How Our Brains Vote:

Neurobiological Differences Moderate the Impact of Sleep on Voter Related Behavior

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Abstract

Despite high interest in voter behavior and a plethora of psychological evaluations, no previous research has interrogated how neuroanatomical structures play a role in voting decisions. Additionally, very little research has been done on how patience, a critical behavioral factor in decision-making and a heavily studied quality in neuroscience, impacts voting. This study subsequently evaluates how patience plays a role in voter turnout and how neuroanatomy moderates the impact of experiences on patience.

Background

- Rational Choice: R > BP - C + D
- Patience may change our decisions today that impact our future
- Sleep may impact patience
- Patience is functionally implicated in the striatum

Questions

1. How do individual differences in patience predict variation in voter turnout?
2. How do individual differences in recent experiences (sleep quality) and neurobiology (brain volume) predict variation in patience?

Data

2 High-Powered Open Source Datasets

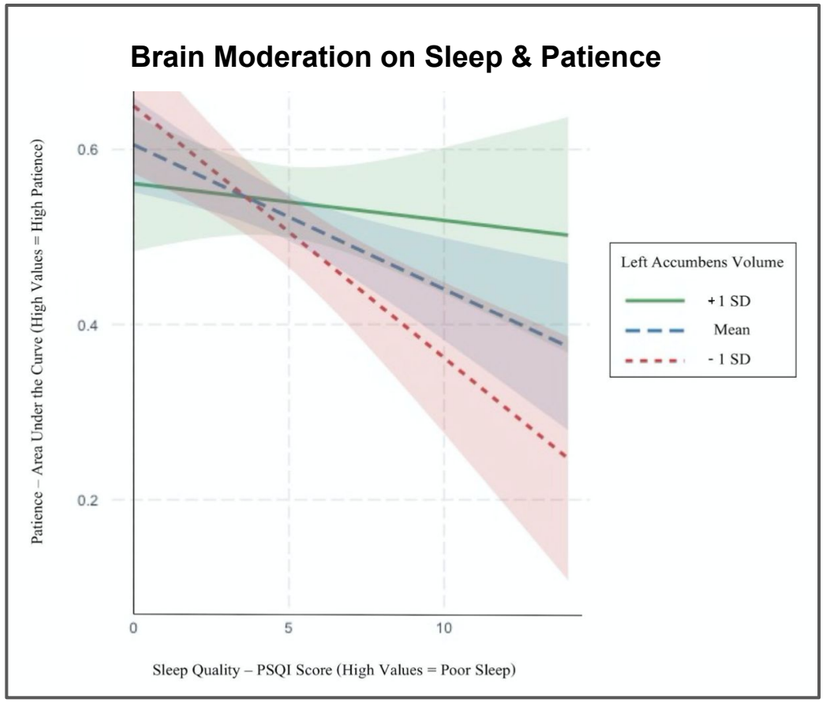
Cooperative Congressional Election Study

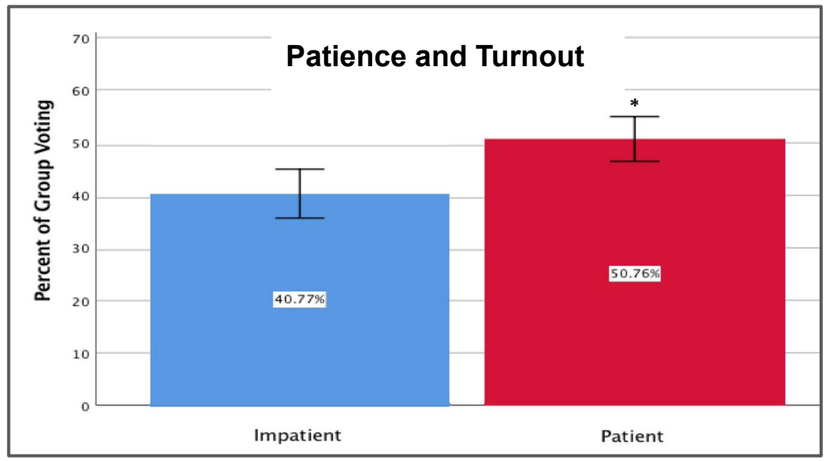
Human Connectome Project

After cleaning: 941 and 457 data points

Analysis

1. Preliminary Analyses
   - Multiple patience models
   - Initial relationships
2. Group Differences in Voting
3. Moderation Analysis with and without whole brain control





Results & Discussion

- Patient individuals voted at a 10% higher rate than impatient individuals
  - Controlled: Identity, Socioeconomics, and Mobilization Efforts
- Poor sleep correlated to poor patience
- Brain volume in critical decision-making regions moderates this relationship
  - High brain volumes protect patience
  - Absolute and relative volumes
- **A new avenue for increasing civic engagement**

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