4.2 Arousal Rating

The following lmer specification corresponds to the initial model (cf. Supplementary Material Table S4).

\[ m_{\text{initial}} = \text{lmer}(\sqrt{\text{Arousal Rating}} \sim 1 + \text{Valence Category}^3 \ast \text{Stimulus Domain}^3 + \text{Mood Rating}^4 + (1|\text{Subject}) + (1|\text{Item}), \text{data}, \ \text{REML=TRUE}) \]

Table S5
Summary of the backward-elimination procedure for the prediction of arousal ratings

| Step   | df-change | \( \chi^2 \)-change | log-likelihood | \( \chi^2 \) | df | p-value |
|--------|-----------|-----------------------|----------------|-------------|----|--------|
| Step 1 |           |                       | -1725.3        |             |    |        |
| Intercept |         |                       | 1951.65        | 1           |    | <.001  |
| Valence Category\(^3\) | |                       | 461.74         | 1           |    | <.001  |
| Stimulus Domain\(^3\) | |                       | 0.19           | 1           |    | .67    |
| Mood Rating\(^4\) | |                       | 1.37           | 1           |    | .24    |
| Valence:Domain | |                       | 0.43           | 1           |    | .51    |
| Step 2 | 1         | 0.43                  | -1725.5        |             |    | .51    |
| Intercept |         |                       | 1951.87        | 1           |    | <.001  |
| Valence Category\(^3\) | |                       | 461.75         | 1           |    | <.001  |
| Stimulus Domain\(^3\) | |                       | 0.19           | 1           |    | .66    |
| Mood Rating\(^4\) | |                       | 1.37           | 1           |    | .24    |
| Step 3 | 1         | 0.19                  | -1725.6        |             |    | .66    |
| Intercept |         |                       | 1953.34        | 1           |    | <.001  |
| Valence Category\(^3\) | |                       | 461.74         | 1           |    | <.001  |
| Mood Rating\(^4\) | |                       | 1.25           | 1           |    | .26    |
| Step 4 | 1         | 1.24                  | -1726.2        |             |    | .27    |
| Intercept |         |                       | 1978.37        | 1           |    | <.001  |
| Valence Category | |                       | 461.74         | 1           |    | <.001  |

Notes.  \(^1\)Likelihood ratio tests were performed to compare the model fit of nested models differing in one degree of freedom (i.e. one parameter). Model fits are reported in terms of the log-likelihood and chi-squared distributed likelihood ratio test statistic. The anova-function from the stats package (R Core Team, 2019) was applied.
Fixed effects were checked with Type III sum of squares statistics using the Anova-function from the car package (Fox and Weisberg, 2019).

Effect coding was used for categorical variables.

Metrical variables were centered prior to analysis to facilitate interpretations.