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| **Question** | **Hypothesis** | **Sampling plan (e.g. power analysis)** | **Analysis Plan** | **Interpretation given to different outcomes** |
| 1.) Do ER strategies reduce emotional arousal? (Manipulation check) | 1a) Subjective arousal (arousal rating) is lower after using an emotion regulation strategy (distraction, distancing, suppression) compared to active viewing. | F tests - ANOVA: Repeated measures, within factors  Analysis: A priori: Compute required sample size  Input:  Effect size f = 0.50 (ηp² = 0.20) (Scheffel et al., 2021)  α err prob = 0.05  Power (1-β err prob) = 0.95  Number of groups = 1  Number of measurements = 4  Corr among rep measures = 0.5  Nonsphericity correction ε = 1  Output:  Noncentrality parameter λ = 20.0  Critical F = 2.9603513  Numerator df = 3.0  Denominator df = 27.0  Total sample size = 10  Actual power = 0.95210128 | Repeated measures ANOVA with four linear contrasts, comparing the subjective arousal ratings of four blocks (active viewing, distraction, distancing, suppression).  ANOVA is calculated using aov\_ez() function of the afex-package, estimated maginal means are calculated using emmeans() function from the emmeans-package, pairwise contrasts are calculated using pairs().  Bayes factors are computed for the ANOVA and each contrast using the BayesFactor-package. | ANOVA yields *p* < .05 is interpreted as arousal ratings changing significantly with blocks. Values of arousal ratings are interpreted as equal between blocks if *p* > .05.  Each contrast yielding *p* < .05 is interpreted as arousal ratings being different between those two blocks, magnitude and direction are inferred from the respective estimate. Values of arousal ratings are interpreted as equal between blocks if *p* > .05.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |
| 1b) Physiological arousal (*corrugator* muscle activity) is lower after using an emotion regulation strategy (distraction, distancing, suppression) compared to active viewing. | F tests - ANOVA: Repeated measures, within factors  Analysis: A priori: Compute required sample size  Input:  Effect size f = 0.1605 (Zaehringer et al., 2020)  α err prob = 0.05  Power (1-β err prob) = 0.95  Number of groups = 1  Number of measurements = 4  Corr among rep measures = 0.5  Nonsphericity correction ε = 1  Output:  Noncentrality parameter λ = 17.5169700  Critical F = 2.6404222  Numerator df = 3.0  Denominator df = 252  Total sample size = 85  Actual power = 0.9509128 | Repeated measures ANOVA with four linear contrasts, comparing the *corrugator* muscle activity of four blocks (active viewing, distraction, distancing, suppression).  ANOVA is calculated using aov\_ez() function of the afex-package, estimated maginal means are calculated using emmeans() function from the emmeans-package, pairwise contrasts are calculated using pairs().  Bayes factors are computed for the ANOVA and each contrast using the BayesFactor-package. | ANOVA yields *p* < .05 is interpreted as *corrugator* muscle activity changing significantly with blocks. Values of *corrugator* muscle activity are interpreted as equal between blocks if *p* > .05.  Each contrast yielding *p* < .05 is interpreted as *corrugator* muscle activity being different between those two blocks, magnitude and direction are inferred from the respective estimate. Values of *corrugator* muscle activity are interpreted as equal between blocks if *p* > .05.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |
| 1c) Physiological arousal (*levator* muscle activity) is lower after using an emotion regulation strategy (distraction, distancing, suppression) compared to active viewing. | F tests - ANOVA: Repeated measures, within factors  Analysis: A priori: Compute required sample size  Input:  Effect size f = 0.1605 (Zaehringer et al., 2020)  α err prob = 0.05  Power (1-β err prob) = 0.95  Number of groups = 1  Number of measurements = 4  Corr among rep measures = 0.5  Nonsphericity correction ε = 1  Output:  Noncentrality parameter λ = 17.5169700  Critical F = 2.6404222  Numerator df = 3.0  Denominator df = 252  Total sample size = 85  Actual power = 0.9509128 | Repeated measures ANOVA with four linear contrasts, comparing the *levator* muscle activity of four blocks (active viewing, distraction, distancing, suppression).  ANOVA is calculated using aov\_ez() function of the afex-package, estimated maginal means are calculated using emmeans() function from the emmeans-package, pairwise contrasts are calculated using pairs().  Bayes factors are computed for the ANOVA and each contrast using the BayesFactor-package. | ANOVA yields *p* < .05 is interpreted as *levator* muscle activity changing significantly with blocks. Values of *levator* muscle activity are interpreted as equal between blocks if *p* > .05.  Each contrast yielding *p* < .05 is interpreted as *levator* muscle activity being different between those two blocks, magnitude and direction are inferred from the respective estimate. Values of *levator* muscle activity are interpreted as equal between blocks if *p* > .05.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |
| 2.) Do ER strategies require cognitive effort? (Manipulation check) | 2a) Subjective effort (effort ratings) is greater after using an emotion regulation strategy (distraction, distancing, suppression) compared to active viewing. | F tests - ANOVA: Repeated measures, within factors  Analysis: A priori: Compute required sample size  Input:  Effect size f = 0.2041241 (ηp² = 0.04) (Scheffel et al., 2021)  α err prob = 0.05  Power (1-β err prob) = 0.95  Number of groups = 1  Number of measurements = 4  Corr among rep measures = 0.5  Nonsphericity correction ε = 1  Output:  Noncentrality parameter λ = 17.6666588  Critical F = 2.6625685  Numerator df = 3.0  Denominator df = 156.0  Total sample size = 53  Actual power = 0.95206921 | Repeated measures ANOVA with four linear contrasts, comparing the subjective effort ratings of four blocks (active viewing, distraction, distancing, suppression).  ANOVA is calculated using aov\_ez() function of the afex-package, estimated maginal means are calculated using emmeans() function from the emmeans-package, pairwise contrasts are calculated using pairs().  Bayes factors are computed for the ANOVA and each contrast using the BayesFactor-package. | ANOVA yields *p* < .05 is interpreted as effort ratings changing significantly with blocks. Values of effort ratings are interpreted as equal between blocks if *p* > .05.  Each contrast yielding *p* < .05 is interpreted as effort ratings being different between those two blocks, magnitude and direction are inferred from the respective estimate. Values of effort ratings are interpreted as equal between blocks if *p* > .05.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |
| 2b) Majority of participants reuse the strategy that was least effortful for them. | - | Subjects are asked about the reasons for their choice in the follow-up survey. These answers are classified into categories and counted. | The percentage choice of strategies is described descriptively. |
| 3.) Which variables can predict individual subjective values of ER strategies? | 3a) Subjective effort ratings negatively predict subjective values of ER strategies. | t tests - Linear multiple regression: Fixed model, single regression coefficient  Analysis: A priori: Compute required sample size  Input:  Tail(s) = One  Effect size f² = 0.34 (Since there are no findings in this respect yet, we have inferred from the effect size in the closest-similar model: Westbrook et al., 2013)  α err prob = 0.05  Power (1-β err prob) = 0.95  Number of predictors = 4  Output:  Noncentrality parameter δ = 3.4  Critical t = 1.6991270  Df = 29  Total sample size = 34  Actual power = 0.9529571 | Multilevel model of SVs with level-1-predictors subjective effort, subjective arousal, *corrugator*, and *levator* muscle activity using subject specific intercepts and allowing random slopes for ER strategies.  The null model and the random slopes model are calculated using lmer() of the lmerTest-package.  Bayes factors are computed for the MLM using the BayesFactor-package. | Fixed effects yield *p* < .05 are interpreted as subjective values are related to subjective effort. Subjective values are interpreted as not being related to subjective effort if *p* > .05.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |
| 3b) Subjective arousal ratings negatively predict subjective values of ER strategies. | Fixed effects yield *p* < .05 are interpreted as subjective values are related to subjective arousal. Subjective values are interpreted as not being related to subjective arousal if *p* > .05.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |
| 3c) *Corrugator* muscle activity negatively predict subjective values of ER strategies. | Fixed effects yield *p* < .05 are interpreted as subjective values are related to *corrugator* activity. Subjective values are interpreted as not being related to *corrugator* activity if *p* > .05.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |
| 3d) *Levator* muscle activity negatively predict subjective values of ER strategies. | Fixed effects yield *p* < .05 are interpreted as subjective values are related to *levator* activity. Subjective values are interpreted as not being related to *levator* activity if *p* > .05.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |
| 4.) Is the effort required for an ER strategy the best predictor for subjective values of ER strategies? | 4a) Subjective values decline with increasing effort, even after controlling for task performance measured by subjective arousal ratings, *corrugator* and *levator* muscle activity. | t tests - Linear multiple regression: Fixed model, single regression coefficient  Analysis: A priori: Compute required sample size  Input:  Tail(s) = One  Effect size f² = 0.34 (Since there are no findings in this respect yet, we have inferred from the effect size in the closest-similar model: Westbrook et al., 2013)  α err prob = 0.05  Power (1-β err prob) = 0.95  Number of predictors = 4  Output:  Noncentrality parameter δ = 3.4  Critical t = 1.6991270  Df = 29  Total sample size = 34  Actual power = 0.9529571 | Fixed effects yield *p* < .05 are interpreted as subjective values changing significantly with ER strategy. Subjective values are interpreted as equal between ER strategies if *p* > .05.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |
| 5.) Are subjective values related to flexible emotion regulation? | 5a) The higher the subjective value, the more likely the respective strategy is chosen. |  |  |  |
|  | 5b) Subjective values are lower and decline stronger when ER flexibility is lower. | t tests – Linear multiple regression: Fixed model, single regression coefficient  Analysis: A priori: compute required sample size  Input:  Tail(s) = One  Effect size f² = 015 (as there is no evidence in the literature, we assume a medium sized effect)  α err prob = 0.05  Power (1-β err prob) = 0.95  Number of predictors = 2  Output:  Noncentrality parameter δ = 3.316662  Critical t = 1.69665997  Df = 71  Total sample size = 74  Actual power = 0.95101851 | SVs will be ordered by magnitude. Values will be fitted in a GLM to estimate the individual intercept and slope.  A linear regression will be computed with intercept and slope as predictors and FlexER score as criterion. | β yield *p* < .05 are interpreted as significant association between predictor (intercept, slope) and ER flexibility. The direction of effect is interpreted according to sign (negative or positive). *p* – values > .05 are interpreted as no association between predictor and ER flexibility.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |
| Exploratory: Are individual subjective values of ER strategies related to personality traits? |  |  | Multilevel model of SVs with level-1-predictors subjective effort, subjective arousal, *corrugator*, and *levator* muscle activity and level-2-predictors NFC and self-control using subject specific intercepts and allowing random slopes for ER strategies.  The null model and the random slopes model are calculated using lmer() of the lmerTest-package.  Bayes factors are computed for the MLM using the BayesFactor-package. | Fixed effects yield *p* < .05 are interpreted as subjective values are related to NFC and self-control. Subjective values are interpreted as not being related to subjective effort if *p* > .05.  The Bayes factor *BF10* is reported alongside every *p*-value to assess the strength of evidence. |