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Emotion Regulation and Valance Bias

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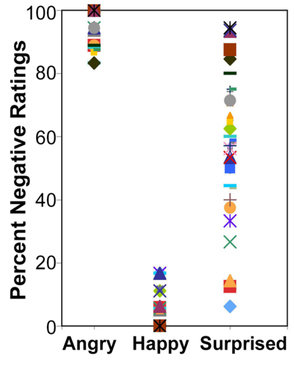
Introduction

Surprised faces can predict both positive (e.g. birthday party) and negative (e.g. car crash) outcomes.



Ratings of ambiguous faces can reveal a person's "valence bias", since ambiguous stimuli.[1]

Objective measures of affect, using psychophysiology, can track this bias.

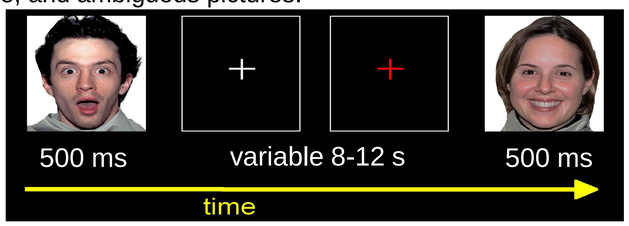
Despite these differences, the more automatic response is negative, suggesting that positivity requires regulation.[2]

Hypothesis 1: Training in emotion regulation would result in more positive ratings of surprise.

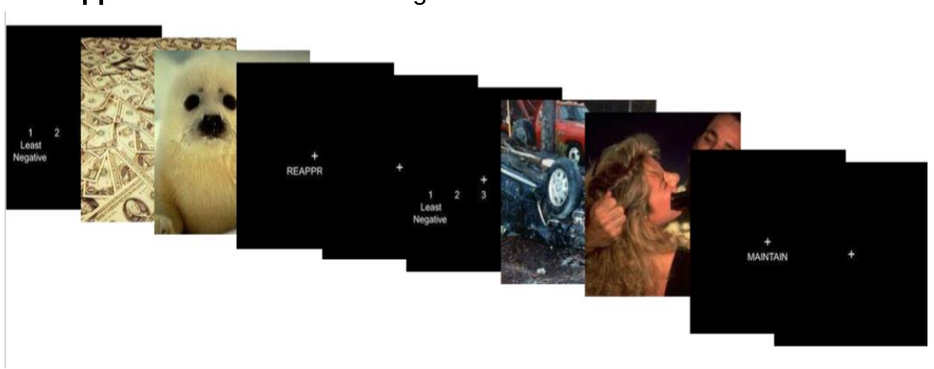
Hypothesis 2: Facial muscle movements in the corrugator, as well electro-dermal activity, should reflect emotion regulation ability.

Method

N = 31, ages: 17+
In the first session, participants provided baseline ratings for positive, negative, and ambiguous pictures.



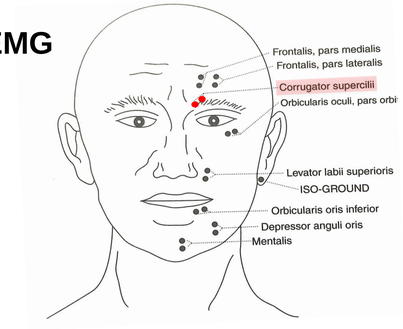
In the second session, participants were taught to regulate their emotions. **"Maintain"** = experience emotions naturally; **"Reappraise"** = decrease the negative emotions.



Methods, Continued

After practicing regulation, they completed the same rating task as in the first session. During both sessions, we measured corrugator muscle activity as well as electro-dermal activity while participants completed all tasks.

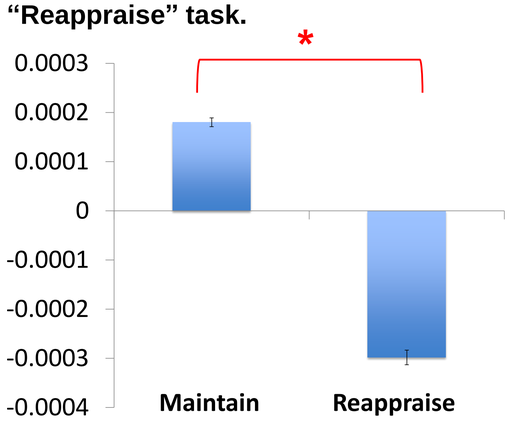
EMG



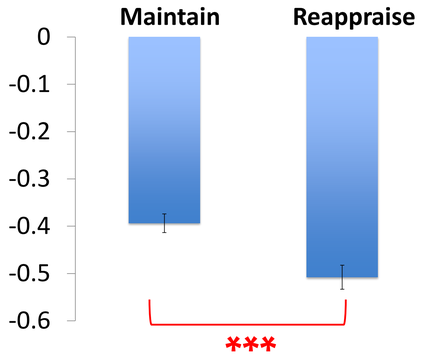
EDA

Results

EMG ratings during the "Maintain" tasks were lower than those of the "Reappraise" task.

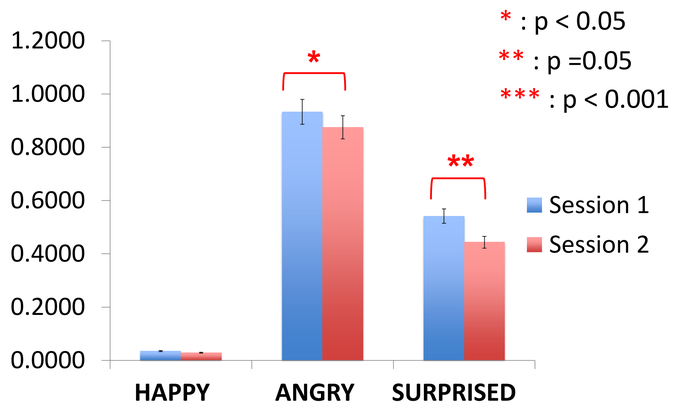


EDA ratings during the "Maintain" task were also lower than the "Reappraise" task.



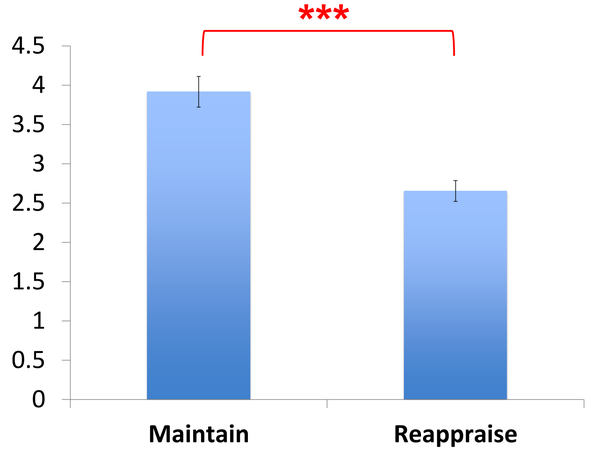
Results

Ratings of surprise are more positive in session 2 than session 1 (after emotion regulation training).



Results, Continued

Participants are successful in regulating their emotions (less negative ratings during reappraise than maintain).



Conclusion

As hypothesized, the participants rated these ambiguous surprised faces less negative after they practiced regulating their emotions.

This is an indication that these emotion regulating exercises may be beneficial to those who might have a more negative bias, and those who have difficulties regulating their emotions (anxiety, depression). These exercises could help provide individuals with the tools to develop a healthier and more positive outlook on life.

References

1. **Neta, M.,** Norris, C.J., & Whalen, P.J. (2009). Corrugator muscle responses are associated with individual differences in positivity-negativity bias. *Emotion, 9*(5), 640-648
2. **Neta, M.,** & Whalen, P.J. (2010). The primacy of negative interpretations when resolving the valence of ambiguous facial expressions. *Psychological Science, 21*, 901–907.