

Effects of subject position and animacy in Turkish subject-verb agreement

Previous research with heritage speakers (HS) has shown that they experience difficulties with inflectional morphology including subject-verb agreement marking (Benmamoun et al., 2013a, b). It has been observed that HS provide incorrect verb forms in production or fail to notice morphosyntactic agreement mismatches in comprehension (Scontras et al., 2018; Polinsky, 2018). Previous HS agreement studies have mainly focused on grammatically constrained (i.e. categorical) agreement, while few have investigated sensitivity to optional agreement. Phenomena displaying gradience or optionality have been argued to be particularly affected by heritage language conditions (Benmamoun et al., 2013a, pp. 161-166).

Turkish 3rd person plural subjects can appear with verbs that are not marked for number, making these verb forms indistinguishable from the singular form. The 3rd person plural morpheme *lar/ler* is preferentially omitted from the verb, especially in spoken discourse. Plural suffix omission has previously been found to be affected by semantic factors including the degree of subject animacy (Bamyacı et al., 2014; Schroeder, 1999).

Earlier findings with Turkish HS indicate that they accept overt plural marking more readily than non-heritage Turkish speakers (Bamyacı, 2016; Lago et al., 2019). The present study investigates to what extent HS are sensitive to grammatical, surface-level and semantic constraints on Turkish plural agreement marking. We carried out a timed binary choice sentence continuation task with 47 non-heritage Turkish control speakers (CTR) resident in Turkey and 98 HS resident in Germany. Our experimental stimuli were created by manipulating both subject animacy (animate vs. inanimate) and subject position (subject-first [SF] vs. scrambled1 [SC1] vs. scrambled2 [SC2]) to test the effect of subject-verb distance on their choice of the verb form (singular vs. plural). In SF sentences, the subject is sentence-initial (e.g. **Dağcılar** dün akşam yüksek ve karlı dağdan düştü/düştüler “*Mountaineers fell (SG/PL) from the high and snowy mountain last night*”), in SC1 sentences it appears after a two-word time adverbial (e.g. Dün akşam **dağcılar** yüksek ve karlı dağdan düştü/düştüler) and in SC2 sentences it appears just before the verb (e.g. Dün akşam yüksek ve karlı dağdan **dağcılar** düştü/düştüler). The experimental sentences were presented word by word with a presentation time of 600 ms, and participants had to choose either the unmarked or the plural form of the verb to complete the sentences.

The reaction time (RT) data revealed a significant group difference as HS responded significantly faster than CTR speakers overall (see Table 1). A significant animacy*group interaction reflects the fact that CTR speakers responded faster to sentences with inanimate subjects whereas HS responded faster to sentences with animate subjects. In addition, we obtained significant subject position*group interactions for SF vs. SC2 and for SC1 vs. SC2, indicating that HS were more affected by the subject's position: They responded significantly more slowly to SC2 sentences than to SC1 and SF sentences, whereas no significant between-condition differences were obtained for the CTR group.

The analysis of participants' verb choices (see Table 1) yielded significant main effects of group and animacy. The main effect of group shows that HS preferred plural verbs over singular verbs while the CTR group showed an overall preference for unmarked verbs. As regards the animacy effect, sentences with animate subjects elicited significantly more plural responses when compared to sentences with inanimate subjects. We also observed a significant animacy*group interaction reflecting the fact that the difference in the plural responses between the animacy conditions is larger in the CTR group than the HS group. Moreover, significant subject position*animacy interactions between SF vs. SC1 and between SF vs. SC2, which were mainly driven by the CTR group, reflect a larger number of plural responses for SF sentences compared to SC1 and SC2 sentences, except for the SF vs. SC1 comparison with animate subjects.

These results indicate that, when the RT data is taken into account, HS were significantly more affected by the subject's position than the CTR group, eliciting longer RTs for SC2 sentences (where the subject is adjacent to the verb) than for SF and SC1 sentences. On the other hand, when the verb choice data is considered, the CTR group was significantly more affected by animacy, providing fewer plural responses especially for inanimate subjects compared to the HS group. Besides confirming earlier findings indicating that Turkish HS accept plural marking more readily, their choice of verb form was not affected by animacy or subject position in the same way as was seen in the CTR group. This indicates that Turkish HS are less sensitive than non-heritage speakers to optional agreement and the factors affecting it.

Table 1. Mean reaction times (in milliseconds), standard deviations and the percentage of plural responses per condition for both participant groups

Condition	CTR			HS		
	Mean RT	SD	Plural Answers	Mean RT	SD	Plural Answers
SF-ANI	2188	1300	47.5	1480	899	77
SC1-ANI	2135	1266	55.4	1457	820	77.9
SC2-ANI	2231	1281	35.5	1698	987	55
SF-INANI	1932	1029	23.9	1722	1089	63.1
SC1-INANI	2019	1234	22	1715	1112	58.4
SC2-INANI	1990	1066	7.7	1838	1117	33.2

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