Go fishing! Responsibility judgments when cooperation breaks down

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Introduction

- How do we assign responsibility to individuals in a group?
- This question is particularly important when we decide to embark on future research collaborations, give bonuses to employees, and choose a soccer MVP.
- Here we present a computational model of blame attribution in a cooperative one-shot game and test it in two behavioral experiments with adults.

Two aspects of responsibility

Rationality – Person centric
- Agents with good foresight should be able to predict the correct action given their knowledge about the world.
- Blame = 1 – p(action*)
- A measure related to the agent and their reasoning ability.
- The optimal action (action*) for an agent will depend on their situation, as well as their individual capabilities with respect to the group.

Pivotality – Action centric
- In hindsight, how important was the choice of the person in this scenario?
- Requires the use of counterfactuals to compare the current world with ones in which some agents’ choices are modified.
- Here we use the structural model[2], which requires determining how many changes (N) to the current scenario would be necessary to make a specific agent’s actions pivotal for the outcome.
- Blame = \frac{1}{N+1}

Experiment Overview

Three fishermen live in a village with a trading route often blocked by trees.

At the end of the day, if the trees have been cleared from the road, the fishermen split their earnings from the fish equally.

Each fisherman has a different strength, which determines how many fish he could catch and how many trees he could clear.

Two fisherman have strength 1.
One fisherman has strength 3.

Detailed Model Comparison

Action

Blame

Discussion

- Both person-centric and action-centric measures of responsibility are important when attributing blame to individuals in a group.
- The person-centric aspect of responsibility is derived from the assumption that the other group members behave rationally (here as a depth 2 recursive reasoner).
- Future work will look at how we establish social norms through repeated interactions with the same group, and how this affects our judgments of blame and credit.

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References