

Aaron Baker

bakerdz@bc.edu • (626) 272-5421

www.aajbaker.com • github.com/aajbaker

McGuinn 300, 140 Commonwealth Avenue
Chestnut Hill, MA 02467

POSITIONS

Lab Coordinator

2020-Present

Cooperation Lab, PI: Katherine McAuliffe

Department of Psychology, Boston College

Responsibilities:

- Hiring, training, and managing of a team of 14 research assistants
- Communicating with museums and other research sites for ours and other labs
- Streamlining and maintaining participant databases and recruitment procedures
 - Algorithmically removing redundancies and clarifying eligibility
 - Modifying the RA recruitment procedures to increase efficiency
- Writing and submitting amendments to the IRB
- Organizing meetings and talks, coordinating with other labs and invited speakers
 - Building Virtue Workshop: two-day, hybrid event in Dover, MA
- Handling lab finances (reconciling statements, submitting expense reports, etc.)
- Backing up terabytes of lab files from remote servers to local hard drives using rsynch

EDUCATION

University of California, Berkeley

2020

B.A. in Cognitive Science

Graduated with High Honors

Relevant Coursework:

- | | |
|--------------------------------|--|
| • Brain, Mind, and Behavior | • Quantitative Methods |
| • Biological Anthropology | • Discrete Mathematics |
| • Evolution of the Human Brain | • Structure and Interpretation of
Computer Programs |
| • Linguistics Science | • Data Structures |
| • Social Psychology | • Artificial Intelligence |
| • Concept and Idea Formation | |

PUBLICATIONS

Ahl, R., Hannan, K., Amir, D., **Baker, A.**, McAuliffe, K. (*in prep*) Zooming in on virtue: Replicating incentivized measures of children's virtuous behavior online.

Baker, A., Amir, D., Ahl, R., McAuliffe, K. (*in prep, data collection ongoing*) Norm transmission and virtuous behavior: How do children respond to the content of norms and the age of their source?

Amir, D., Ahl, R., **Baker, A.**, McAuliffe, K. (*in prep, data collection ongoing*) The effect of norm model age on children's virtuous giving across five diverse societies.

RESEARCH EXPERIENCE

Senior Research Assistant

2020-Present

Building Virtue Project

Supervisors: Dorsa Amir, Richard Ahl, Katherine McAuliffe

Boston College

- **Publications:**

- Amir, D., Ahl, R., McAuliffe, K. (*in prep*) The development of virtuous behavior across five diverse societies.
- Ahl, R., Hannan, K., Amir, D., Baker, A., McAuliffe, K. (*in prep*) Zooming in on virtue: Replicating incentivized measures of children's virtuous behavior online.
- Baker, A., Amir, D., Ahl, R., McAuliffe, K. (*in prep, data collection ongoing*) Norm transmission and virtuous behavior: How do children respond to the content of norms and the age of their source?
- Amir, D., Ahl, R., Baker, A., McAuliffe, K. (*in prep, data collection ongoing*) The effect of norm model age on children's virtuous giving across five diverse societies.
- Designed and implemented an elaborate Qualtrics survey for online and in-person study administration for multiple studies. Incorporates condition dependent survey flow, embedded data, piped text and imagery, and offline administration.
- Trained three research assistants to recruit, collect, and analyze data – two for online administration, one for in-person cross-cultural administration in Canada.
- Designed a coding protocol for participants' self-reported parent occupations to classify participants based on level of familial market-integration.
- Performed extensive lit searches to support research projects
- Leading project exploring norm transmission and virtuous decision-making:
 - Prepared script, stimuli, and data collection materials

- Wrote and submitted the OSF preregistration
- Created recruitment and testing materials (e.g., condition assignment procedure)
- Facilitated the administration of N=69 child participants over Zoom
- Prepared and delivered a talk outlining the project to colleagues in the field
- Data analysis and visualization in R
- Spearheaded a project modeling norm updating in a Bayesian framework:
 - Connected Bayesian updating models to current work observed in the lab
 - Researched and recruited advice to design a computational model to fit the behavioral data already collected
 - Built a program in python to fit priors to participant data, update based on observations, and compare to participant responses.

Research Assistant

2019-2020

Cognitive Development and Learning Lab, PI: Alison Gopnik

Supervisor: Eliza Kosoy

Department of Psychology, UC Berkeley

- **Publication:**
 - Kosoy, E., Collins, J., Chan, D., Huang, S., Pathak, D., Agrawal, P., Canny, J., Gopnik, A., & Hamrick, J. (*in prep*) Exploring Exploration: Comparing children with reinforcement learning agents in unified environments.
- Recruited and consented participants on-site at children's museums
- Administered study protocol to participants age 4-6 in which children use an Arduino-based controller to navigate a maze in DeepMind Lab to be compared with RL agents
- Managed data and participant information on-site and in the lab
- Provided feedback on performance and implementation of the task – what children struggled with, what may be distracting, etc.

Undergraduate Research Fellow

2018

Translational Imaging Center, Director: Scott Fraser

Supervisors: Thai Truong, Andrey Andreev

The Bridge Institute, University of Southern California

- Organization of 4D neuroimaging data in Fiji, a package of ImageJ
- Repurposed code written by lab members to process raw neural data into 11 regions of interest in MATLAB
- Smoothed and analyzed the lagged correlations between signals across raw neural data and regions of interest in numpy
- Visualized strong and weak correlations in a salient fashion – thresholded, overlaid on the raw images, uniform coloring across pipeline stages – using matplotlib

- Attended weekly, multidisciplinary lab meetings (optic physicists, microbiologists, neuroscientists)
- Collaborated with other young scientists pursuing their respective projects
- Presented my preliminary findings at a research symposium

TALKS

- 2020 Norm transmission and virtuous behavior: How do children respond to the content of norms and the age of their source?
Building Virtue Workshop, Boston College
- 2018 Mapping neural activity across the sleeping zebrafish brain.
Bridge Undergraduate Science Symposium, University of Southern California

TEACHING

- 2018-2020 **Instructor** (2020), **Undergraduate Student Instructor** (2018-2020)
Introduction to Computer Science, University of California, Berkeley
- Restructured curriculum for the summer 2020 semester to accommodate the online format and emphasize peer teaching and collaboration remotely
 - Hired, trained, and managed a staff of teaching assistants, readers, and academic interns
 - Planned and delivered lectures, discussion section, labs, and office hours
 - Designed, edited, and graded projects, exams, and homework assignments
 - Invited and hosted guest speakers

FELLOWSHIPS, AWARDS, & ASSOCIATIONS

- 2020-present Member, Phi Beta Kappa Society
- 2021 Outstanding Graduate Student Instructor, The University of California Berkeley
Graduate Research Division
- 2018 Trudi Berwin Undergraduate Scholar, Funding for Bridge Undergraduate
Research Fellowship
- 2016-2017 Dean's List

SKILLS

- Programming:
 - Languages: Python, Java, JavaScript, HTML, CSS, R, MATLAB, Scheme
 - Statistical analysis, data processing, and visualization using numpy, matplotlib, R, MATLAB
 - Programming in Python and Java
 - Web design in html, CSS, and JavaScript
 - Version control and program management (git)
- Experimentation:
 - Drafting preregistrations and appendices, running power analyses in G*Power
 - Script and protocol drafting, piloting, and editing
 - Survey design in Qualtrics – conditional logic, randomization/counterbalancing, embedded data and variables, JavaScript, offline administration
 - Behavioral coding and data cleaning in Microsoft Excel and R
 - Recruiting families for participation on-site and remotely
 - Administering tasks to child and adult participants
- Communication:
 - Public speaking and curriculum building – lectures and research talks
 - Building relationships with site administrators and institutional offices
 - Writing and submitting IRB protocol amendments
- Administration:
 - Hiring, training, and managing team members
 - Building schedules with Google Calendar and Sheets/Microsoft Excel
 - Maintaining, growing, and restructuring confidential participant databases
 - Managing grants and lab finances—reconciling statements, submitting expense reports
 - Moving terabytes of lab files from remote servers to external hard drives
- Video editing in Final Cut Pro and iMovie
- Audiovisual facilitation of hybrid meeting formats
- Logistical experience running research studies on Amazon Mechanical Turk
- Fluent in Spanish