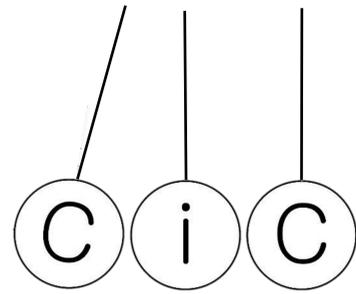




# Without his cookies, he's just a monster: A counterfactual simulation model of social explanation

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## How do we explain the behavior of others?

### PROBLEM



"My friend is late!  
Were they optimistic about time?  
Or was traffic extra bad?"

Outcomes can be explained by features of the agent or situation.

How do we choose the best explanation?

### HYPOTHESIS

"What would have happened if my friend was less optimistic?"



"What would have happened if there was less traffic?"

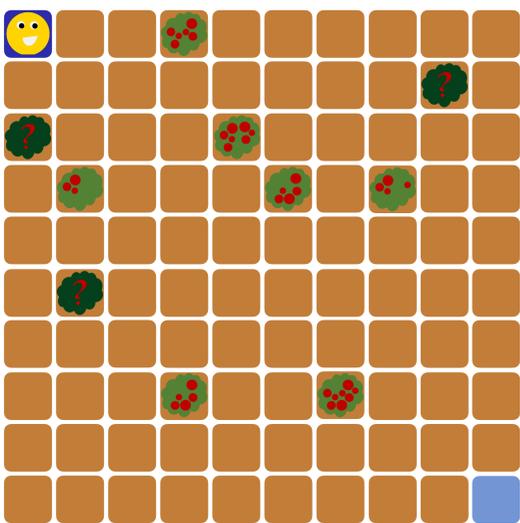
People use counterfactual simulation to choose from among competing explanations

### EXPERIMENT

Manipulate the impact of agents' trait and situation on harvest outcomes.  
Test if participant's explanations match counterfactual simulation of trait and situation causes.

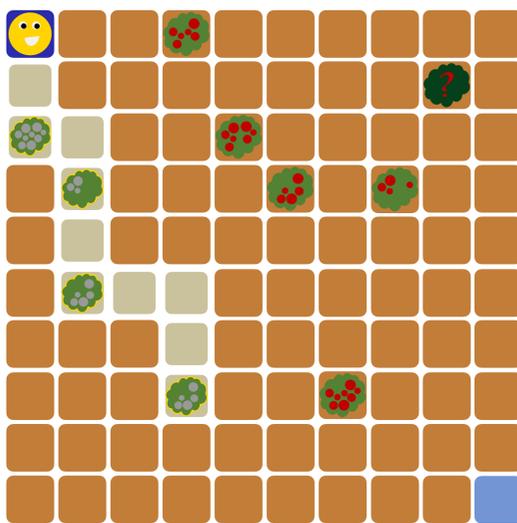
#### Observe

1 Participants watched harvest starting from



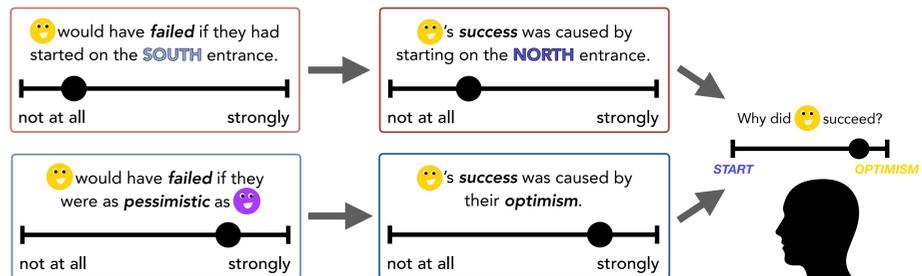
#### Explain

2 Participants explained harvest outcome using trait or situation



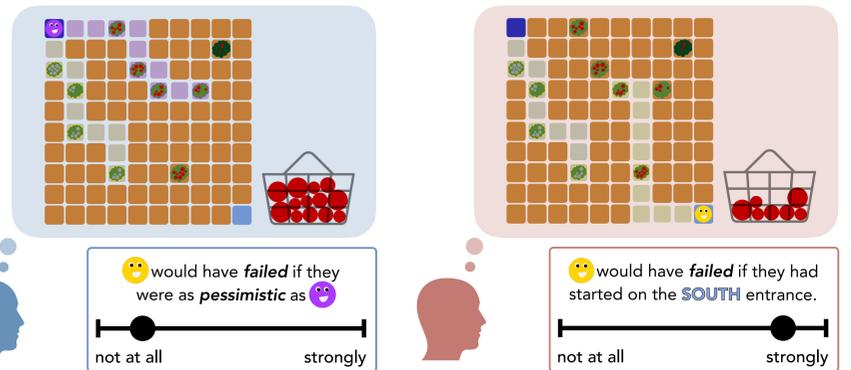
#### Predicting explanations

3 Participants judged how much trait and situation made a difference and caused the outcome

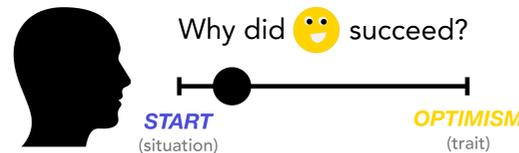


#### Modeling counterfactuals

4 Judgments about whether trait and situation made a difference modeled using counterfactual simulation



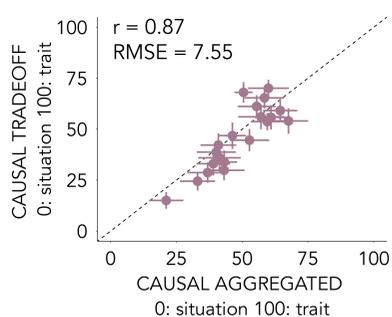
HOPE was optimistic about mystery trees.  
PRUDENCE was pessimistic



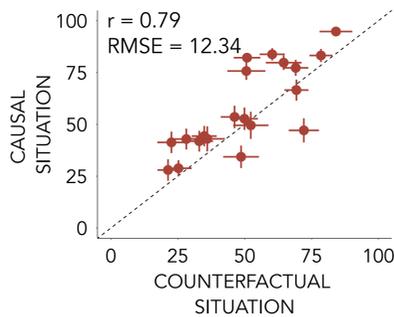
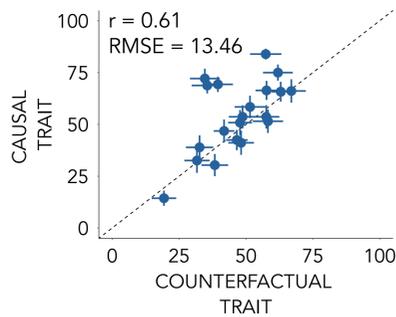
### RESULTS

#### Human judgments

1 Weighing trait and situation causes to choose the best explanation.

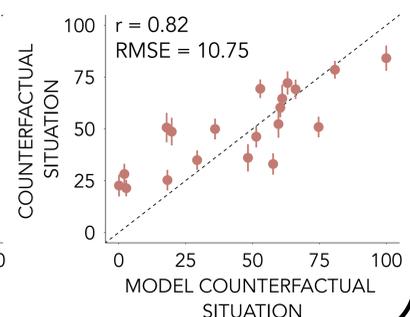
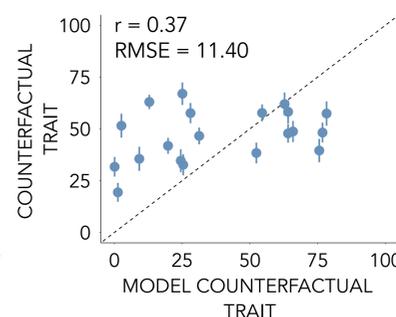


2 Causal judgments about trait and situation are predicted by counterfactuals.



#### Model predictions

3 Counterfactuals may involve simulating how trait and situation produce behavior.



### TAKEAWAYS

Choosing the best explanation for someone's behavior involves weighing trait and situation causes.  
Causal reasoning about others' behavior may draw on counterfactual simulation of traits and situational variables.

