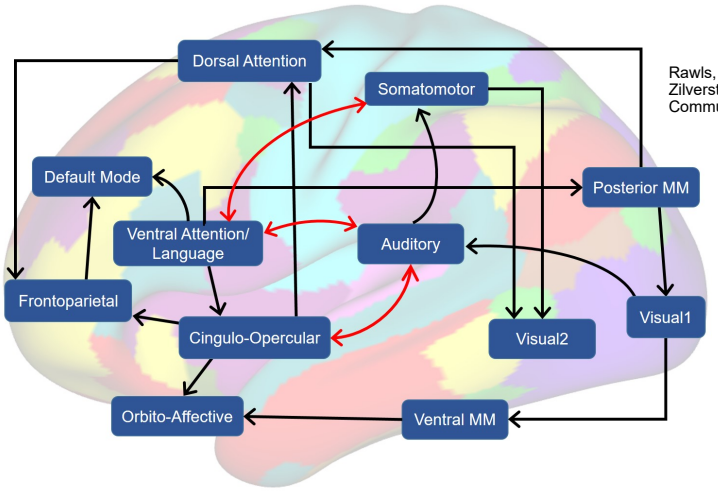
Causal Discovery Machine Learning:

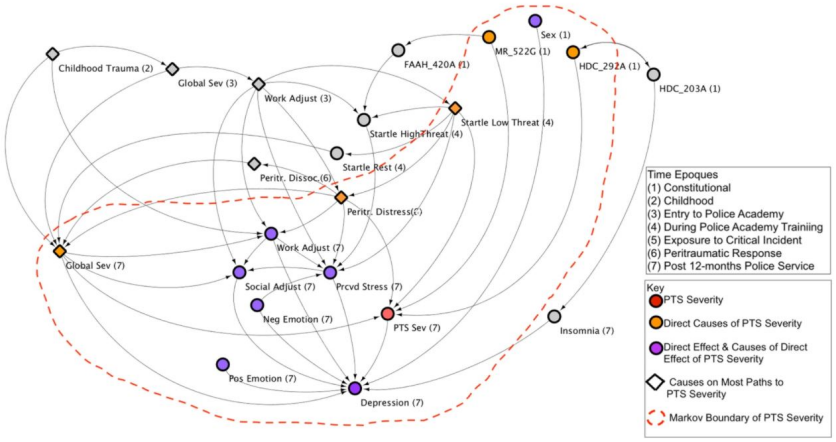
Research Applications for Psychology, Neuroscience, and Psychiatry

A summer course at the University of Minnesota (virtual) supported by the William K. and Katherine W. Estes Fund, The Association for Psychological Science, & the Psychonomics Society

July 5 - 9, 2021



Rawls, Kummerfeld, & Zilverstand (in press). Communications Biology.



Saxe et al. (2020). Translational Psychiatry.

Applied Training in Computational Causal Structure Learning for Ph.D. students, post-docs, and faculty

Uncovering knowledge of the causal mechanisms of neural and behavioral processes is a fundamental goal of Psychology, Neuroscience, and Psychiatry. Causal Discovery Analysis (CDA) is a new class of advanced machine learning tools that search the wide space of possible causal models giving rise to observed data, and discover the best-fitting structural equation model in a purely data-driven manner.

Our training course introduces researchers to causal discovery analysis. No background in machine learning or structural equation modeling is expected.

Application Deadline:

May 15, 2021

Course Outcomes:

1) Analyze cross-sectional and time-series data with CDA

2) Evaluate models for the presence of unmeasured or confounding variables

3) Develop a custom project based on your own research interests

July 5-9, 2021

Contact the Course Coordinator at:
rawls017@umn.edu

Hands-on

Students will be introduced to causal machine learning with a hands-on approach using the free software environment Tetrad.

Custom Projects

We will work individually with attendees to develop custom projects based on their own research.

Applications consist of a CV and a 1-page (maximum) statement of interest. For further information contact Dr. Eric Rawls (rawls017@umn.edu).