**1. Materials, Participants, and Procedures**

All experimental materials were created in Czech and English versions, each comprising seven short texts that systematically varied the **function of emojis**:  
(1) plain text (no emoji), (2) emojis as determiners, (3) mixed functions, (4) correct emotion emojis, (5) incorrect emotion emojis, (6) mixed incorrect functions, and (7) emojis replacing words

Each text was between 90 and 105 tokens, matched as closely as possible for syntactic structure and lexical difficulty. Word length and frequency were held constant within each language by replacing only single words or short noun phrases with emojis of equivalent semantic content (e.g., *fish* 🦈, *happy* 😊).

All participants signed the informed consent. Participants (N = 26; age 19–32, gender balanced) read all texts in a within-subjects design. Recordings were obtained with a **Tobii Pro Fusion** system (250 Hz). Each text was presented as a static image; reading began at a fixation cross and continued until self-paced completion. We defined **Times of Interest (TOI)** as the interval of the *first complete reading* of each text, excluding rereading.

**2. Areas of Interest (AOIs) and Exported Metrics**

AOIs were manually defined for every relevant linguistic unit in Tobii Pro Lab:

* Text 1 (CZ, EN): AOIs = words (w1–w11)
* Text 2-7: AOIs = words (w1–w11) + emojis (e1–e11)

For each AOI we exported 27 standard metrics (fixation durations, saccade velocities, glances, etc.) following the Tobii Pro Lab manual (pp. 64–67). Data preprocessing and exploratory analyses were performed using Tobii ProLab native tools for visualization, and then python libraries like pandas and matplotlib were used for statistics and plotting. We encoded participant metadata as categorical variables and checked the dataset for missing or corrupt values.

**3. Control of Confounding Variables**

During data cleaning and feature inspection, we verified that:

* **Word length** (characters) and **word frequency** did not differ significantly across conditions.
* **Contextual predictability** was held constant by embedding emojis only in equivalent syntactic positions.
* **Semantic content** was manually matched for referential equivalence (emoji ↔ lexical item).
* **Decisions for emoji replacement** was kept randomized but balanced to not invoke a sense of pattern in participants.

**4. Dependent Measures and Statistical Analyses**

Eye-tracking metrics were aggregated by AOI type (word vs. emoji) and text function (determinative vs. replacing).  
Dependent variables:

* **Total fixation duration (ms)**
* **Mean fixation duration (ms)**
* **Number of fixations per AOI**
* **Time to first fixation (ms)**

Analyses were conducted in Python using pandas, scipy, and statsmodels. We now report full inferential statistics:

| **Effect** | **Dependent variable** |  |  |
| --- | --- | --- | --- |
| Emoji function (determinative vs. replacing) | mean fixation duration |  |  |
| AOI type (word vs. emoji) | number of fixations |  |  |
| Social-media use (high vs. low) × AOI type | mean fixation duration |

Analysis results indicate that **emojis replacing words** receive significantly longer and more numerous fixations than emojis functioning as determiners, corroborating qualitative patterns observed in Tobii Pro Lab visualizations