

Individual Differences in Daily Rhythms of Cognitive Function

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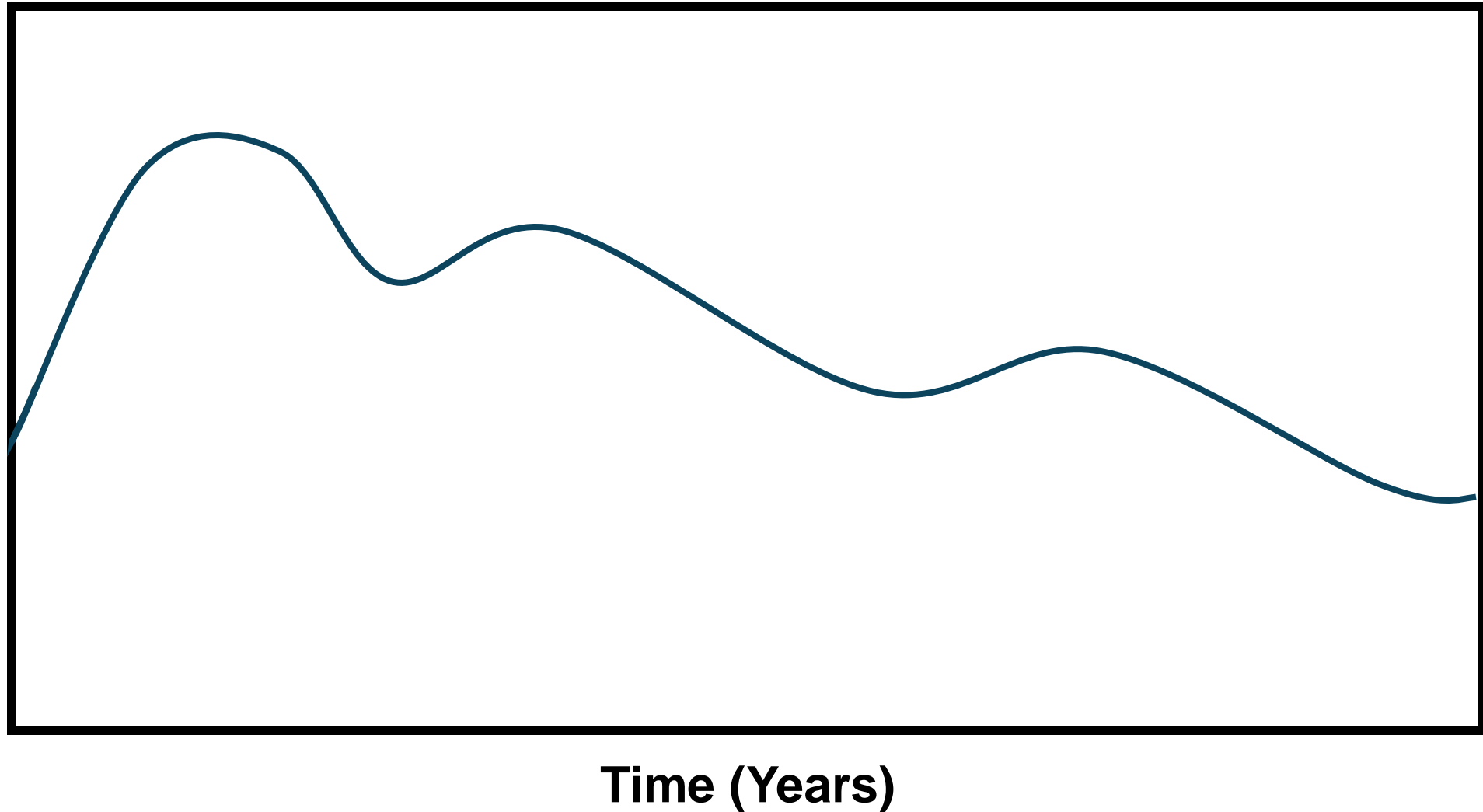
University of California, Davis



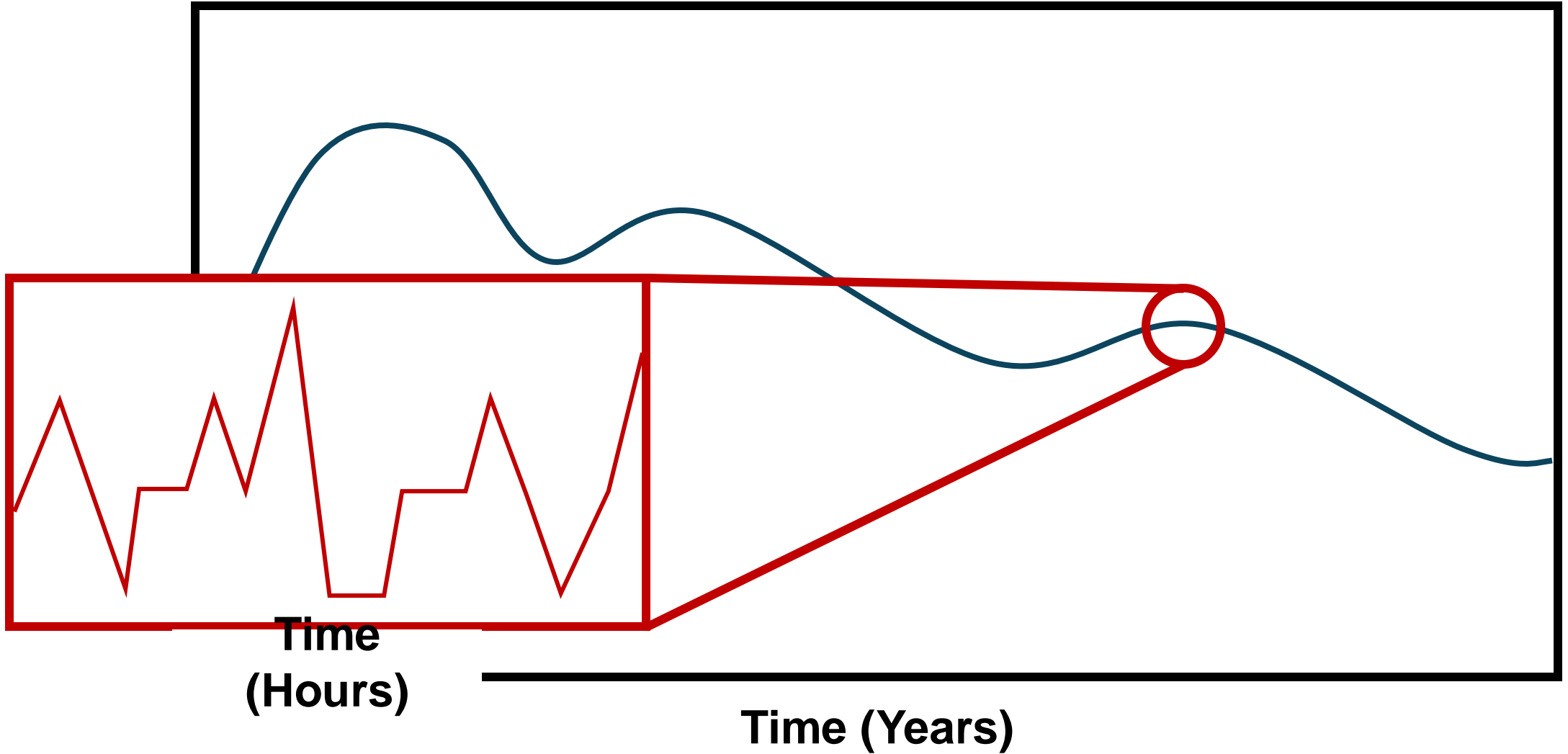
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Zoë W. Hawks, Ph.D

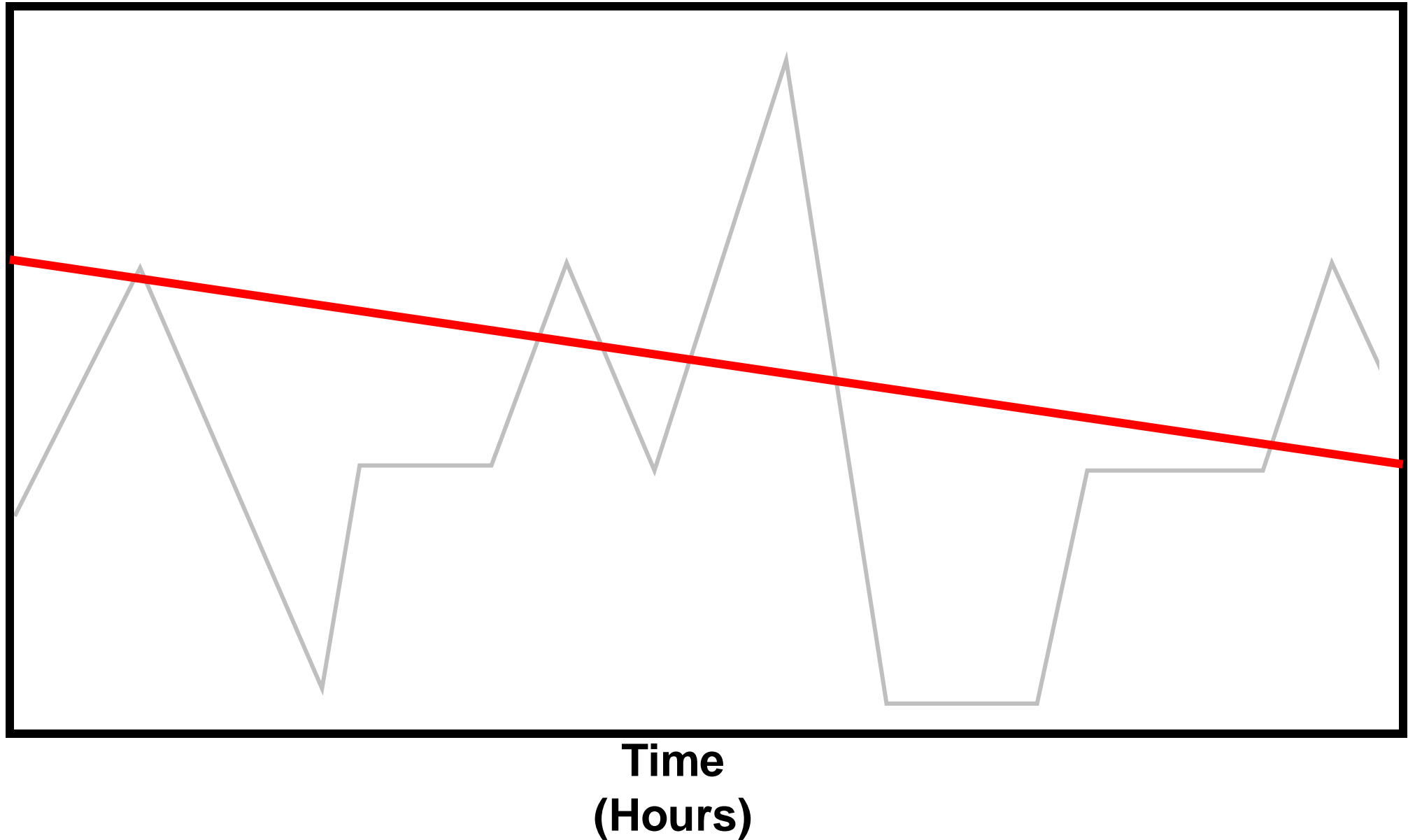
Lifespan Cognitive (Level) Decline



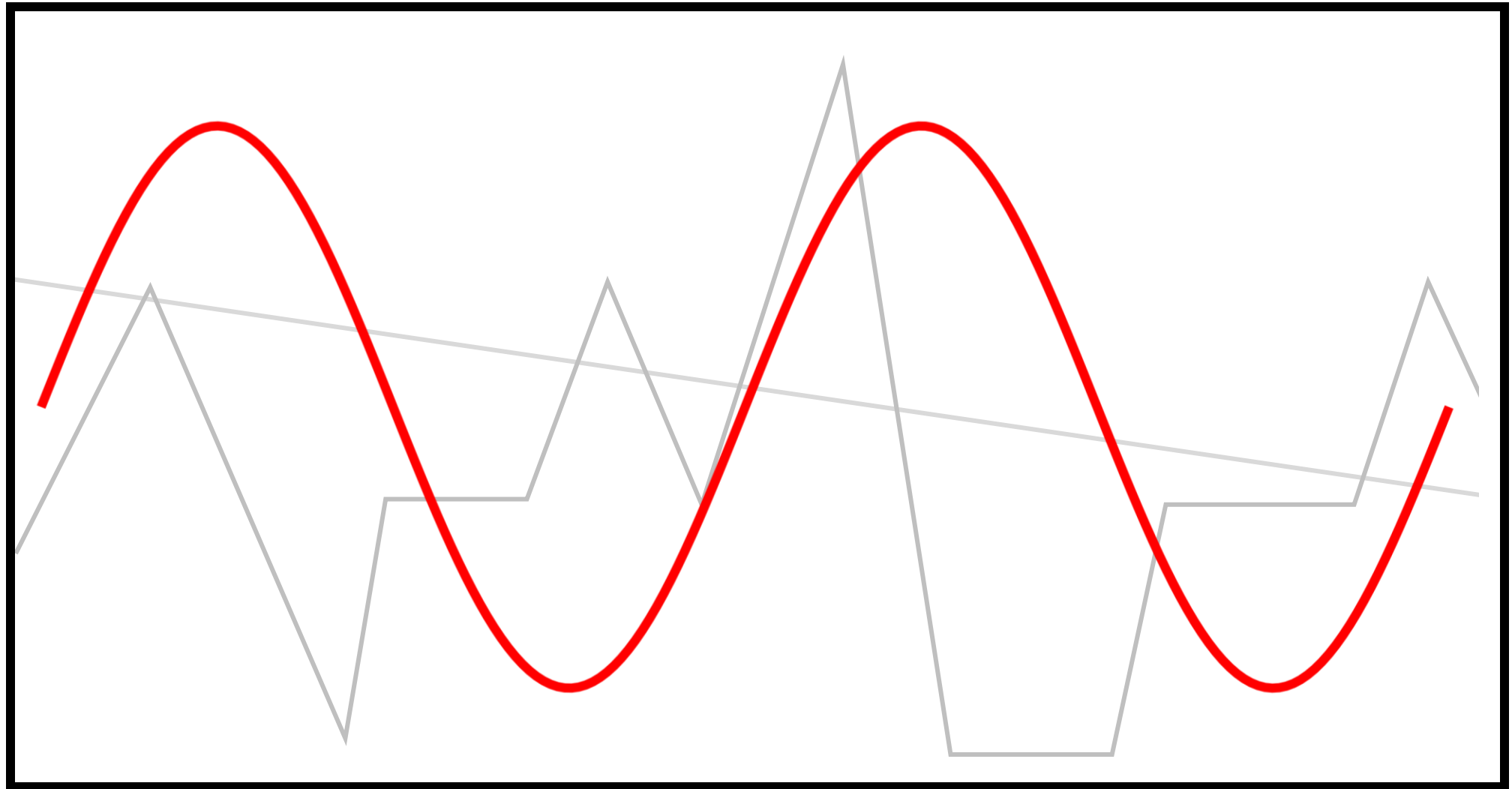
Lifespan Cognitive Variability



Lifespan Cognitive Variability



Lifespan Cognitive Variability



Time
(Hours)

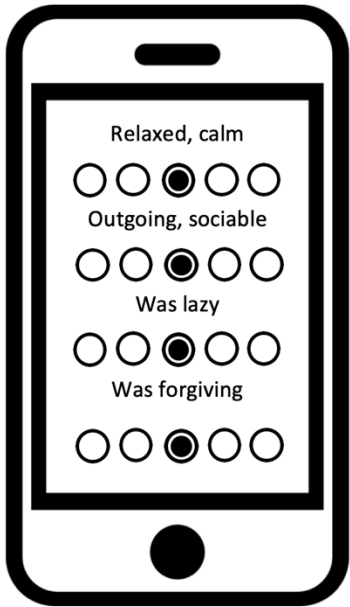
Lifespan Cognitive Variability

**Research Question 1:
Are there detectable daily rhythms of
cognitive function in everyday life?**

Time
(Hours)

Participants

Social Cognitive EMA Study



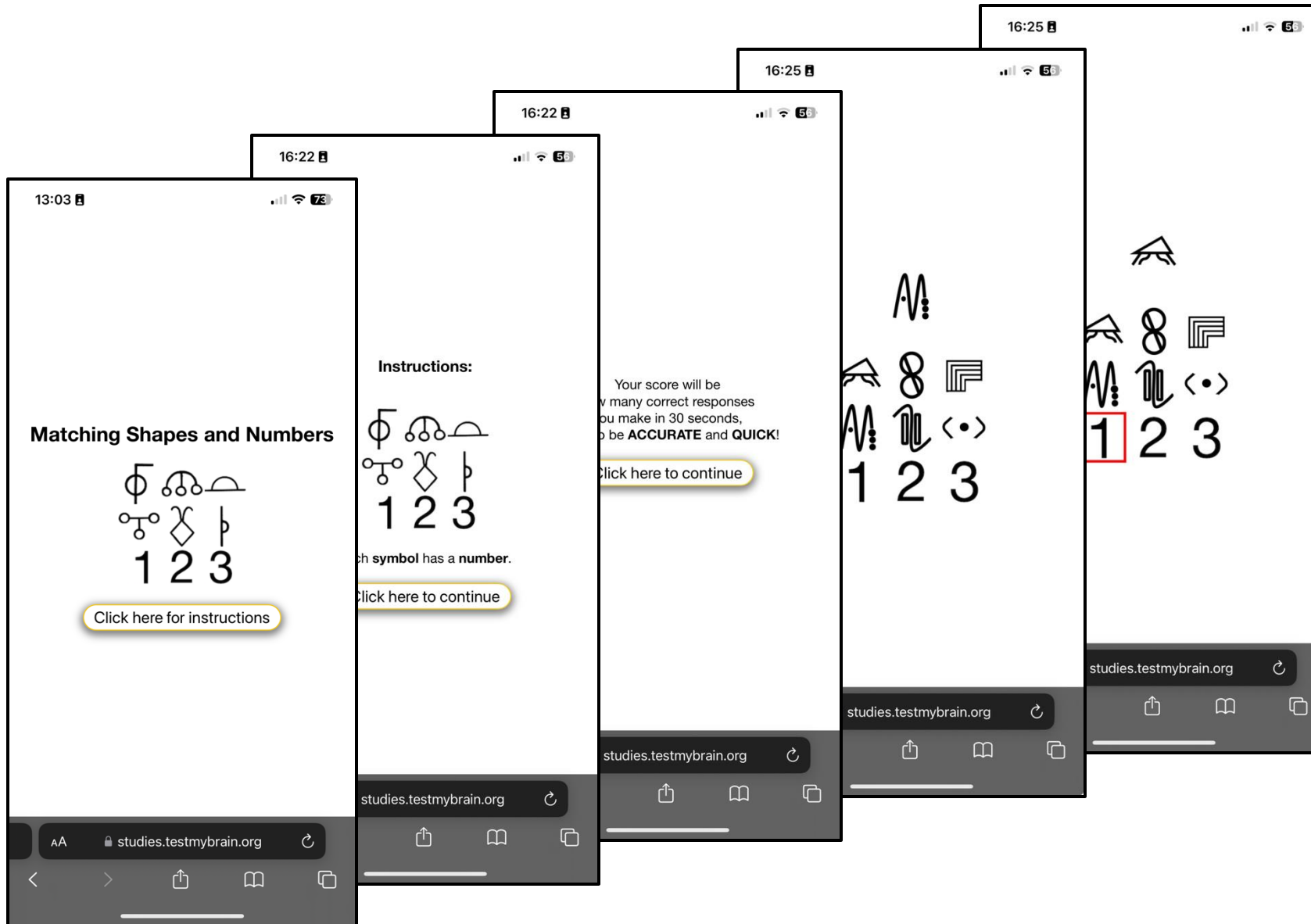
**5x / day,
20 days**

$N = 117$
(8,021 surveys)
 $M = 67.53$, $Med = 72$
 $SD = 28$
Range = 12-100

75.7% female
 $M_{age} = 55.31$
 $SD_{age} = 8.18$
 $\%_{College} = 71.79\%$

Digit Symbol

(speed)



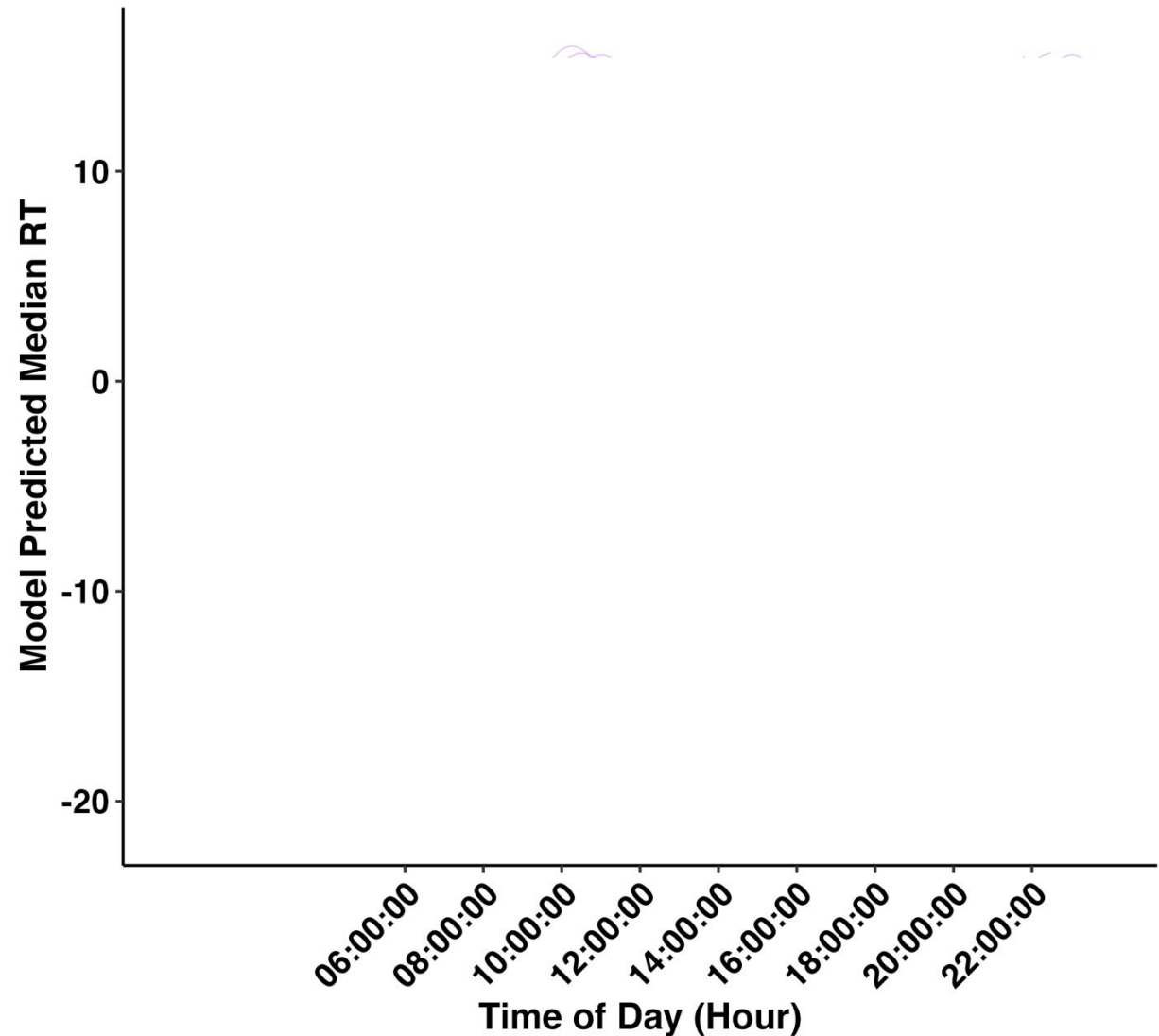
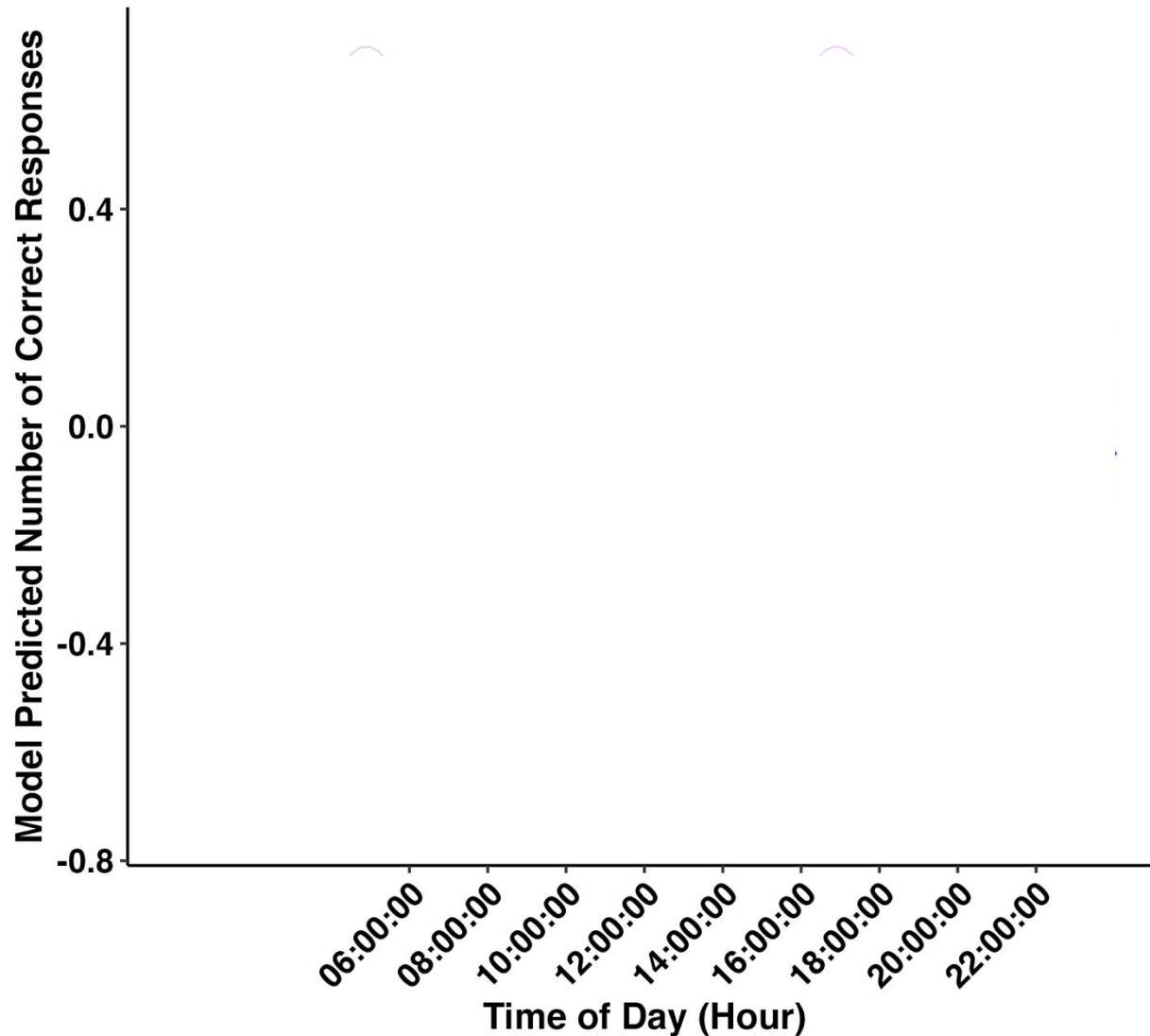
Three Performance Measures:

1. Accuracy
2. Mean RT
3. Median RT

Q2: Individual Differences in Daily Cycles of Cognitive Function

Digit Symbol: Daily Rhythms

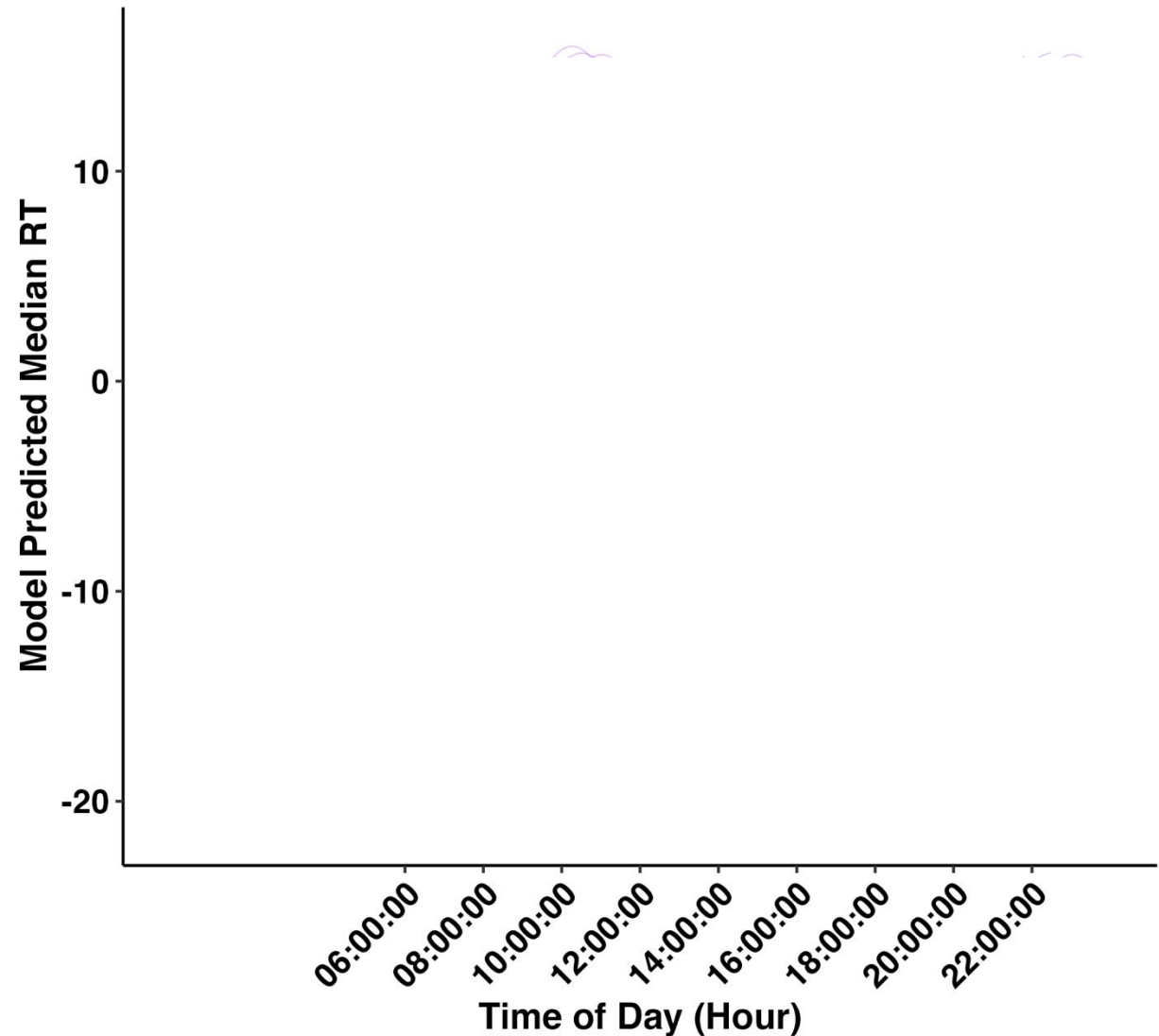
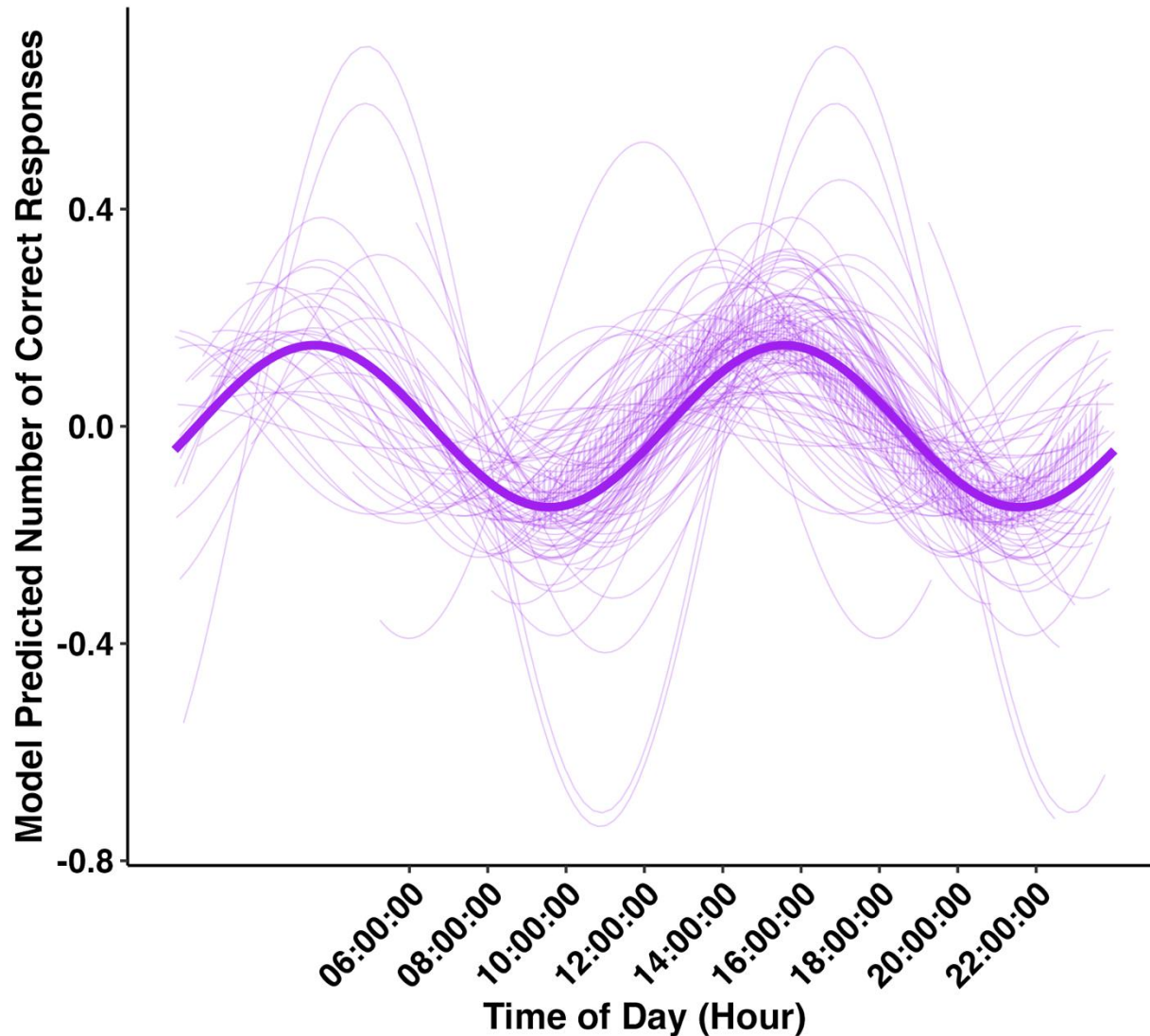
Cosinor Trends Within Days



Q2: Individual Differences in Daily Cycles of Cognitive Function

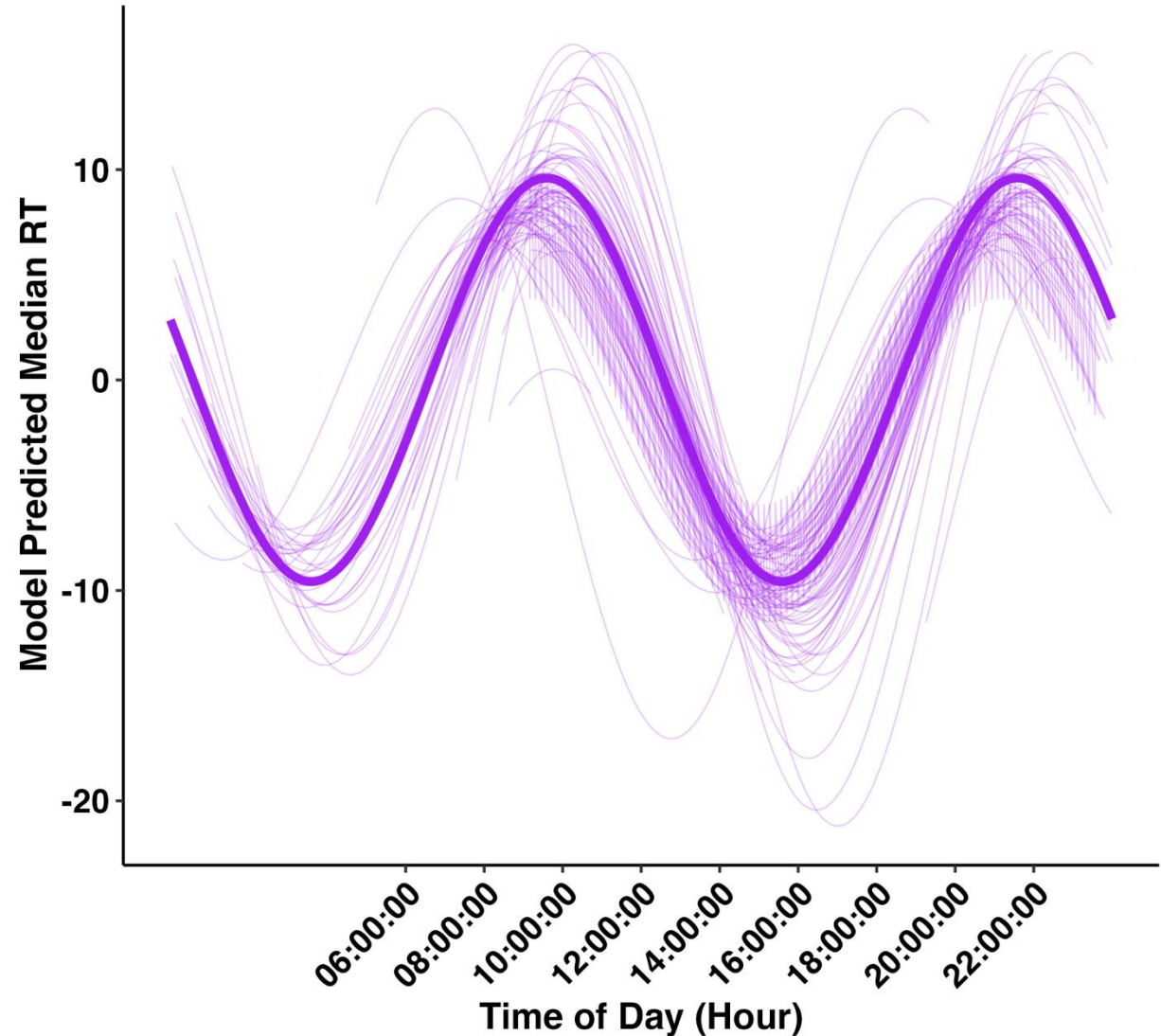
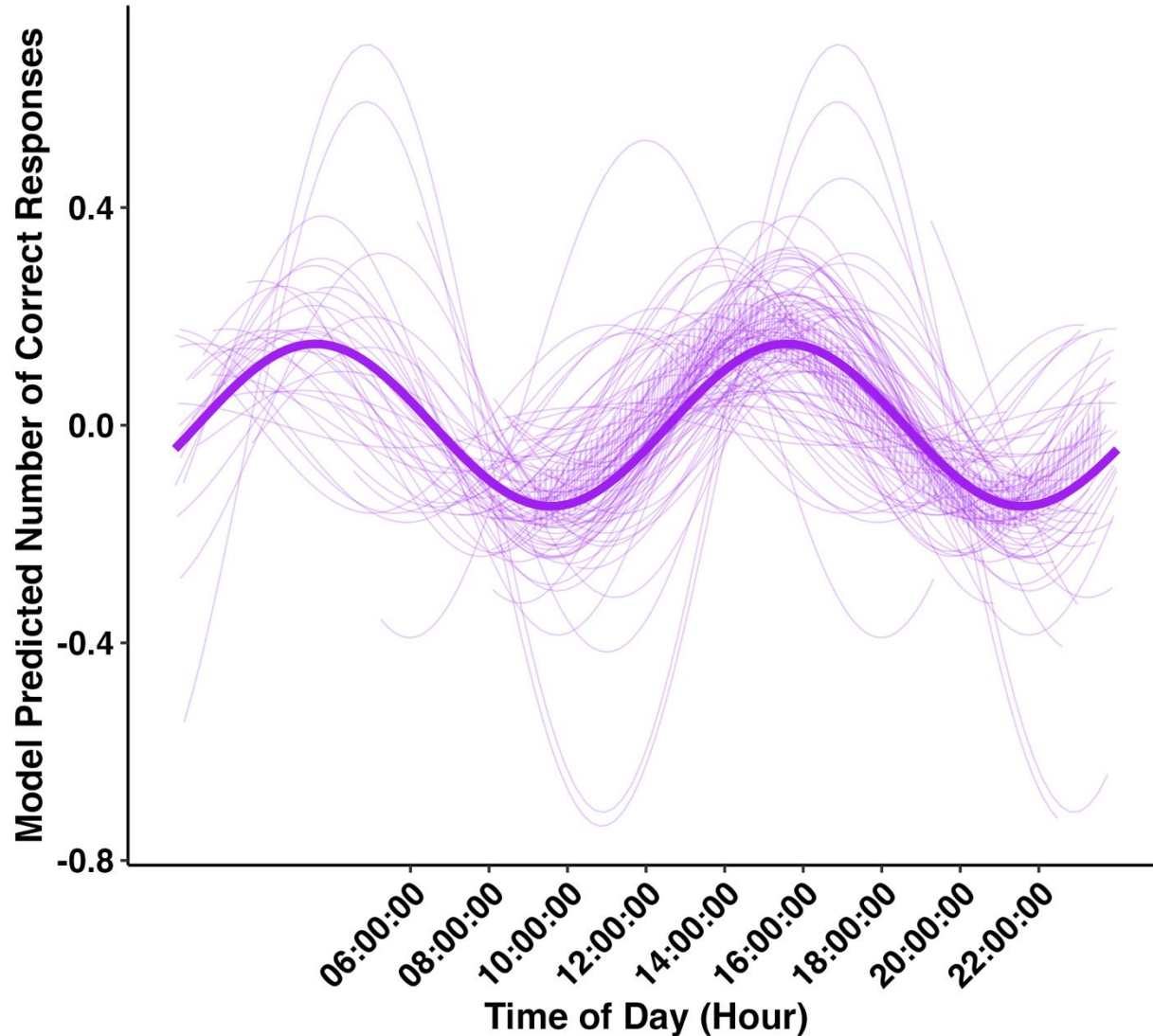
Digit Symbol: Daily Rhythms

Cosinor Trends Within Days



Q2: Individual Differences in Daily Cycles of Cognitive Function

Digit Symbol: Daily Rhythms
Cosinor Trends Within Days



Q2: Individual Differences in Daily Cycles of Cognitive Function

Digit Symbol: Daily Rhythms
Cosinor Trends Within Days

Within-person, there are individual differences in *when* dips in performance occur (phase shift) and *how extreme* they are (amplitude).

