**Additional Results for Körner & Rummer: *Valence Sound Symbolism Across Language Families: A Comparison Between Japanese and German***

**Simple Comparisons for the Interaction Effect in the Manipulation Check**

The valence evaluation of the pictures differed neither for neutral pictures, *t*(98) = 0.64, *p* = .526, *d*z = 0.09, 95% CI = [-0.30, 0.49], nor for sad pictures, *t*(97) = 0.59, *p* = .559, *d*z = 0.13, 95% CI = [-0.26, 0.53]. However, pictures with a happy expression were evaluated to be more positive by German-speaking (*M* = 1.38, *SE* = 0.05) compared to Japanese-speaking participants (*M* = 1.73, *SE* = 0.06), *t*(97) = 4.80, *p* < .001, *d*z = 0.96, 95% CI = [0.55, 1.38]. Conversely, pictures with an angry expression were evaluated to be more negative by German-speaking (*M* = 4.51, *SE* = 0.05) compared to Japanese-speaking participants (*M* = 4.33, *SE* = 0.07), *t*(97) = 2.12, *p* = .037, *d*z = 0.42, 95% CI = [0.02, 0.82].

**Main Analysis**: **Vowel Occurrences Depending on Grapheme, Emotional Expression, and Participant Language**

For the main analysis, the mean vowel occurrence per invented word was entered into a 5 (grapheme: *A* vs. *E* vs. *I* vs. *O* vs. *U*; within-participants) x 4 (emotional expression: happy vs. neutral vs. sad vs. angry; within-participants) x 2 (participant language: Japanese vs. German; between-participants) factorial linear mixed model. The significant three-way interaction is reported in the main text. Additionally, the two-way interaction between grapheme and emotion was significant, *F*(12, 159) = 22.28, *p* < .001, $η\_{p}^{2}$ = .196, 90% CI = [.158, .223]. The remaining two two-way interactions, the one between grapheme and participant language, *F*(4, 96) = 1.11, *p* = .357, $η\_{p}^{2}$ = .012, 90% CI = [.000, .026], and the one between emotion and participant language, *F*(3, 13680) = 0.49, *p* = .689, $η\_{p}^{2}$ = .021, 90% CI = [.000, .047], were not significant. Among the main effects, the main effect of emotion was significant, *F*(3, 6873) = 4.62, *p* = .003, $η\_{p}^{2}$ = .119, 90% CI = [.062, .174], and the main effect of grapheme was significant, *F*(4, 107) = 28.77, *p* < .001, $η\_{p}^{2}$ = .208, 90% CI = [.147, .261], but the main effect of participant language was not significant, *F*(1, 96) = 0.23, *p* = .630, $η\_{p}^{2}$ = .002, 90% CI = [.000, .041].

**Occurrences of *I* Depending on Emotional Expression and Participant Language**

The interaction between emotional expression and participant language was not significant (*p* = .057, see main document). Here, we report the simple comparisons for the two language groups separately. There was a significant influence of emotional expression on *I* occurrences for both German-speaking participants, *F*(3, 83) = 17.07, *p* < .001, $η\_{p}^{2}$ = .440, 90% CI = [.339, .519], and for Japanese-speaking participants, *F*(3, 56) = 11.95, *p* < .001, $η\_{p}^{2}$ = .254, 90% CI = [.150, .341]. For both language groups, *I* occurrences for positive emotional expressions differed from all other expressions, while none of the other differences reached significance; for all pairwise comparisons, see Table S1.

**Table S1**

*Descriptive Statistics and Pairwise Comparisons for the Frequency of Occurrence for the Vowel* I *Depending on Emotional Expression for German-speaking and Japanese-speaking Participants Separately*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Happy | Neutral | Angry | Sad |
| Occurrences of I for German-speaking participants  |
| Happy | 0.953 (0.077) | *t*(55) = 6.01, *p* < .001, *d*z = 0.90, [0.57, 1.24] | *t*(59) = 6.99, *p* < .001, *d*z = 1.11, [0.76, 1.48] | *t*(60) = 5.61, *p* < .001, *d*z = 0.86, [0.54, 1.20] |
| Neutral |  | 0.374 (0.038) | *t*(100) = 0.95, *p* = .346, *d*z = 0.17, [-0.11, 0.45] | *t*(67) = 1.13, *p* = .263, *d*z = 0.23, [-0.06, 0.51] |
| Angry |  |  | 0.328 (0.034) | *t*(61) = 1.88, *p* = .065, *d*z = 0.43, [0.14, 0.73] |
| Sad |  |  |  | 0.440 (0.039) |
| Occurrences of Ifor Japanese-speaking participants  |
| Happy | 0.819 (0.068) | *t*(49) = 5.31, *p* < .001, *d*z = 0.78, [0.46, 1.11] | *t*(47) = 3.64, *p* < .001, *d*z = 0.54, [0.24, 0.85] | *t*(48) = 5.05, *p* < .001, *d*z = 0.79, [0.47, 1.12] |
| Neutral |  | 0.395 (0.047) | *t*(88) = 1.73, *p* = .087, *d*z = 0.25, [-0.04, 0.53] | *t*(42) = 0.82, *p* = .419, *d*z = 0.09, [-0.19, 0.37] |
| Angry |  |  | 0.473 (0.052) | *t*(36) = 0.65, *p* = .519, *d*z = 0.10, [-0.18, 0.38] |
| Sad |  |  |  | 0.431 (0.047) |

*Note*. Values in the diagonals are the mean (and SE) occurrences of the target vowel per word for the emotional expression. Tests are linear mixed model comparisons of the target vowel usage when creating pseudo-words for faces with the specific emotional expressions. Effect sizes [and 95% confidence intervals] are calculated from participant-level data.

**Exploratory Analysis Whether Valence Associations Are Stronger for *I* Compared to *A* for Japanese-speaking Participants (see discussion in the main text)**

For Japanese-speaking participants, the mean vowel occurrence per invented word was entered into a 2 (grapheme: *A* vs. *I*; within-participants) x 4 (emotional expression: happy vs. neutral vs. sad vs. angry; within-participants) factorial linear mixed model. There was no main effect of grapheme, *F*(1, 48) = 2.89, *p* = .095, $η\_{p}^{2}$ = .020, 90% CI = [.000, .064]. However, there was a main effect of emotional expression, *F*(3, 102) = 22.89, *p* < .001, $η\_{p}^{2}$ = .421, 90% CI = [.317, .502]. Importantly, the interaction between vowel grapheme and emotional expression was significant, *F*(3, 60) = 3.17, *p* = .031, $η\_{p}^{2}$ = .032, 90% CI = [.000, .072].