

Faculty mentors: Michael C. Frank

Research supervisor(s):

Pooja Paul, Ph.D. Postdoctoral Scholar, Center for the Study of Language and Information

Project topic(s): Children's order-based reasoning

Brief description of scientific issues:

Humans are exceptional within the animal kingdom not only in our ability to use language to convey our thoughts to others, but also in our ability to infer the hidden goals and preferences of others, simply by observing their actions. In economic theory, it is standard to think of preference in turn as an ordering of reward alternatives based on their relative utility or value. However, it is an empirical question whether, psychologically speaking, notions like preference involve actually mentally constructing such ordered representations, and if so, how early in development this capacity emerges.

In our experiments, we will show preschool age children videos of an animated agent choosing between different pairs of rewards that vary in quantity (two apples vs. five apples) or quality (apples vs. oranges), with the goal of probing their expectations about the agent's choice when it comes to novel pairings of already encountered rewards. For example, if children see an agent first choose an apple over a pear (apple > pear), and then an orange over the apple (orange > apple), will they later expect the same agent to also choose the orange over the pear (orange > pear)? If so, it would support the idea that even young children indeed build up ordered representations (eg. orange > apple > pear) when reasoning about other agent's preferences, thus helping to empirically ground a key theoretical construct in economics. We will be working with children at Bing Nursery here at Stanford and the Children's Discovery Museum in San Jose.

Skills required:

No requirements, but introductory coursework in psychology and familiarity with R are preferred.

Skills to be learned:

Survey development, study deployment, online data collection, literature review, and more.

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