

# Mouth actions variation in Polish Sign Language (PJM): a corpus-based study

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Mouth actions in PJM have not been analyzed extensively so far and mainly in terms of students' theses (Szymańska-Gątarek 2021; Nowakowska 2023). The aim of this study is to analyze the variety of mouth actions in Polish Sign Language, as well as elaborate on the mouth actions variation in terms of gender and to identify variation in terms of age.

The research is based on the Corpus of Polish Sign Language (Wójcicka et al. eds. 2020) created by the Section for Sign Linguistics at the University of Warsaw, which is currently one of the world's largest annotated collections of sign texts at about 700,000 units. For this research recording of two elicitation tasks of 142 people were chosen: the calendar task (dialogue) and the comic strip retelling task (narration). Using ELAN software, additional tiers were added to the existing eaf-file annotations, including tiers for mouth action types (based on Crasborn et al. (2008), mouthing spreading, sign type associated with a specific mouth action etc. The tiers were based on the annotation guidelines for NGT (Crasborn et al. 2015) and the Auslan Corpus (Johnston 2019), as well as Johnston et al. (2016). The exact data about the informants is introduced below.

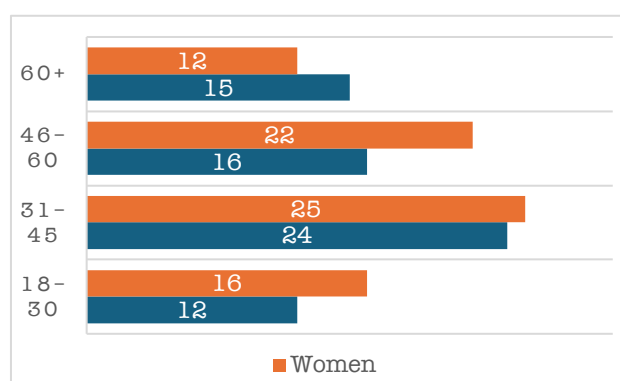


Figure 1. PJM Corpus informants by age and gender

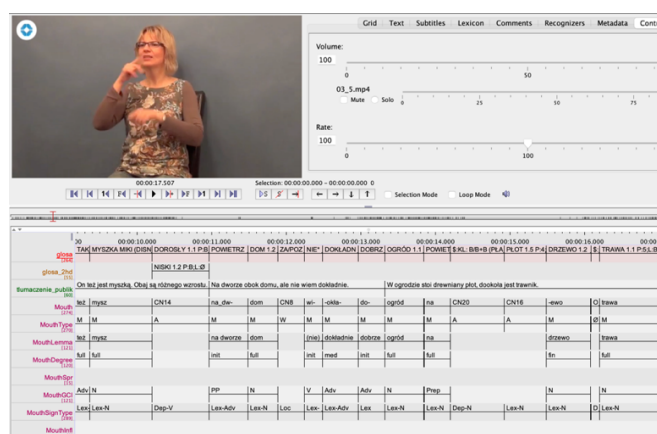


Figure 2. ELAN data excerpt

Based on a tentative analysis of six narration texts from two participants (females, aged 40 and 44 respectively), 302 mouth action instances (out of 395 manual signs) were found. The classification is based on Crasborn et al. (2008) and includes mouthings (M-type) adverbial mouth gestures (A-type), semantically empty mouth gestures (E-type), enacting mouth gestures (4-type) and mouth gestures in the context of whole-face activity (W-type):

M-type	168
A-type	23
E-type	34
4-type	0
W-type	77
Total	302

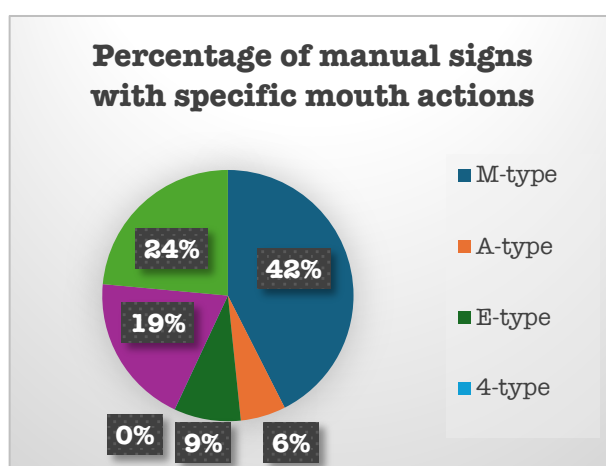


Figure 3. Percentage of manual signs with specific mouth actions

These tentative results are similar to data for Auslan (Johnston et al. 2016)] and BSL (Crasborn et al. 2008). Also, as expected, more lexical than depicting signs were associated with mouthings. The percentage of mouth gestures is the highest in the depicting signs category.

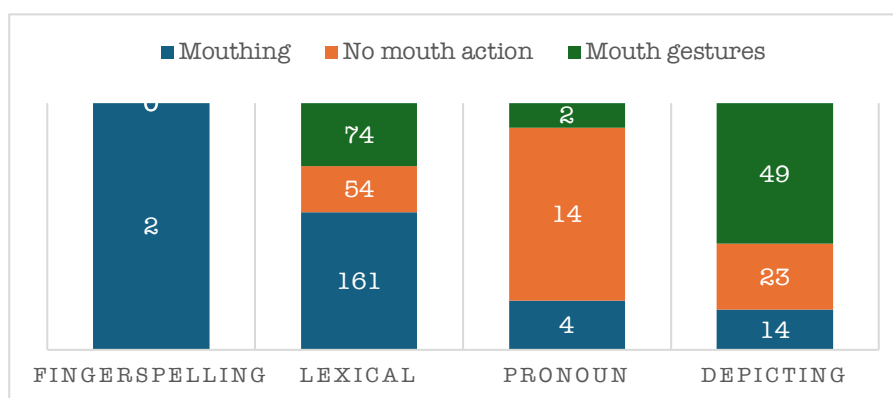


Figure 4. Mouth actions by sign types

Moreover, 15 instances of progressive spreading and 2 instances of regressive spreading were found, which is also congruent with the world literature. Upon further analysis (at about 30,000 manual sign tokens) we expect to get more clear and exact data on the nature of mouth actions in PJM.

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