Poorer sleep quality affects daily life emotional reactivity in depression
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Research Questions

- Does sleep quality and depression status interact to impact affective responses to daily life events?
- What aspects of sleep are most influential in reactivity?
- Is this response specific to negative emotional reactivity?

Method

Participants
Healthy control group (N = 36)
Mood/disordered group (N = 60)*
Major Depressive Disorder (N = 35)
Minor Depression (N = 25)

All adults diagnosed by SCID and groups matched on demographics
*Results indicated no difference between mood-disordered groups and therefore were combined for final analyses

Measures
Current positive and negative mood (Byslma, 2011)
PSQI (Derogatis et al., 1989)
Subscales sleep quality, latency, duration, efficiency, disturbances, medication, and daytime dysfunction

Data Processing
Event Appraisal (coded as neutral, pleasant, or unpleasant on 100 point scale)
- i.e. event computed as “unpleasant” if appraised as NA/PA computed using 7 negative and 7 positive adjectives
- 80/100 on scale

Procedure
EMA (Ecological momentary assessment) over 3 weekdays
10 times daily using handheld Palm Pilot

HLM Equations:
\[ Y_{ij} = \beta_0 + \beta_1 \text{Event} + \beta_2 \text{Sleep} + \beta_3 \text{Group} + \beta_4 \text{Sleep*Group} + e \]

Results

Sleep Efficiency and Negative Affect

Sleep Disturbances and Negative Affect

Conclusions
- Controls: Sleep efficiency ↑ sleep disturbances led to NA to unpleasant events and ↓ NA to neutral events
- Mood-disordered groups: Sleep efficiency ↑ sleep disturbances led to NA for all events

Background

Sleep and Mood Disorders
- Disordered sleep is associated with psychiatric disorders
- Sleep deprivation’s greatest impact is on the control of emotion
- Poor sleep quality is related to:
  - high negative emotions
  - prevailing low positive affect

Contradictory Findings on Poor Sleep and Negative Emotional Reactivity
- Enhanced NER
- Reduced NER

The Present Study
- We know depression is associated with poorer sleep quality
- This study will:
  - Explore the consequences of disordered sleep on reactivity
  - Investigate whether disordered sleep has a different impact on emotional reactivity between depressed and healthy individuals

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Discussion

- Yes. The interaction between group and sleep on negative reactivity was significant even when controlling for previous negative affect. When separating into depressed and non-depressed groups, different patterns emerge within negative reactivity.
- Sleep efficiency and sleep disturbances, out of the 7 subscales, were significantly associated with negative affective responses.
- Results for impaired sleep quality were specific to models involving negative events. No relationships were observed for positive events.

Future Directions/Implications:
- Impaired sleep in healthy controls affects NA reactivity differently than mood-disordered persons in response to unpleasant and neutral events.
- Healthy controls with worse sleep react consistently with circumstantial events, whereas depressed individuals display inappropriate and blanket increase in negative reactivity across type of event.
- Increased negative emotional reactivity in daily life point to the importance of sleep for quality of life.