



# Persistent Reduction in REM Sleep Following the Spring Daylight Saving Time Transition in a Large Real-World Cohort



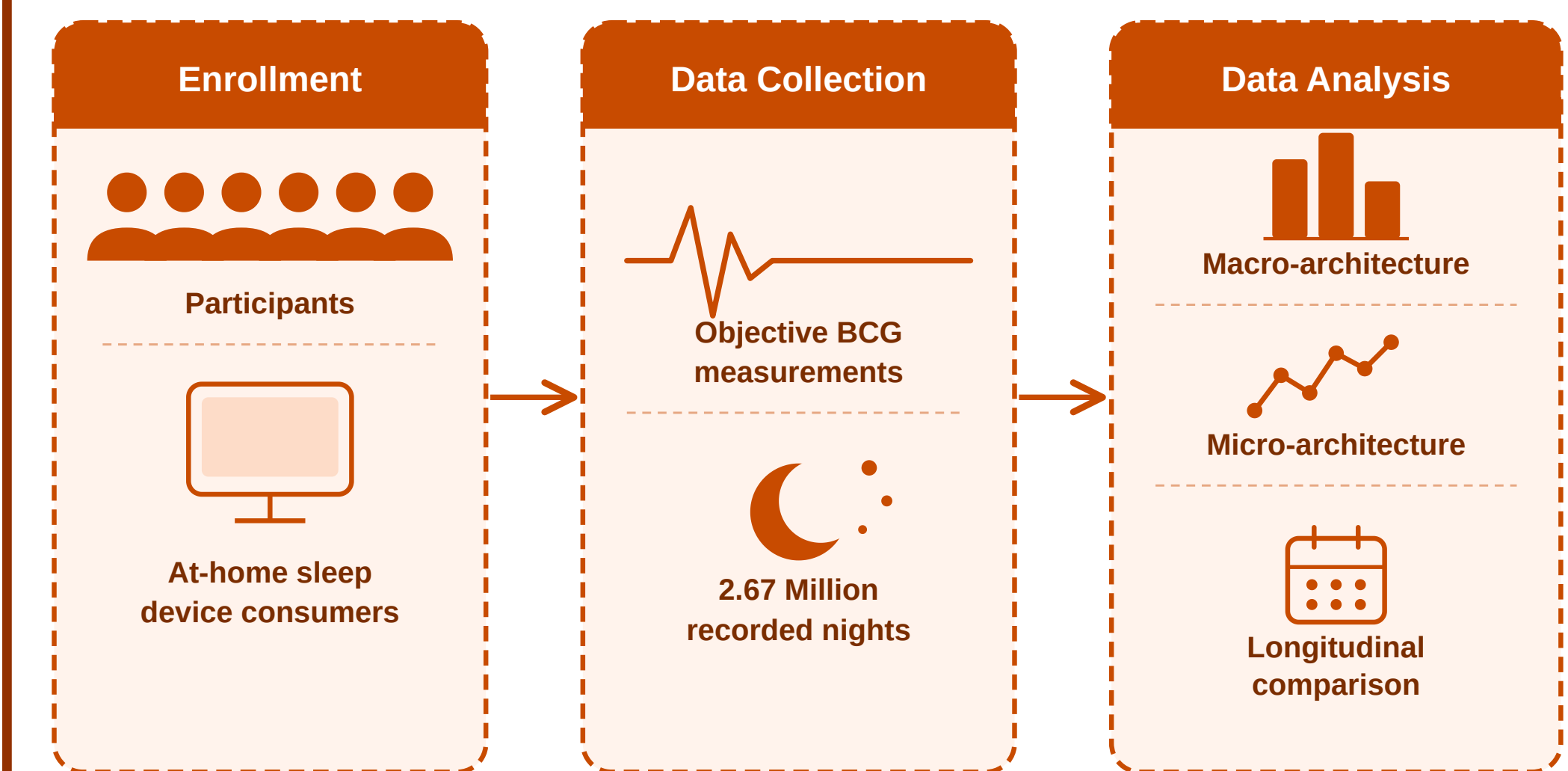
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## Introduction

- The **Spring Daylight Saving Time (DST)** transition introduces an abrupt one-hour shift to our sleep schedule.
- Despite this globally shared practice, is unclear how this shift impacts sleep architecture beyond the first night.
- Using home sleep monitoring technology, we can gain insight into the impact of Spring DST on sleep architecture on a large, real-world sample.

## Methods



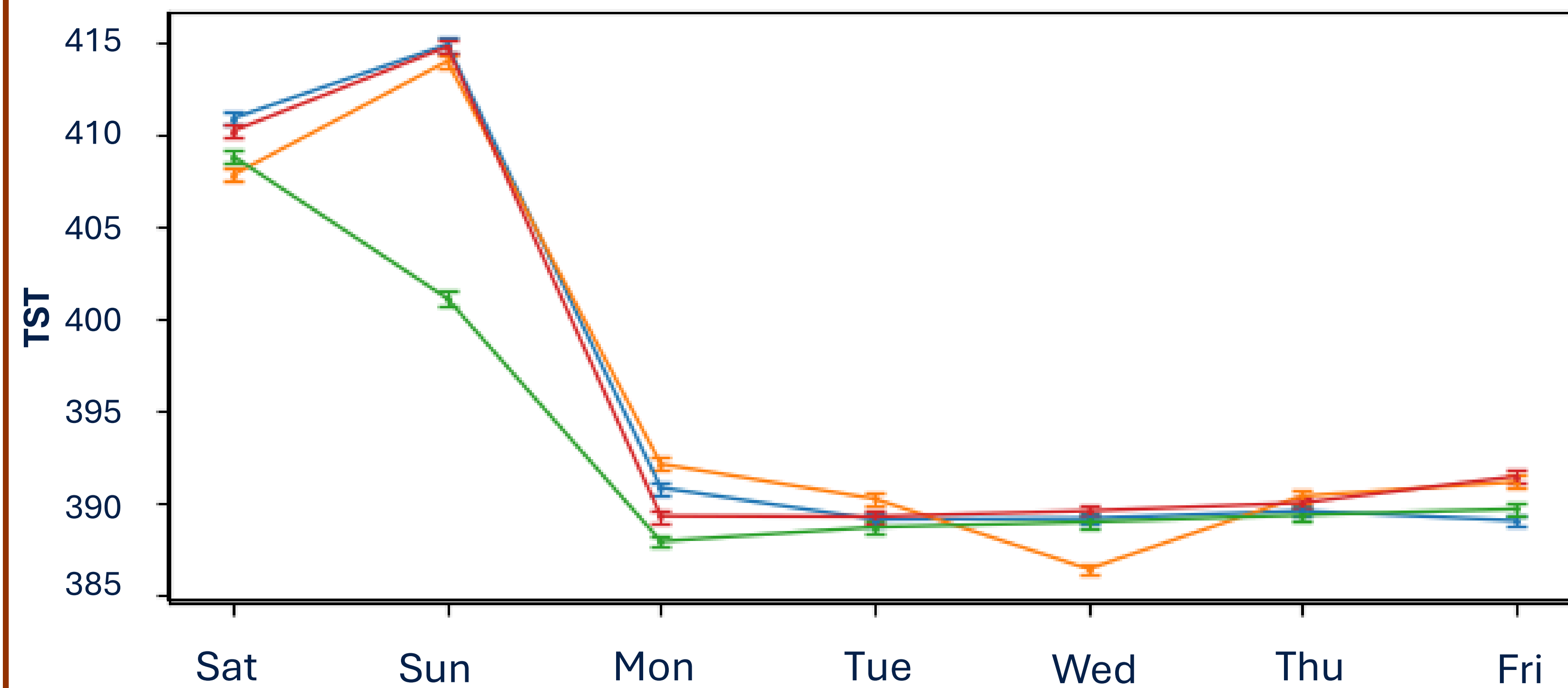
### Participant Info

117,578 Participants  
2.67 Million Recorded Nights

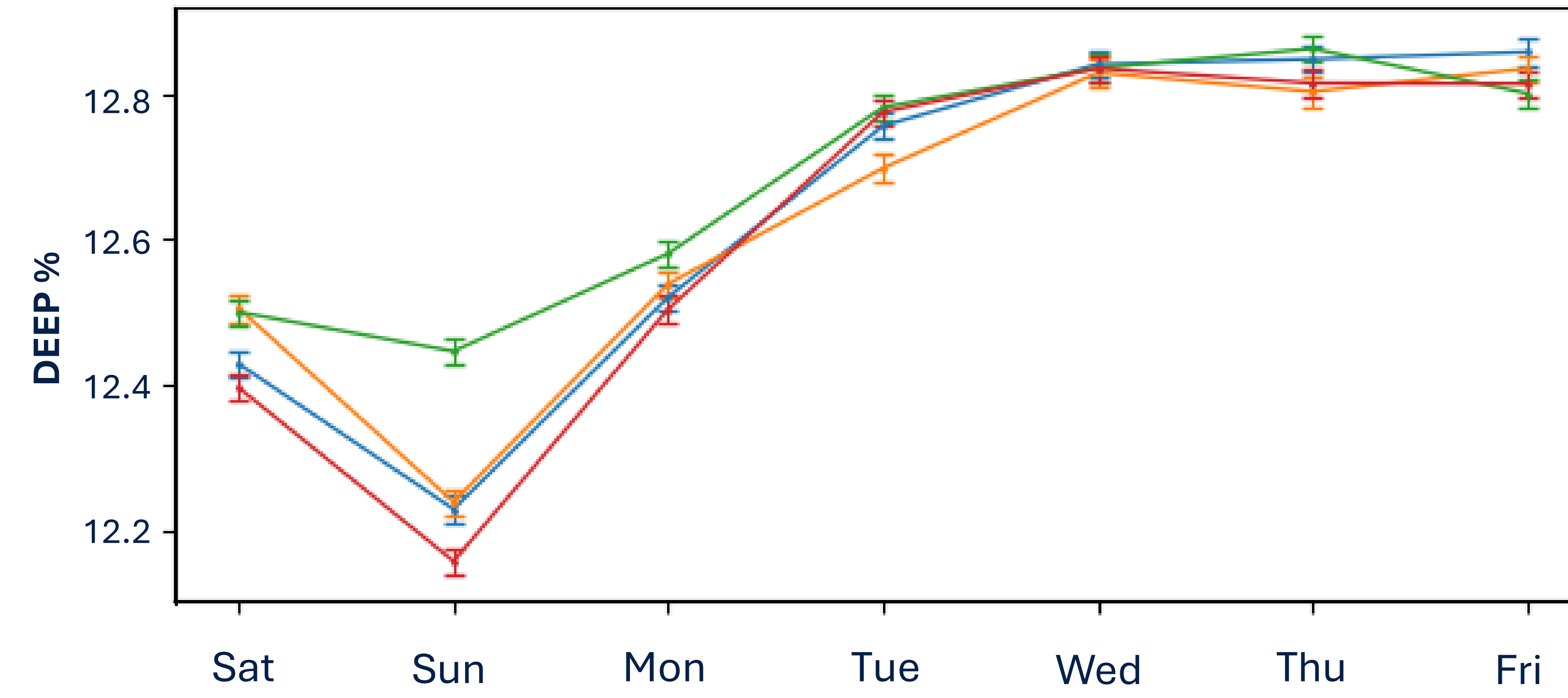
39.5% Women  
18.8% Non-White  
Avg. Age: 47 ± 12.8 years

## Results: DST Impact on Sleep Architecture

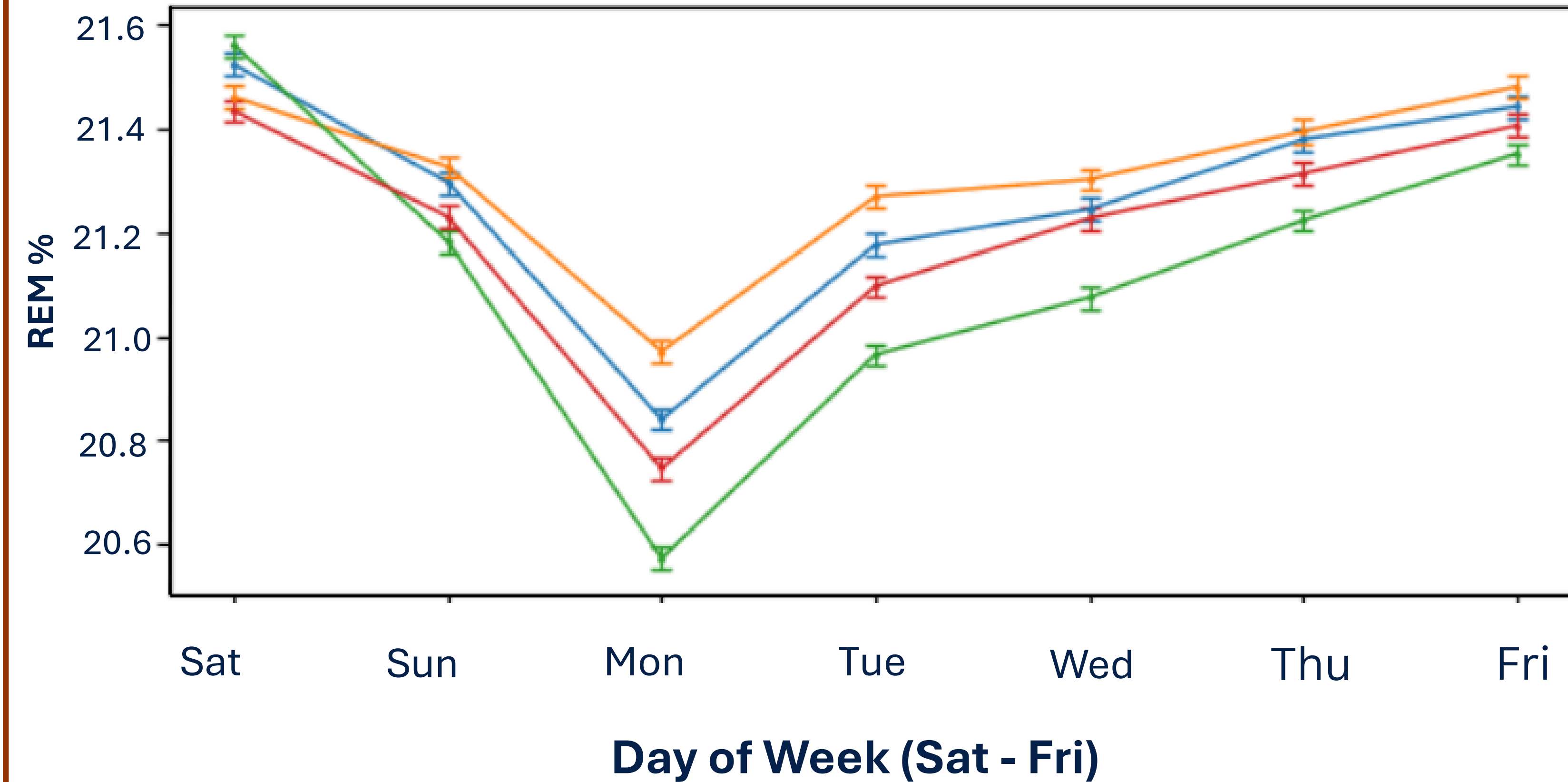
### A. TST by Week Relative to DST Week



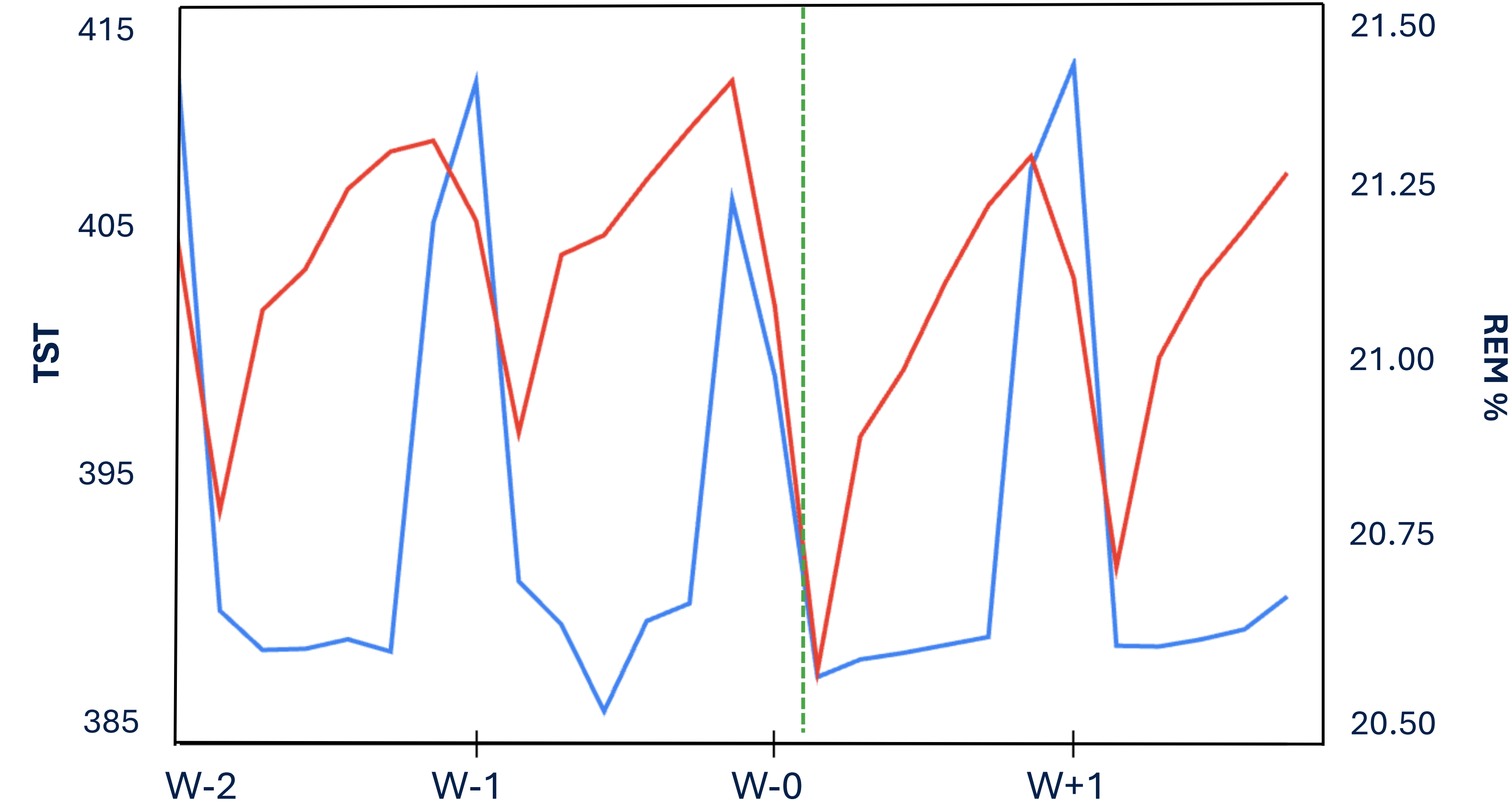
### B. Deep Sleep % by Week Relative to DST Week



### C. REM% by Week Relative to DST Week



### D. Avg. TST and REM% Comparison by Week



### Week Index (A-C)

(0 = DST Week)

- W-2
- W-1
- W-0
- W+1

**Figures A–D.** Mean sleep metrics by weekday (Saturday–Friday), shown across weeks relative to Spring DST onset. **(A)** Total Sleep Time (TST). **(B)** Deep Sleep percentage. **(C)** REM percentage. **(D)** Average TST (blue, left axis) and REM% (red, right axis) plotted together. Week index labels denote week relative to Spring DST, with W-0 indicating the DST week. Data was taken two weeks prior to, and following Spring DST.

### Key (D)

- Avg. TST
- Avg. REM%
- Spring DST Onset

- Although both REM% and total sleep time (TST) decreased on the first night of DST, **only TST returned to pre-DST levels in subsequent weeks, whereas the reduction in REM% persisted.**
  - (week 0 vs. -2: -0.18%)
  - (week 0 vs. -1: -0.24%)
  - (week +1 vs. -2: -0.06%)
  - (week +1 vs. -1: -0.12%)
  - ( $p < 0.0001$  for all comparisons)
- Despite a ~13 min. loss of TST the night of DST, unexpectedly, **Deep Sleep % increased the night of DST.**
  - (week 0 vs. -2: +0.22%)
  - (week 0 vs. -1: +0.21%)
  - ( $p < 0.0001$  for all comparisons)

## Conclusions

- Time shifts to one's sleep, as small as a single hour, are associated with a decrease in REM% felt beyond the first night.
- Despite Spring DST being characterized as an issue of lost TST, the **decrease in REM% more accurately explains the negative effects felt.**



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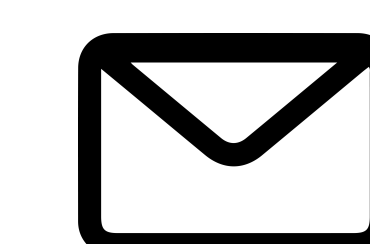
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Scan to see where and when we'll be presenting



Scan to see references and acknowledgements



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