1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
[1a] Paranoia will be positively associated with harmful intent attributions over all 20 trials.
[1b] With a human partner, paranoia will be positively associated with the reduction in harmful intent attributions between the first and second block of the serial Dictator game with a partner policy order of: unfair (first block) | fair (second block). i.e. Unfair | Fair will lead to a reduction in harmful intent after subtracting harmful intent scores in second block from the first block, and paranoia will increase that change.
[1c] With a human partner, paranoia will be positively associated with the increase in harmful intent attributions between the first and second block of the serial Dictator game with a partner policy order of: fair (first block) | unfair (second block). i.e. Fair | Unfair will lead to an increase in harmful intent after subtracting harmful intent scores in second block from the first block, and paranoia will increase that change.
[2] Paranoia will not be associated with self-interest attributions over 20 trials.
[3] Paranoia will be positively associated with (a) initial and (b) mid-way prediction confidence about a partner’s decision policy.
[4] Paranoia will be positively associated with expectations of negative outcomes at both (a) initial and (b) mid-way predictions.
[5] General reasoning measured by the ICAR will not be associated with mean harmful intent attributions or self-interest attributions.

3) Describe the key dependent variable(s) specifying how they will be measured.
Self-interest: subject inference that a partner was motivated by a desire to earn more. Will be rated on a 0-100 scale and converted to an ordinal categorical variable (< 11 levels). For models, SI scores for each trial will be used with trial as a random variable. If the model does not converge, we will calculate the mean over all 20 trials.

Harmful intent: subject inference a partner was motivated by desire to reduce their bonus. Will be rated on a 0-100 scale and converted to an ordinal categorical variable (< 11 levels). For models, HI scores for each trial will be used with trial as a random variable. If the model does not converge, we will calculate the mean over all 20 trials.

Harmful Intent: difference between each trial between block 1 and block 2 (block 2 – block 1) of subject inference a partner was motivated by desire to reduce their bonus. Will be rated on a 0-100 scale. For models, HI scores for each trial will be used with ID as a random variable. If the model does not converge, we will calculate the mean over all 10 trials for each block.

Confidence: Subject confidence in their predictions about their partners policy over the next 10 trials rated on a scale of 0-100 (continuous). This will be assessed at the beginning and midway through the task.

Predictions: Subject predictions about whether their partners policy will be mainly unfair or fair over the next 10 trials coded on a binary variable (Unfair | Fair). This will be assessed at the beginning (a) and midway (b) through the task.

Agency: subject inference that a partner was a real person. Will be rated on a 0-100 scale (continuous). For ordinal categorical variables, the number of levels will depend on the distribution of the data. For each level of each variable, we will ensure a minimum of 20 cases.

4) How many and which conditions will participants be assigned to?
7 days prior to taking part, participants will complete the both the Persecution and Reference subscales of the Revised Green et al Paranoid Thoughts Scale (Green et al., 2019), ICAR Matrix Reasoning, brief OLIFE (Mason et al., 2005), and McArthur Social Ladder. All subjects will take part in the ‘receiver’ role in a 20-trial serial Dictator Game (DG) and will be asked to rate (scale 0-100) the extent to which they believe the Dictator decision was motivated by (i) self-interest and (ii) harmful intent after each transaction. Participants will play against 1 dictator over two blocks of 10 trials. Before the first block, participants will be required to predict whether their partner will mostly make unfair or fair decisions, and their confidence in this prediction. After the first block, participants will be once again required to make predictions about their partners decision policy over the next 10 trials.

Dictators are preprogramed to either make a fair (80:20) or unfair (80:20) decisions in each half of the task and will switch their policy halfway through the game.

Finally, all subjects will also make Dictator policy decisions for two blocks of trials (either fair 80:20 or unfair 80:20 policies) – these data are only collected so that we can truthfully inform subjects that they were paired with a real partner and these data will not be analysed.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
We will conduct linear mixed modelling (LMER) or linear modelling (LM) using model selection approach with model averaging (Grueber et al., 2011), unless the response terms are ordinal in which case, we will conduct cumulative link models (CLM & CLMM, Christensen, 2015). Input variables will be...
standardized/centred as appropriate. All models will be conducted on both human and lottery conditions. Zero-averaging will be used:

Model [1a & 5]: CLM
Harmful intent ~ paranoia + policyOrder (fairfirst | unfairfirst) + ICARsumscore + age + gender

Model [1b & 1c]: CLMM
- Harmful Intent (Policy = Unfair first) ~ paranoia + trial block + ICARsumscore + age + gender + (1|ID)
- Harmful Intent (Policy = Fair first) ~ paranoia + trial block + ICARsumscore + age + gender + (1|ID)

Model [2 & 5]: CLM
Self-interest ~ paranoia + policyOrder (fairfirst | unfairfirst) + ICARsumscore + age + gender

Model [3a]: LM
Confidence (Initial) ~ paranoia * prediction (a) + age + gender + ICARsumscore

Model [3b]: LM
Confidence (mid) ~ paranoia * prediction (b) + policyOrder (fairfirst | unfairfirst) + age + gender + ICARsumscore

Model [4a]: CLMM (Logistic)
Prediction (a) ~ paranoia + age + gender + ICARsumscore + partner (Lottery | Human) + (1|ID)

Model [4b]: CLMM (Logistic)
Prediction (b) ~ paranoia + policyOrder (fairfirst | unfairfirst) + age + gender + ICARsumscore + partner (Lottery | Human) + (1|ID)

Data will be analysed in R (version 4.0.02).

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

If people do not pass >1 comprehension check, they will be excluded from analyses. We will run analyses with all participants and then another analysis which will only include complete responses and those who passed the comprehension checks to ensure the results are robust.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We aim at recruiting 750 participants to take part in the initial GPTS.
Participants will be recalled after a minimum 7 days to participate in the serial Dictator Game. We aim to recall as many as the 750 as possible but will aim for 500 participants minimum. We will first send an email to all eligible participants, once the responses have slowed to be <10 per day we will send another email to the remaining eligible participants. Once responses are <2 per day, we will stop data collection.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

We will fit a computational model (Barnby et al., 2020c; PLoS Computational Biology) to the data to understand how partner policy selection, confidence, and prior predictions influence uncertainty and learning about harmful intent and self-interest attributions over the 20 trials. This will test the hypothesis: Higher pre-existing paranoia will lead to reductions in learning and increases in uncertainty over harmful intent attributions, but not self-interest attributions.

We also want the model to explore whether explicit predictions and policy confidence made by participants during the game relate to the implicit/calculated policy probability distributions and precision of these distributions, respectively.