The Epistemic Potential of Adversarial Cooperation

Almos C. Molnar

Department of Cognitive and Psychological Sciences, Brown University | almos_molnar@brown.edu

Molnar and Sloman (2024a)

- **Experimental task**: Conjecture a solution to a non-zero-sum problem that appears zero-sum.

Your billboard ad budget: $4 million

Agency A — cost: $1 million, reach: 1 million
Agency B — cost: $3 million, reach: 3 million
Agency C — cost: $4 million, reach: 6 million

The billboard ad budget of Michael's Coffee: $4 million

- 4 distinct game theoretical outcomes: from heavy win-loss (1) to win-win (4)

- **Manipulation**: what the problem is framed to be about: the effects of 1) pro-immigration policies, 2) corporate tax cuts, or 3) unspecified market forces

- **Participants**: Democrats, Republicans, and political independents (+ ideologically moderate)

Epistemic Process

1. Hypothesis-formation (aka. Conjecturing)
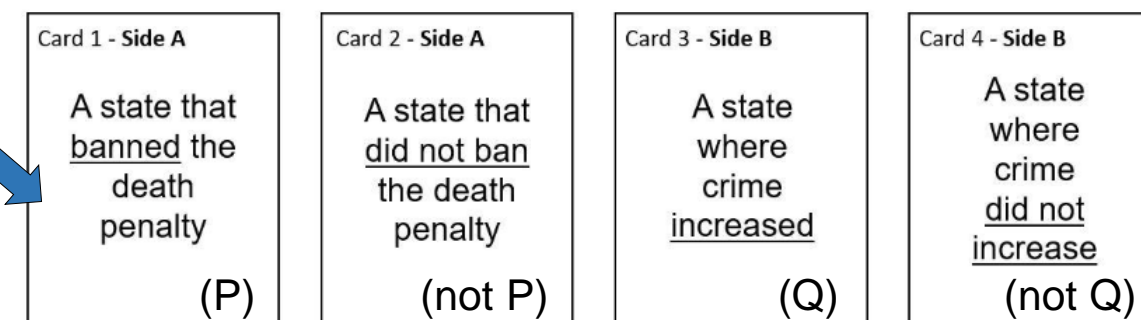
2. Hypothesis-testing (aka. Refutation)

Division of cognitive labor in science (Popper, 1984; Kitcher, 1990)

Biased *towards* hypothesis

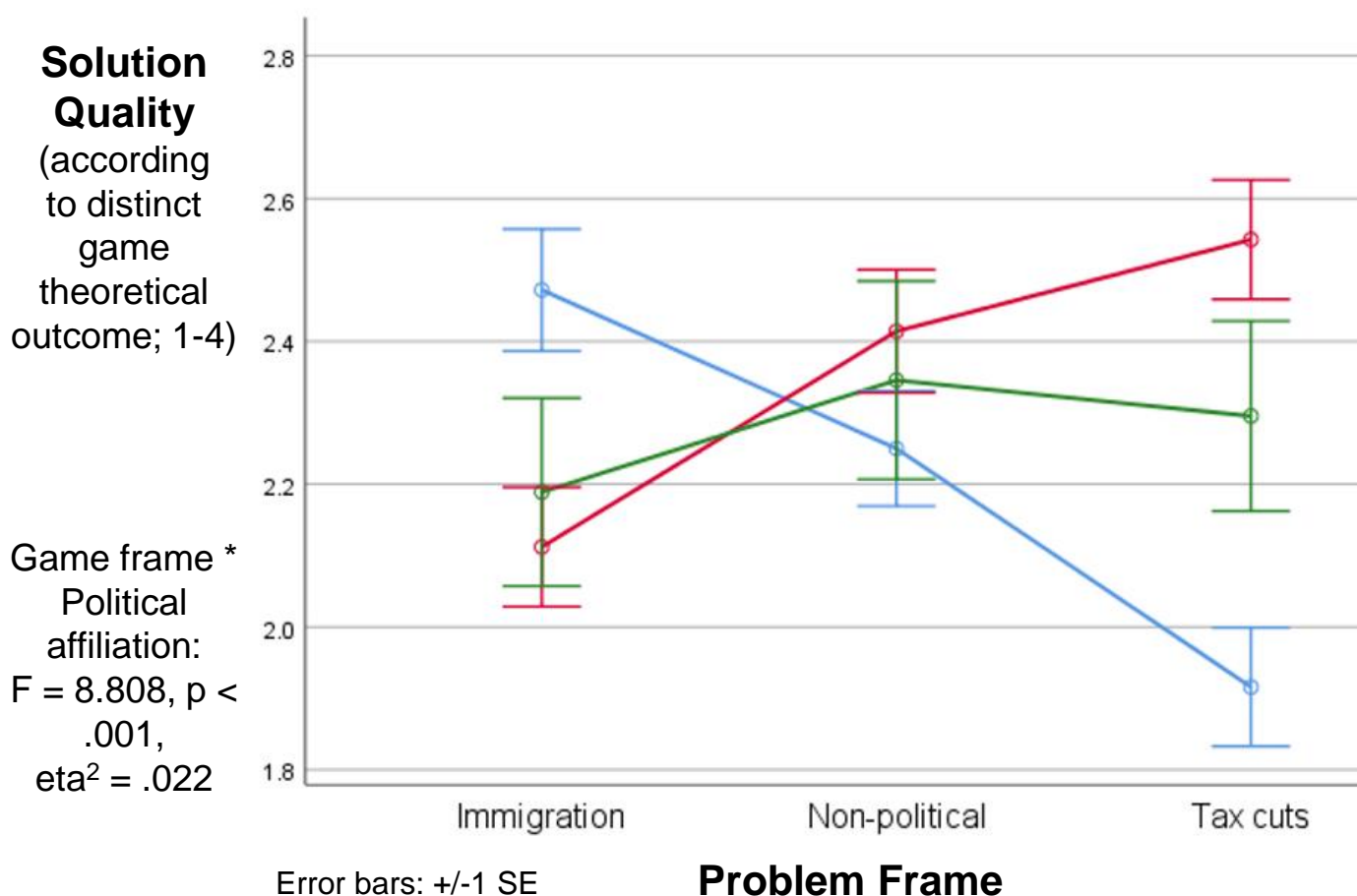Biased *against* hypothesis

It is not individual detachment or neutrality that is optimal for collective reasoning, but complementary myside biases

Molnar and Sloman (2024b)

- **Experimental Task:** Wason Selection Task with pundit-style policy claims, e.g. "If a state bans the death penalty, then crime will increase." (If P, then Q.)

Card 1 - Side A: A state that <u>banned</u> the death penalty (P)
Card 2 - Side A: A state that <u>did not ban</u> the death penalty (not P)
Card 3 - Side B: A state where crime <u>increased</u> (Q)
Card 4 - Side B: A state where crime <u>did not increase</u> (not Q)

- Choosing Card 1 (P) and Card 4 (not Q) is the correct (falsificationist) solution

- **Manipulation**: 1) claim favored by Democrats, claim favored by Republicans, 3) non-divisive/neutral claim

- **Participants**: Democrats, Republicans, and political independents (+ ideologically moderate)

Solution Quality (according to distinct game theoretical outcome; 1-4)

Game frame * Political affiliation: F = 8.808, p < .001, eta^2 = .022

Error bars: +/-1 SE — **Problem Frame**

Political Affiliation

Simple effects of problem frame

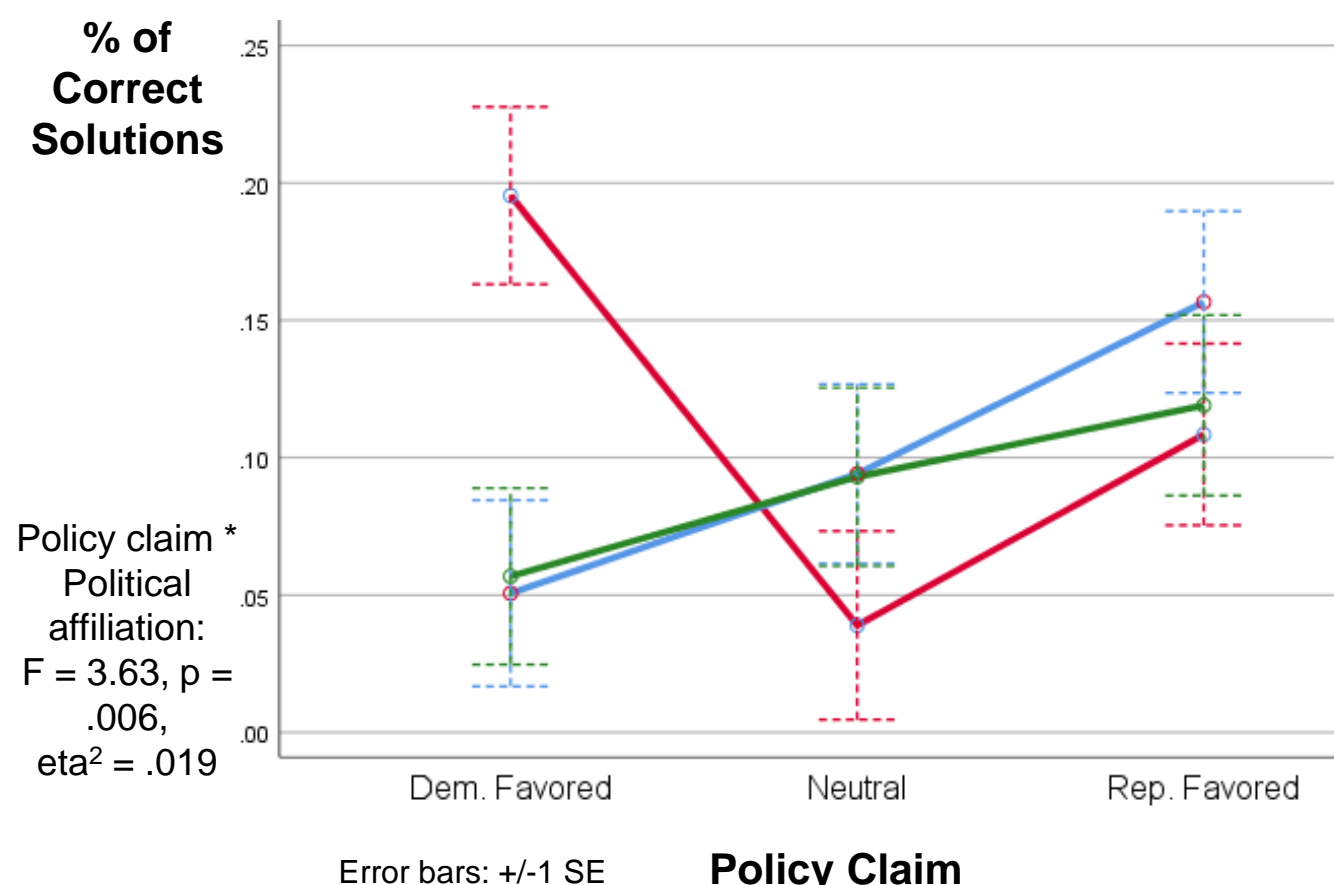- **Democrats** — F = 11.269, p < .001, eta^2 = .032
- **Republicans** — F = 6.836, p = .001, eta^2 = .021
- **Independents** — F = .358, p = .699

- osf.io/uzh69/
- 5 experiments
- Manuscript submitted

% of Correct Solutions

Policy claim * Political affiliation: F = 3.63, p = .006, eta^2 = .019

Error bars: +/-1 SE — **Policy Claim**

Political Affiliation

Simple effects of policy claim

- **Democrats** — F = 2.543, p = .079, eta^2 = .021
- **Republicans** — F = 5.568, p = .004, eta^2 = .043
- **Independents** — F = .921, p = .396

- osf.io/awxjn/
- 2 experiments with WST
- 2 experiments with RAST
- Manuscript in preparation