

# Gesture, Sign, Visible Action? A Corpus-based Comparative Study of Palm-Up and Throw-Away in Polish Sign Language (PJM), German Sign Language (DGS), and Russian Sign Language (RSL)



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## Introduction

In this project, we use corpus methodology to compare two distinct manual elements – **palm-up** and **throw-away** – as they are used across three different sign languages: PJM, DGS and RSL.

- ❖ **palm-up**; 🙌; 🙏; **PU** – a multifunctional manual activity taking the form of rotating one’s forearms so that the palms of the hands face upward (Cooperrider et al., 2018)
- ❖ **throw-away**; **TA** – the action of an open hand going downward (Bressem & Müller, 2014)

## Background

- ❖ PU frequency in SLs and SpLs: BSL corpus → **5.5%**; Auslan corpus → **3.6%** (Fenlon et al., 2014); NZSL corpus → **5%** (McKee & Wallingford, 2011); co-speech gesture → “one of the **most frequently used** gestures” (Müller, 2004).
- ❖ **Functions** of PU have been tackled differently for SLs and SpLs. Those that appear consistently throughout various studies of both modalities can be summed up as: “**marking modality**” and different types of “**discourse regulation**”.
- ❖ In SLs PU is said to serve as either a **lexical item** with different meanings (McKee & Wallingford, 2011) or **grammatical marker** (van Loon et al., 2014).
- ❖ Co-occurrence of palm-up with **non-manual features** in SLs has been investigated, yielding different results. In NGT PU has no semantic or pragmatic impact and it is the non-manual expression that carries the meaning (Kooij et al., 2009); in RSL non-manuals accompanying PU are not indicative of its functions (Bauer, 2019).
- ❖ TA has not yet been explored in SLs. Analyses for co-speech gesture indicate that the underlying semantic scheme for TA is **negative assessment** (Bressem & Müller, 2014). Frequency analyses have not been undertaken.

## Data Sources



PJM CORPUS  
(ORKPJM)  
Wójcicka et al.,  
2020



DGS CORPUS  
(My DGS  
annotated)  
Konrad et al.,  
2020



RSL  
CORPUS  
Burkova,  
2015

## Data Sample

	PJM	DGS	RSL
number of signers	10	10	10
number of texts	47	29	37
length (h:mm:ss)	6:45:5	3:08:0	1:05:4
number of signs in the texts	23,234	12,237	6,801

## Method

- Manual annotation of:
  - **form**
  - **function** (cf. Ferré, 2012, McKee & Wallingford, 2011)

**Palm-up**: 1-handed; 2-handed

- lateral movement of the hands
- forward movement of the hands
- hands still in the neutral space

**Throw-away**: 1-handed; 2-handed

- **non-manual elements** (cf. Bauer, 2019)

**Body**: shrug; lean forwards; lean backwards; side turn

**Head**: headshake, head turn, head tilt, sideways tilt, front tilt, head front, head back, head nod

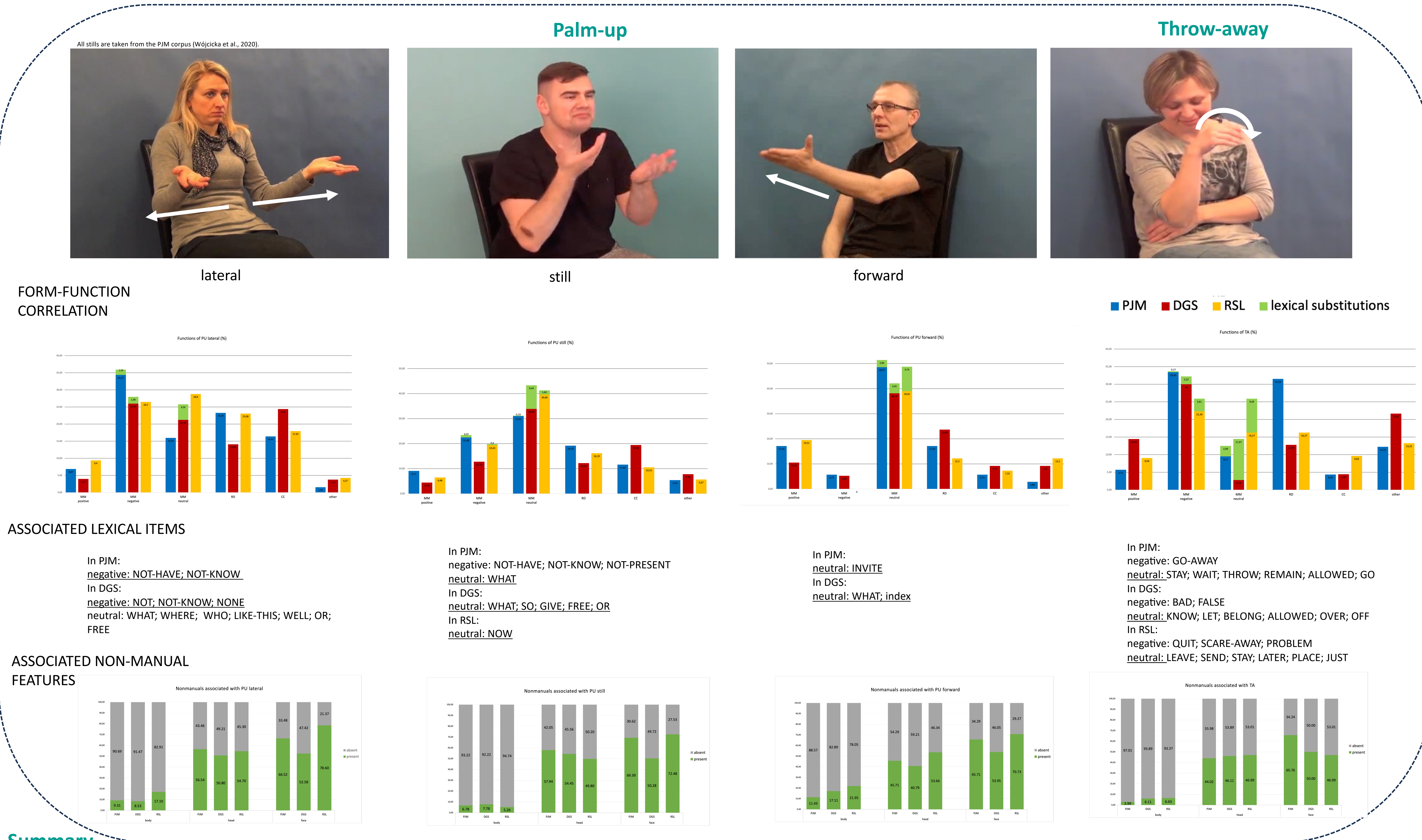
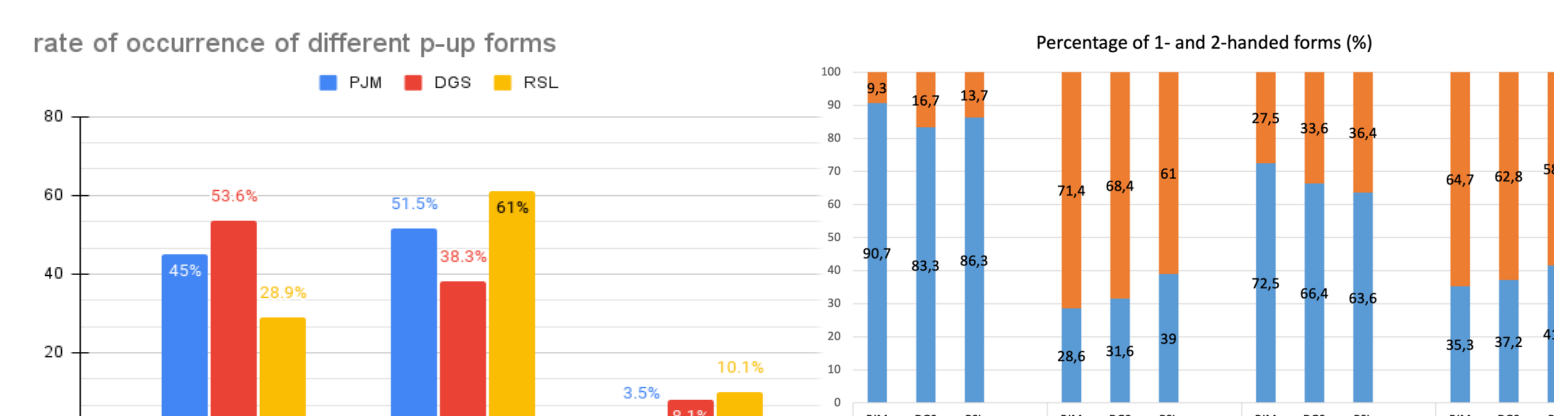
**Face**:

- **full face**: frown
- **nose**: scrunched up
- **brows**: furrowed, raised
- **eyes**: squinted, rolled, wide open, closed, blinking
- **mouth**: down, flat, side, furrowed lip, round, open, puckered, side, protruding tongue, bared teeth, lips licking, full cheeks, smile

Function Group	Examples
modal meaning positive (MM positive)	e.g. agreement, relief, surprise
modal meaning negative (MM negative)	e.g. lack of knowledge, understanding, certainty; negation
modal meaning neutral (MM neutral)	e.g. reinforcement of the stance; hesitation
discourse regulation (RD)	e.g. backchannel, turn opening/ending; response
conveying coherence (CC)	e.g. meta-comment; rhetorical question; self-correction
carrying lexical meaning (LI)	<i>lexical gloss</i>
other	e.g. frame for mouthing

## Frequency

	PJM	DGS	RSL
PU	1002 (4.31%)	940 (7.68%)	405 (5.96%)
TA	368 (1.58%)	180 (1.47%)	166 (2.44%)



## Summary

### Form-function correlation:

- ❖ Expressing different types of modal meanings is the most common function of all three forms of PU in the three studied SLs:
  - ❖ PU lateral in associated with negative meanings (e.g. lack of knowledge, disappointment) most frequently;
  - ❖ PU still and forward are most often associated with neutral meanings (e.g. hesitation, reinforcement of the stance), but PU still almost never carries negative meanings.
- ❖ TA is most frequently associated with negative model meaning (e.g. lack for concern; as for co-speech gesture), but all other functions are attested in the three corpora.

### Associated lexical items:

- ❖ Lexical items most commonly associated with PU share their semantics with the most commonly represented gesture function.
  - ❖ Lexical items most commonly associated with TA do not have underlying negative semantics, are most commonly neutral. TA is associated with lexical glosses more frequently than PU.
  - ❖ The recurring co-occurrence of PU and TA with certain lexical glosses raises a question about the level of their lexicalization.
- Associated non-manual features** are not indicative of the manual form or functions of the elements, further comparison with the behaviour of co-speech gesture is needed.
- ❖ All gestures are most frequently coarticulated with non-manual cues occurring on the face.

- ❖ Frequency of both elements is in line with previous reports for other SLs (PU) and consistent for TA. Forms and functions of the elements are comparable with what has been reported for other SLs and co-speech gesture and all three languages utilize all forms of both elements similarly.
- ❖ Current findings serve as an argument for viewing manual activities as forming a cross-modal continuum along which functional conventionalization takes place.

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