

The Intonational Patterns of Interrogative Sentences in Lithuanian

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The aim of this study is to identify the main intonational patterns in interrogative sentences in Lithuanian. We constructed 4 types of sentences: a yes/no question without an interrogative word ([ˈgɑ:lʲimʲɛ ˈeiːtʲi nɐˈmoː], Eng. *Can we go home?*) and with an interrogative word ([ɐ̯ ˈgɑ:lʲimʲɛ ˈeiːtʲi nɐˈmoː], Eng. *Can we go home?*), a wh- question ([kɐˈdɛ ɡɐˈlʲeːsʲimʲɛ ˈeiːtʲi nɐˈmoː], Eng. *When can we go home?*) and declarative sentence ([ˈgɑ:lʲimʲɛ ˈeiːtʲi nɐˈmoː], Eng. *We can go home.*). There are no essential differences between yes/no questions with or without an interrogative word in spoken Lithuanian although a sentence with an interrogative word is more frequent in polite language.

Four male speakers of Standard Lithuanian were asked to read the sentences six times, considering the following context: the participants have been working for a long time and now they are stating that they can go home or asking the head if they can go home or when they will be able to go home. A total of 96 records was obtained. Additionally, a perceptual test was conducted. The interrogative words ([ɐ̯], [kɐˈdɛ]) were removed, and the participants were asked to identify the type of the sentence: a statement or a question. 21 native speakers (undergraduate students) participated in the experiment. The audio files were annotated using the ToBi labelling system by two phoneticians. It is necessary to note that ToBi for Lithuanian has not been developed yet but there is already research in this area [1]. The empirical data were analysed using PRAAT [2], and graphs were produced using Excel.

The analysis of the intonational patterns allows us to make the conclusion that a statement is characterized by a quite low and down drifting pitch pattern (see Fig. 1 and Table 1). We found two patterns in yes/no questions without an interrogative word. Almost a half of the examples has a rising end, another half has a falling end and an emphasis on the second word. The yes/no questions with an interrogative word have three patterns. One of them has a rising end and an emphasis on the first word, another two patterns are similar in the falling ending but differ in the location of the emphasis. Therefore, we can conclude that an interrogative word is not the most significant indicator of a yes/no question and the emphasized word may allow us to identify these sentences as a question.

Wh- questions can be characterized by two patterns (see Fig. 2) which differ in distribution and prominence of the emphasis. Poor perception of all examples indicates that the interrogative word is the most important indicator of questions in wh- questions.

It should be mentioned that the correlation between the patterns of all interrogative sentences and individual speakers was not observed and examined in the current stage of research.

Summing up, we can draw some conclusions: 1) the end of the interrogative sentence may be rising or falling; if the end is falling, there is an emphasis in the beginning or the middle of a sentence; 2) the theoretically possible variety of intonation contours is reflected in our data base and interrogative sentences can be described by one of the following patterns: a) a rising pitch (%L L* L* H* H%), b) falling-rising (%L H* L* H* H%), c) rising-falling (%L L* H* L* L%), d) falling (%L H* L* L* L% and %L H* H* L* L%). Given the small number of speakers and measurement variables, the results of this study must be taken as provisional.

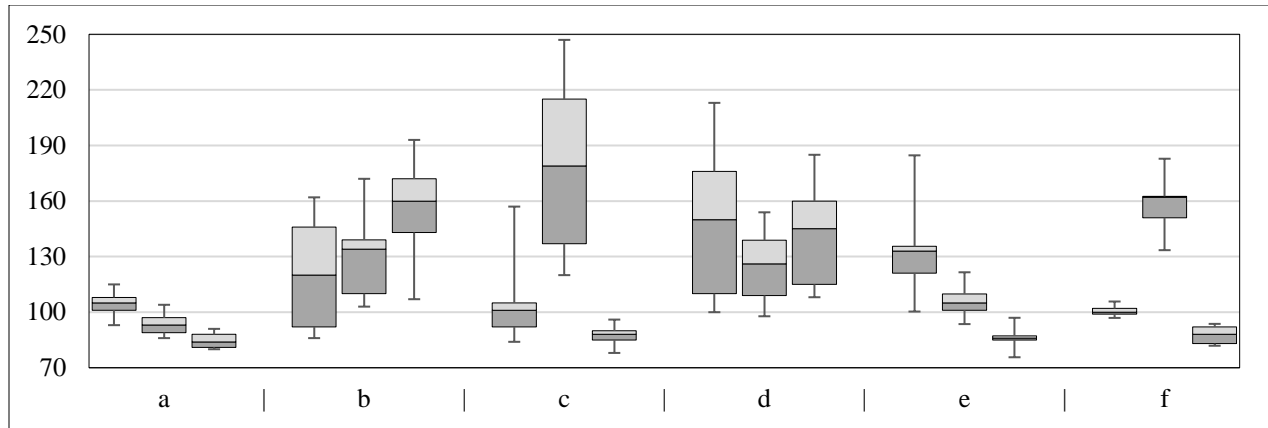


Figure 1. The scores of F0 mean (Hz): three columns represent three words in sentences; a - a statement, b, c - yes/no questions without an interrogative word (b - %L L* L* H* H%, c - %L L* H* L* L%), d, e, f - yes/no questions with an interrogative word (d - %L H* L* H* H%, e - %L H* L* L* L%, f - %L L* H* L* L%)

Table 1. Overview of patterns, frequency and perception of different types of sentences

Type of sentence	Pattern	Frequency within type of sentence (%)	Accurate perception (%)
statement	%L L* L* L* L%	98	100
	%H H* L* L* L%	2	100
yes/no question without an interrogative word	%L L* L* H* H%	56	90
	%L L* H* L* L%	44	94
yes/no questions with an interrogative word	%L H* L* H* H%	43	88
	%L H* L* L* L%	35	98
	%L L* H* L* L%	22	91
wh- question	%L H* L* L* L%	61	8
	%L H* H* L* L%	39	8

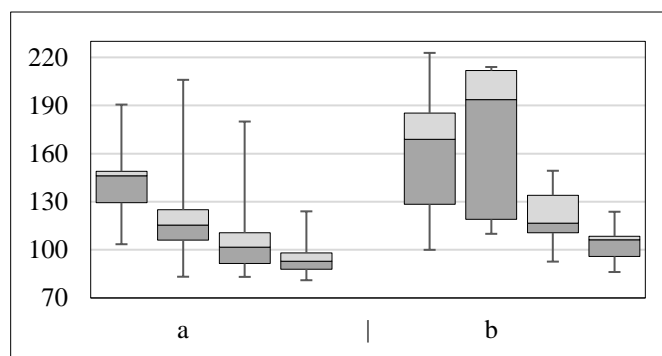


Figure 2. The scores of F0 mean (Hz) in wh- questions: four columns represent four words in sentences; a - %L H* L* L* L%, b - %L H* H* L* L%

References:

- [1] Hualde, J. I., & Riad, T. 2014. Word accent and intonation in Baltic. *Social and Linguistic Speech Prosody: Proceedings of the 7th International Conference on Speech Prosody* / [ed] N. Campbell, D. Gibbon, D. Hirst, p. 668-67.
- [2] Boersma, P., & Weenink, D. 2018. *Praat: doing phonetics by computer*. Computer program.