

Overview of Community Science Research



- First woman to win Nobel Prize in Economics in 2009 for her work developing a theory of collective action:
 - Can and do humans work together to sustainably manage shared resources? If so, how?



 Demonstrated that humans can cooperate around shared resources under certain conditions ("Ostrom's Core Design Principles")







overcoming the tragedy of the commons

Rebecca Koomen^{®*} and Esther Herrmann

Chimpanzees overcome the tragedy of the commons with dominance Rebecca Koomen & Esther Herrmann

Recommended reading: R. Koomen - What children can teach us about looking after the environment

"Why should we teach the theory of collective action [...]?

My answer to this question is that the theory of collective action is a core explanatory theory related to almost every 'political problem' addressed by citizens, elected officials, political action groups, courts, legislatures, and families.

At any time that **individuals may gain** from the **costly actions of others**, **without themselves contributing time and effort**, they face **collective action dilemmas** for which there are **coping methods**."

Elinor Ostrom (1998) The Need for **Civic Education**: A **Collective Action** Perspective





- A group facilitation process, an online community, and a research method for improving cooperation within and between groups
- Informed by cooperation science, evolution science, behavioral science





Paul Atkins

Organizational Psychology



David Sloan Wilson

Evolutionary Anthropology



Steven Hayes

Contextual Behavioral Science

Core Design Principles for Cooperation

1 Clear group identity and shared sense of purpose

2 Fair distribution of costs and benefits

3 Inclusive decision-making

4 Monitoring progress towards goals

5 Graduated responding to helpful and unhelpful behavior

6 Fast and fair conflict resolution

7 Recognition of group and member autonomy

8 Appropriate relations with other groups





- Elinor Ostrom's cross-cultural research identified 8 Core Design Principles for effective cooperation
- Participants learn about these scientific perspectives and reflect on their own group cooperation dynamics
- Evolutionary perspective on human cooperation
- Evidence-based practices for enhancing psychological flexibility











Community Science Lab For the Understanding of Humans

We create **collaborative spaces** for scientists, teachers, and young researchers **(students in grades 5-12)** to **explore** how humans come to **understand** the **concepts** of **human evolution, behavior,** and **sustainability science**, and how such understandings can drive **sustainable community development**.





Community Science Lab

Semester Lab Session Program

- (n=5) **8th graders** and (n=3) **MPI-EVA researchers** meet at MPI-EVA **weekly** to collaboratively develop social science research projects focused on **understanding** the **cooperation dynamics** of our **own communities**
- Informed by **Prosocial** research methods

Community Science Spectrum of Practice



Community Science Workflow







- Global decentralized network of networks
 - "Polycentric" leadership distributed across tasks and regions
- August 2018, Greta begins School Strike in Sweden
- **November 2018**, thousands of students in Australia begin striking on Fridays
- January 2019, at least 45,000 students in Germany and Switzerland begin to protest
- March, May, September 2019, Global marches and week long protests around the world reportedly attract millions of students
- November 2019, Public Climate School Week at Uni Leipzig





- Project Goals:
 - To explore if Prosocial research can help Fridays for Future groups work more effectively towards addressing climate change
 - To better understand the diversity of values and goals of Fridays for Future supporters and critics
- Exploratory Research Questions:
 - What do members of our lab already know or think about F4F groups?
 - How strongly do different stakeholders identify as supporters or critics of F4F?
 - What do different stakeholders think about the efficacy of F4F groups?
 - What do different stakeholders think F4F groups could do to be more effective?



- Methods
 - Survey of publicly available information (websites and articles)
 - Semi-structured focus group discussions and questionnaire within lab group
 - Exploratory questionnaire to (n=...) students, teachers, partners
 - Participant observation and semi-structured / unstructured interviews





- Early findings re: moral diversity and cooperation dynamics in F4F
 - Reports of social conflict at regional and national F4F organization
 - Use of shared resources (e.g. German F4F bank account)
 - Legal identity and organization in Germany
 - Diversity of opinions on ethics or efficacy of school strike as driving mechanism
 - Diversity of school level responses (Productive to Counter-Productive)
 - Purpose as protest "vs." Purpose as networked action
 - School absence as motivating "cheaters" (real or perceived)
 - Difficult to learn about stakeholders who might be opposed to F4F
 - Unknown mechanisms for F4F relations to other groups which may or may not be supported by F4F members (e.g. XR)



- Future directions
 - Exploration of potential of "Frei-Days for Future" model of school integration and educational innovation (see here: <u>https://educators4future.org/wp-content/uploads/2019/09/FREI-Day.pdf</u>)
 - Exploration of community science toolkit to strengthen cooperation and social learning across "for Future" movements
 - Exploration of community science toolkit for exploring cooperation and psychological flexibility around climate actions within a school community