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Superiority effects with wh-adjuncts in Turkish

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Abstract. This paper examines Superiority constraints in Turkish, a *wh*-in-situ language that permits both A- and A'-scrambling. Previous accounts argue that Turkish lacks Superiority constraints when multiple *wh*-phrases occur within the same clause; that is, both *wh*-phrases can freely move to the left periphery, and the lower syntactic *wh*-phrase can take scope over the higher one at LF. Previous accounts have only observed Superiority phenomena in Turkish when both *wh*-phrases originate in separate clauses and the movement is cross-clausal, aligning it with languages like English. We show that this generalization does not fully hold and make two central claims. First, Turkish exhibits Superiority effects even in monoclausal contexts, specifically when a *wh*-adjunct (e.g., *where* or *how often*) is in the construction. Secondly, this Superiority effects can be ameliorated by F-marking any constituent within the sentence. These findings show that Superiority is present in Turkish, contrary to previous literature, and that it is sensitive to argument/adjunct distinction as well as to F-marking.

Keywords. wh-phrases; questions; superiority; Turkish

1. Introduction. The linearization of multiple *wh*-elements at the left periphery is known to be constrained by their hierarchical organization prior to movement (Chomsky 1973; Bošković 2002). Consider, for instance, the Bulgarian paradigm in (1).[1]

(1) Bulgarian (from Bošković 1997:5)

a. Ko$_1$ si koga$_2$ tvrdio da je t_1 istukao t_2?
who are whom claimed that is beaten
'Who did you claim beat whom?'

b. * Koga$_2$ si ko$_1$ tvrdio da je t_1 istukao t_2?
whom are who claimed that is beaten
Intended: 'Whom did you claim who beat?'

While the ko$_1$ > koga$_2$ ordering is grammatical in (1a), the reverse order in (1b) is ungrammatical. This asymmetry is attributed to a constraint that prohibits a lower *wh*-element from crossing over a higher one. In languages where multiple *wh*-phrases move to the left periphery, movements like the one in (1b), in which the lower object *koga* attempts to cross over the syntactically higher subject *ko*, are considered illicit. This constraint is referred to as the *Superiority effect*.

Turkish, a *wh*-in-situ language that permits both A- and A′-scrambling, has been argued to be exempt from Superiority constraints, exhibiting anti-Superiority patterns instead (Özsoy 2009; Göksel & Özsoy 2000). In (2), the otherwise banned movement of a lower object over a syntactically higher subject is allowed: *kim-i* can move to the left periphery over the embedded subject *kim-in*.

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[1] Abbreviations used in this paper: 1 = first person, 2 = second person, 3 = third person, ACC = accusative, C = complementizer, DAT = dative, EVD = evidential, GEN = genitive, LOC = locative, NMLZ = nominalizer, NOM = nominative, POSS = possessive, PST = past, Q = question particle, SG = singular, TOP = topic.

(2) Turkish (from Özsoy 2009:11)

a. Kim-in$_1$ sen t_1 kim-i gör-düğ-ün-ü duy-du-n?
who-GEN you who-ACC see-NMLZ-POSS-ACC hear-PST-2SG
'Who did you hear saw whom?'

b. Kim-i$_1$ sen kim-in t_1 gör-düğ-ün-ü duy-du-n?
who-ACC you who-GEN see-NMLZ-POSS-ACC hear-PST-2SG
'Whom did you hear who saw?'

In this paper, we first present cases in which Turkish clearly does not obey the Superiority condition, in line with previous accounts (Özsoy 2009; Göksel & Özsoy 2000). However, we also identify configurations where Superiority constraints do emerge patterns that have not been acknowledged in the existing literature. More interestingly, we show that these effects can be mitigated when other constituents in the sentence are F-marked.

2. Stage. In this section, we briefly introduce Superiority constraints, their typology, and the existing literature on Turkish in this context.

2.1. SUPERIORITY AND ITS TYPOLOGY. The choice of which *wh*-phrase can move to the left periphery in English is not random (Kuno & Robinson 1972). Examples such as (3) demonstrate that while the *wh*-phrase in subject position can move to the left periphery, the same is not true for a *wh*-phrase in object position.

(3) a. You said Harold climbed the mountain.
b. Who did you say that climbed what?
c. * What did you say that who climbed?

The idea that a lower syntactic constituent cannot cross over a higher one was later formalized as a restriction on the ordering of possible movements, termed *Attract Closest* (Chomsky 1995). (4) schematically illustrates the ban on moving a lower element over a higher one.

(4) a. [[YP]$_i$ [... [XP]$_j$]]
b. [[YP]$_i$ ... [t_i [... [XP]$_j$]]]
c. * [[XP]$_j$ ... [[YP]$_i$ [... t_j]]]

In languages like Bulgarian, all *wh*-phrases must move to the left periphery. In such languages, their linear order reflects their original syntactic hierarchy prior to movement. This order-preserving behavior is accounted for by the 'tucking-in' principle, whereby the second specifier in this case, the second *wh*-phrase is merged below the already moved specifier rather than on top of the existing structure. After the highest *wh*-phrase, *Ko*, moves in (1a), the syntactically lower *wh*-phrase, *Koga*, is 'tucked in' beneath *Ko* (Richards 1997; Pesetsky 2000). (5) schematically illustrates both licit and illicit configurations of multiple *wh*-phrases.

(5) a. [[YP]$_i$ [... [XP]$_j$]]
b. [[YP]$_i$ [[XP]$_j$ ... [t_i [... t_j]]]]
c. * [[XP]$_j$ [[YP]$_i$ ... [t_i [... t_j]]]]

Another type of language is Japanese, in which *wh*-phrases remain in situ and do not necessarily undergo movement, as shown in (6a) (Saito 2004). The information-seeking question reading remains the most plausible interpretationunlike in English, where in-situ *wh*-phrases are typically interpreted as echo questions. Moreover, *wh*-phrases in Japanese may scramble for discourse-related reasons, as illustrated in (6b).

(6) Japanese (from Saito 2004:11)

a. Taroo-ga nani-o katta no?
Taro-NOM what-ACC bought Q

b. Nani-o$_1$ Taroo-ga t_1 katta no?
what-ACC Taro-NOM bought Q
'What did Taro buy?'

In these types of languages, Superiority effects may surface as constraints on possible interpretations (Lasnik & Saito 1994; Saito 2004). Consider the example in (7), whose most salient interpretation is a polar question reading, with both *wh*-phrases embedded. However, two additional marginal readings are also available. One is a pair-list question reading, where a possible answer provides pairings of *who* and *what*. Another is a single-*wh*reading in which the answer corresponds to the higher *wh*-phrase, *who*. The final possibility, where the lower *wh*-phrase, *what*, takes matrix scope, is simply illicit.

(7) Japanese (from Saito 2004:39)

Taro-wa	dare-ga	nani-o	katta	ka	siritagatteru	no?
Taro-TOP	who-NOM	what-ACC	bought	Q	want.to.know	Q

Polar:	Does Taro want to know [for which x, y] x bought y.
? Pair-list:	[For which x, y] Taro wants to know whether x bought y
? Superior-moved:	[For which x] Taro wants to know [for which y] x bought y
* Lower-moved:	[For which y] Taro wants to know [for which x] x bought y

2.2. LACK OF SUPERIORITY CONSTRAINTS. It has been shown that Superiority constraints do not always surface as expected. For example, Pesetsky (2000) shows that when *wh*-phrases are D-linked, they are exempt from Superiority constraints, as illustrated in (8). The general ban on moving lower *wh*-phrases, as in (3c), does not apply in cases involving the D-linked *wh*-phrase *which novel*.

(8) a. Which student$_i$ did you ask t_i to read which novel?
b. Which novel$_i$ did you ask which student to read t_i?

Similarly, in scrambling languages, a local scrambling of *nanio* over *darega* permits Superiority-violating linearizations, as in (9). Even though *nanio* is syntactically lower than *darega*, it can locally scramble for discourse-related reasons and subsequently move to the matrix scope.[2]

[2] Initial scrambling is available because other A'-movement operations, such as topicalization, do not exhibit the Superiority constraint, as seen in '*Baseball*$_i$, *JOHN*$_F$ likes t_i' (Takahashi 1993).

(9) Japanese (from Takahashi 1993:9)
Nani-o$_i$ John-ga [t_i dare-ga t_i tabeta to] itta no?
what-ACC John-NOM who-NOM ate C said Q
lit. 'What did John say that who ate?'

2.3. TURKISH AND SUPERIORITY CONSTRAINTS. In this paper, we focus on Turkish, a language well-known for permitting the scrambling of most syntactic elements. In this context, *scrambling* refers to a relatively flexible word order that reflects discourse-related movements, such as focus shift. As shown in (10), nearly all permutations of (10a) are acceptable.

(10) a. Füsun küpe-yi bul-du.
Füsun earring-ACC find-PST
'Füsun found the earring.'
b. Küpeyi$_1$ Füsun t_1 buldu.
c. Füsun t_1 buldu küpeyi$_1$.
d. t_1 Küpeyi buldu Füsun$_1$.
e. t_1 t_2 buldu Füsun$_1$ küpeyi$_2$.
f. t_1 t_2 buldu küpeyi$_2$ Füsun$_1$.

Both A- and A'-scrambling are attested in Turkish (Öztürk 2006; Kural 1993). A common diagnostic for distinguishing between the two is reconstruction: movement to an A'-position permits interpretation in the original position, reflecting pre-movement hierarchical structure (Saito 2004; Mahajan 1990). Consider (11), where the quantifier *herkes* 'everybody' c-commands *pro*, allowing a bound variable reading, i.e. '*everybody called their own secretary.*' When the phrase containing *pro* is scrambled, this interpretation is lost, suggesting the scrambling targets an A-position.

(11) Herkes$_i$ [*pro*$_i$ sekreter-in-i] ara-mış.
everyone secretary-POSS-ACC call-PST.EVD.3SG
'Everyone$_i$ called her$_i$ secretary.'

(12) * [*pro*$_i$ sekreter-in-i]$_j$ herkes$_i$ t_j ara-mış.

Reconstruction patterns change when another constituent occupies the immediately preverbal position, identified as the focus position in Turkish (Erguvanlı 1984; Göksel & Özsoy 2000). In (13), this position is filled by *bugün* today, and the scrambling of the phrase containing *pro* now permits the bound variable reading. This suggests that, in this configuration, the phrase has moved to an A'-position.

(13) Herkes$_i$ [*pro*$_i$ sekreter-in-i] bugün ara-mış.
everyone secretary-POSS-ACC today call-PST.EVD.3SG
'Everyone$_i$ called her$_i$ secretary today.'

(14) [*pro*$_i$ sekreter-in-i]$_j$ herkes$_i$ t_j bugün aramış.

In Turkish, *wh*-elements can also undergo scrambling, as illustrated in (15). While both sentences yield roughly the same interpretation and can be answered similarly, scrambling the *wh*-phrase to the immediately preverbal position serves to focus the subject.

(15) a. Tarık ne-yi al-dı?
Tarık.NOM what-ACC buy-PST

b. Ne-yi$_1$ Tarık t_1 al-dı?
what-ACC Tarık.NOM buy-PST
'What did Tarık buy?'

More importantly, it has been noted that Turkish does not exhibit Superiority constraints when elements move into the left periphery. Both syntactically lower, *kimi*, and higher, *kimin*, can surface as the most-left element as in (2) repeated below. As in the Japanese examples, the absence of Superiority constraints in these cases may again result from early local scrambling, followed by movement to the left periphery.

(2) Turkish (from Özsoy 2009:11)

a. Kim-in$_1$ sen t_1 kim-i gör-düğ-ün-ü duy-du-n?
who-GEN you who-ACC see-NMLZ-POSS-ACC hear-PST-2SG
'Who did you hear saw whom?'

b. Kim-i$_1$ sen kim-in t_1 gör-düğ-ün-ü duy-du-n?
who-ACC you who-GEN see-NMLZ-POSS-ACC hear-PST-2SG
'Whom did you hear who saw?'

Moreover, when *wh*-phrases remain in situ in Turkish, all readings are available unlike in Japanese. In addition to pair-list answers, responses that address only the lower or only the higher *wh*-phrase are also licit. For example, (16b) is an acceptable response to (16a), even though it implies that the syntactically lower object takes wider scope at LF, an outcome unexpected under previous accounts of Superiority (Lasnik & Saito 1994; Saito 2004).

(16) a. Sen kim-in kim-i gör-düğ-ün-ü duy-du-n
you who-GEN who-ACC see-NMLZ-POSS-ACC hear-PST-2SG
Declarative: You heard that [for which x, y] x saw y.
Pair-list: [For which x, y] You heard that x saw y?
? Superior-moved: [For which x] You heard that [for which y] x saw y?
? Lower-moved: [For which y] You heard that [for which x] x saw y?

b. Ben kim-in Mehmet-i gör-düğ-ün-ü duy-du-m.
I who-GEN M-ACC see-NMLZ-POSS-ACC hear-PST-1SG
'I heard who saw Mehmet.'

On the other hand, Özsoy (2009) shows that Turkish displays Superiority-like constraints in long-distance scrambling, as illustrated in (17). Unlike the previous example (16), the *wh*-phrases in (17) originate from different clauses. Although the LF scope of lower syntactic objects in (16) suggests that Turkish may lack Superiority altogether, the ungrammaticality of sentences like (17) indicates that Superiority constraints persist. Crucially, these effects arise only in cross-clausal configurations. Moreover, when *wh*-phrases remain in situ in (17), answers targeting only the lower syntactic element are not grammatical.

(17) Turkish (from Özsoy 2009:16)

a. * Kim-i Aylin kim-e [Zeynep-in t_i gör-düğ-ün]-ü sor-du?
who-ACC A.NOM who-DAT Z-GEN see-NMLZ-POSS-ACC ask-PST
'Who did Aylin ask to whom Zeynep saw?'

b. Kim-e Aylin t_i [Zeynep-in kim-i gör-düğ-ün]-ü sor-du?
who-DAT A.NOM Z-GEN who-ACC see-NMLZ-POSS-ACC ask-PST
'Whom did Aylin ask who Zeynep saw?'

These data points from Turkish suggest two key observations. First, when multiple *wh*-phrases occur within the same clause, Superiority constraints do not occur. The absence of which is not limited to surface linearization, as all LF readings are also permittedunlike in Japanese. Second, in cross-clausal configurations, Turkish behaves like English: neither movement to the left periphery nor wide LF scope for lower *wh*-elements is allowed.

3. Novel Data: Local Superiority Constraints. In this section, we first present the natural predictions following the Turkish data and then present novel data showing that this binary pattern and its predictions break down when adjuncts are introduced. With adjunct *wh*-phrases such as *where*, Turkish exhibits Superiority constraints even within a monoclausal environment.

3.1. CLAUSE-BOUNDARY BASED PREDICTIONS. Based on the previous examples, when two Turkish *wh*-phrases originate within the same clause, their linearization and LF scope are not constrained by Superiority, whereas cross-clausal configurations exhibit standard Superiority constraints (Özsoy 2009). The grammaticality of Superiority-violating constructions is attributed to local scrambling prior to long-distance movement. Once *wh*-phrases are reordered according to the discourse configuration of the intended message, the higher *wh*-phraserelative to the scrambled structure, not the base structuremoves first to Spec-CP, followed by the lower one through tucking-in. This formulation yields two predictions:

i. No Superiority constraint is expected for *wh*-elements originating from the same clause.

ii. Ungrammaticality with Superiority should arise only when scrambling is unavailable.

While we do not dispute the existing descriptive facts, we argue that the claim that Turkish does not exhibit Superiority constraints with local *wh*-phrases is empirically inadequate. In this paper, we present novel data with *wh*-adjuncts that tests the first prediction.

3.2. *wh*-ADJUNCTS. The examples discussed thus far have involved only argument *wh*-phrases such as *who* and *whom*. Prior research on Japanese and Korean shows that adjunct *wh*-phrases, such as *why*, behave differently from argument *wh*-phrases with respect to Superiority constraints (Watanabe 1992; Saito 1994; Jeong 2008).

For example, recall that in Japanese, similar to Turkish, *wh*-phrases are not required to obey the Superiority constraint, as shown in (6). *wh*-phrases can surface either following their hierarchical order or in scrambled configurations. However, questions involving *why* present a different pattern. Although *why* is assumed to occupy a higher syntactic position at base generation (for detailed discussion see Rizzi 1997), syntactically lower *wh*-phrases must move to the left periphery; otherwise, the sentence becomes ungrammatical, as illustrated in (18).

(18) Japanese and Korean (from Jeong 2008:1)

a. * Naze nani-o anata-wa katta no? (Japanese)
why what-ACC you-TOP bought Q
Why did you buy what?

b. * Wae mwues-ul ne-nun sa-ess-ni? (Korean)
why what-ACC you-TOP buy-PST-Q
Why did you buy what?

The Turkish data we present shares the core observation that *wh*-phrases targeting non-arguments behave differently. However, the Turkish examples differ slightly from the Japanese pattern. In Japanese, *wh*-adjuncts such as *why* are syntactically higher but cannot surface in the leftmost position. In contrast, the Turkish *wh*-adjuncts we focus on are argued to be syntactically lower than both *why*-type adjuncts and argumental *wh*-phrases like *who* (Rizzi 1997). The problem with Turkish *wh*-adjuncts is that lower adjuncts are unable to move to the left periphery, exhibiting standard Superiority constraintsunlike argument *wh*-phrases, which do not display this constraint.

Let us first introduce a context-neutral version of the relevant questions involving a *wh*-adjunct, as illustrated in (19).[3] Our main data points will consist of three ingredients: a *wh*-phrase that targets argument as in *kim* (*who*), a *wh*-adjunct such as *nereye* (*where*) or *ne zaman* (*when*), and an adjunct as in *dün* (*yesterday*).

(19) Kim dün nereye git-ti?
who yesterday where go-PST
'Who went where yesterday?'

As with previous scrambling data, various scrambling possibilities are licit in this example. For instance, the past-oriented adverbial can scramble to the sentence-initial position, as shown in (20a). It is also possible to scramble the *wh*-adjunct above time-adverbias as in (20b). Moreover, both adjuncts can also move to the left periphery together as in (20c), following their base-generation order.

(20) a. Dün$_1$ kim t_1 nereye git-ti?
yesterday who where go-PST
'Who went where yesterday?'

b. Kim nereye$_1$ dün t_1 git-ti?
who where yesterday go-PST
'Who went where yesterday?'

c. Dün$_1$ nereye$_2$ kim t_1 t_2 nereye git-ti?
yesterday where who go-PST
'Who went where yesterday?'

However, unlike previous Turkish examples, the order of two *wh*-phrases appears to be constrained by their pre-movement hierarchical relations when both of them are sentence-initial.

[3] Following Çakır (2017), we assume that subjects are move to specifier of TP, unlike Öztürk (2006). In the example provided in (19), we take *who* to be moved from the VoiceP to TP whereas past-oriented temporal adverb is at least located in AspP a là Cinque (1999), which is lower than TP. However, the position of the subject in Turkish is a highly debated issue, and our discussion of Superiority does not rely on any specific assumption about subject position.

Specifically, the *wh*-adjunct *nereye* cannot cross over the argument *wh*-phrase at the left periphery, as shown in (21), even though local scrambling between these two *wh*-phrases was grammatical, as illustrated in (20c). Moreover, moving both adjuncts to the left periphery does not ameliorate the ungrammaticality as in (22), despite the grammaticality of (20c).

(21) * Nereye$_1$ kim dün t_1 git-ti?
where who yesterday go-PST
Intended: 'Who went where yesterday?'

(22) * Nereye$_1$ dün$_2$ kim t_2 t_1 git-ti?
where yesterday who go-PST
Intended: 'Who went where yesterday?'

Furthermore, embedded contexts reveal that *wh*-adjuncts cannot take scope over argument *wh*-phrases. Recall that in embedded clauses, Turkish argument *wh*-phrases could yield global question readings, similar to Japanese. In Japanese, the lower *wh*-phrase could not scope over the higher one, and answers specifying only the lower *wh*-phrase were unacceptable, as shown in (7). However, in Turkish, it was grammatical to respond with an answer specifying only the lower *wh*-phrase, as illustrated in (16a).

This pattern differs when *wh*-adjuncts are involved. The syntactically lower *wh*-adjunct is blocked from taking wide scope, and a response that only answers the adjunct question, as in (23), is ungrammatical.

(23) a. Sen [$_{CP}$ kim-in nereye git-tiğ-in-i] sor-du-n.
you who-GEN where go-NMLZ-POSS-ACC ask-PST-2SG.
'You asked who went where.'
Declarative: You asked that [for which x, y] x went to y.
Pair-list: [For which x, y] You asked that x went to y?
? Superior-moved: [For which x] You asked that [for which y] x went to y?
* Lower-moved: [For which y] You asked that [for which x] x went to y?

b. * Ben kim-in ev-e git-tiğ-in-i sor-du-m.
I who-GEN home-DAT go-NMLZ-POSS-ACC ask-PST-1SG
Intended: 'I asked who went home,' as an answer to (23a).

Similar patterns are not restricted to the specific *wh*-phrases or adjuncts used in our examples. Manner-based *wh*-phrases like *how* (24), time-based ones like *when* (25), and frequency-based ones like *how often* (26) must also obey Superiority constraints when moved to the left periphery alongside another *wh*-phrase. What is interesting to note here is that the sentences are grammatical when both *wh*-phrases are not sentence initial.

(24) a. Okul-da kim nasıl yüz-müş?
school-LOC who how swim-PST.EVD
'Who swam how at school?'

b. * Nasıl kim okul-da yüz-müş?
how who school-LOC swim-PST.EVD.
'Who swam how at school?'

(25) a. Sahil-de kim ne zaman yüz-müş?
beach-LOC who when swim-PST.EVD.
'Who swam when at the beach?'

b. ? Ne zaman kim sahil-de yüz-müş?
when who beach-LOC swim-PST.EVD.
'Who swam when at the beach?'

(26) a. Tatil-e kim ne sıklıkla git-miş?
vacation-DAT who how.often go-PST.EVD.
'Who went how often on vacation?'

b. ? Ne sıklıkla kim tatil-e git-miş?
how.often who vacation-DAT go-PST.EVD.
'Who went how often on vacation?'

In this section, we have shown that the previous clause-based dichotomy is empirically inadequate: Turkish also exhibits Superiority constraints within the same clause. Table 1 shows the licit and illicit orders. These constraints are not limited to surface linearization but are also reflected in possible LF readings. Crucially, this behavior is restricted to *wh*-phrases targeting adjuncts, and does not extend to argument *wh*-phrases.

Order			Judgment
wh	Adjunct	A*wh*	✓
wh	A*wh*	Adjunct	✓
Adjunct	*wh*	A*wh*	✓
Adjunct	A*wh*	*wh*	✓
A*wh*	*wh*	Adjunct	✗
A*wh*	Adjunct	*wh*	✗

Table 1. Possible orderings of a *wh*-phrase, a *wh*-adjunct (A*wh*), and an adjunct.

In the remainder of this section, we consider further questions and observations, and discuss possible explanations for these patterns that do not appeal to Superiority constraints, as well as why such explanations are ultimately inadequate.

3.3. IMMOBILITY OF ADJUNCTS. One possible explanation for the Superiority constraints observed with *wh*-adjuncts, as in (22) (repeated below), is that adjuncts in Turkish are subject to stricter movement constraints than arguments more generally. On this view, the ungrammaticality observed in earlier examples would not reflect a violation of Superiority per se, but rather a broader restriction against scrambling adverbial elements to the left periphery in Turkish.

However, this explanation does not hold up under closer scrutiny. As shown in (27), syntactically lower adjuncts that are not *wh*-phrases can freely scramble to the left edge of the clause.

(22) * Nereye$_1$ dün$_2$ kim t_2 t_1 git-ti?
where yesterday who go-PST
Intended: 'Who went where yesterday?'

(27) a. Sinema-ya$_1$ dün$_2$ kim t_2 t_1 git-ti?
cinema-DAT yesterday who go-PST.3SG
'Who went to the cinema yesterday?'

b. Sinema-ya$_1$ kim dün t_1 git-ti?
cinema-DAT who yesterday go-PST.3SG
'Who went to the cinema yesterday?'

Moreover, we have already presented that non *wh*-adjuncts can occupy sentence-initial positions without violating any apparent constraints in the previous section (see 24, 25, and 26). This suggests that the problem is not with adjunct movement per se, but specific to the movement of the *wh*-phrases.

3.4. RELATIVE ADJUNCT HIERARCHY. Another possible hypothesis for the Superiority constraints discussed above is that the ungrammaticality results from the relative base syntactic height of adjuncts, such that only the highest adjunct can surface in the sentence-initial position. Under this explanation, sentences like (22) are ungrammatical because the *wh*-adjunct cannot move across another adjunct that is base-generated in a higher node.

This formulation predicts that if the *wh*-adjunct is base-generated higher than the other adjunct in the sentence, movement to the left periphery should be unproblematic. We already tested this hypothesis in (25b) (repeated below). If one assumes that the temporal adverbial is higher than the locative one, and that movement of the locative over the temporal causes ungrammaticality, the unacceptability of the sentence in (25b) becomes unexpected. Given that the temporal adverbial is higher and it does not move across another adjunct when it is moved to the sentence-initial position, the ungrammaticality should not arise in this configuration contra to (25b).

(25b) ? Ne zaman kim sahil-de yüz-müş?
when who beach-LOC swim-PST.EVD
'Who swam when at the beach?

In this section, we examined the predictions of clause-bound Superiority effects and showed that Turkish exhibits Superiority effects within the same clause, contrary to previous assumptions (Özsoy 2009). Crucially, these effects arise only with *wh*-adjuncts and cannot be reduced to other constraints such as adjunct immobility or relative adjunct hierarchy.

4. Escaping Superiority. Thus far, we have established that a Superiority constraint in Turkish only holds between at least one of the *wh*-phrases is a *wh*-adjunct. In this section, we show that this specific Superiority constraint can be ameliorated by F-marking, which is also known to alleviate binding constraints.

Recall that F-marking another constituent enabled reconstruction, suggesting that the movement of the phrase containing *pro* in (13) and (14) involved A′-movement.

(13) Herkes$_i$ [*pro*$_i$ sekreter-in-i] bugün ara-mış.
everyone secretary-POSS-ACC today call-PST.EVD.3SG
'Everyone$_i$ called her$_i$ secretary today.'

(14) [*pro*$_i$ sekreter-in-i]$_j$ herkes$_i$ t_j bugün aramış.

In Superiority-violating configurations involving *wh*-adjuncts, F-marking another constituent also ameliorates the ungrammaticality associated with the Superiority constraint. Recall the ungrammatical sentence repeated below in (22).

(22) * Nereye$_1$ dün$_2$ kim t_2 t_1 git-ti?
where yesterday who go-PST
Intended: 'Who went where yesterday?'

One way to apply F-marking in Turkish is by moving a constituent to the immediately preverbal position, as shown in (14) and discussed by Kural (1993). Another way to introduce F-marking is through phonological stress. In the sentences below, the focused item bears phonological stress. When another constituent is F-marked, the Superiority constraints are ameliorated, as illustrated in (28).

(28) a. Nereye$_1$ KİM$_F$ dün t_1 git-ti?
where who yesterday go-PST.3SG
'Who went where yesterday?'

b. Nereye$_1$ dün$_2$ KİM$_F$ t_2 t_1 git-ti?
where yesterday who go-PST.3SG
'Who went where yesterday?'

The effect of F-marking is not limited to the *wh*-phrases. When a non *wh*adjunct is F-marked, the Superiority constraint is likewise relaxed, as shown in (29).

(29) a. Nereye$_1$ kim DÜN$_F$ t_1 git-ti?
where who yesterday go-PST.3SG
Intended: 'Who went where yesterday?'

b. Nereye$_1$ DÜN$_{2,F}$ kim t_2 t_1 git-ti?
where yesterday who go-PST.3SG
'Who went where yesterday?'

The data above demonstrate that F-marking in Turkish can ameliorate not only binding constraints but also Superiority constraints. If one assumes that reconstruction in the binding examples arise from scrambling into specific positions, then the amelioration of Superiority constraints raises the following question: Does the initial Superiority-based ungrammaticality we observed stem from restrictions on movement probes targeting *wh*-adjuncts versus argument *wh*-phrases? While movement of *wh*-adjuncts to the sentence-initial position is only licit when licensed as A'-movement, argument *wh*-phrases remain grammatical without requiring such configurations or F-marking. To fully evaluate this possibility, one would need to investigate whether Turkish *wh*-phrases can ever target A-positions, which was not entertained by previous studies such as Çakır (2017). We leave the connection between Superiority amelioration and the A-/A'-movement distinction to future research.

It is also worth noting that the contexts which ameliorate Superiority constraint in English, such as D-linking, and in Turkish, such as F-marking, may not be so different after all. Focus in Turkish, and F-marking more broadly, has been argued to introduce an existential presupposition (Gonzalez 2023; Kamali & Krifka 2020; Atlamaz 2023). Similarly, Shields (2008) argues that

D-linked *wh*-phrases escape Superiority constraints because of their specificity a là Enç (1991) and reference to entities already present in the discourse. While we do not explore the connection between these two mechanisms here, we note it as a promising direction for future research.

5. Discussion. Languages exhibit a range of constraints on which elements may move to the left periphery of a sentence, commonly referred to as Superiority constraints. While many languages show such constraints in various forms (linearization or possible LF readings), Turkish has traditionally been viewed as an exception. The foremost contribution of this paper is to demonstrate that Turkish in fact aligns with other languages in exhibiting Superiority constraints. We presented novel data showing that Turkish displays Superiority constraints both in surface linearization and at LF, contrary to prior claim.

Previous research has characterized Turkish as an 'non-Superiority' language, arguing that movement of a lower *wh*-element across a higher one does not result in a Superiority violation.[4] Superiority violations in Turkish have been assumed to arise only when *wh*-elements originate in separate clauses and their movement crosses a clause boundary.

Contrary to this view, our paper demonstrates that Turkish exhibits a clear Superiority effect even within a monoclausal environment, specifically arising in the context of *wh*-adjuncts. We observed a prohibition against Superiority-violating constructions when one of the *wh*-phrases is an *wh*-adjunct, as in *when*, *how often*, or *where*.

Our second contribution is to show that Turkish Superiority constraints can be ameliorated when another element in the sentence is focused through F-marking. This property of Turkish is not surprising, given that previous research has shown that focusing other elements can alter the behavior of syntactic operations, such as in the case of A-/A'-movements and reconstruction capabilities (Kural 1993).

While it would be interesting to connect these two phenomena, we leave this to future research, as it would require a fuller account of the possible landing sites for *wh*-phrases in Turkish. To begin with, whether Turkish *wh*-phrases necessarily undergo movement is itself a highly debated issue (Görgülü 2006; Arslan 1999; İşsever 2009).

The selective emergence of Superiority effects in Turkish, coupled with the strategy used to circumvent them (F-marking), offers an opportunity to re-evaluate our understanding of Superiority and expand the existing typology. These findings suggest that some languages exhibit Superiority only in specific contexts, and that multiple strategies can mitigate its effects.

We have shown that F-marking allows Turkish speakers to escape Superiority violations, and that D-linking plays a similar role in English (Pesetsky 1987, 2000). This parallel raises the possibility of a fundamental connection between F-marking in Turkish and D-linking in English. Conceivably, the effectiveness of both strategies in ameliorating Superiority effects may reflect a shared underlying mechanism, such as existential presupposition or specificity (Shields 2008).

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[4] Özsoy (2009) uses the word 'anti-Superiority', but this label is also used to describe reversed Superiority constraints in languages like Japanese. For this reason, we avoid using the term 'anti-Superiority' in this paper.

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