set 1a

Item Number	**Average Reaction Time**
1a1	8.735
1a2	8.924
1a3	9.335

1a4	9.704
1a5	9.903
1a6	10.054
1a7	9.944
1a8	9.459

The average reaction time for set 1a was determined to be 9.507 seconds using data gathered from the responses of 40 participants.

b. Set 1b

Set 1b manipulates the situational context or plausibility factor, causing each item to disambiguate towards NP2 due to the plausible attributes of NP2 compared to the ambiguous NP1, as seen in (44):

(44)
Item: Müdür tamirle uğraşan emlakçının elektrikçisini selamladı.
The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?
Who was engaging in repairs?

a) Emlakçı
Realtor

b) Elektrikçi
Electrician

Table 14:
Average Reaction Time per Item in Set 1b

Item Number	Average Reaction Time
1b1	6.352
1b2	6.529
1b3	5.971
1b4	5.813
1b5	7.016
1b6	7.268
1b7	7.153
1b8	6.367

The average reaction time for set 1b was found to be 6.457 seconds based on data collected from 40 participants.

Figure 4:

Comparison of Average Reaction Times between Sets 1a and 1b

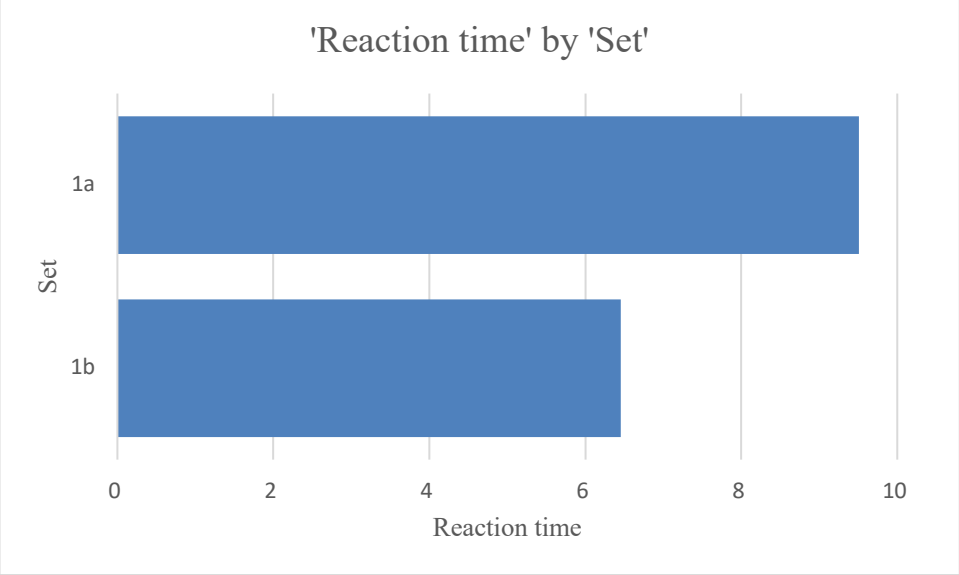


Figure 4 above illustrates the average reaction times of 1a (Mean=9.507) and 1b (Mean=6.457) and contrasts them, revealing about a 3-second reduction in set 1b when the situational context or plausibility factor is involved.

A comparative analysis employing a Paired Samples T-Test was executed to examine the differences between sets 1a and 1b, that is, looking at the absence of any context and the presence of situational context (plausibility).

Table 15:

Main Study Results of the Paired Samples T-Test for Reaction Time data of Sets 1a and 1b

Measure 1	Measure 2	t	df	p
1a	1b	18.392	319	<.001

Note. Student's t-test.

Table 16:

Main Study Descriptives of the Paired Samples T-Test for Reaction Time data of Sets 1a and 1b

	N	Mean	SD	SE	Coefficient of variation
1a	320	9.507	2.180	0.122	0.229
1b	320	6.457	1.989	0.111	0.308

Table 15 and Table 16 above illustrate the results of the Paired Samples T-Test, which revealed a statistically significant difference in reaction times between sets 1a and 1b (p-value < 0.001).

4. 1. 1. 2. Attachment Site Preference Analysis of Sets 1a and 1b

Table 17 and Table 18 present the preferences of NP1 and NP2 as attachment sites for relative clauses in each item of set 1a and 1b, respectively. Each question was answered by a total of 40 participants.

a. Set 1a

The same set 1a, which omits context and consists of two NPs with the same level of ambiguity as attachment sites, is also analysed in terms of which NP was selected as the attachment site based on the results of the questions completed by 40 participants, as illustrated in (45):

(45)
Item: Müdür tamirle uğraşan emlakçının kalfasını selamladı.
The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?
Who was engaging in repairs?

a) Emlakçı
Realtor

b) Kalfa
Journeyman

Table 17:
Attachment Site Preference Frequencies per Item in Set 1a

Item Number	**NP1 Preference**	**NP2 Preference**
1a1	21	19
1a2	19	21
1a3	25	15
1a4	24	16
1a5	20	20
1a6	24	16

1a7	15	25
1a8	24	16

According to the data presented in Table 17, out of a total of 320 occurrences, the total number of NP1 preferences is 172, whereas the total number of NP2 preferences is 148, suggesting that NP1 was the most popular option in set 1a among the participants.

b. Set 1b

This subsection examines Set 1b, which involves manipulating the situational context or plausibility factor. This manipulation increases the potential of associating relative clause in each item with NP2, as NP2 is more plausible compared to the ambiguous NP1. Set 1b is analysed to find out which NP was chosen as the attachment site, employing the answers to the questions answered by 40 participants, as demonstrated in (46):

(46)
Item: Müdür tamirle uğraşan emlakçının elektrikçisini selamladı.
The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?
Who was engaging in repairs?

a) Emlakçı
Realtor

b) Elektrikçi
Electrician

Table 18:
Attachment Site Preference Frequencies per Item in Set 1b

Item Number	NP1 Preference	NP2 Preference
1b1	14	26
1b2	17	23
1b3	16	24
1b4	22	18
1b5	17	23
1b6	19	21
1b7	18	22
1b8	22	18

Based on the data in Table 18, out of a total of 320 answers, the total number of NP1 preferences is 145, whereas the total number of NP2 preferences is 172. The findings indicate NP2 was the preferred option in set 1b among the participants. The percentages of NP preferences for the sets 1a and 1b are compared in Table 19 below:

Table 19:

Accuracy Rate Comparison between Sets 1a and 1b

Set	**Accuracy Rate Percentage**	
Set	**NP1**	**NP2**
1a	53.75%	46.25%
1b	45.31%	54.69%

The Table 19 above displays the percentages of the NP1 and NP2 preference results of both set 1a and 1b, in comparison. The results suggest that in set 1a, where there is no context and NPs have equal levels of ambiguity, NP1 was more frequently preferred (53.75%) as the attachment site of the relative clause in Turkish. On the other hand, in set 1b, where there is situational context involved favouring NP2 as the attachment site, NP2 was preferred more frequently (54.69%).

Figure 5:

Comparative Analysis of the Accuracy Rates of Sets 1a and 1b

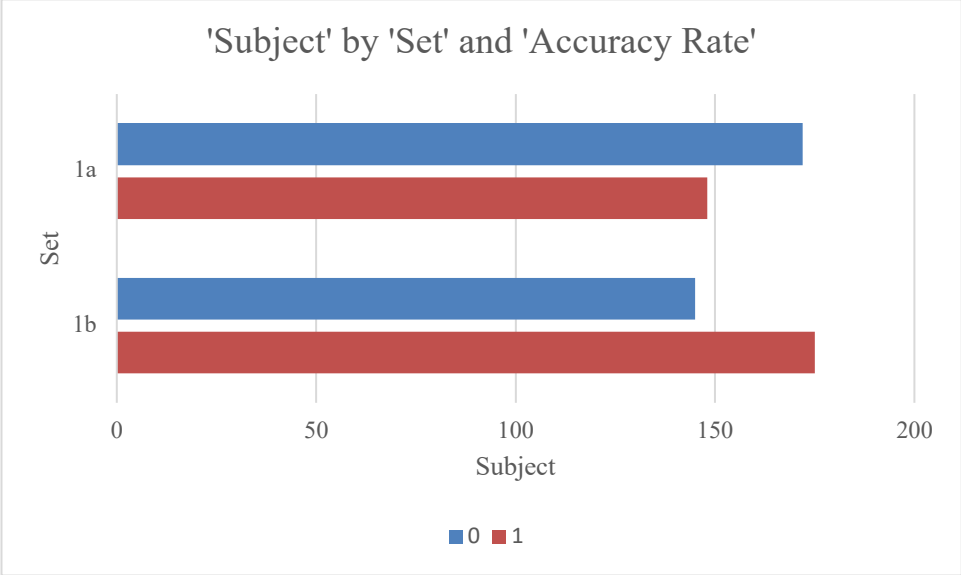


Figure 5 provides a more concise overview of the accuracy rates of the questions in sets 1a and 1b, as answered by the participants, visually demonstrating that most participants selected NP1 (0) in set 1a, whereas NP2 (1) was the majority response in set 1b.

Table 20:

Main Study Results of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 1a and 1b

Measure 1	Measure 2	t	df	p
1a	1b	-5.422	319	<.001

Note. Student's t-test.

Table 21:

Main Study Descriptives of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 1a and 1b

	N	Mean	SD	SE	Coefficient of variation
1a	320	0.463	0.499	0.028	1.080
1b	320	0.547	0.499	0.028	0.912

Shifts ranging from 0 to 1 imply a predominant propensity towards either NP1 or NP2 preference. A value towards 0 signifies a preference for NP1, while a value towards 1 signifies a preference for NP2, which could be observed under *Mean* heading. Table 20 and Table 21 above illustrate the results of the T-Test, which revealed a statistically significant difference in NP preferences as responses given to the questions between sets 1a and 1b (p-value < 0.001). This indicates that the situational context, which incurs plausibility effect, had a statistically significant impact on shifting participants' preferences towards NP2 preference, while the opposite effect was noticed when there is no specific context involved.

4. 1. 1. 3. Reaction Time Analysis of Set 2a and 2b

Table 22 and Table 23 display the mean reaction time, for each item in sets 2a and 2b, respectively. Each item was viewed by a total of 40 participants.

a. Set 2a

Set 2a is context-free and each item of the set is made up of two NPs with the same level of ambiguity as attachment sites, as illustrated in (47):

(47)
Item: Profesör uykusuz kalan askerin şoförünü selamladı.
The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?
Who couldn't sleep?

a) Asker
Soldier

b) Şoför
Driver

Table 22:

Average Reaction Time per Item in Set 2a

Item Number	Average Reaction Time
2a1	10.482
2a2	10.883
2a3	11.006
2a4	9.973
2a5	10.387
2a6	9.999
2a7	11.074
2a8	11.032

Based on responses from 40 participants, the average reaction time for set 2a was found to be 10.605 seconds.

b. Set 2b

Set 2b employs linguistic context that precedes the target item to disambiguate each item towards NP2 as a result of the biased NP2 provided in the linguistic context, as shown in (48):

(48)

Linguistic Context: Askerin şoförü uykusuz kaldı.

The soldier's driver couldn’t sleep.

Item: Profesör uykusuz kalan askerin şoförünü selamladı.

The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?

Who couldn't sleep?

a) Asker
Soldier

b) Şoför
Driver

Table 23:
Average Reaction Time per Item in Set 2b

Item Number	Average Reaction Time
2b1	5.230
2b2	6.007
2b3	5.053
2b4	4.870
2b5	5.121
2b6	5.232
2b7	7.091
2b8	7.460

The average reaction time for set 2b, based on data collected from 40 participants, was found to be 5.758 seconds.

Figure 6:
Comparison of Reaction Times between Sets 2a and 2b

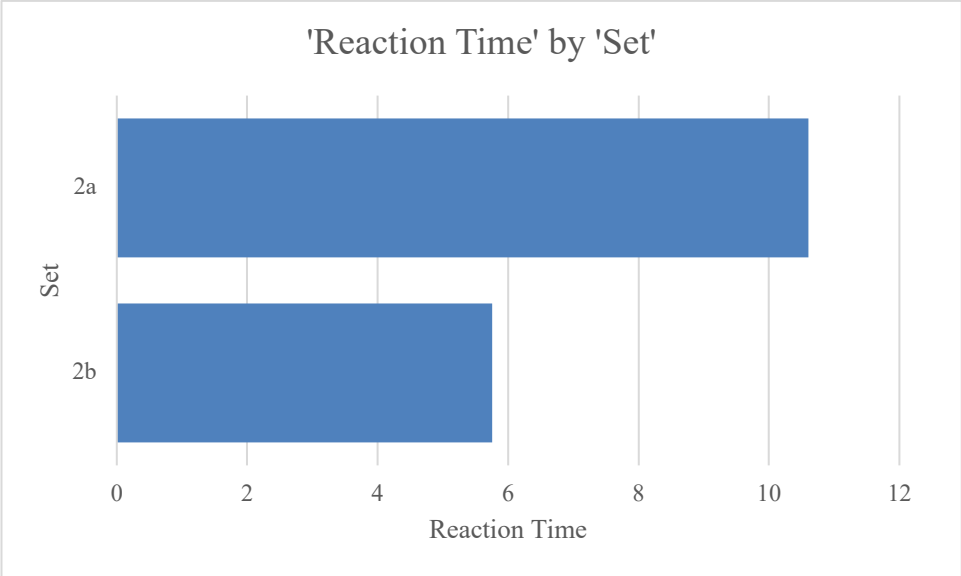


Figure 6 above depicts the average reaction times of 2a (Mean=10.605) and 2b (Mean=5.758) and contrasts them, highlighting a significant reaction time reduction of nearly 5 seconds in set 2b when the linguistic context is involved.

The Paired Samples T-Test was conducted to analyse the differences between sets 2a and 2b, that is, investigating the absence of any context and the presence of linguistic context.

Table 24:

Main Study Results of the Paired Samples T-Test for Reaction Time data of Sets 2a and 2b

Measure 1	Measure 2	t	df	p
2a	2b	22.399	319	<.001

Note. Student's t-test.

Table 25:

Main Study Descriptives of the Paired Samples T-Test for Reaction Time data of Sets 2a and 2b

	N	Mean	SD	SE	Coefficient of variation
2a	320	10.605	2.631	0.147	0.248
2b	320	5.758	2.742	0.153	0.476

Table 24 and Table 25 above demonstrate the results of the T-Test, showing a statistically significant difference in reaction time between sets 2a and 2b (p-value < 0.001).

4. 1. 1. 4. Attachment Site Preference Analysis of Set 2a and 2b

a. Set 2a

Set 2a is free of context and each item in this set contains two NPs with the same levels of ambiguity, as shown in (49). Out of the answers for the questions submitted by 40 participants, the attachment sites for the relative clause constructions were examined.

(49)
Item: Profesör uykusuz kalan askerin şoförünü selamladı.
The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?
Who couldn't sleep?

a) Asker
Soldier

b) Şoför
Driver

Table 26:
Attachment Site Preference Frequencies per Item in Set 2a

Item Number	**NP1 Preference**	**NP2 Preference**
2a1	23	17
2a2	25	15
2a3	24	16

2a4	24	16
2a5	24	16
2a6	21	19
2a7	19	21
2a8	23	17

Based on the data shown in Table 26, out of the 320 responses, there were 183 preferences for NP1, and there were 137 preferences for NP2. The results suggest that the NP1 was the favoured option among the participants in set 2a.

b. Set 2b

Set 2b, which includes linguistic context manipulation, is examined in this subsection. Involving a preceding linguistic context is hypothesized to make NP2 more likely to receive relative clause attachment preferences, in that NP2 is more likely to be preferred than the ambiguous NP1, as demonstrated in (50). Using the responses to the questions provided by 40 participants, set 2b is examined to determine which NP was selected as the attachment site.

(50)
Linguistic Context: Askerin şoförü uykusuz kaldı.
The soldier's driver couldn’t sleep.

Item: Profesör uykusuz kalan askerin şoförünü selamladı.
The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?
Who couldn’t sleep?

a) Asker
Soldier

b) Şoför

Driver

Table 27:

Attachment Site Preference Frequencies per Item in Set 2b

Item Number	NP1 Preference	NP2 Preference
2b1	11	29
2b2	14	26
2b3	15	25
2b4	16	24
2b5	14	26
2b6	18	22
2b7	15	25
2b8	17	23

Based on the data in Table 27, out of a total of 320 answers, the total number of NP1 preferences is 120, whereas the total number of NP2 preferences is 200. Based on the findings, NP2 appeared to be the preferred choice among the participants involved in set 2b. The total numbers of preferences for set 2a and 2b are compared in Table 28 below:

Table 28:

Accuracy Rate Comparison between Sets 2a and 2b

Set	Accuracy Rate Percentage	
Set	**NP1**	**NP2**
2a	57.19%	42.81%
2b	37.50%	62.50%

The Table 28 above presents the percentages of NP1 and NP2 preference findings for set 2a and 2b, in comparison. The findings indicate that in set 2a, where there is no contextual information and noun phrases have the same degree of ambiguity, NP1 was selected more frequently (57.19%). In contrast, in set 2b, where there is linguistic context that supports NP2 as the preferred attachment site, NP2 was chosen more frequently (62.50%).

Figure 7:

Comparative Analysis of the Accuracy Rates of Sets 2a and 2b

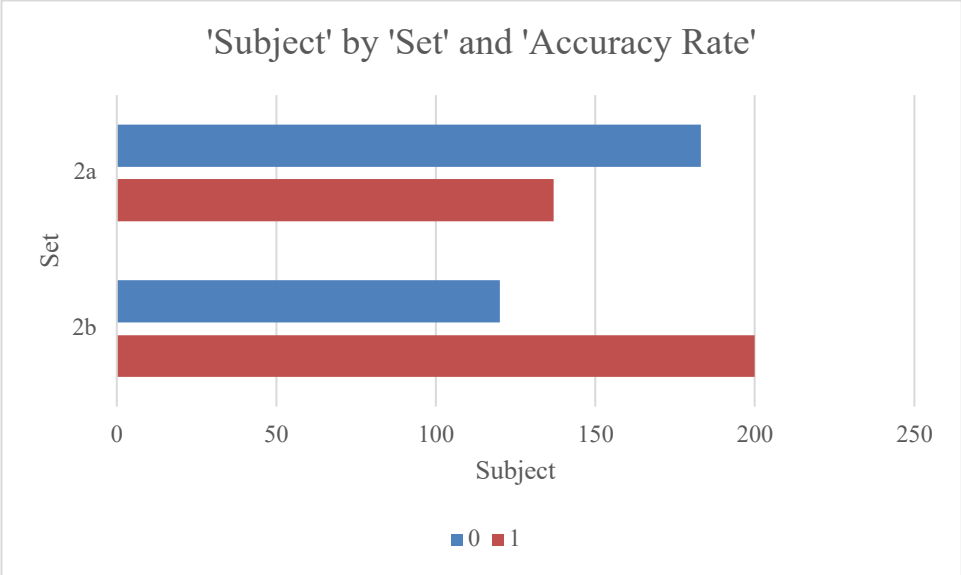


Figure 7 presents an easy-to-understand overview of the accuracy rates of the questions in sets 2a and 2b, based on the responses provided by the participants, clearly illustrating that in set 2a, the majority of participants chose NP1 (0), whereas in set 2b, NP2 (1) was the most common response.

Table 29:

Main Study Results of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 2a and 2b

Measure 1	Measure 2	t	df	p
2a	2b	-4.681	319	<.001

Note. Student's t-test.

Table 30:

Main Study Descriptives of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 2a and 2b

	N	Mean	SD	SE	Coefficient of variation
2a	320	0.428	0.496	0.028	1.158
2b	320	0.625	0.485	0.027	0.776

A value approaching 0 indicates a strong preference for NP1, while a value approaching 1 indicates a strong preference for NP2, as demonstrated in the Mean category. The findings of the T-Test, shown in Table 29 and Table 30, indicate a statistically significant difference in NP preferences for the questions between sets 2a and 2b (p-value < 0.001). This suggests that the linguistic context had a statistically significant impact on participants' inclination towards preferring NP2, whereas participants were inclined to prefer NP1 when there was no linguistic context involved.

4. 1. 1. 5. Reaction Time Analysis of Set 1b and 2b

The reaction time analysis compared the reaction times of Set 1b, which employed situational context or plausibility factor in favour of the attachment of the ambiguous relative clause to NP2, as shown in (51), with Set 2b, which made use of linguistic context to in favour NP2 attachment, as illustrated in (52). The goal was to ascertain which type of context yielded higher effectiveness in reducing the reaction time.

(51)

Item: Müdür tamirle uğraşan emlakçının elektrikçisini selamladı.

The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?

Who was engaging in repairs?

a) Emlakçı

Realtor

b) Elektrikçi
Electrician

Elektrikçi (journeyman), positioned in NP2, is more likely to receive relative clause attachment compared to emlakçı (realtor) in the NP1 position, as NP2, elektrikçi (journeyman), is the more plausible candidate for the act of tamirle uğraşan (engaging in repairs).

(52)
Linguistic Context: Askerin şoförü uykusuz kaldı.
The soldier's driver couldn't sleep.

Item: Profesör uykusuz kalan askerin şoförünü selamladı.
The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?
Who couldn't sleep?

a) Asker
Soldier

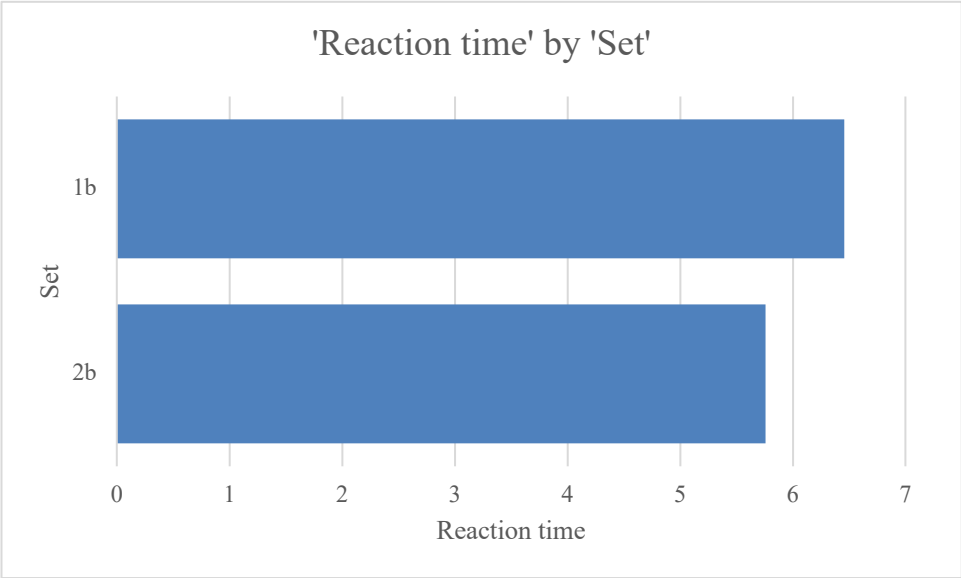
b) Şoför
Driver

Şoför (driver), positioned in NP2, is more likely to have a relative clause attached to it compared to asker (soldier) in the NP1 position, as NP2, şoför (driver), is the more plausible candidate for the act of uykusuz kalan (not being able to sleep) due to the preceding sentence Askerin şoförü uykusuz kaldı (The soldier's driver

couldn’t sleep) in which the possible attachment site for disambiguating the relative clause is şoför (driver).

Figure 8:

Comparison of Reaction Times between Sets 1b and 2b



The graph in Figure 8 displays the average reaction times of 1b (Mean=6.457), that is, situational context, and 2b (Mean=5.758), that is, linguistic context, highlighting a reduction of approximately one second in reaction time when set 2b, linguistic context, is presented.

A comparative analysis employing a Paired Samples T-Test was implemented for sets 1b and 2b to determine whether the difference in reaction times between context types is statistically significant or not.

Table 31:

Main Study Results of the Paired Samples T-Test for Reaction Time data of Sets 1b and 2b

Measure 1	Measure 2	t	df	p
1b	2b	3.676	319	<.001

Note. Student's t-test.

Table 32:

Main Study Descriptives of the Paired Samples T-Test for Reaction Time data of Sets 1b and 2b

	N	Mean	SD	SE	Coefficient of variation
1b	320	6.457	1.989	0.111	0.308
2b	320	5.758	2.742	0.153	0.476

Table 31 and Table 32 show the results of the Paired Samples T-Test, revealing a statistically significant difference in reaction time between sets 1b and 2b (p-value < 0.001).

4. 1. 1. 6. Attachment Site Preference Analysis of Set 1b and 2b

The attachment site preference analysis contrasted the NP preferences of Set 1b, which used situational context or plausibility factor in favour of the attachment of the ambiguous relative clause to NP2, as demonstrated in (53), with Set 2b, which used linguistic context to in favour NP2 attachment, as depicted in (54). The objective was to determine which type of context resulted in greater effectiveness in attaching biased NP2 to the ambiguous Turkish relative clause.

(53)

Item: Müdür tamirle uğraşan emlakçının elektrikçisini selamladı.

The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?
Who was engaging in repairs?

a) Emlakçı
Realtor

b) Elektrikçi
Electrician

(54)
Linguistic Context: Askerin şoförü uykusuz kaldı.
The soldier's driver couldn’t sleep.

Item: Profesör uykusuz kalan askerin şoförünü selamladı.
The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?
Who couldn’t sleep?

a) Asker
Soldier

b) Şoför
Driver

The NP2, elektrikçi (journeyman) in (53), is more prone to having a relative clause attached to it due to the situational context. In (54), the NP2, şoför (driver), is more likely to be attached to a relative clause attachment due to the linguistic context.

Table 33:

Accuracy Rate Comparison between Sets 1b and 2b

Set	Accuracy Rate Percentage	
Set	**NP1**	**NP2**
1b	45.31%	54.69%
2b	37.50%	62.50%

The Table 33 displays the percentages of NP1 and NP2 preference findings for set 1b and 2b, allowing for a comparison between the two. The findings indicate that in set 1b, where situational context favours NP2, NP2 was selected more frequently (54.69%). Also, in set 2b, where there is linguistic context that supports NP2 as the preferred attachment site, NP2 was selected more frequently (62.50%).

Table 34:

Main Study Results of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 1b and 2b

Measure 1	Measure 2	t	df	p
1b	2b	-3.095	319	0.002

Note. Student's t-test.

Table 35:

Main Study Descriptives of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 1b and 2b

	N	Mean	SD	SE	Coefficient of variation
1b	320	0.547	0.499	0.028	0.912
2b	320	0.625	0.485	0.027	0.776

A value approaching 0 signifies a preference towards NP1, whereas a value approaching 1 signifies a preference towards NP2, as demonstrated in the Mean category. The findings of the T-Test, presented in Table 34 and Table 35, show a statistically significant

difference in the attachment site preferences for the questions between sets 1b and 2b (p-value < 0.002). This further suggests that the linguistic context in set 2b, with a Mean value of 0.625, is more effective in selecting NP2 as the attachment site in disambiguating Turkish relative sentences compared to the situational context in set 1b, which has a Mean value of 0.547.

4. 1. 2. Experiment II

The experimental design was developed via Google Forms and sent out to 100 participants by convenience sampling online and the accuracy rates, that is, their preferences for NP1 or NP2, were subsequently collected. The actual number of participants was 101. However, one participant neglected to complete the consent form before starting the test, thus, their data were not considered.

4. 1. 2. 1. Attachment Site Preference Analysis of Sets 1a and 1b

Table 36 and Table 37 display the preferences of NP1 and NP2 as attachment sites for relative clauses in each item of set 1a and 1b, respectively. Each question was answered by a total of 100 participants.

a. Set 1a

Set 1a, which excludes context, comprises of items that each contain two NPs with equal levels of ambiguity as attachment sites, as seen in (55). The analysis looked at which NP was chosen as the attachment site based on the question responses of 100 participants.

(55)
Item: Müdür tamirle uğraşan emlakçının kalfasını selamladı.
The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?

Who was engaging in repairs?

a) Emlakçı
Realtor

b) Kalfa
Journeyman

Table 36:
Attachment Site Preference Frequencies per Item in Set 1a

Item Number	NP1 Preference	NP2 Preference
1a1	67	33
1a2	54	46
1a3	50	50
1a4	66	34
1a5	63	37
1a6	53	47
1a7	63	37
1a8	51	49

According to the data presented in Table 36, out of a total of 800 responses (8 items by 100 participants), the total number of NP1 preferences is 467, whereas the total number of NP2 preferences is 333. These results indicate that NP1 was the more preferred option in set 1a among the participants.

b. Set 1b

Set 1b manipulates situational context (plausibility factor) to increase the probability of NP2 receiving relative clause attachment compared to the set 1a which includes

ambiguous NPs, as illustrated in (56). By analysing the responses to the questions from 100 participants, set 1b is examined to investigate which NP was chosen as the attachment site.

(56)

Item: Müdür tamirle uğraşan emlakçının elektrikçisini selamladı.

The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?

Who was engaging in repairs?

a) Emlakçı

Realtor

b) Elektrikçi

Electrician

Table 37:

Attachment Site Preference Frequencies per Item in Set 1b

Item Number	**NP1 Preference**	**NP2 Preference**
1b1	37	63
1b2	28	72
1b3	48	52
1b4	49	51
1b5	47	53
1b6	38	62
1b7	49	51
1b8	29	71

Based on the data provided in Table 37, out of the 800 responses, there are 325 preferences for NP1, on the other hand, there are 475 preferences for NP2. The outcomes demonstrate that NP2 was the most frequently selected option in set 1b.

Table 38:

Main Study II Results of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 1a and 1b

Measure 1	Measure 2	t	df	p
1a	1b	-13.131	799	<.001

Note. Student's t-test.

Table 39:

Main Study II Descriptives of the Paired Samples T-Test for the Attachment Site Analysis data from Sets 1a and 1b

	N	Mean	SD	SE	Coefficient of variation
1a	800	0.416	0.493	0.017	1.185
1b	800	0.594	0.491	0.017	0.828

Tables 38 and 39 show the results of the T-Test, demonstrating that there is a statistically significant difference in NP preferences between sets 1a and 1b (p-value < 0.001). This indicates that the situational context or plausibility effect had a statistically significant effect on participants' tendency to favour NP2, while participants were prone to favour NP1 when there was no context present.

Table 40:

Accuracy Rate Comparison between Sets 1a and 1b

Set	**Accuracy Rate Percentage**	
Set	**NP1**	**NP2**
1a	58.375%	41.625%
1b	40.625%	59.375%

Table 40 above displays the preference findings for NP1 and NP2 in sets 1a and 1b, allowing for a comparison between the two sets. The results reveal that in set 1a, where there is no contextual information and noun phrases have equal levels of ambiguity, NP1 was chosen more often (58.375%). Conversely, in set 1b, when there is situational context favouring NP2 as the preferred attachment site, NP2 was chosen more frequently (59.375%).

Figure 9:

Comparative Analysis of the Accuracy Rates of Sets 1a and 1b

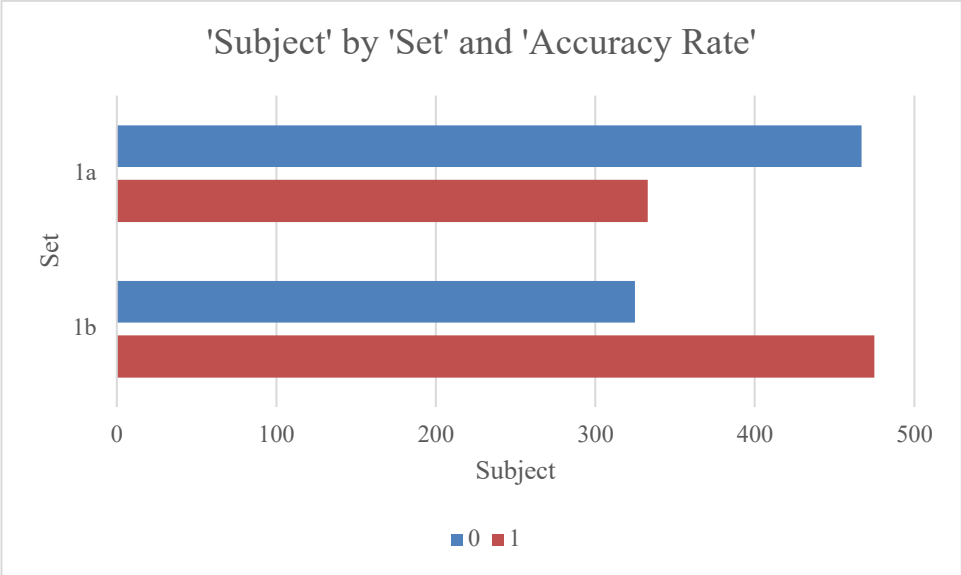


Figure 9 provides a clear and concise summary of the accuracy rates for the questions in sets 1a and 1b. It demonstrates that in set 1a, the majority of participants selected NP1 (0) as their response, while in set 1b, with the addition of situational context (plausibility effect), NP2 (1) was the most frequently chosen response.

4. 1. 2. 2. Attachment Site Preference Analysis of Sets 2a and 2b

a. Set 2a

Based on the answers to the questions provided by 100 participants, set 2a, which is context-free and contains two NPs with equal levels of ambiguity to receive relative clause attachment, is analysed to determine which NP was selected as the attachment site, as given in (57).

(57)
Item: Profesör uykusuz kalan askerin şoförünü selamladı.
The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?
Who couldn't sleep?

a) Asker
Soldier

b) Şoför
Driver

Table 41:
Attachment Site Preference per Item in Set 2a

Item Number	**NP1 Preference**	**NP2 Preference**
2a1	52	48
2a2	62	38
2a3	50	50
2a4	56	44
2a5	53	47
2a6	60	40

2a7	53	47
2a8	61	39

Based on the data shown in Table 41, of the 800 responses (8 items by 100 people), 447 indicate a preference for NP1, whereas 353 indicate a preference for NP2. This suggests that among the participants, NP1 was the most favoured option in set 2a.

b. Set 2b

Set 2b includes a preceding text referred to as linguistic context, which is thought to increase the likelihood of NP2 receiving relative clause attachment. NP2 is more likely to be preferred over the ambiguous NP1, as shown in (58). By analysing the responses to the questions from 100 participants, set 1b is examined to identify which NP was chosen as the attachment site.

(58)
Linguistic Context: Askerin şoförü uykusuz kaldı.
The soldier's driver couldn’t sleep.

Item: Profesör uykusuz kalan askerin şoförünü selamladı.
The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?
Who couldn’t sleep?

a) Asker
Soldier

b) Şoför
Driver

Table 42:

Attachment Site Preference per Item in Set 2b

Item Number	NP1 Preference	NP2 Preference
2b1	8	92
2b2	7	93
2b3	5	95
2b4	1	99
2b5	5	95
2b6	10	90
2b7	3	97
2b8	13	87

Table 42 reveals that of the 800 responses, there are a total of 52 choices for NP1. Conversely, there are a total of 748 preferences for NP2. Based on the findings, it can be inferred that participants predominantly selected option NP2 in set 2b.

Table 43:

Main Study II Results of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 2a and 2b

Measure 1	Measure 2	t	df	p
2a	2b	-27.915	799	<.001

Note. Student's t-test.

Table 44:

Main Study II Descriptives of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 2a and 2b

	N	Mean	SD	SE	Coefficient of variation
2a	800	0.441	0.497	0.018	1.126
2b	800	0.935	0.247	0.009	0.264

Tables 43 and 44 display the outcomes of the T-Test, indicating a statistically significant difference in NP preferences between sets 2a and 2b (p-value < 0.001). These findings demonstrate that the linguistic context had an immense effect on participants' inclination to prefer NP2, whereas participants tended to prefer NP1 in the absence of any linguistic context.

Table 45:

Accuracy Rate Comparison between Sets 2a and 2b

Set	**Accuracy Rate Percentage**	
Set	**NP1**	**NP2**
2a	55.875%	44.125%
2b	6.50%	93.50%

The preference findings for NP1 and NP2 percentages in sets 2a and 2b are also presented in Table 45, enabling an explicit comparison between the two sets. The findings indicate that in set 2a, where there are no context details and the NPs exhibit equal degrees of ambiguity, NP1 was selected more frequently (55.875%). In contrast, in set 2b, when there is linguistic context that supports NP2 as the preferred attachment site, NP2 was chosen substantially more often (93.50%).

Figure 10:

Comparative Analysis of the Accuracy Rates of Sets 2a and 2b

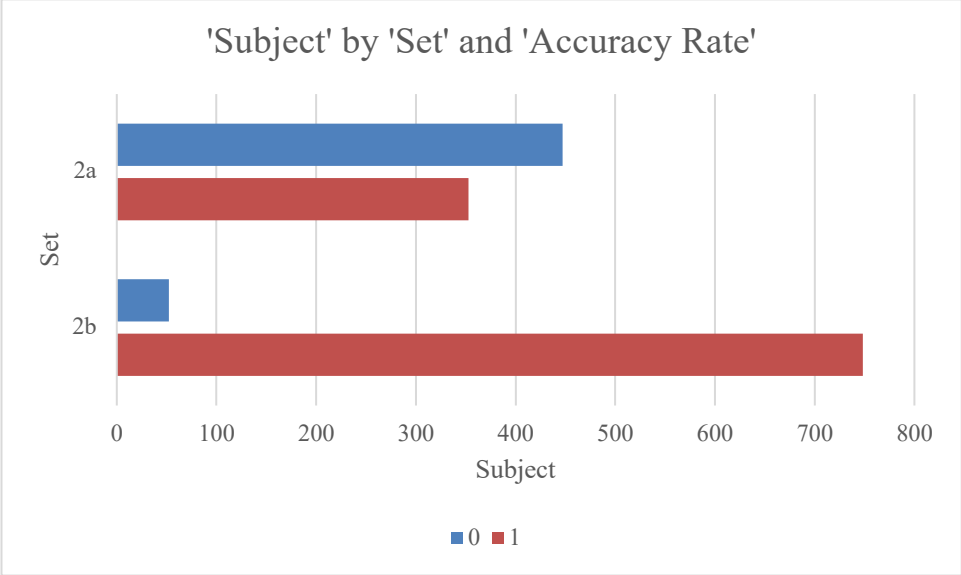


Figure 10 presents an insightful and straightforward review of the accuracy rates for the questions in sets 2a and 2b. In set 2a, most participants chose NP1 (0) as their response. However, in set 2b, where linguistic context was added, NP2 (1) was the most selected response by a considerable majority.

4. 1. 2. 3. Attachment Site Preference Analysis of Sets 1b and 2b

The analysis of attachment site preference compared the NP preferences of Set 1b, which favoured the attachment of the ambiguous relative clause to NP2 based on situational context or plausibility factor, as shown in (59), with Set 2b, which favoured NP2 attachment based on linguistic context, as illustrated in (60).

(59)

Item: Müdür tamirle uğraşan emlakçının elektrikçisini selamladı.

The manager greeted the journeyman of the realtor who was engaging in repairs.

Question: Tamirle uğraşan kimdir?
Who was engaging in repairs?

a) Emlakçı
Realtor

b) Elektrikçi
Electrician

(60)
Linguistic Context: Askerin şoförü uykusuz kaldı.
The soldier's driver couldn’t sleep.

Item: Profesör uykusuz kalan askerin şoförünü selamladı.
The professor saluted the driver of the soldier who couldn't sleep.

Question: Uykusuz kalan kimdir?
Who couldn’t sleep?

a) Asker
Soldier

b) Şoför
Driver

The NP2, elektrikçi (journeyman) in (59), is more prone to receive ambiguous relative clause attachment due to the situational context. In (60), the NP2, şoför (driver), is more likely to receive relative clause attachment due to the linguistic context.

Table 46:

Accuracy Rate Comparison between Sets 1b and 2b

Set	Accuracy Rate Percentage	
Set	**NP1**	**NP2**
1b	40.625%	59.375%
2b	6.50%	93.50%

Table 46 above displays the percentages of preference findings for NP1 and NP2 in sets 1b and 2b, allowing for a comparison between the two sets. The results reveal that in set 1b, where there is situational context favouring NP2, NP2 was chosen more often (59.375%). In set 2b, when there is linguistic context favouring NP2 as the preferred attachment site, NP2 was chosen substantially more frequently (93.50%).

Table 47:

Main Study II Results of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 1b and 2b

Measure 1	Measure 2	t	df	p
1b	2b	-16.194	799	<.001

Note. Student's t-test.

Table 48:

Main Study II Descriptives of the Paired Samples T-Test for the Attachment Site Preference Analysis data from Sets 1b and 2b

	N	Mean	SD	SE	Coefficient of variation
1b	800	0.594	0.491	0.017	0.828
2b	800	0.935	0.247	0.009	0.264

Within the Mean category, a value nearing 0 indicates a preference towards NP1, whereas a value nearing 1 indicates a preference for NP2. The Paired Samples T-Test results, presented in Table 47 and Table 48, reveal a statistically significant difference in the attachment site preferences for the questions between sets 1b and 2b (p-value < 0.001). The analysis shows that the linguistic context in set 2b, with a mean value of 0.935, is more effective in determining NP2 as the attachment site in disambiguating Turkish relative clauses compared to the situational context in set 1b, which has a mean value of 0.594.

4. 2. GENERAL DISCUSSION

The present study employs the Paired Samples T-Test methodology to compare sets 1a and 1b, as well as 2a and 2b, in order to investigate the effect of context type. Furthermore, to determine the relative strength of the effect of context types, the same test was utilised to compare sets 1b, which entailed the manipulation of situational context, and 2b, which involved the manipulation of linguistic context. Each item in the present study comprises six words, with the relative clause participle appearing on the third word. The set-up of each target item in sets 1a, 1b, 2a, and 2b is designed in a way as follows: Subject - Relative Clause - NP1 - NP2 - Verb. The attachment sites NP1 and NP2 immediately succeed the relative clause in a sequential manner. NP1 and NP2 are both +human nouns. The Paired Samples T-Test was run to determine whether there is a statistically significant propensity towards low (NP1) or high attachment (NP2) and if it changes in the presence of context. This was achieved by comparing the attachment site preference results of the self-paced reading tests for set 1a and 1b (p value < 0.001), as well as 2a and 2b (p value < 0.001). The offline questionnaire results of sets 1a and 1b (p value < 0.001), as well as 2a and 2b (p value < 0.001), were also contrasted and analysed for differences. In sets 1a and 2a, where no context is provided, the attachment site preference analysis findings of both self-paced reading test (set 1a: 53.75% NP1 preference; set 2a: 57.19% NP1 preference) and offline questionnaire (set 1a: 58.375% NP1 preference; set 2a: 55.875% NP1 preference) indicate that Turkish speakers were inclined to attach NP1 to the ambiguous relative clause. Item (61) and item (62) serve as instances of target items from the sets 1a and 2a:

(61)

Set 1a: No Context

	S	RC	NP1	NP2	V
Item:	Görevli	[kıyafet	diken]	mankenin	menajerine	kızdı.
	Assistant	clothes-Nom	sew-Part	model-Gen	manager-Dat	be angry-Pst

'The assistant was angry with the manager of the model who sews clothes.'

(62)

Set 2a: Situational Context / Plausibility Factor in favour of NP2

	S	RC	NP1	NP2	V
Item:	Çiçekçi	[ekmek satan]	kazazedenin	akrabasını	tanıdı.
	Florist	bread-Nom sell-Part	casualty-Gen	relative-Acc	recognise-Pst

'The florist recognised a relative of the casualty who sells bread.'

While low attachment preference was also observed by Kırkıcı (2004), the current study's low attachment preference finding appears to occur under different conditions. Low attachment preference was identified in the present study when there were two human+ attachment sites. On the other hand, Kırkıcı's offline findings showed that Turkish speakers favoured low attachment only when two attachment sites contained -human nouns. The current result of low attachment is consistent with the findings of Dinçtopal-Deniz (2010), which suggest that Turkish speakers tend to favour low attachment (NP1 preference) when dealing with animate NPs, validated by both offline and self-paced reading tests. The offline low attachment preference results of the study implemented by Akal (2021), concluding that all the NPs examined were +human and exhibited a statistically significant preference towards disambiguating in favour of low attachment, also support the outcome of the present study, which employed +human NPs. Başer (2018) studied the priming effect of relative clause attachment preference in monolingual Turkish speakers. In her study, Başer (2018) referred to the RC – NP1 – NP2 order adopted in the current study as RC – NP2 – NP1. Thus, she labelled the low attachment site in the present study's NP1 as NP2. Başer (2018) concluded that there was a notable correlation between the condition of active/passive relative clauses and attachment site

preferences. Monolingual Turkish speakers showed a clear preference for using NP2 more frequently in the active relative clause condition and NP1 more frequently in the passive relative clause condition. Given that the NP2 used in the active relative clause condition in her study is labelled as the NP1 in the present study, the finding that Turkish speakers significantly preferred NP2, which corresponds to NP1 in the current study, in the active relative clause condition supports the NP1 preference, that is, low attachment preference findings observed in the neutral contexts employed in the present study. Although Başer (2018) found that syntactic priming had an impact on the passive relative clause condition, which resulted in an increase in NP1 preferences after the NP1 prime and an increase in NP2 preferences after the NP2 prime in the active relative clause condition, there was a consistent preference for NP2 attachment, which is labelled as NP1 as part of the present study, regardless of the prime attachment site. This finding also validates the present study's low attachment preference observation in neutral contexts. However, in opposition to the previously mentioned finding of a low attachment preference, Turan (2020) detected a preference towards high attachment in Turkish ambiguous relative clauses using the eye tracking method and offline comprehension questions, suggesting that the cognitive load in sentence processing is reduced when parsing and licencing high attachment. He further concluded that reading times revealed that high-attachment sentences are processed more quickly by the parser than low-attachment sentences. Yet, the findings of low attachment preference in Turkish relative clauses revealed by Kırkıcı (2004), Dinçtopal-Deniz (2010), Akal (2021) and the present study appear to disagree with Turan's (2020) assertion that Turkish is a high attachment language.

Based on the relative clause processing models, it can be stated that the present experiments conducted in Turkish do not fully show the effect of Predicate Proximity, which posits that the parser has an impulse to attach material in close proximity to the predicate phrase, as stated by Gibson et al. (1996). The low attachment site was the easiest to process, followed by the high attachment site and the middle attachment site, according to Gibson et al.'s study employing three NPs. Low attachment preference, the most easily processed NP, was determined to be driven by the Recency effect, while high attachment site preference, the second most easily processed NP, was interpreted to be driven by the Predicate Proximity effect due to its proximity to the predicate phrase since the core

predicate structure, which all expressions possess as their core component, is ranked higher than other attachment sites. According to Gibson et al. (1996), Predicate Proximity could work for languages that have word orders like VOS, VSO, SOV, or OSV since the effect of the predicate phrase is strengthened by the increasing average distance between the head of a predicate and its arguments. Consequently, Turkish, an SOV language with a relatively freer word order that permits grammatical utterances to be inserted between the head of a predicate and its arguments, might be expected to prioritise Predicate Proximity factors. However, the findings of the present study indicate that relative clause attachment ambiguity in Turkish in a neutral context is not disambiguated towards high attachment in a neutral context. The prevalence of low attachment preference in Turkish is attributed to the Construal Hypothesis by Dinçtopal-Deniz (2010) and Kırkıcı (2004) in relation to the Principle of Avoid Ambiguity. Dinçtopal-Deniz (2010) and Kırkıcı (2004) corroborate the Construal Hypothesis by providing an already existing, unambiguous relative clause construction in Turkish formed by two noun phrases. When a relative clause is inserted between NP1 and NP2 (NP1 - Relative Clause - NP2), the high NP is the only attachment site. However, Akal (2021) proposes a second option for eliminating relative clause attachment ambiguities with two noun phrases in Turkish, challenging the assumption that there is only one instance of disambiguating Turkish relative clauses by inserting an adjective preceding NP2 (Relative clause - NP1 - Adjective - NP2), making low attachment the sole option. The presence of two different unambiguous relative clause structures favouring two different attachment sites seems to rule out the Construal Hypothesis and the Principle of Avoid Ambiguity as explanations for the higher rate of low attachment preference in Turkish. The Principle of Recency can be justified as the rationale for the preference of NP1, as argued by Gibson et al. (1996) and Akal (2021), proposing that newly encountered lexical items are more likely to be attached to the recently constructed structures. Therefore, according to this structural model called Recency, NP1, which is the most recently processed and closest structure to the relative clause, should be the site receiving attachment in Turkish. Recency also receives support from the perishable nature of short-term memory (Gibson et al., 1996), suggesting that the more recent information is more readily accessible in memory, leading to a preference for attaching the relative clause to NP1, which is a most recent site that the parser visits just after processing relative clause. This could be due to the limited

capacity of short-term memory, which prioritises recent information for efficient and economical processing. In addition, Cuetos et al. (1996) reinforce the low attachment preference in Turkish observed in the present study, considering that pre-modified nouns are a characteristic feature of Turkish; therefore, it is likely that Turkish exhibits low attachment behaviour.

In sets 1b and 2b, where situational context and linguistic context are presented, respectively, the attachment site preference analysis findings of both self-paced reading test (set 1b: 54.69% NP2 preference; set 2b: 62.50% NP2 preference) and offline questionnaire (set 1b: 59.375% NP2 preference; set 2b: 93.50% NP2 preference) display that the attachment preferences of Turkish speakers were contextually disambiguated towards NP2. The Paired Samples T-Test was applied for the self-paced reading test results of sets 1a and 1b (p-value < 0.001), as well as 2a and 2b (p-value < 0.001) and the offline questionnaire results of sets 1a and 1b (p-value < 0.001), as well as 2a and 2b (p-value < 0.001). The results were determined to have statistical significance. In other words, it was discovered that the preference for NP1 (low attachment), which was observed in the absence of context, shifted to a preference for NP2 (high attachment) in the presence of context: situational context and linguistic context. Items (63) and (64) exemplify target items from set 1b influenced by situational context or plausibility effect and set 2b influenced by linguistic context. These items are the same as given in (61) and (62) but only differ in the inclusion of context.

(63)

Set 1b: No Context

	S		RC		NP1	NP2	V
Item:	Görevli	[kıyafet	diken]		mankenin	terzisine	kızdı.
	Assistant	clothes-Nom	sew-Part		model-Gen	tailor-Dat	be angry-Pst

‘The assistant was angry with the tailor of the model who sewed clothes.’

(64)

Set 2b: Linguistic Context in favour of NP2

Linguistic Context: Kazazedenin akrabası ekmek sattı.

'The relative of the casualty sold bread.'

	S	RC	NP1	NP2	V
Item:	Çiçekçi	[ekmek satan]	kazazedenin	akrabasını	tanıdı.
	Florist	bread-Nom sell-Part	casualty-Gen	relative-Acc	recognise-Pst

'The florist recognised a relative of the casualty who sold bread.'

In line with the results reported above, the context-type effects seem to turn the tide significantly. The results of the attachment site preference analysis of the self-paced reading test indicate that there is a statistically significant difference between sets 1a and 1b, as well as sets 2a and 2b. However, the difference between sets 2a and 2b surpasses the difference between sets 1a and 1b, indicating that the linguistic context effect observed in the former is stronger than the situational context (plausibility) effect observed in the latter. In addition, it is worth noting that the offline questionnaire outcome from set 2b employing linguistic context revealed an overwhelming preference for NP2, with a rate of 93.50%, when compared to the attachment site preference analysis outcome of the self-paced reading test for the same set, which was 62.50%. This could be attributed to the absence of human memory limitations in the offline questionnaire. The offline task demonstrates a statistically significant difference in the attachment site preferences for the questions between sets 1b and 2b (p-value < 0.001), indicating that the linguistic context in set 2b, is more effective in determining NP2 as the attachment site for disambiguating Turkish relative clauses compared to the situational context in set 1b. Regarding the attachment site preference analysis in the online task, The Paired Samples T-Test was also implemented to observe whether the difference between sets 1b involving situational context and 2b involving linguistic context is statistically significant. The results demonstrate a statistically significant difference (p-value < 0.002) indicating that the linguistic context in set 2b is more effective in identifying the attachment site for NP2 in disambiguating Turkish relative sentences, as compared to the situational context in

set 1b. The reaction time analysis likewise yielded statistically significant findings (p-value < 0.001), revealing a decrease of about one second in reaction time when set 2b, which has linguistic context, is presented.

In addition to the unexplored situational context and linguistic context effects employed in the present study, context effects, in general, have been observed to be influential in relative clause processing. These general context effects refer to the effect of contextual information on how relative clauses are processed, suggesting that interpretation and disambiguation of relative clauses can be influenced by different types of contexts in which they are presented. For instance, Spivey-Knowlton et al. (1993) investigated the effects of local semantic context, temporal context and referential context as disambiguating factors on relative clause and main clause ambiguity and further concluded that all types of the mentioned contexts, including referential context, are effective on relative clause ambiguity resolution, and shortened the reading time. Their research was noteworthy in that the referential context presented is somewhat similar to the linguistic context provided in the present study as a text preceding the target item. Another referential context similar to the linguistic context was implemented by Pan et al. (2015). Their findings demonstrated that manipulating the preceding discourse text with two NPs affected both native and non-native speakers' (English speakers' and German and Chinese-speaking English language learners') ambiguous relative clause attachment preferences towards NP1 or NP2 via offline test. Yet, they imply that the context data influences non-native ambiguity resolution more strongly than native ambiguity resolution, which is outside the scope of this study. Thus, the present research only confirms the influence of biasing discourse context on the preferences for disambiguating relative clauses. On the other hand, the current study challenges the previous conclusions of Desmet et al. (2002), Pan and Felser (2011), and Zagar et al. (1997), suggesting that context type effects do not necessarily influence the resolution of modifier ambiguity in L1 sentence processing. In terms of the effect of context on Turkish relative clauses, Kahraman (2015) investigated the effect of context, similar to the use of linguistic context in the current study, on the processing of Turkish relative clauses. The study focused on whether the processing of object relative clauses, which have been found to be more challenging than subject relative clauses earlier, may be facilitated by the presence of context. Kahraman (2015) observed that in Turkish, the processing of relative

clauses is affected by the context, making relative clauses easier to process when presented after the Topic context. This finding aligns with the facilitating effect of context in the present study observed in the reaction time, which decreases when both situational context and linguistic context are presented; that is, the reaction time of Turkish speakers in attaching NPs to disambiguate relative clauses was shorter compared to neutral contexts. Also, in order to figure out whether the reported asymmetry between the processing of subject relative clauses and object relative clauses in certain languages can be eliminated when the relative clauses in Turkish are presented in context, Boran (2018) conducted an eye-tracking study. The study's findings suggest that discourse adversely affected the processing of Turkish subject and object relative clauses; that is, the existence of discourse has no effective part in the processing of Turkish relative clauses, in contrast to the findings of the current study, which reveal that context does indeed change the preferred attachment site in a neutral context, making the context highly effective.

The Paired Samples T-Test was conducted to compare the reaction time between sets 1a and 1b, sets 2a and 2b, as well as sets 1b and 2b. The results of the test indicated a statistically significant decrease in reaction time. In other words, it took longer for the participants to opt for an option towards NP1 or NP2 when there was no context and when there were two ambiguous NPs present (sets 1a and 2a). Nevertheless, the manipulation of situational context or plausibility factor in set 1b and linguistic context in set 2b served as a facilitator in the participants' decision-making process towards a particular option, and this option predominantly appeared to be NP2 preference since both contexts induced the NP2 attachment. The reaction time analysis of set 1b involving situational context and 2b involving linguistic context also revealed statistically significant findings, indicating that compared to set 1b, which manipulates situational context, set 2b, which includes linguistic context, resulted in a greater reduction in reaction time. However, an intriguing finding emerges from the high average reaction times across all sets (1a: 9.507 seconds, 1b: 6.457 seconds, 2a: 10.605 seconds, 2b: 5.758 seconds), which serve as an indication of the cognitive load that 64 items, 16 of which are ambiguous and require extra mental effort, left behind on the participants. This could also be attributed to the unusual situations that were formed to create ambiguity (e.g., Çiçekçi ekmek satan kazazedenin akrabasını tanıdı.) The participants may have encountered difficulty in processing and comprehending these atypical sentences, resulting in increased reaction times.

The fact that the items and the questions did not appear on the same screen as a whole may have also prompted participants to recall the item and process the words contained within it a bit longer, given that there were 64 items and 64 questions that followed the items. This situation could have been addressed by displaying the item and the question simultaneously on the same screen; however, this could have added the reading time of the item in addition to the reaction time. Therefore, it was intentionally not selected. If the words in each item were displayed sequentially on the screen as the participant clicked a button to reveal the next word, NP2 would be the final attachment site that the participant would see and remember before encountering the question. This could potentially result in an increased inclination towards NP2 due to the rapid fading of information in human memory, with the last piece of information being better recalled. Overall, the online task proved effective by exhibiting the expected longer reaction times in the absence of context and shorter reaction times when context types were introduced. While both types of contexts were observed to have a statistically significant effect on attachment preferences, the linguistic context was found to be more effective. It significantly reduced the reaction time by almost half, and the preference for NP2 was relatively higher in percentage both in online task and offline task compared to the situational effect. The utilisation of a text in a linguistic context, as opposed to solely relying on a biased NP in a situational context, may have had a greater impact on human memory. This could explain why the linguistic context effect was shown to be highly effective.

CHAPTER 5:
CONCLUSION

The offline and online findings reveal that context type effects are effective in both attachment site preferences and processing of ambiguity resolution of relative clauses in Turkish. The effectiveness was demonstrated through the analysis of attachment site preference data, which revealed a shift from the majority preference for NP1 observed in neutral contexts to a majority preference for NP2 when situational and linguistic contexts were introduced. In addition to the observed effect of context type on attachment site preference accuracy, the analysis of reaction time revealed that both contexts facilitate the decision-making process by reducing the time taken to respond to the questions regarding which NP to attach to the relative clause. The linguistic context effect was found to be more effective in both reducing the reaction time and choosing NP2 as the attachment site, compared to the situational context. In accordance with these outcomes, this chapter reviews the research questions, provides answers, and offers suggestions for further studies.

5. 1. CONCLUSIONS REGARDING RESEARCH QUESTIONS

1. What could be the relative clause processing model in Turkish in cases of ambiguity resolution?

The offline and online findings indicate that Turkish speakers showed a general preference for NP1 as the low attachment site for the ambiguous relative clause. This low attachment preference in Turkish was observed in the absence of any specific context. Given that Turkish has a word order that permits adjuncts between the predicate's head and its arguments, and the Predicate Proximity effect is enforced by the increasing distance between the predicate's head and its arguments (Gibson et al., 1996), this low attachment finding in neutral context does not demonstrate a strong Predicate Proximity effect. Furthermore, the Construal Hypothesis and Principle of Avoid Ambiguity are at odds with the findings. They suggest that in Turkish when a relative clause is positioned between two noun phrases [NP1 RC NP2], it can only be attached to the higher noun

phrase; therefore, the reason why low attachment is preferred in Turkish is solely due to the presence of an unambiguous relative clause that favours high attachment. There exists an alternative way of disambiguating relative clauses, which involves placing an adjective before NP2 (RC - NP1 - Adjective - NP2), leaving low attachment as the only option. The Principle of Avoid Ambiguity and the Construal Hypothesis appear to be eliminated as theories for Turkish's low attachment preference due to the existence of two distinct, unambiguous relative clause structures that favour two distinct attachment sites. Consequently, the low attachment preference in Turkish can be attributed to the Principle of Recency (Gibson et al., 1996), which suggests that structures for incoming lexical items are preferentially attached to more recently built structures. In this case, the NP1, which is closest to the relative clause, is the structure built most recently and therefore receives attachment.

2. How does the preference for relative clause attachment site in Turkish alter in the presence of context compared to the preferred attachment site in a neutral context and what is the attachment site that is preferable in situational context and linguistic context?

The preferred attachment site in neutral context was found to be NP1, thus, low attachment site. However, the data collected from both online and offline tasks showed that the preferred attachment site NP1 shifted to NP2 when either context type was introduced. Both types of contexts, linguistic context and situational context, were identified as the decisive factors in shifting the attachment site from NP1 to NP2, as the contexts were intentionally designed to favour NP2. Therefore, the attachment site NP2 was preferred in the presence of situational context, as well as the linguistic context.

3. Among linguistic context and situational context (plausibility), which context effect is more effective in the ambiguity resolution of Turkish relative clauses?

The difference between context types and their respective neutral contexts were found statistically significant. Thus, it was determined that the ambiguity resolution of Turkish

relative clauses is influenced by the context. Both linguistic context and situational context were found to prove effective. Based on the findings, it can be inferred that the linguistic context had a much greater effect on reducing reaction time compared to the situational context. More specifically, when the neutral contexts were similar in reaction time, the linguistic context effect decreased reaction time by nearly half, whereas the situational context effect reduced it by one-third. Regarding attachment site preference analysis, the analysis of online data revealed that NP2-biased situational context resulted in a 54.69% NP2 preference, while NP2-biased linguistic context resulted in a 62.50% NP2 preference. The analysis of offline data showed that the NP2-biased situational context resulted in a 59.375% NP2 preference, while the NP2-biased linguistic context resulted in a 93.50% NP2 preference. Therefore, it can be deduced that the linguistic context effect exhibited greater effects than the situational context (plausibility) effect in both online and offline results.

5. 2. LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FURTHER STUDIES

The primary limitation was the lack of prior research studies examining the impact of situational context (plausibility), linguistic context, or other sorts of contexts on the disambiguation of relative clauses, not only in Turkish but also across different languages. This gap in the literature made it difficult to draw comparisons with the earlier findings on the impact of these factors on ambiguity resolution. Therefore, further investigation is necessary to address this research gap and provide a more comprehensive understanding of the topic.

While the present research made certain assumptions and conclusions on the ambiguity resolution of Turkish relative clauses, these could have been further validated and supported by incorporating an additional online data collection tool such as an eye-tracking study, or by improving the self-paced reading procedure to measure the reading time for each word, particularly in the critical region of each sentence. Further research on eye-tracking or reading time analysis could yield intriguing findings. In addition, the

number of participants could have been increased in order to increase statistical validity even further.

Another aspect that should be considered regarding the methodology employed in the present study could have been the implementation of the self-paced reading test with a 5-minute break to mitigate the cognitive load imposed on the participants by the experiment, as well as to minimise any potential influence of boredom on their responses. It is worth noting that some participants reported a significant strain on their memory after completing the online task. Thus, a short-term memory test could have been applied beforehand for each participant.

The current study aimed to see if the attachment site preferences of Turkish native speakers change in the presence of situational context and linguistic context. However, future research on the L2 learners of Turkish could yield valuable insights into the relative clause ambiguity resolution process. Furthermore, the present study exclusively employed subject relative clause participle *-An*. The incorporation of object relative clauses and any potential distinctions between subject relative clauses and object relative clauses in the presence of context could result in worthwhile results. Furthermore, by conducting a study involving three NPs, it can be determined whether the observed effects of Recency and Predicate Proximity, as compared to the middle attachment observed in Gibson et al. (1996), are applicable to Turkish, which is associated with non-monotonous processing, or not, which is associated with monotonous processing.

REFERENCES

Akal, T. (2021). Recency preference in ambiguous relative clause attachment in Turkish. *Journal of Language and Linguistic Studies,17*(Special Issue 1), 139-159.

Altmann, G., & Steedman, M. (1988). Interaction with context during human sentence processing. *Cognition, 30* (3), 191–238.

Aydın, Ö. (2007). The comprehension of Turkish relative clauses in second language acquisition and agrammatism. *Applied Psycholinguistics, 28*(2), 295-315. doi:10.1017/S0142716407070154

Aydın, Ö., & Zagvozdkina, V. (2019). İlgi Tümceciklerinin işlemlemesinde özne-nesne bakışımsızlığı, Yay. İşeri, K., Çapan Tekin, S., Aydın Öztürk, E. Sözmez Öz, E, Schneider, Z. *Dilbilimde Güncel Tartışmalar 2019* (pp. 47-57). Ankara: Dilbilim Derneği Yayınları.

Baltazar D., & Kister, L. (1995). *Corrélation entre détermination et sélection d'unanaphorisé dans une structure N de N.* Paper presented at the Séminaire "Anaphore etRéférence". Nancy (CRIN): 20-22 September

Başer, Z. (2018). Syntactic Priming of Relative Clause Attachment in Monolingual Turkish Speakers and Turkish Learners of English. Unpublished PhD dissertation, Middle East Technical University.

Betancort, M., Carreiras, M., & Sturt, P. (2009). The processing of subject and object relative clauses in Spanish: An eye-tracking study. *The Quarterly Journal of Experimental Psychology, 62*(10), 1915–1929.

Boran, B. (2018). *The role of context on processing of Turkish subject and object relative clauses* (29) [Master's thesis, Hacettepe University]. İngiliz Dilbilimi Bölümü Tez Koleksiyonu.

Brysbaert, M., & Mitchell, D.C. (1996). Modifier attachment in sentence processing: Evidence from Dutch. *The Quarterly Journal of Experimental Psychology, 49*(3), 664–695.

Bulut, T. (2012). Processing asymmetry in Turkish subject and object relative clauses. Unpublished master‘s thesis, Hacettepe University.

Bulut, T., Cheng, S. K., Xu, K. Y., Hung, D. L., & Wu, D. H. (2018). Is there a processing preference for object relative clauses in Chinese? Evidence from ERPs. *Frontiers in Psychology*, 9:995.

Bulut, T., Uysal, H., & Wu, D. H. (2016). Processing asymmetry between subject and object relative clauses in English as a second language. *Dilbilim Dergisi, 1*(29), 45-68.

Bulut, T., Yarar, E., & Wu, D.H. (2020). Comprehension of Turkish Relative Clauses: Evidence from Eye-tracking and Corpus Analysis. *Dil Konuşma Ve Yutma Araştırmaları Dergisi, 2*(3), 211-246.

Carreiras, M., & Clifton, C. (1993). Relative clause interpretation preferences in Spanish and English. *Language and Speech, 36*(4), 353–372.

Carreiras, M., & Clifton, C. (1999). Another word on parsing relative clauses: Eye- tracking evidence from Spanish and English. *Memory and Cognition, 27*, 826–833.

Carreiras, M., Duñabeitia, J. A., Vergara, M., De La Cruz-Pavía, I., & Laka, I. (2010). Subject relative clauses are not universally easier to process: Evidence from Basque. *Cognition, 115*(1), 79-92.

Chen, B.G., Ning, A.H., Bi, H.Y., & Dunlap, S. (2008). Chinese subject-relative clauses are more difficult to process than the object-relative clauses. *Acta Psychologica, 129,* 61-65.

Clahsen, H., & Felser, C. (2006). Grammatical processing in language learners. *Applied Psycholinguistics, 27*(1), 3–42.

Clifton, C., Traxler, M. J., Mohamed, M. T., Williams, R. S., Morris, R. K., & Rayner, K. (2003). The use of thematic role information in parsing: *Syntactic processing autonomy revisited. Journal of Memory and Language, 49*, 317–334.

Crain, S. and Steedman, M. (1985). On not being led up the garden path: The use of context by the psychological parser. In D. R. Dowty, L. Karttunen and A.M. Zwicky (Eds), *Natural Language Parsing: Psychological, Computational and Theoretical Perspectives,* 320-358. Cambridge: Cambridge University Press.

Cuetos, F., & Mitchell, D. C. (1988). Cross-linguistic differences in parsing: Restrictions on the use of the late closure strategy in Spanish. *Cognition, 30*(1), 73-105.

Cuetos, F., Mitchell, D.C., & Corley, M.M.B. (1996). Parsing in different languages. In M. Carreiras, J.E. Gar- cia–Albea, and N. Sebastian–Galles (Eds*.), Language processing in Spanish (pp. 145–187)*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Desmet, T., De Baecke, C., & Brysbaert, M. (2002). The influence of referential discourse context on modifier attachment in Dutch. *Memory & Cognition*, *30*, 150–157.

Dinçtopal-Deniz, N. (2010). Relative clause attachment preferences of Turkish L2 speakers of English: Shallow parsing in the L2? In B. Van Patten and J. Jegerski (Eds.), *Research in Second Language Processing and Parsing*, 27-63. Amsterdam: John Benjamins.

Ehrlich, K., Fernandez, E., Fodor, J.D., Stenshoel, E., & Vinereanu, M. (1999, March). Low attachment of relative clauses: New data from Swedish, Norwegian and Romanian. Poster presented at the 12th Annual CUNY Conference on Human Sentence Processing, New York, USA.

Fernandez, E. M. (1998). Language dependency in parsing: Evidence from monolingual and bilingual processing. *Psychologica Belgica, 38*(3), 197–230.

Fernández, E. M. (2003). *Bilingual sentence processing: Relative clause attachment in English and Spanish*. Amsterdam: J. Benjamins Pub.

Field, J. (2004). *Psycholinguistics: The key concepts*. London: Routledge.

Frazier, L. (1979). On comprehending sentences: Syntactic parsing strategies. PhD Dissertation, Indiana University Linguistics Club, University of Connecticut.

Frazier, L. (1987). Syntactic processing: Evidence from Dutch. *Natural Language & Linguistic Theory, 5*, 519-559.

Frazier, L. (1990). Parsing modifiers: Special purpose routines in the human sentence processing mechanism? In D. A. Balota, G. B. Flores d'Arcais, and K. Rayner (Eds.), *Comprehension process in reading.* Hillsdale, NJ: Erlbaum.

Frazier, L., & Clifton, C. (1996). *Construal*. Cambridge, MA: MIT Press.

Frazier, L., & Fodor, J. D. (1978). The sausage machine: A new two-stage parsing model. *Cognition, 6*, 291-325.

Frenck-Mestre, C., & Pynte, J. (2000). Resolving syntactic ambiguities: Cross-linguistic differences? In M. De Vincenzi and V.Lombardo (Eds.), *Cross–linguistic perspectives on language processing* (pp. 119–148). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Fromkin, V., Rodman, R., & Hyams, N. (2011). An introduction to language. Boston, MA : Wadsworth Publishing.

Gibson, E., & Pearlmutter, N. J. (2000). Distinguishing serial and parallel parsing. *Journal of Psycholinguistic Research, 29*(2), 231–240.

Gibson, E., Pearlmutter, N., Canseco-Gonzales, and Hickock, G. E. (1996). Recency preferences in the human sentence processing mechanism. *Cognition, 59*, 23-59.

Gilboy, E., Sopena, J.M., Clifton, C., Jr., & Frazier, L. (1995). Argument structure and association preferences in Spanish and English complex NPs, *Cognition, 54*, 131-167.

Göksel, A., and Kerslake, C. (2005). *Turkish: A comprehensive grammar*. London and New York: Routledge, 380-398.

Gordon, P. C., Hendrick, R., and Johnson, M. (2001). Memory interference during language processing. *Journal of Experimental Psychology: Learning, Memory and Cognition, 27*, 1411-1423.

Grice, H. P. (1989). Studies in the way of words. Cambridge, MA: Harvard University Press.

Harley, T. A. (2001). *The psychology of language: From data to theory* (2nd ed.). Psychology Press.

Hemforth, B., Konieczny, L., Scheepers, C., & Strube, G. (1998). Syntactical ambiguity resolution in German. In D. Hillert (Ed.), *Syntax and semantics: A crosslinguistic perspective,* 31, 293–312. San Diego, CA: Academic Press.

Henstra, J. (1996, September). Relative clause attachment in English: Eye–tracking versus self–paced reading. Poster presented at AMLaP–96, Turino, Italy.

Hsiao, F., & Gibson, E. (2003). Processing relative clause in Chinese. *Cognition*, 90, 3-27.

Kahraman, B. (2015). Processing Turkish relative clauses in context. In D. Zeyrek, Ç.S. Şimşek, J. Rehbein and U. Atas (Eds.), Turcologica: *Ankara Papers in Turkish and Turkic Linguistics*, (Vol. 103, pp. 98-109). Harrassowitz Verlag.

Kamide, Y., & Mitchell, D. C. (1997). Relative clause attachment: Nondeterminism in Japanese parsing. *Journal of Psycholinguistic Research, 26*(2), 247–254.

King, J., and Kutas, M. (1995). Who did what and when? Using word- and cause-level ERPs to monitor working memory usage in reading. *Journal of Cognitive Neuroscience, 7*, 376-395

Konieczny, L., Hemforth, B. Scheepers, C., & Strube, G. (1997) The role of lexical heads in parsing: Evidence from German. *Language and Cognitive Processes*, 12, 307-348.

Kornfilt, J. (1997). On the syntax and morphology of relative clauses in Turkish. In K. İmer, A. Kocaman and S. Özsoy (Eds.), *Dilbilim Araştırmaları (Linguistic Investigations)* (24-51). Ankara: Kebikeç Yayınları.

Kwon, N., Gordon, P. C., Lee, Y., Kluender, R., & Polinsky, M. (2010). Cognitive and linguistic factors affecting subject/object asymmetry: An eye-tracking study of pre-nominal relative clauses in Korean. *Language, 86*(3), 546-582.

Lee, E.-K., & Watson, D. G. (2012). Sentence processing. *Encyclopedia of Human Behavior*, 387–395.

Lin, C. J. C. & Bever, T. G. (2006). Subject Preference in the Processing of relative Clauses in Chinese. In D. Baumer, D. Montero, and M. Scanlon (Eds.), Proceedings of the 25th West Coast Conference on Formal Linguistics, Somerville, MA: Cascadilla Proceedings Project, 254-260.

Lin, C.-J., and Bever, T.G. (2006). *Chinese is no exception: Universal subject preference of relative clause processing.* Paper presented at the 19th annual CUNY conference on human sentence processing. New York: CUNY Graduate Center.

Lin, Chien-Jer C., and Bever, Thomas G. (2006). A universal account of relative-clauseprocessing in typologically diverse languages. Paper presented at the Joint IACL14 and IsCLL10 Conference, (in the special session on Language Diversity), Taipei: Academia Sinica, May 25–29.

MacDonald (1994), cited in Eysenck, M, W and Keane, M.,T. Cognitive Psychology. A student's Handbook. (fifth edition), Psychology Press, 364.

Mak, W. M., Vonk, W., & Schriefers, H. (2006). Animacy in processing relative clauses: The hikers that rocks crush. *Journal of Memory and Language*, *54*(4), 466–490.

McRae, K., Spivey-Knowlton, M. J., & Tanenhaus, M. K. (1998). Modeling the Influence of Thematic Fit (and Other Constraints) in On-line Sentence Comprehension. *Journal of Memory and Language, 38*, 283–312.

Mitchell D. C., Cuetos F. (1991). The origins of parsing strategies. In C. Smith (Ed.), Current *Issues in Natural Language Processing,* 1-12. Austin: University of Texas, Centre for Cognitive Science.

Mitchell D. C., Cuetos F., Corley M. M. B., & Brysbaert M. (1995). Exposure-based models of human parsing: Evidence for the use of coarse-grained (nonlexical) statistical records. *Journal of Psycholinguistic Research, 24,* 469–488.

Mitchell, D. C., & Brysbaert, M. (1998). Challenges to recent theories of crosslinguistic variation in parsing: Evidence from Dutch. In *Sentence processing: A crosslinguistic perspective* (pp. 313-335). Brill.

Mitchell, D.C., Brysbaert, M., Grondelaers, S., & Swanepoel, P. (2000). Modifier attachment in Dutch: Testing aspects of Construal Theory. In A. Kennedy, R.

Radach, D. Heller, and J. Pynte (Eds.), *Reading as a perceptual process* (pp. 493– 516). Oxford: Elsevier.

Miyamoto, E.T. (1998). *Relative clause processing in Brazilian Portuguese and Japanese.* [Unpublished PhD dissertation]. MIT, Cambridge, MA.

O'Grady, W., Lee, M., & Choo, M. (2003). A subject-object asymmetry in the acquisition of relative clauses in Korean as a second language. *Studies in Second Language Acquisition, 25*(03), 433-448.

Özge, D. Marinis, T. & Zeyrek, D. (2015). Incremental processing in head-final child language: Online comprehension of relative clauses in Turkish-speaking children and adults. *Language, Cognition and Neuroscience, 30*(9), 1230-1243.

Özge, D., Marinis, T. & Zeyrek, D. (2010). Comprehension of subject and object relative clauses in monolingual Turkish children. In S. Ay, Ö. Aydın, İ. Ergenç, S. Gökmen, S. İşsever ve D. Peçenek (Eds.), *Proceedings of the Fourteenth International Conference of Turkish Linguistics (ICTL)* (pp. 341-350). Wiesbaden: Harrasowitz Verlag.

Özge, D., Marinis, T., & Zeyrek, D. (2009). Comprehension of subject and object relative clauses in monolingual Turkish children. In S. Ay, Ö. Aydın, İ. Ergenç, S. Gökmen, S. İşsever, and D. Peçenek (Eds.), *Proceedings of the Fourteenth International Conference of Turkish Linguistics (ICTL)*, Wiesbaden. Harrasowitz Verlag.

Pan, H.-Y., & C. Felser (2011). Referential context effects in L2 ambiguity resolution: Evidence from self- paced reading. *Lingua*, *121*, 221–236.

Pan, H.-Y., Schimke, S., & Felser, C. (2015). Referential context effects in non-native relative clause ambiguity resolution. *International Journal of Bilingualism 19*(3), 298–313.

Papadopoulou, D. (2005). Reading-time studies of second language ambiguity resolution. *Second Language Research, 21*, 98–120.

Papadopoulou, D. (2006). *Cross-linguistic variation in sentence processing: Evidence from RC attachment preferences in Greek*. Dordrecht: Springer.

Pynte J. (1998). "The time course of attachment decisions: evidence from French," *in Sentence Processing: A Crosslinguistic Perspective,* eds Hillert D. (San Diego, CA: Academic Press, 227–245.

Quinn, D., Abdelghany, H., & Fodor, J. D. (2000). *More evidence of implicit prosody in reading: French and Arabic relative clauses.* Poster presented at the 13th Annual CUNY Conference on Human Sentence Processing, La Jolla, CA, March 30–April 1.

Ratcliff, J. E. (1987). The plausibility effect: Lexical priming or sentential processing? *Memory & Cognition*.

Sebeok, C. and Osgood, T. (1954). *Psycholinguistics: A Survey of Theory and Research Problems.* Baltimore: Waverly Press.

Sekerina, I. (1997). *The Late Closure Principle in processing of ambiguous Russian sentences.* Paper presented at the Second European Conference on Formal Description of Slavic Languages. University of Potsdam, Germany.

Slobin, D. I. & Zimmer, K. (eds.) (1986). *Studies in Turkish linguistics*. Amsterdam & Philadelphia, PA: John Benjamins.

Song, L. (2010). The Role of Context in Discourse Analysis. *Journal of Language Teaching & Research*. *6*(1), 876-879.

Speer, S. R., & Clifton, C. (1998). Plausibility and argument structure in sentence comprehension. *Memory & Cognition*, *26*(5), 965-978.

Spivey-Knowlton, M. J., Trueswell, J. C., & Tanenhaus, M. K. (1993). Context effects in syntactic ambiguity resolution: Discourse and semantic influences in parsing reduced relative clauses. *Canadian Journal of Experimental Psychology / Revue canadienne de psychologie expérimentale, 47*(2), 276–309.

Traxler, M. J., & Gernsbacher, M. A. (2006). *Handbook of psycholinguistics* (2nd ed.). Amsterdam; Boston: Elsevier/Academic Press.

Traxler, M. J., Morris, R. K., & Seely, R. E. (2002). Processing subject and object relative clauses: Evidence from eye movements. *Journal of Memory and Language* 47, 69-70.

Trueswell, J. C., Tanenhaus, M. K., & Garnsey, S. M. (1994). Semantic influences on parsing: Use of thematic role information in syntactic ambiguity resolution. *Journal of Memory and Language*, *33*, 285–318.

Turan, C. (2018). *An eye-tracking investigation of attachment preferences to relative clauses in Turkish* [PhD Dissertation]. Hacettepe University.

Turan, C. (2020). High Vs Low: Turkish Parser's Attachment Preferences to Relative Clauses. ISPEC International Journal of Social Sciences & Humanities, 4(3), 241–270.

Ueno, M., & Garnsey, S. (2008). An ERP study of the processing of subject and object relative clauses in Japanese. *Language and Cognitive Processes, 23*, 646-688.

Underhill, R. (1972). Turkish Participles. *Linguistic Inquiry, 3(1),* 87-99.

Uzunca, A. (2018). Animacy Effect on Turkish Object Relative Clause Production among Young Adult Native Speakers of Turkish. Unpublished master's Thesis, Hacettepe University.

Wang, H. L., Yue, W., Li, Q., & Li, J. R. (2017). An ERP study of the object preference in processing Chinese relative clauses. *Journal of Electronic Science and Technology, 15*(1), 5-19.

Wijnen, F. (1998). *Dutch relative clause attachment in two- and three-site contexts.* Poster presented at the 11th Annual CUNY Conference. New Brunswick, NJ, USA.

Xu, K., Duann, J. R., Hung, D. L., & Wu, D. H. (2019). Preference for object relative clauses in Chinese sentence comprehension: Evidence from online self-paced reading time. *Frontiers in Psychology*, 10, 2210.

Yarar, E. (2005). Yardımcı eylem içeren özne ortaçlarının belirsizlikten kaçınma ilkesine gore betimlenmesi. In: İ. Ergenç, S. İşsever, S. Gökmen, & Ö. Aydın (Eds.), Dilbilim incelemeleri. (pp. 132-141), Ankara: Doğan Yayıncılık.

Yule, G. (2010). The study of language. United Kingdom: Cambridge University Press.

Zagar, D., Pynte, J., & Rativeau, S. (1997). Evidence for early closure attachment on first- pass reading times in French. *Quarterly Journal of Experimental Psychology Section A, 50*(2), 421–438.

APPENDIX 1:
MATERIALS

Target Items

Set 1a

1-Adam kredi veren arkadaşının bakıcısını dinledi.

Question: Kredi veren kimdir?

a) Arkadaş

b) Bakıcı

2-Hasta tedaviyi uygulayan komşunun kızıyla görüştü.

Question: Tedaviyi uygulayan kimdir?

a) Komşu

b) Kız

3-Stajyer hesap yapan adamın akrabasını tanıdı.

Question: Hesap yapan kimdir?

a) Adam

b) Akraba

4-Sekreter davayı üstlenen gazetecinin oğluyla görüştü.

Question: Davayı üstlenen kimdir?

a) Gazeteci

b) Oğul

5- Müdür tamirle uğraşan emlakçının kalfasını selamladı.

Question: Tamirle uğraşan kimdir?

a) Emlakçı

b) Kalfa

6-Görevli kıyafet diken mankenin menajerine kızdı.

Question: Kıyafet diken kimdir?

a) Manken

b) Menajer

7-Oyuncu terapi yapan dublörün ablasıyla dertleşti.

Question: Terapi yapan kimdir?

a) Dublör

b) Abla

8-Adam servis yapan patronun muhasebecisini tanıdı.

Question: Servis yapan kimdir?

a) Patron

b) Muhasebeci

Set 1b

1-Adam kredi veren arkadaşının bankacısını dinledi.

Question: Kredi veren kimdir?

a) Arkadaş

b) Bankacı

2-Hasta tedaviyi uygulayan komşunun doktoruyla görüştü.

Question: Tedaviyi uygulayan kimdir?

a) Komşu

b) Doktor

3-Stajyer hesap yapan adamın muhasebecisini tanıdı.

Question: Hesap yapan kimdir?

a) Adam

b) Muhasebeci

4-Sekreter davayı üstlenen gazetecinin avukatıyla görüştü.

Question: Davayı üstlenen kimdir?

a) Gazeteci

b) Avukat

5- Müdür tamirle uğraşan emlakçının elektrikçisini selamladı.

Question: Tamirle uğraşan kimdir?

a) Emlakçı

b) Elektrikçi

6-Görevli kıyafeti diken mankenin terzisine kızdı.

Question: Kıyafet diken kimdir?

a) Manken

b) Terzi

7-Oyuncu terapi yapan dublörün psikoloğuyla dertleşti.

Question: Terapi yapan kimdir?

a) Dublör

b) Psikolog

8-Adam servis yapan patronun çaycısını tanıdı.

Question: Servis yapan kimdir?

a) Patron

b) Çaycı

Set 2a

1-Kuaför hasta olan ablasının kızına sarıldı.

Question: Hasta olan kimdir?

a) Abla

b) Kız

2-İhtiyar ameliyatı yapan yeğeninin asistanını selamladı.

Question: Ameliyatı yapan kimdir?

a) Yeğen

b) Asistan

3-Kadın sanıkla görüşen berberin oğluna acıdı.

Question: Sanıkla görüşen kimdir?

a) Berber

b) Oğul

4-Kiracı evi boyayan manavın komşusunu gördü.

Question: Evi boyayan kimdir?

a) Manav

b) Komşu

5-Çiçekçi ekmek satan kazazedenin akrabasını tanıdı.

Question: Ekmek satan kimdir?

a) Kazazede

b) Akraba

6-Savcı konuyu anlatan adamın annesini dinledi.

Question: Konuyu anlatan kimdir?

a) Adam

b) Anne

7-Profesör uykusuz kalan askerin şoförünü selamladı.

Question: Uykusuz kalan kimdir?

a) Asker

b) Şoför

8-Kasiyer dükkânı açan eczacının kalfasını tanıdı.

Question: Dükkânı açan kimdir?

a) Eczacı

b) Kalfa

Set 2b

1-**Context**: Kuaförün ablasının kızı hasta oldu.

Kuaför hasta olan ablasının kızına sarıldı.

Question: Hasta olan kimdir?

a) Abla

b) Kız

2-**Context**: İhtiyarı yeğeninin asistanı ameliyat etti.

İhtiyar ameliyatı yapan yeğeninin asistanını selamladı.

Question: Ameliyatı yapan kimdir?

a) Yeğen

b) Asistan

3-**Context**: Berberin oğlu sanıkla görüştü.

Kadın sanıkla görüşen berberin oğluna acıdı.

Question: Sanıkla görüşen kimdir?

a) Berber

b) Oğul

4-**Context**: Manavın komşusu evi boyadı.

Kiracı evi boyayan manavın komşusunu gördü.

Question: Evi boyayan kimdir?

a) Manav

b) Komşu

5-**Context**: Kazazedenin akrabası ekmek sattı.

Çiçekçi ekmek satan kazazedenin akrabasını tanıdı.

Question: Ekmek satan kimdir?

a) Kazazede

b) Akraba

6-**Context**: Adamın annesi konuyu anlattı.

Savcı konuyu anlatan adamın annesini dinledi.

Question: Konuyu anlatan kimdir?

a) Adam

b) Anne

7-**Context**: Askerin şoförü uykusuz kaldı.

Profesör uykusuz kalan askerin şoförünü selamladı.

Question: Uykusuz kalan kimdir?

a) Asker

b) Şoför

8-**Context**: Eczacının kalfası dükkânı açtı.

Kasiyer dükkânı açan eczacının kalfasını tanıdı.

Question: Dükkânı açan kimdir?

a) Eczacı

b) Kalfa

Filler Items

1-Damat gelini görmek için kuaföre girdi.

Question: Kuaföre giren kimdir?

a) Damat

b) Gelin

2-Doktor hastaya bakmak için servise geldi.

Question: Servise gelen kimdir?

a) Doktor

b) Hasta

3-Eczacı müşteriyle ilgilenmek için aç kaldı.

Question: Aç kalan kimdir?

a) Eczacı

b) Müşteri

4-Görevli vatandaşı sakinleştirmek için su verdi.

Question: Su veren kimdir?

a) Görevli

b) Vatandaş

5-Adam eşiyle konuşmak için telefon açtı.

Question: Telefon açan kimdir?

a) Adam

b) Eş

6-Öğrenci öğretmene vermek için çiçek aldı.

Question: Çiçek alan kimdir?

a) Öğrenci

b) Öğretmen

7-Avukat müvekkili selamlamak için el uzattı.

Question: El uzatan kimdir?

a) Avukat

b) Müvekkil

8-Satıcı müşteriye satmak için bal getirdi.

Question: Bal getiren kimdir?

a) Satıcı

b) Müşteri

9-Muhasebeci hatasından dolayı patrondan azar yedi.

Question: Azar yiyen kimdir?

a) Muhasebeci

b) Patron

10-Bankacı randevusundan dolayı müdürden izin aldı.

Question: İzin alan kimdir?

a) Bankacı

b) Müdür

11-Oyuncu rahatsızlığından dolayı yönetmenden izin istedi.

Question: İzin isteyen kimdir?

a) Oyuncu

b) Yönetmen

12-Bakıcı alerjisinden dolayı eczacıdan ilaç aldı.

Question: İlaç alan kimdir?

a) Bakıcı

b) Eczacı

13-Çocuk sevdiği için veterinerden hayvan sahiplendi.

Question: Hayvan sahiplenen kimdir?

a) Çocuk

b) Veteriner

14-Tercüman çevirisi dolayısıyla diplomattan övgü aldı.

Question: Övgü alan kimdir?

a) Tercüman

b) Diplomat

15-Boyacı kazadan dolayı müşterinin evine gecikti.

Question: Geciken kimdir?

a) Boyacı

b) Müşteri

16-Öğrenci çalışmadığı için öğretmenin sorusunu cevaplayamadı.

Question: Soruyu cevaplayamayan kimdir?

a) Öğrenci

b) Öğretmen

17-Sekreter müdürün kime telefon ettiğini duydu.

Question: Kime telefon edildiğini duyan kimdir?

a) Sekreter

b) Müdür

18-Usta kalfasının ne sipariş ettiğini öğrendi.

Question: Ne sipariş edildiğini öğrenen kimdir?

a) Usta

b) Kalfa

19-Kurye patrona ne kadar çalışacağını sordu.

Question: Ne kadar çalışılacağını soran kimdir?

a) Kurye

b) Patron

20-Aşçı çırağın hangi malzemeyi kullandığını gördü.

Question: Hangi malzemenin kullanıldığını gören kimdir?

a) Aşçı

b) Çırak

21-Hemşire hastanın ne kadar yediğini gördü.

Question: Ne kadar yendiğini gören kimdir?

a) Hemşire

b) Hasta

22-Kadın annesinin ne satın aldığını anladı.

Question: Ne satın alındığını anlayan kimdir?

a) Kadın

b) Anne

23-Öğretmen öğrencinin hangi soruyu soracağını anladı.

Question: Hangi sorunun sorulacağını anlayan kimdir?

a) Öğretmen

b) Öğrenci

24-Bakkal toptancının kime satış yaptığını öğrendi.

Question: Kime satış yapıldığını öğrenen kimdir?

a) Bakkal

b) Toptancı

25-Muhabir vatandaşın olayı nasıl yaşadığını aktardı.

Question: Olayın nasıl yaşandığını aktaran kimdir?

a) Muhabir

b) Vatandaş

26-Müdür görevlinin maaşına zam yaptığını söyledi.

Question: Maaşına zam yapıldığını söyleyen kimdir?

a) Müdür

b) Görevli

27-Yönetmen oyuncunun role uygun olmadığını söyledi.

Question: Role uygun olmadığını söyleyen kimdir?

a) Yönetmen

b) Oyuncu

28-Mühendis teknikerin elektrikle ilgilenmesi gerektiğini söyledi.

Question: Elektrikle ilgilenilmesi gerektiğini söyleyen kimdir?

a) Mühendis

b) Tekniker

29-Manav müşteriye ürünlerin yeni geldiğini söyledi.

Question: Ürünlerin yeni geldiğini söyleyen kimdir?

a) Manav

b) Müşteri

30-Müfettiş müdürün okulla yakından ilgilendiğini gördü.

Question: Okulla yakından ilgilenildiğini gören kimdir?

a) Müfettiş

b) Müdür

31-Cerrah hastaya neden geç geldiğini sordu.

Question: Neden geç gelindiğini soran kimdir?

a) Cerrah

b) Hasta

32-Çevirmen yazarın neden kendisini seçtiğini anladı.

Question: Neden kendisinin seçildiğini anlayan kimdir?

a) Çevirmen

b) Yazar

APPENDIX 2: CONSENT FORM I

Sayın katılımcı,

Bu çalışma, "Türkçe Ortaçların Algılanmasında ve İşlenmesinde Bağlam Türünün Etkileri" adlı, anadili Türkçe olan genç yetişkinlerin Türkçe ortaçları algılaması ve işlemesi ile ilgili bir Yüksek Lisans Tez Çalışmasıdır. Çalışma, Hacettepe Üniversitesi İngiliz Dilbilimi Bölümü Yüksek Lisans programında, Dr. Öğr. Üyesi Taylan Akal danışmanlığında yürütülmektedir. Araştırmadan elde edilen bulgular, bahsi geçen tezde kullanılacaktır. Bu araştırma için Hacettepe Üniversitesi Etik Komisyonundan gerekli izinler alınmıştır.

Bahsi geçen araştırmada sizden çevrimdışı bir ankete katılmanız beklenmektedir. Siz katılımcılara toplamda 64 farklı cümle gösterilecek ve her cümle arkasından bir soru yöneltilerek bu soruyu doğru olduğunu düşündüğünüz şekilde iki şıktan birini işaretleyerek cevaplamanız istenecektir. Uygulanacak bu çalışma için ön görülen toplam bitirme süresi yaklaşık 30 dakikadır.

Bu çalışmanın amacı Türkçe ortaçların algılanması ve işlenmesi olup kişiye özel konuları kesinlikle içermemektedir. Yine de cevaplamak istemeyeceğiniz, rahatsızlık hissedebileceğiniz, ya da özel olduğunu düşündüğünüz konulara ilişkin cümleler olursa bu soruları cevaplamayabilirsiniz. Araştırmaya katılım gönüllülük esasına dayanmaktadır. Çalışmaya katılmama veya katıldıktan sonra herhangi bir anda çalışmayı bırakma hakkına da sahipsiniz. Bu durum size hiçbir sorumluluk getirmeyecektir. Araştırmada vereceğiniz cevaplar, çalışmada yer alan araştırmacılar ve çalışmanın veri kısmında anonim şekilde kullanılmak dışında kimseyle paylaşılmayacaktır. Araştırma sonuçları tez ve bilimsel yayınlar için kullanılacaktır. Araştırmanın tüm süreçlerinde kişisel bilgileriniz özenle korunacaktır. Bu formu okuyup onaylamanız, araştırmaya katılmayı kabul ettiğiniz anlamına gelecektir.

Bu gönüllü katılım formunu onaylamadan önce veya daha sonra çalışmayla ilgili aklınıza gelebilecek olan soruları sorumlu araştırmacı Dr. Taylan Akal veya yardımcı araştırmacı Yasemin Aydın'a sorabilirsiniz. Araştırmacıların iletişim bilgileri formun alt kısmında verilmiştir. Araştırmaya katılmayı tercih ediyorsanız okudum anladım butonunu işaretleyiniz.

Yukarıda yer alan ve araştırmadan önce katılımcıya verilmesi gereken bilgileri okudum ve katılmam istenen çalışmanın kapsamını ve amacını, gönüllü olarak üzerime düşen sorumlulukları anladım. Çalışma hakkında yazılı açıklama yapıldı. Kişisel bilgilerimin özenle korunacağı konusunda yeterli güven verildi. Bu koşullarda söz konusu araştırmaya kendi isteğimle, hiçbir baskı ve telkin olmaksızın katılmayı kabul ediyorum. Verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum.

Sorumlu Araştırmacı:

Adı, Soyadı: Taylan Akal

Yardımcı Araştırmacı:

Adı, Soyadı: Yasemin Aydın

APPENDIX 3: CONSENT FORM II

Sayın katılımcı,

Bu çalışma, "Türkçe Ortaçların Algılanmasında ve İşlenmesinde Bağlam Türünün Etkileri" adlı, anadili Türkçe olan genç yetişkinlerin Türkçe ortaçları algılaması ve işlemesi ile ilgili bir Yüksek Lisans Tez Çalışmasıdır. Çalışma, Hacettepe Üniversitesi İngiliz Dilbilimi Bölümü Yüksek Lisans programında, Dr. Öğr. Üyesi Taylan Akal danışmanlığında yürütülmektedir. Araştırmadan elde edilen bulgular, bahsi geçen tezde kullanılacaktır. Bu araştırma için Hacettepe Üniversitesi Etik Komisyonundan gerekli izinler alınmıştır.

Bahsi geçen araştırmada sizden çevrimiçi olarak bilgisayarda kendi hızında okuma testine katılmanız beklenmektedir. Siz katılımcılara toplamda 64 farklı cümle gösterilecek ve cümledeki sözcüklerin görünme hızlarına kendinizin karar vereceği şekilde tuşa basarak okumanız ve cümleyi okuduktan sonra cümleyle ilgili sorulan soruyu iki şıktan birini seçerek cevaplamanız istenmektedir. Cümle ile ilgili soru cevaplandıktan sonra, diğer cümleye geçilecektir. Çalışmanın amacına ulaşması için sizden beklenen, bütün soruları kimsenin baskısı veya telkini altında olmadan, size en uygun gelen cevapları içtenlikle verecek şekilde cevaplandırmanızdır. Çalışma dikkat dağıtıcı bir şey içermeyen sessiz bir ortamda yapılacaktır.

Bu çalışmanın amacı Türkçe ortaçların algılanması ve işlenmesi olup kişiye özel konuları kesinlikle içermemektedir. Yine de cevaplamak istemeyeceğiniz, rahatsızlık hissedebileceğiniz, ya da özel olduğunu düşündüğünüz konulara ilişkin cümleler olursa bu soruları cevaplamayabilirsiniz. Araştırmaya katılım gönüllülük esasına dayanmaktadır. Araştırmadan istediğiniz zaman çekilebilirsiniz. Bu durum size hiçbir sorumluluk getirmeyecektir. Araştırmada vereceğiniz cevaplar, çalışmada yer alan araştırmacılar ve çalışmanın veri kısmında anonim şekilde kullanılmak dışında kimseyle paylaşılmayacaktır. Araştırma sonuçları tez ve bilimsel yayınlar için kullanılacaktır. Araştırmanın tüm süreçlerinde kişisel bilgileriniz özenle korunacaktır.

Bu Gönüllü Katılım Formuna adınızı ve soyadınızı yazmanıza gerek yoktur.

Bu gönüllü katılım formunu imzalamadan önce veya daha sonra çalışmayla ilgili aklınıza gelebilecek olan soruları sorumlu araştırmacı Dr. Taylan Akal veya yardımcı araştırmacı Yasemin Aydın'a sorabilirsiniz. Araştırmacıların iletişim bilgileri formun alt kısmında verilmiştir. Araştırmaya katılmayı tercih ediyorsanız, lütfen aşağıya imzanızı atınız. İmzaladıktan sonra size bu formun bir kopyası verilecektir. Katkınız için teşekkürler.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman yarıda kesip çıkabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum (Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

Tarih:

Katılımcı:

Adı, soyadı:

Adres:

Tel:

İmza:

Sorumlu Araştırmacı:

Adı, Soyadı: Taylan Akal

Yardımcı Araştırmacı:

Adı, Soyadı: Yasemin Aydın

APPENDIX 4:

ORIGINALITY REPORT

	HACETTEPE ÜNİVERSİTESİ SOSYAL BİLİMLER ENSTİTÜSÜ	Doküman Kodu *Form No.*	FRM-YL-15
		Yayım Tarihi *Date of Pub.*	04.12.2023
	FRM-YL-15 **Yüksek Lisans Tezi Orijinallik Raporu** *Master's Thesis Dissertation Originality Report*	Revizyon No *Rev. No.*	02
		Revizyon Tarihi *Rev.Date*	25.01.2024

HACETTEPE ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İNGİLİZ DİLBİLİMİ ANABİLİM DALI BAŞKANLIĞINA

Tarih: 12/02/2024

Tez Başlığı: Türkçe Ortaç Yantümcelerinde İki Anlamlılığın Ortadan Kaldırılmasında Bağlam Türünün Etkisi
Tez Başlığı (Almanca/Fransızca)*:.....

Yukarıda başlığı verilen tezimin a) Kapak sayfası, b) Giriş, c) Ana bölümler ve d) Sonuç kısımlarından oluşan toplam 128 sayfalık kısmına ilişkin, 07/02/2024 tarihinde şahsım/tez danışmanım tarafından Turnitin adlı intihal tespit programından aşağıda işaretlenmiş filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı % 20 'dır.

Uygulanan filtrelemeler*:

1. ☒ Kabul/Onay ve Bildirim sayfaları hariç
2. ☒ Kaynakça hariç
3. ☐ Alıntılar hariç
4. ☒ Alıntılar dâhil
5. ☒ 5 kelimeden daha az örtüşme içeren metin kısımları hariç

Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Çalışması Orijinallik Raporu Alınması ve Kullanılması Uygulama Esasları'nı inceledim ve bu Uygulama Esasları'nda belirtilen azami benzerlik oranlarına göre tezimin herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumlarda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Gereğini saygılarımla arz ederim.

Yasemin AYDIN

Öğrenci Bilgileri		
	Ad-Soyad	Yasemin AYDIN
	Öğrenci No	N19132959
	Enstitü Anabilim Dalı	İngiliz Dilbilimi
	Programı	İngiliz Dilbilimi Yüksek Lisans

DANIŞMAN ONAYI

UYGUNDUR.
Dr. Öğr. Üyesi Taylan AKAL

* Tez **Almanca** veya **Fransızca** yazılıyor ise bu kısımda tez başlığı **Tez Yazım Dilinde** yazılmalıdır.
**Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Çalışması Orjinallik Raporu Alınması ve Kullanılması Uygulama Esasları İkinci bölüm madde (4)/3'te de belirtildiği üzere: Kaynakça hariç, Alıntılar hariç/dahil, 5 kelimeden daha az örtüşme içeren metin kısımları hariç (Limit match size to 5 words) filtreleme yapılmalıdır.

	HACETTEPE ÜNİVERSİTESİ SOSYAL BİLİMLER ENSTİTÜSÜ	Doküman Kodu *Form No.*	FRM-YL-15
		Yayım Tarihi *Date of Pub.*	04.12.2023
	FRM-YL-15 **Yüksek Lisans Tezi Orijinallik Raporu** *Master's Thesis Dissertation Originality Report*	Revizyon No *Rev. No.*	02
		Revizyon Tarihi *Rev.Date*	25.01.2024

TO HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF ENGLISH LINGUISTICS

Date: 12/02/2024

Thesis Title (In English): Context Type Effects on Attachment Preferences in Disambiguating Turkish Relative Clauses

According to the originality report obtained by myself/my thesis advisor by using the Turnitin plagiarism detection software and by applying the filtering options checked below on 07/02/2024 for the total of 128 pages including the a) Title Page, b) Introduction, c) Main Chapters, and d) Conclusion sections of my thesis entitled above, the similarity index of my thesis is 20 %.

Filtering options applied**:

1. ☒ Approval and Decleration sections excluded
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I hereby declare that I have carefully read Hacettepe University Graduate School of Social Sciences Guidelines for Obtaining and Using Thesis Originality Reports that according to the maximum similarity index values specified in the Guidelines, my thesis does not include any form of plagiarism; that in any future detection of possible infringement of the regulations I accept all legal responsibility; and that all the information I have provided is correct to the best of my knowledge.

Kindly submitted for the necessary actions.

Yasemin AYDIN

Student Information		
	Name-Surname	Yasemin AYDIN
	Student Number	N19132959
	Department	English Linguistics
	Programme	English Linguistics Master of Arts

SUPERVISOR'S APPROVAL

APPROVED
Asst. Prof. Taylan AKAL

**As mentioned in the second part [article (4)/3]of the Thesis Dissertation Originality Report's Codes of Practice of Hacettepe University Graduate School of Social Sciences, filtering should be done as following: excluding refence, quotation excluded/included, Match size up to 5 words excluded.

APPENDIX 5: ETHICS COMMITTEE APPROVAL

T.C.
HACETTEPE ÜNİVERSİTESİ REKTÖRLÜĞÜ
Rektörlük

Sayı : E-35853172-300-00002084840 15.03.2022
Konu : Yasemin AYDIN Hk (Etik Komisyon İzni)

SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜNE

İlgi : 01.03.2022 tarihli ve E-12908312-300-00002066349 sayılı yazınız.

Enstitünüz İngiliz Dilbilimi Anabilim Dalı Yüksek Lisans Programı öğrencilerinden **Yasemin AYDIN**'ın **Dr. Öğr. Üyesi Taylan AKAL** danışmanlığında hazırladığı **"Türkçe Ortaçların Algılanmasında ve İşlenmesinde Bağlam Türünün Etkileri"** başlıklı tez çalışması Üniversitemiz Senatosu Etik Komisyonunun **08 Mart 2022** tarihinde yapmış olduğu toplantıda incelenmiş olup, etik açıdan uygun bulunmuştur.

Bilgilerinizi ve gereğini rica ederim.

Prof. Dr. Vural GÖKMEN
Rektör Yardımcısı

Bu belge güvenli elektronik imza ile imzalanmıştır.

Belge Doğrulama Kodu: 3C894307-E3C2-4370-902B-739BEAF6061F Belge Doğrulama Adresi: https://www.turkiye.gov.tr/hu-ebys

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Kep: hacettepeuniversitesi@hs01.kep.tr

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Memur
Telefon: .