The Effects of Nitrate on Mind Wandering

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Sources of Nitrate

- Found in Beets
- Nitrate leads to Nitrite leads to Nitric oxide
- Nitric oxide promotes vasodilation (Kellogg et al. 1999)
  - Increased blood flow and oxygenation
Nitrate Findings

- Many uses, including sports supplementation
- Lansley and Colleagues (2011)
- Beet juice and cycling
  - Increased power output
  - Linked dietary nitrate to sports performance
Presley and colleagues (2011) examined nitrate consumption in older adults. The goal was to see if nitrate consumption would increase cerebral blood flow. Specifically, there was an increase in blood flow to frontal regions, particularly the Anterior Cingulate Cortex (ACC) and Dorsolateral Prefrontal Cortex (DLPFC).
ACC and DLPFC function

- Conflict Evaluation and Resolution
- Response selection
- Higher order cognitive control
SART Task

- Numerical Decision making
  - Similar to go/no go
- Thought Probes
  - On Task
  - Tune Out
  - Zone out
Predictions

Nitrate may lead to...
- Fewer Zone-Outs
- Improved Accuracy
- Faster Reaction Times