The Effects of Emotion Regulation Strategies on Diurnal Cortisol Slope in Older Adults

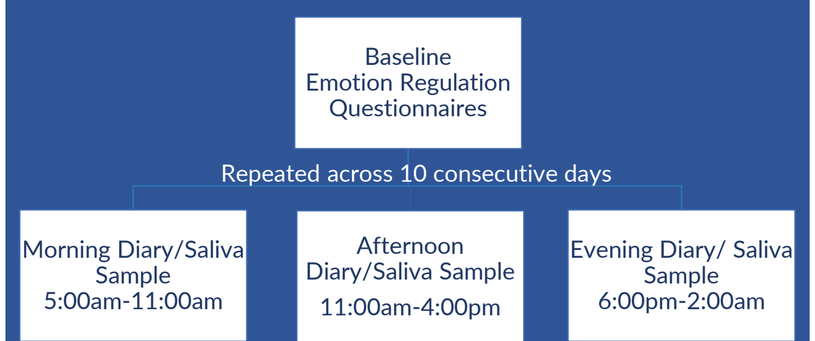
Maegan Nation, Abby Hillmann, & Rebecca Reed, PhD
University of Pittsburgh, Department of Psychology

BACKGROUND

- Emotion regulation strategies are the ways in which people manipulate which emotions they have, when they have them, and how they experience and express them (Gross, 1998)
- Suppression (but not reappraisal) is associated with more cortisol activation in healthy adults (Otto et al., 2018)
- Links between other emotion regulation strategies (such as emotional acceptance) and cortisol are unknown
- **Objective:** To examine the moderating effects of suppression, cognitive reappraisal, and emotional acceptance on cortisol levels in older adults

METHODS

- Participants (N=166, 50.6% female, M_{age}=72.51) from the Stress, Immunity and Emotion Regulation in Aging (SIERA) study
- Completed the **Emotion Regulation Questionnaire** (suppression and reappraisal) and the **Acceptance of Emotions Scale** at baseline
- **Cortisol:** Provided saliva 3x/day over 10 days (up to 30 samples, mean=29.5, range:4-30)

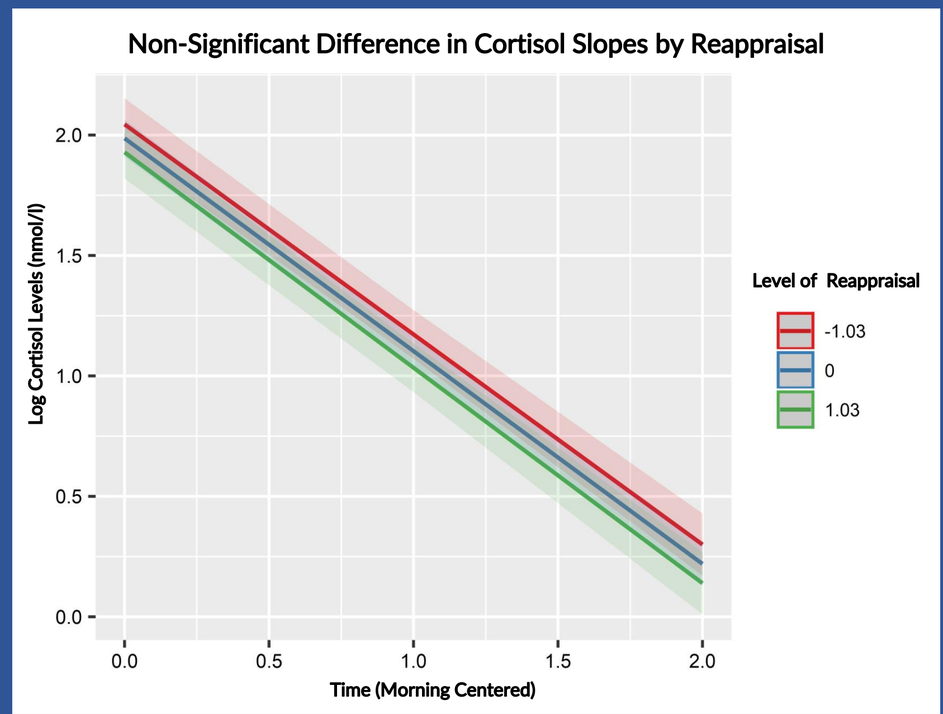


DATA ANALYSIS

- Cortisol was log-transformed for analyses
- Multilevel models with repeated measures of cortisol within person tested trait reappraisal, suppression and emotional acceptance as moderators of the diurnal cortisol slope (DCS) [emotion regulation*time interaction]
- Covariates included age and sex

RESULTS

- Neither reappraisal (b=-.01, SE=.02, t(4693) =-.49 *p*=.62, see Figure), suppression (b=.01, SE=.02, t(4693)=.80 *p*=.42), nor emotional acceptance (b=.00, SE=.00, t(4693)=.79, *p*=.43) were associated with DCS
- No main effects of reappraisal, suppression, or emotional acceptance on overall cortisol levels



	Reappraisal	Suppression	Acceptance
Mean (SD)	5.34 (1.03)	3.48 (1.19)	66.96 (19.05)
Range(min-max)	1.00-7.00	1-6.25	6.15-100

CONCLUSIONS

- Emotion regulation strategies were **not associated** with diurnal cortisol slopes or overall levels
- Our results did not replicate the suppression finding in Otto et al (2018), which may be due in part to design and methodological differences
- Null results may be due to differences between how participants perceive their typical use of emotion regulation vs what they actually do in daily life
- To date, this is the largest observational study to test several emotion regulation strategies' effects on Cortisol

REFERENCES:

Gross, J. J. (1998). The emerging field of emotion regulation: an integrative review. *Review of General Psychology*, *2*, 271-299.

Otto, L. R., Sin, N. L., Almeida, D. M. & Sloan, Richard, P. (2018). Trait emotion regulation strategies and diurnal cortisol profiles in healthy adults. *Health Psychology* *37*(3). 301-305.

This work was supported by the NIA (R00-AG056635).