Study Name: The influence of motivation on evidence assimilation in a repeated judgement task – Study 3.
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Exploratory or Confirmatory: Confirmatory

Our interest is in how adults assimilate evidence inconsistent with beliefs they are motivated to maintain. To examine the underlying mechanisms behind adult decision-making in a motivated reasoning context, we developed a judgment task using Bongard problems. Bongard problems are simple images that differ from one another in ways that are not instantly obvious. This property of Bongard problems made it easy to develop a challenging task for adults using arbitrary facts.

We developed a motivated reasoning context by telling the participants that a higher score on the task meant that they had better attentional control than their peers. Importantly, participants are told that if they correctly guess which of two pictures belongs to a made-up category (e.g., a Cannin), **and** it had a blue border on it (henceforth, we refer to this picture as the bonus picture) then they will earn two points. Otherwise, say that they will earn one point for correctly guessing which of two pictures belongs to a made-up category (e.g., a Cannin).

Participants will also report the number facts they remembered as supporting the bonus picture on a given trial. Our hope is that this memory question will resolve the underlying mechanism in the half condition (discussed below).

Distribution of evidence manipulation – Within-Subjects

Participants will see three distributions of evidence, corresponding to three conditions.

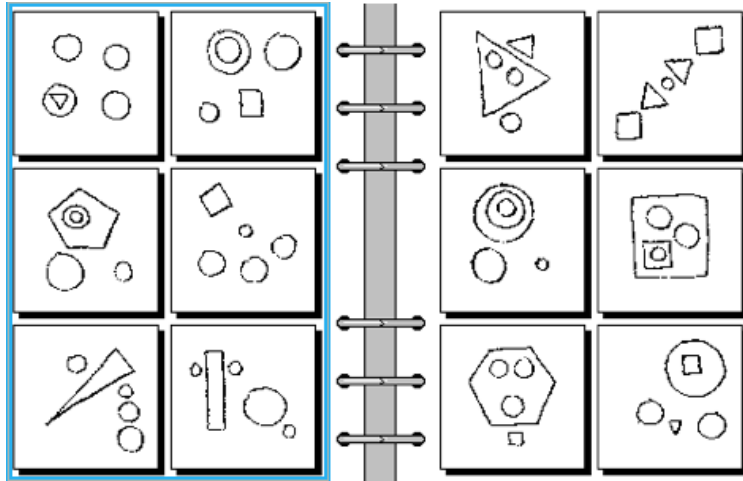**The None Condition:** No evidence that the bonus picture is the Cannin.

The Little Condition: One piece of evidence (out of six pieces of evidence) that the bonus picture is the Cannin

The Half Condition: Three pieces of evidence (out of six pieces of evidence) that the bonus picture is the Cannin.

After each trial in which they decide which picture the Cannin, for example, was, participants will be asked how many pieces of evidence they remember supporting the belief that the bonus picture is the Cannin.

Participants will not receive feedback about whether they correctly guessed the Cannin, but will be told that they will find out if they were right at the end of the study. In total, the participants will be exposed to four trials per condition for a total of twelve trials.

Sample stimuli for the 'Little' condition:

The cannin might be the one with four or more circles in each figure.
The cannin might be the one with a pentagon in the middle row.
The cannin might be the one with two or less concentric circles in the middle row.
The cannin might be the one with two or less triangles.
The cannin might be the one with two or less squares.
The cannin might be the one with a hexagon in the bottom row.

Predictions:

In the None Condition, we predict that participants will tend to choose that the no-bonus is the Cannin. This finding would replicate our previous study with children who performed a similar task.

In the Little Condition, we predict that participants will behave similarly as in the None Condition, tending to generally follow the evidence by choosing the no-bonus picture. Again, this would be a replication of our prior findings in Study 1.

We are particularly interested in the underlying mechanisms behind participants' behavior in the Half Condition. On the one hand, half of the evidence supports the belief that the no-bonus picture is the Cannin. However, participants will want the bonus picture to be the Cannin because it would yield more points. Because participants are given *some* evidence that the bonus picture is the Cannin, we expect their choices to reflect a maximization of utility despite equal evidence for both pictures.

Prediction regarding memory task:

We predict that participants' memory for the evidence will predict their choices. Participants who remember more evidence for a given picture will tend to have chosen that picture. However, we will examine whether participants remember there being more support for the bonus picture than there in fact is in the Half condition. We are unsure what will happen but hope that it will resolve the mechanism underlying the behavior seen in the Half condition in Study 1.