

BLUE-ENRICHED LIGHT IMPROVES ALERTNESS AND MOOD FOLLOWING ABRUPT AWAKENING FROM SLOW WAVE SLEEP

Hilditch CJ, Wong LR, Feick NH, Bathurst NG, Flynn-Evans EE.

CASSIE J. HILDITCH, PHD
SAN JOSE STATE UNIVERSITY
FATIGUE COUNTERMEASURES LABORATORY
NASA AMES RESEARCH CENTER



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What is sleep inertia?

- Grogginess, impaired cognitive performance upon waking
- Worse at night, after sleep loss, or waking from deep sleep
- Astronauts at risk

Sleep inertia countermeasure: light

Background Methods Results Conclusions



Reactive countermeasures

>>Field deployable



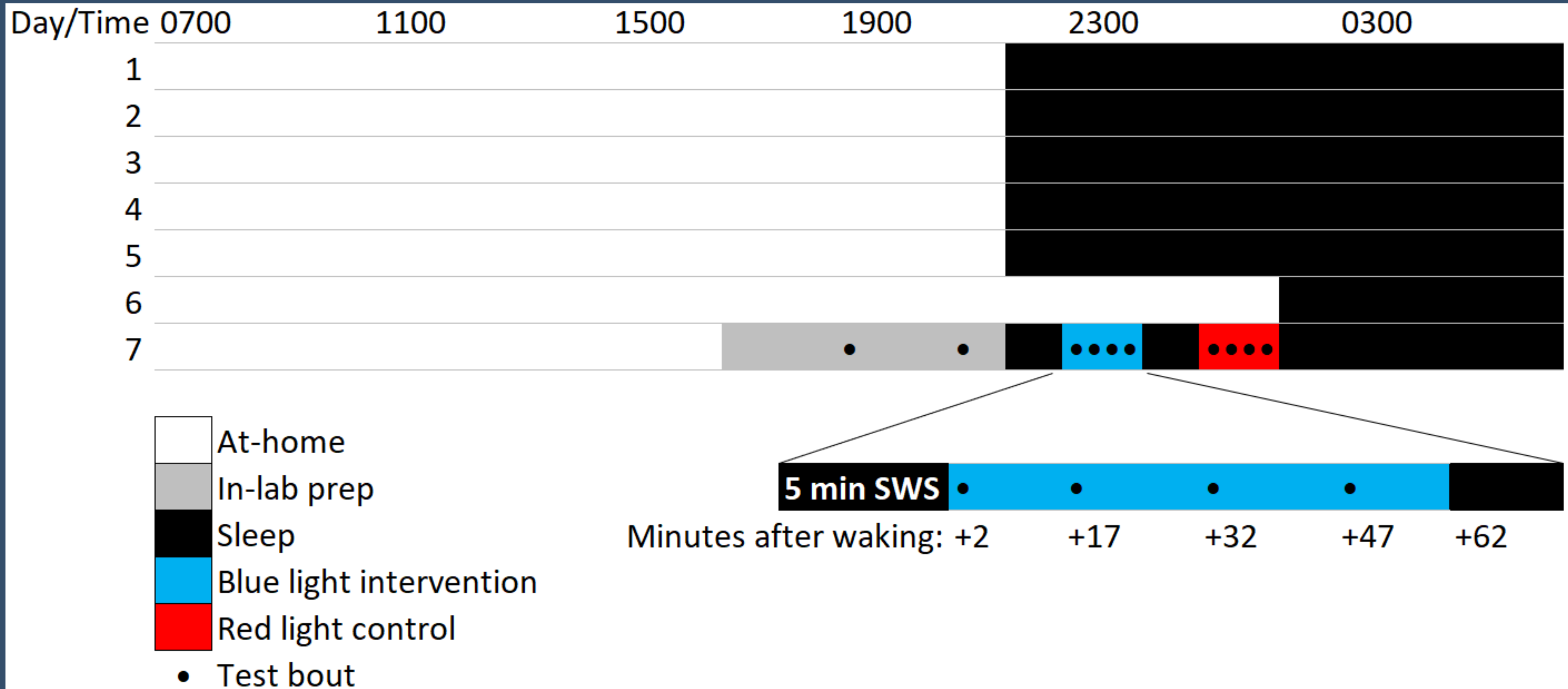
Light

- Phase shifting, acute alerting effects
- Time of administration, wavelength

Sleep inertia countermeasure: light

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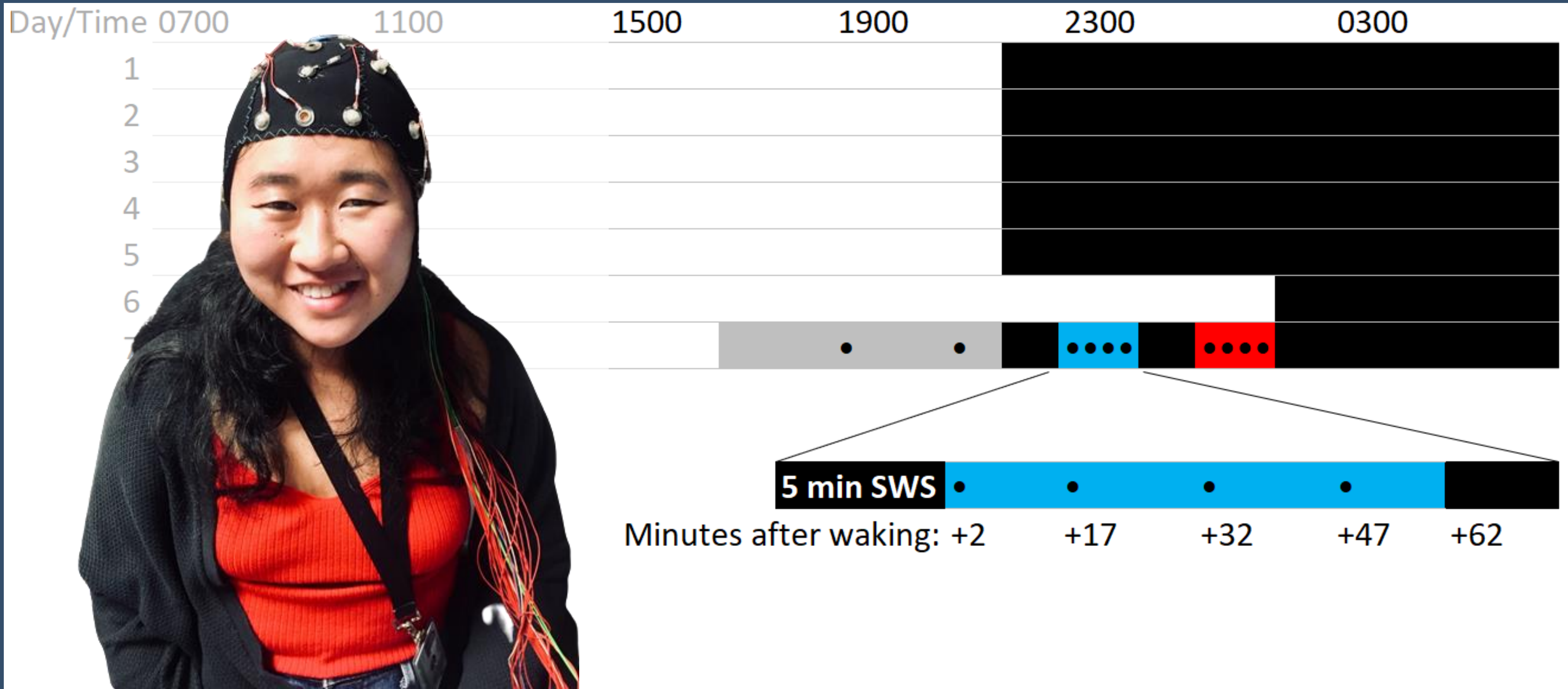




Sleep inertia countermeasure: light

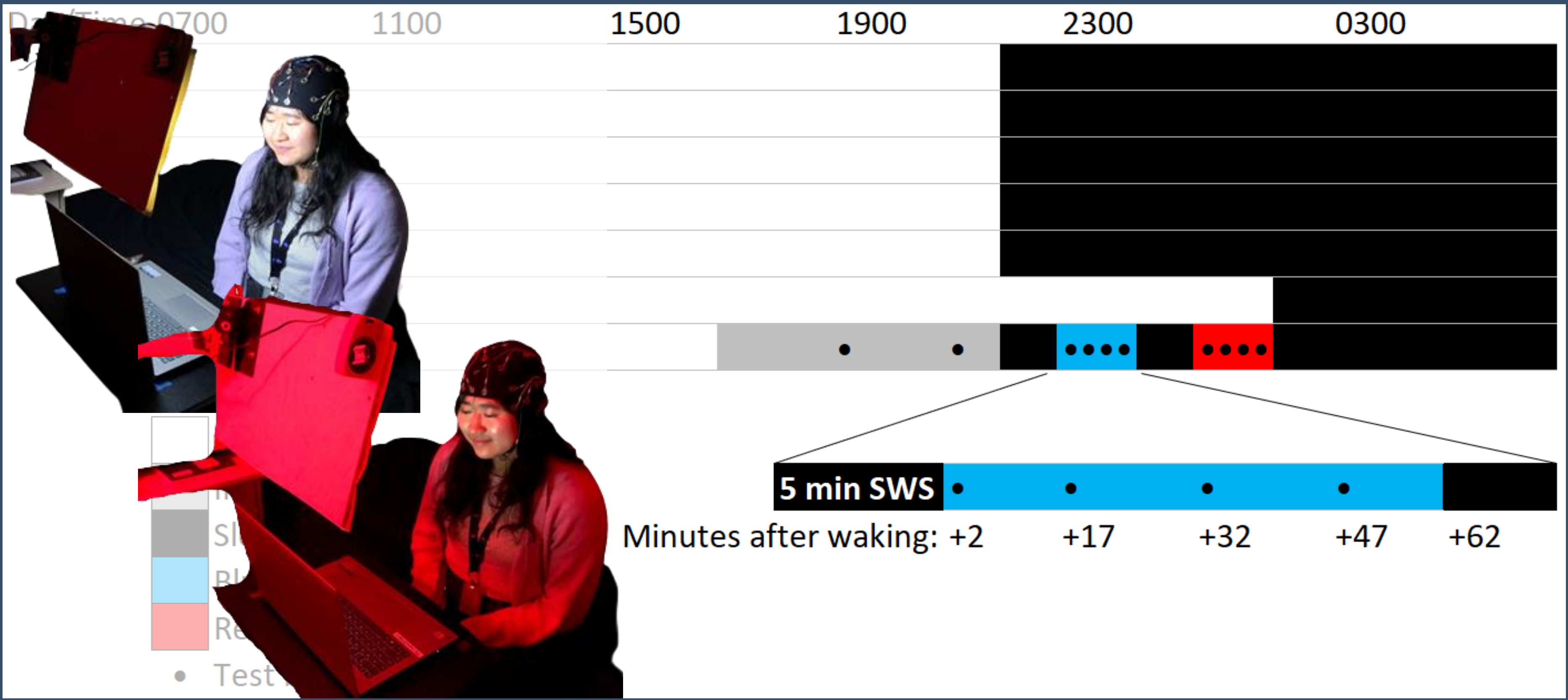
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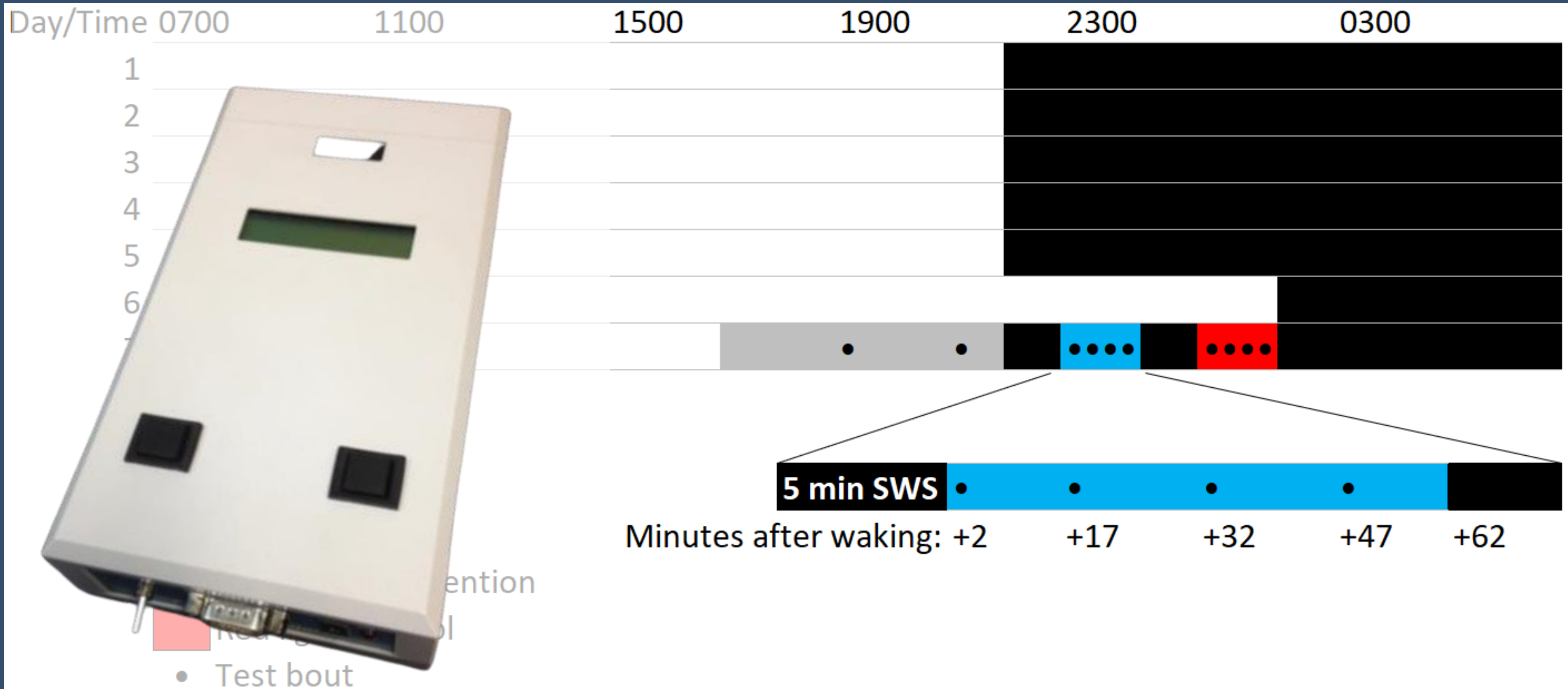
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Sleep inertia countermeasure: light

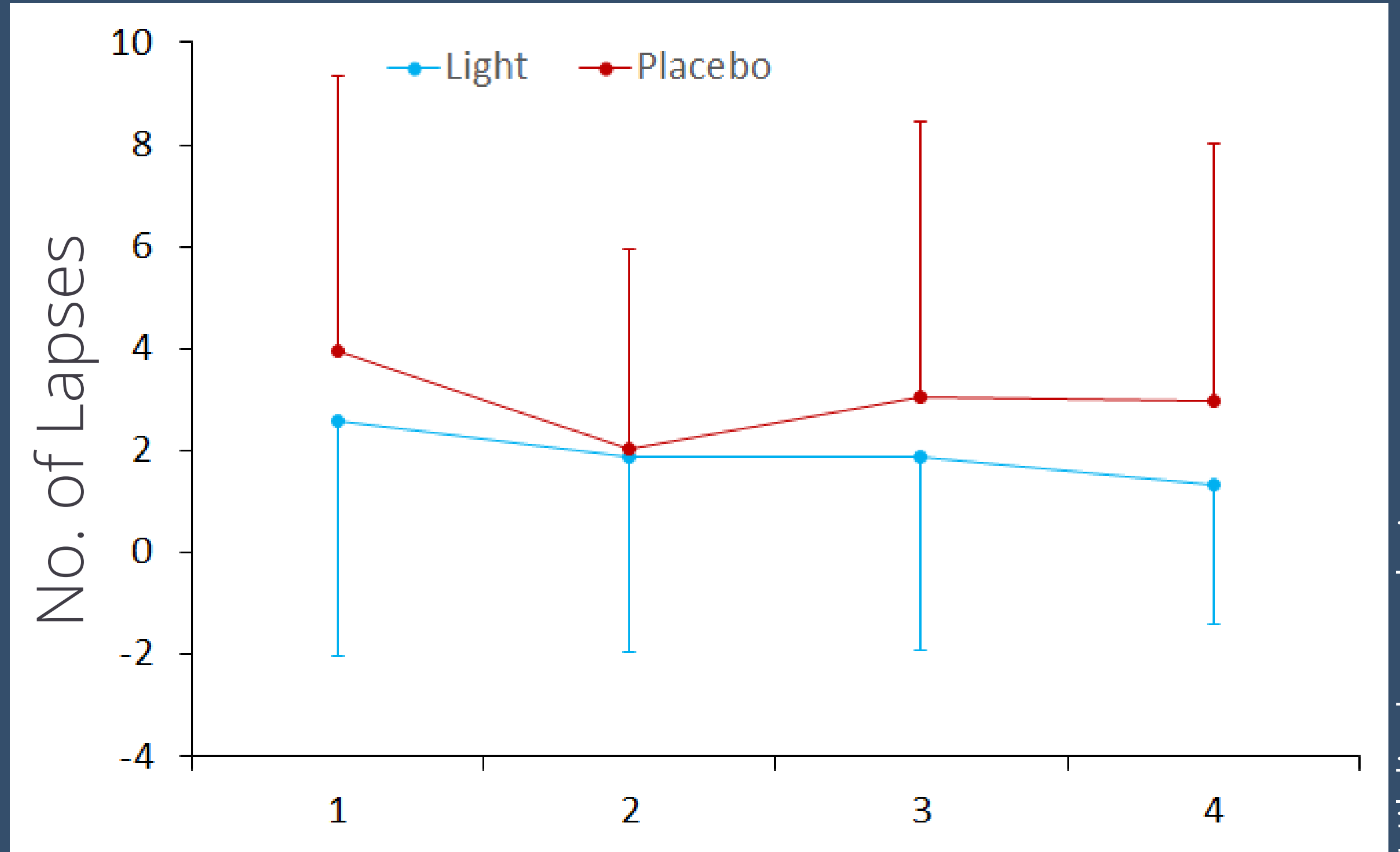
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PVT

FEWER LAPSES

NON-SIGNIFICANT
SPEED INCREASE



Hilditch et al., in prep

Sleep inertia countermeasure: light
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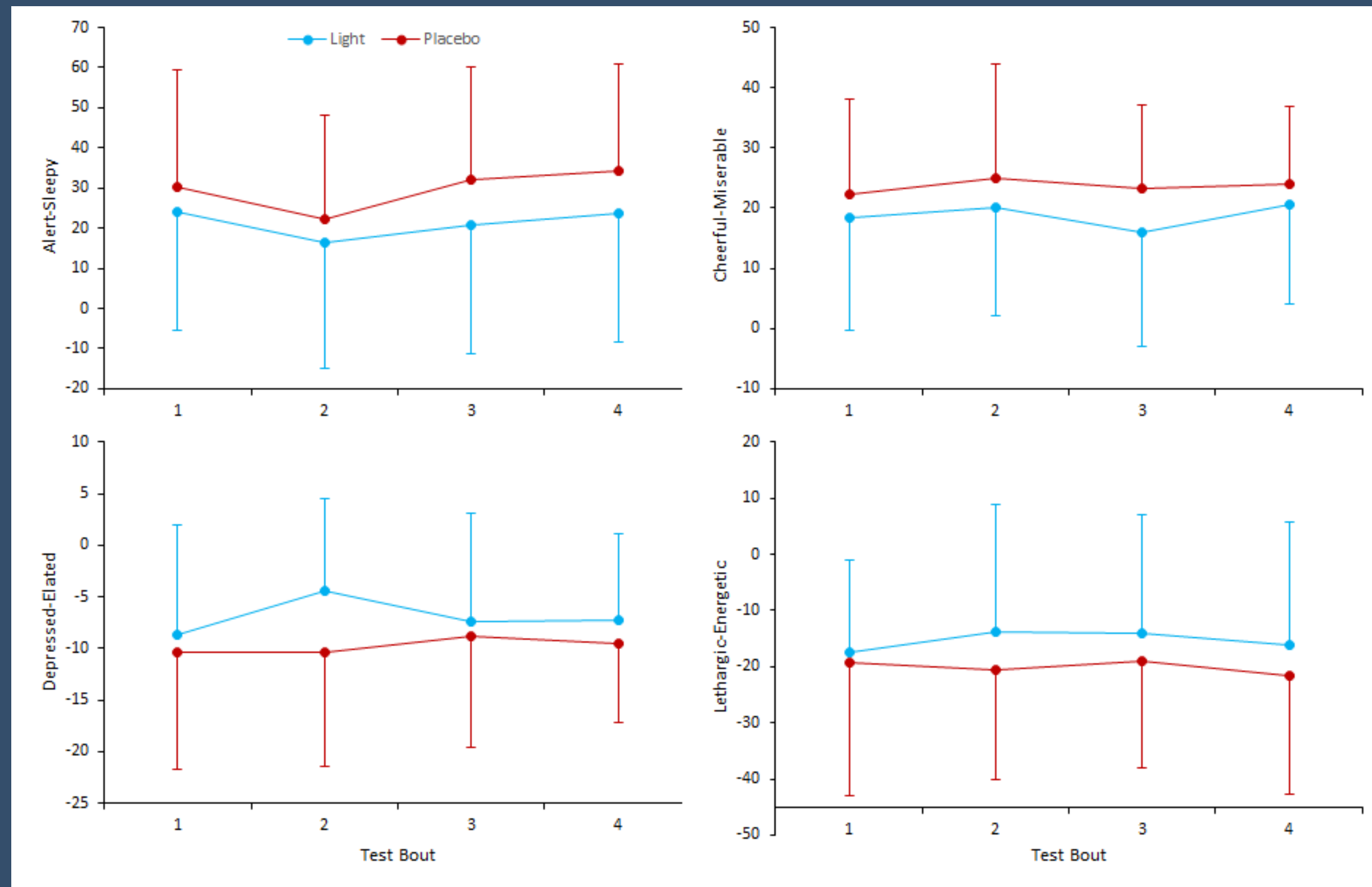
Mood

MORE ALERT

MORE CHEERFUL

LESS DEPRESSED

LESS LETHARGIC



Hilditch et al., in prep

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RISE AND SHINE!

Blue-enriched light exposure after waking may help to improve performance, alertness, mood.

FIELD TESTING

Does this countermeasure work in real world environments?

Sleep inertia countermeasure: light
Background Methods Results **Conclusions**

