

# Exploring the Impact of Sleep on Emotion Regulation Across the Life Span



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## INTRODUCTION

- Successful emotion regulation involves functional connectivity between the amygdala and prefrontal cortex (PFC). [1]
- Sleep impacts emotion regulation ability and affects the functional connectivity between the amygdala and PFC. [2,3,4,5,6]
- Sleep quality changes across the adult life span, with older adults experiencing worse sleep quality than their younger counterparts. [7]

The present study investigated how the relationship between sleep quality, amygdala-PFC connectivity, and emotion regulation evolve over the life span.

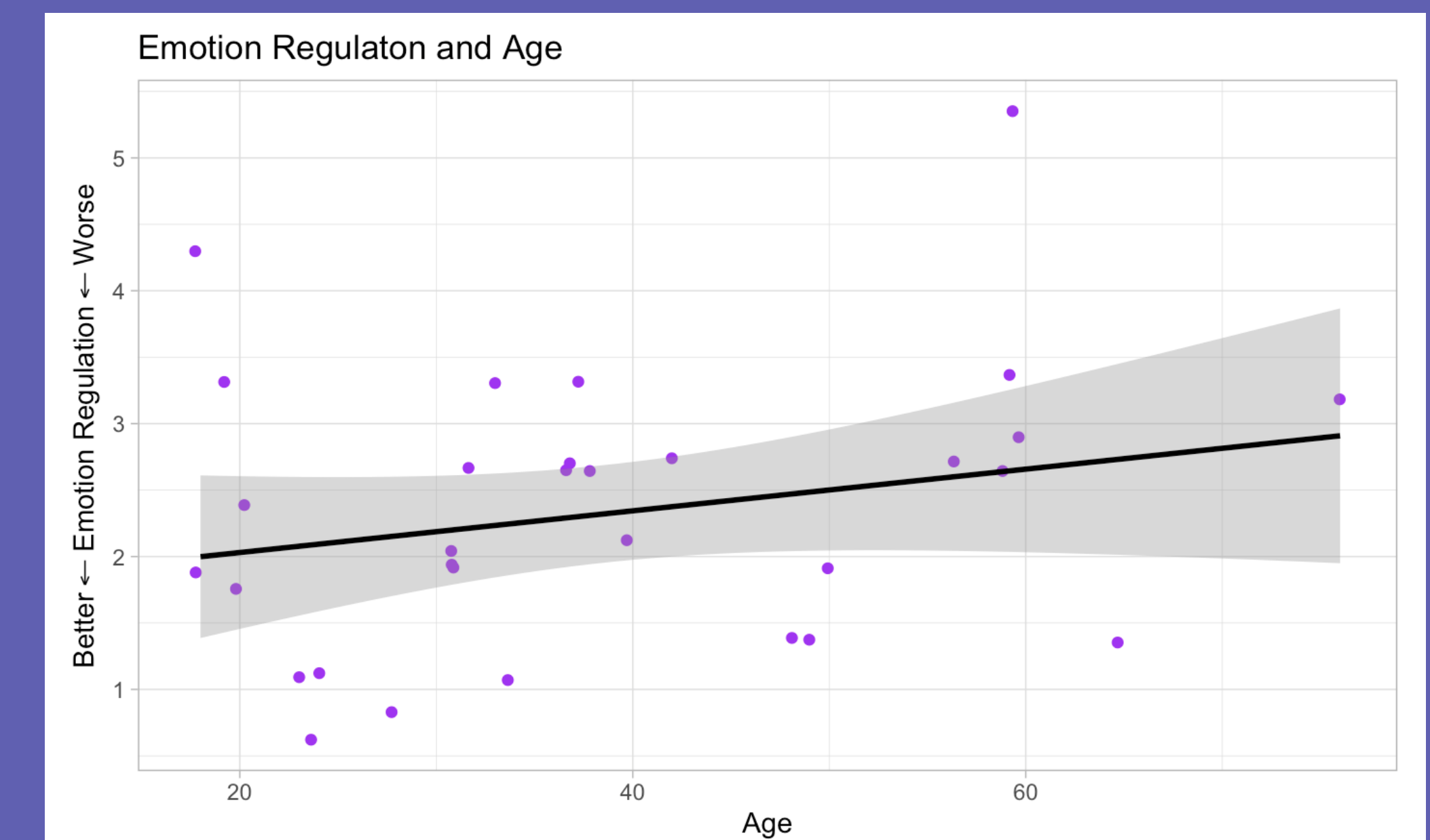
## METHODS

- As part of an on-going study, 33 participants ages 18-76 (mean = 38.6) completed measures of:
  - **Sleep quality** gauged by Pittsburgh Sleep Quality Index (PSQI) via survey questions [8]
  - **Emotion regulation success** measured by affective ratings after an emotion regulation task
  - **Amygdala-PFC functional connectivity** detected via fMRI during task
- Linear regression analyses assessed the effects of age, sleep, and their interaction on emotion regulation success and amygdala-PFC functional connectivity

## RESULTS

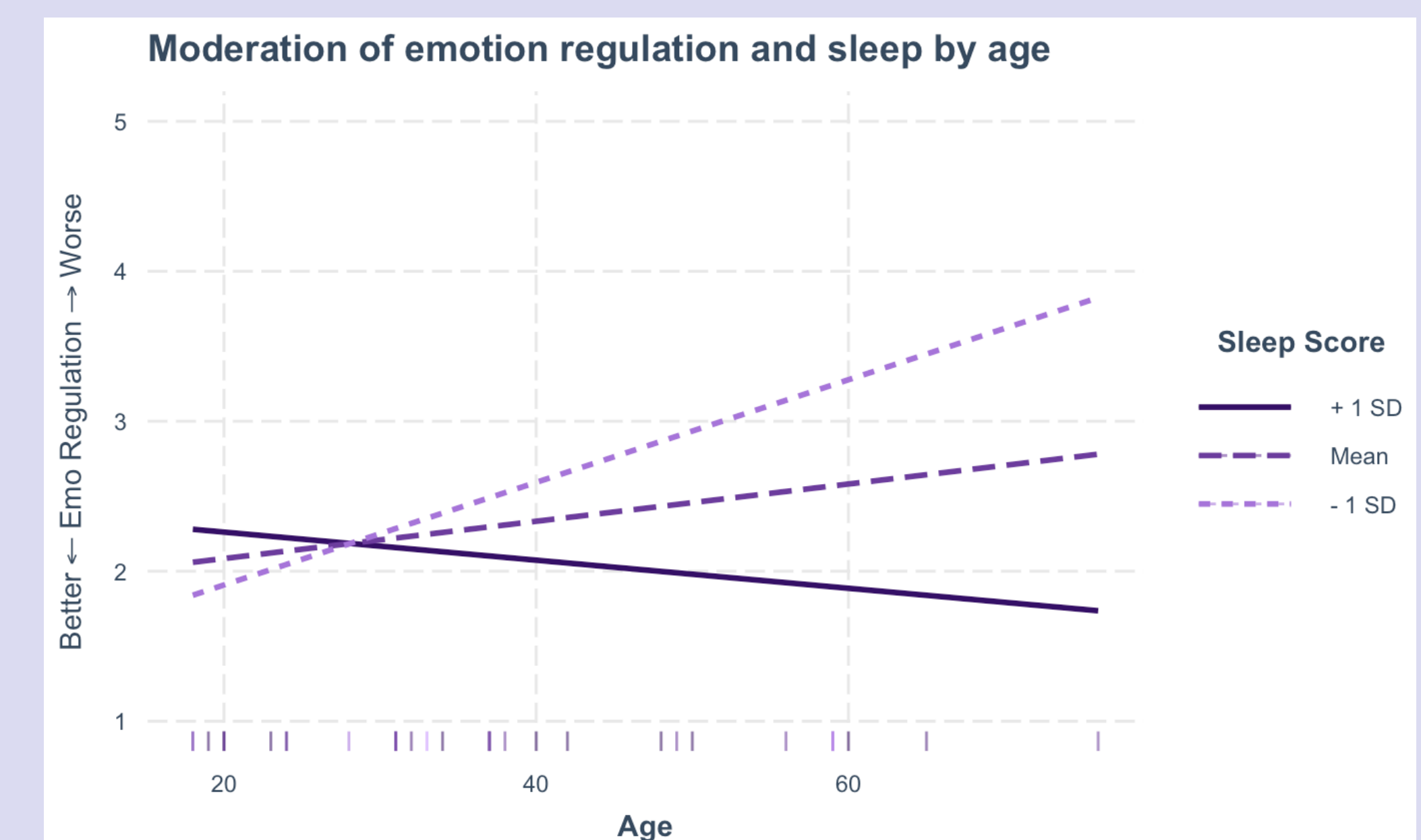
Increasing age is associated with **worse** emotion regulation ability

Partial regression plot of age predicting emotion regulation ( $\beta=1.60$   $p=0.042$ )



Increasing age is associated with worse emotion regulation ability for adults who experienced **poor sleep**

Interaction plot of moderation of emotion regulation and age by sleep ( $\beta=-1.61$   $p=0.073$ )



Neither age nor sleep were associated with amygdala-PFC connectivity.

## CONCLUSION

These findings suggest that the ability to regulate emotion decreases with age and highlight the importance of good quality sleep for adequate emotion regulation in older adults.

## REFERENCES

