Corrupting the prosocial people: does cooperation framing increase bribery engagement among prosocial individuals?

Stage 1 Registered Report

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Abstract

Cooperation—although typically connoted with prosocial behaviour—plays a crucial role in facilitating bribery. Herein, we ask (i) whether emphasizing the cooperative aspect of bribery (i.e., using *cooperation framing*) increases bribery, and (ii) *who* is most likely to be corrupted by cooperation framing, considering people's personality. We suggest a well-powered study (N = 5,500) testing whether cooperation (vs. neutral and bribery, respectively) framing increases bribery engagement in a bribery game, and, if so, whether this is the case for cooperative individuals in particular—i.e., people with higher levels of the basic trait of Honesty-Humility. Supporting this idea, we present a Pilot Study (N = 796) showing that (1) cooperation (vs. bribery) framing increased the probability of offering and accepting bribes by 119% and 85%, respectively, and that (2) cooperation (vs. bribery) framing increased the probability of offering and accepting bribes among participants with higher, but not lower, levels of Honesty-Humility.

Introduction

Language is a powerful tool shaping various aspects of human behaviour[1–4]. For instance, recent research found that *moral frames*—i.e., language cues emphasizing moral aspects of decisions and behaviours—encourage people to act in a prosocial way[5–7]. Specifically, by drawing attention to moral aspects of decisions and behaviours, moral frames capitalize on people's moral preferences for doing the "right thing", and consequently increase prosocial behaviour[8–10]. Correspondingly, moral frames such as "The other person relies on you." or "What do you think is the right thing to do?" have been found to enhance generosity[9] and cooperation[10]. But while there are plenty of findings showing that moral frames increase prosocial behaviour, the question of whether moral frames can be (mis)used to increase *antisocial* behaviour has hardly been tested so far.

A relevant context in which moral frames might be used to favour antisocial behaviour is bribery. Specifically, people involved in bribery have to *cooperate* with each other to succeed: they need to build trust, to follow through with their promises, and to keep their interactions secret from legal authorities[11–13]. However, despite its' important role in bribery, cooperation is commonly perceived as positive and prosocial—for instance, it allows people to develop relationships[14], trust[15], and achieve goals that would be impossible to achieve alone[16]. Given both the prosocial connotation of cooperation, as well as its' facilitating role in bribery, we suggest that emphasizing the cooperative (i.e., "prosocial") side of bribery might increase bribery engagement by capitalizing on people's moral preferences to cooperate with others. In other words, *cooperation framing* (i.e., moral framing focused on cooperation) might justify and thus encourage bribery engagement.

This reasoning is well in line with the self-concept maintenance theory, which states that people strive to think about themselves as moral (i.e., maintain a positive moral self-concept[17–19]). According to the theory, when people are faced with a possibility to act in an

unethical, self-serving way (e.g., engage in bribery), they seek ways to justify their unethical behaviour to be able to engage in it without harming their moral self-concept[17]. Because bribery might constitute a threat to one's own and one's interaction partner's moral self-concept, focusing on and emphasizing the cooperative aspect of bribery might be used as a means to reduce this threat (for both oneself and one's interaction partner), thus justifying bribery engagement. In other words, in line with the self-concept maintenance theory, we predict that emphasizing cooperative aspects of bribery will increase bribery engagement.

The possibility that cooperation framing increases bribery engagement has not been investigated to date. So far, studies on framing effects in bribery have typically focused on comparing bribery framing (e.g., in a paradigm where citizens can offer a bribe to a public official) to neutral framing (e.g., where Player 1 can send a transfer to Player 2[20–24]). These studies provided mixed results, however. For instance, some found no differences in terms of bribery engagement between bribery and neutral framing[20,22]. On the other hand, other studies found mixed results, for instance that neutral (vs. bribery) framing increased bribery engagement among those who could offer bribes (citizens), but not among those who could accept them (public officials)[23]. Summarizing, previous research has produced inconsistent findings. Extending this line of research in a well-powered study, we will shed light on the impact of framing on bribery and test if framing bribery as a cooperative act (vs. in neutral and bribery terms, respectively) increases bribery engagement.

In doing so, we aim to help paint a nuanced and differentiated view of cooperation. To date, there are thousands of studies focusing on benefits of cooperation and on how to promote it[25–28]. In this regard, it is important to explicitly point towards potential downsides of cooperation to provide a more realistic picture of this construct[12,29,30]. Relatedly, with our findings, we aim to draw policy makers' attention to the role of language in bribery interactions. Specifically, if cooperation framing indeed increases bribery engagement, and

bribery framing decreases it, it might be beneficial to recommend educating individuals in bribery-prone positions (e.g., public officials) about the potential risks and benefits of using cooperation- and bribery-focused language (respectively) in contexts where bribery might occur.

Advancing the literature even further, we will test *who* is most likely to be corrupted by cooperation framing, taking into account people's personality. Specifically, personality research suggests that individuals vary in the degree to which they exhibit preferences to cooperate with other people[31–33]. One of the traits most consistently related to such preferences is the basic trait of Honesty-Humility from the HEXACO Model of Personality, defined as "the tendency to be fair and genuine in dealing with others"[32,34,35]. Because people higher in Honesty-Humility are more likely to cooperate with others[31–33], they might be especially susceptible to bribery when exposed to cooperation framing. On the other hand, a broad array of research shows that in addition to being more cooperative, individuals higher in Honesty-Humility are also less likely to engage in corrupt and antisocial behaviour in general[36–38]. Taken together, these findings suggest that when exposed to cooperation-framed bribery, individuals higher in Honesty-Humility might experience a conflict between their motivation to cooperate (by engaging in bribery) and to avoid corrupt behaviour (by not engaging in bribery).

Notably, previous research shows that when faced with a conflict between cooperating/benefiting others and avoiding dishonest/corrupt behaviour, people higher in Honesty-Humility tend to choose the former[39]. Furthermore—in line with the self-concept maintenance theory[17,19,40] as well as the theoretical basis of Honesty-Humility[34,38]—cooperation framing should increase bribery engagement among high-Honesty-Humility individuals because it might allow them to justify bribery by drawing their attention to cooperative aspects of the bribery interaction—i.e., the aspects of the interaction that high-

Honesty-Humility individuals should generally be concerned with due to their cooperative tendencies[31,32,41]. Hence, in the context of cooperation-framed bribery, individuals higher in Honesty-Humility might be more likely to cooperate with their interaction partner (i.e., engage in bribery) as compared to avoid dishonest/corrupt behaviour (i.e., not engage in bribery).

The possibility that people higher in Honesty-Humility might be more likely to engage in bribery when it is framed as cooperation seems relevant given that such individuals are especially valuable for bribery-prone workplaces as they are overall less likely to engage in counterproductive work behaviour (such as bribery[36,37,42,43]). Hence, from an applied standpoint, it is crucial to know under which conditions prosocial (i.e., high-Honesty-Humility) individuals are more susceptible to bribery. Therefore, we test whether cooperation framing increases bribery engagement among individuals with higher levels of Honesty-Humility.

In summary, we will test if emphasizing the cooperative aspect of bribery (i.e., using cooperation framing) increases people's bribery engagement (Hypotheses 1a-2b), as well as who is most likely to be corrupted when exposed to cooperation framing, taking into account the basic trait of Honesty-Humility (Hypotheses 3a-4b). We detail our hypotheses below:

- Hypotheses 1a and 1b: Participants will offer more bribes in the cooperation framing than in the neutral (H1a) and the bribery (H1b) framing conditions.
- Hypotheses 2a and 2b: Participants will accept more bribes in the cooperation framing than in the neutral (H2a) and the bribery (H2b) framing conditions.
- Hypotheses 3a and 3b : Participants with higher levels of Honesty-Humility will offer more bribes in the cooperation, than in the neutral (H3a) and the bribery (H3b) framing conditions, while participants with lower levels of Honesty-Humility will

offer a similar number of bribes in the cooperation as in the neutral (H3a) and the bribery (H3b) framing conditions.

- Hypotheses 4a and 4b: Participants with higher levels of Honesty-Humility will accept more bribes in the cooperation, than in the neutral (H4a) and the bribery (H4b) framing conditions, while participants with lower levels of Honesty-Humility will accept a similar number of bribes in the cooperation as in the neutral (H4a) and the bribery (H4b) framing conditions.

To test these hypotheses, we suggest conducting a large-scale study (N = 5,500), where participants will take part in a bribery game[44–46]. In the game, they will have a chance to offer and accept bribes, which is financially beneficial for themselves and their interaction partner, but harmful for other participants in the study. Participants will be assigned to one of the three conditions where engagement in bribery will be framed either (1) as cooperation, (2) in neutral terms, or (3) as bribery. Additionally, we will measure participants' levels of Honesty-Humility to examine whether those with higher levels of this prosocial trait are more likely to engage in bribery when it is framed as cooperation (vs. in neutral and bribery terms).

As a preliminary step, we present results from a Pilot Study (N = 799) that supports Hypotheses 1b, 2b, 3b, and 4b. The Pilot Study tests whether cooperation (vs. bribery) framing increases bribery engagement, and whether participants with higher (vs. lower) levels of Honesty-Humility are more likely to engage in bribery when framed in cooperative (vs. bribery) terms. In other words, the Pilot Study did not include a neutral framing condition, which we suggest to include in the main study in other to examine whether the effects observed in the Pilot Study were primarily driven by the cooperation or the bribery framing condition.

Methods

Ethics

The study will be conducted in full accordance with the Ethical Guidelines of the American Psychological Association (APA), and an ethical approval will be obtained from the institutional ethics board. We will obtain informed consent from all participants. Participants will be compensated in line with the wage suggested by the participant panel (Prolific.co; £6 per hour). All bonus incentives will be paid out.

Sampling plan

To determine the required sample size, we conducted simulation-based power analyses[48]. The expected effect sizes (odds ratios; *OR*) are based on the results from the Pilot Study reported below. We established that the sample of $N = 5{,}500$ is needed to detect the smallest of the expected effect sizes (H3a), and hence we assumed this sample size for all power analyses. Detailed justification of the assumed effect sizes, details regarding the data simulation, as well as power analyses for robustness tests and equivalence tests are available in the Supplemental Material.

- Hypothesis 1a-2b: With a sample of $N = 5{,}500$, we will obtain 100% power to detect the expected effects of $OR = 2.16$ (H1a), $OR = 4.63$ (H1b), $OR = 2.01$ (H2a), $OR = 4.03$ (H2b), assuming alpha level of .05.
- Hypothesis 3a-4b: With a sample of $N = 5{,}500$, we will obtain 95% power to detect interaction effects of $OR = 1.52$ (H3a) and $OR = 1.56$ (H4a), and 100% power to detect interaction effects of $OR = 2.29$ (H3b) and $OR = 2.47$ (H4b), assuming alpha level of .05.

Because the study takes place across two measurement occasions, we oversample by 10% on the first measurement occasion to account for dropout (based on typical dropout rates on Prolific Academic[49]). Hence, we will recruit $N = 6{,}050$ participants on the first

measurement occasion (stratified by gender and age). All participants will be UK residents recruited using Prolific Academic (prolific.co). We will stop the data collection on the first measurement occasion once we obtain the required number of participants after all necessary exclusions. On both measurement occasions, we will exclude participants who (1) do not complete the entire study, (2) fail at least one of the control questions about the bribery game, and (3) fail at least one of the attention checks embedded within the HEXACO scale.

Design

The study will take place across two measurement occasions. At both measurement occasions, participants will be presented with general information about the study and asked to read and agree to the consent form. On the first measurement occasion, we will ask participants for demographic information (gender and age) and we will measure their levels of Honesty-Humility (and the other dimensions of the HEXACO model; i.e., Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience)[34,50]. We will include the entire HEXACO-60 scale to avoid bringing Honesty-Humility into the focus of attention and to allow exploratory analyses concerning the other HEXACO dimensions. We will include two attention checks: "This is an attention check, please select "strongly agree", and "This is an attention check, please select "disagree". The order of items within the HEXACO-60 scale will be randomized.

On the second measurement occasion two weeks after, participants will take part in a bribery game. In the bribery game participants will be randomly allocated to either (1) the cooperation, (2) the neutral, or (3) the bribery framing condition (between-participants). The conditions will differ in the title of the game and the labels of the available choices (Table 2). In the cooperation framing condition, we will inform participants that they are taking part in the *cooperation game*, in which they make decisions as citizens who can *cooperate (vs. not cooperate)* with public officials (i.e., offer or not offer a bribe), or as public officials who can

accept (vs. reject) a cooperation offer from citizens (i.e., accept or reject a bribe). In the neutral framing condition, we will inform participants that they are taking part in the *game*, in which they make decisions as citizens who can *offer or do not offer a monetary transfer* (i.e., offer or not offer a bribe), or as public officials who can *accept or reject a monetary transfer* (i.e., accept or reject a bribe). Finally, in the bribery framing condition, we will inform participants that they are taking part in the *bribery game*, in which they make decisions *as* citizens who can *bribe (vs. not bribe)* public officials, and in which they make decisions as public officials who can *accept (vs. reject) a bribe* from citizens. Aside from the framing differences, the instructions in all three conditions will be identical.

In all conditions, participants will learn about the general structure of the game, followed by detailed instructions for citizens and public officials. After reading the instructions, participants will be asked three control questions assessing if they understand that (1) engaging in bribery is beneficial for themselves, (2) rejecting bribery harms their interaction partner, and (3) engaging in bribery harms other participants (please note that herein we describe the instructions in bribery terms, while in the actual study, the instructions will be framed accordingly to the condition, i.e., in bribery, neutral, or cooperation terms). Participants will be given two chances to answer all control questions correctly. If they fail to do so, they will be excluded from the study.

Finally, after reading the instructions and answering the control questions, participants will be asked to make a decision as a citizen and as a public official (in random order), and they will be informed that only one of these decisions will be randomly chosen for their final bonus payoff (in addition to a flat fee for their participation). As citizens, participants will be asked to indicate whether they will offer (vs. not offer) a bribe. As public officials, participants will be asked to indicate whether they would accept (vs. reject) a bribe. Finally,

participants will be debriefed and thanked for their participation. The differences in framing between conditions are summarized in Table 1.

Table 1.

Framing across conditions in the bribery game.

Condition	Decision framing	Game framing
Cooperation framing	For citizens: - "Cooperate" - "Do not cooperate" For public officials: - "Accept a cooperation offer" - "Reject a cooperation offer"	"Cooperation game"
Neutral framing	For citizens: - "Offer a monetary transfer" - "Do not offer a monetary transfer" For public officials: - "Accept a monetary transfer" - "Reject a monetary transfer"	"Game"
Bribery framing	For citizens: - "Offer a bribe" - "Do not offer a bribe" For public officials: - "Accept a bribe" - "Reject a bribe"	"Bribery game"

Measures

Honesty-Humility

Honesty-Humility will be measured as a self-report via the HEXACO-60[50], a questionnaire assessing the HEXACO dimensions via 10 items each. Participants will be asked to rate the extent to which they (dis)agree with presented items about themselves and others on a five-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). A sample item for Honesty-Humility is "If I knew that I could never get caught, I would be

willing to steal a million dollars." We will use the average score of Honesty-Humility in the analysis.

The bribery game

The design of the bribery game and the incentive structure are adapted from a standard bribery paradigm[46]. Participants will be randomly assigned to groups of ten, consisting of five "citizens" and five "public officials". Each citizen will be randomly matched with one public official from their group. The aim of the citizens is to get a certificate from the public official they were matched with. The certificate has a value of 40 points to the citizen (each point corresponded to £0.02 ≈ 0.03 USD), and the citizens will be able to obtain the certificate either via the formal procedure or via making a bribe offer to the public official. The public officials will receive a baseline salary of 15 points, which they could increase by accepting a bribe.

The cost of the formal procedure equals 20 points. Hence, if a citizen chooses the formal procedure, their payoff will amount to 20 points (corresponding to 40 points for the certificate minus 20 points for the formal procedure). Instead of choosing the formal procedure, each citizen will be able to choose to offer a bribe of 10 points to the public official who will be able to accept or reject the bribe (please note that the "bribe" will be framed accordingly to condition). If a citizen chooses to offer a bribe and a public official accepts it, (1) the citizen's payoff will amount to 30 points (corresponding to 40 points for the certificate minus 10 points for the bribe), and (2) the public official's basic salary of 15 points will increase to 25 points (corresponding to 15 points for the basic salary plus 10 points for the bribe). In sum, citizens who get their bribes accepted receive more points than citizens from the same group who did not offer bribes, and public officials who accept bribes receive more points than public officials from the same group who did not receive bribes.

On the other hand, if a citizen chooses to offer a bribe and a public official rejects it, the citizens would have to pay the cost of the formal procedure (20 points) and a fine of 5 points. Hence, if a citizen chooses to offer a bribe and a public official chooses to reject it, (1) the citizen's payoff will amount to 15 points (corresponding to 40 points for the certificate minus 20 points for the formal procedure and 5 points for the fine), and (2) the public official's salary will not change. In sum, citizens who get their bribes rejected, receive fewer points than citizens from the same group who do not offer bribes, as well as fewer than citizens from the same group who get their bribes accepted (hence, offering a bribe involves some financial risk for the citizen). On the other hand, rejecting a bribe has no impact on the salaries of the public officials.

Finally, we include the negative externalities to model the inefficiency of bribery for society. Specifically, for each successful bribe in the group—i.e., when a citizen offers a bribe and the public official accepts it— each of the 10 members of the group receives 1.5 points less. Hence, successful bribery imposes negative externalities on all the members of the group, and the payoffs described in the paragraph above will be adjusted to account for the negative externalities within each group (of ten participants).

In sum, in line with other bribery research[45,46], bribery will be financially beneficial on an individual level (people who engage in successful bribery will receive more money than people from the same group who do not engage in bribery), (2) bribery will involve some risk (people whose bribes are rejected, receive less money than people who did not offer a bribe), and (3) bribery will be inefficient for the members of the society (successful bribery imposes negative externalities on the members of the groups). The study will include real interactions between participants and no deception will be present. Data collection and analysis will be performed blind to the conditions of the experiment.

Planned analyses

We will use the following statistical models:

- Hypotheses 1a-1b: Two logistic regression models with (1) condition as a three-level categorical predictor (cooperation, neutral, and bribery framing condition), with two contrasts: cooperation vs. neutral framing (H1a) and cooperation vs. bribery framing (H1b) and (2) one binary dependent variable per each model: offering bribes.
- Hypotheses 2a-2b: Two logistic regression models with (1) condition as a three-level categorical predictor (cooperation, neutral, and bribery framing condition), with two contrasts: cooperation vs. neutral framing (H1a) and cooperation vs. bribery framing (H1b) and (2) one binary dependent variable per each model: accepting bribes.
- Hypotheses 3a-3b: Two logistic regression models with three predictors (1) condition as a three-level categorical predictor (cooperation, neutral, and bribery framing condition), with two contrasts: cooperation vs. neutral framing (H3a) and cooperation vs. bribery framing (H3b), (2) Honesty-Humility, and (3) the interaction term between condition and Honesty-Humility, as well as one binary dependent variable per each model: offering bribes.
- Hypotheses 4a-4b: Two logistic regression models with three predictors (1) condition as a three-level categorical predictor (cooperation, neutral, and bribery framing condition), with two contrasts: cooperation vs. neutral framing (H4a) and cooperation vs. bribery framing (H4b), (2) Honesty-Humility, and (3) the interaction term between condition and Honesty-Humility, as well as one binary dependent variable per each model: accepting bribes.

Internal consistency of each subscale in the HEXACO-60[50] will be calculated using Cronbach's Alpha[51]. We will use odds ratios with associated 95% confidence intervals as effect sizes. Because our hypotheses are directional, we will use one-tailed tests. We adjust the alpha level to $\alpha = .025$ using a Bonferroni correction (i.e., .05/2) because we

operationalize bribery engagement using two measures: offering and accepting bribes. Please note that we do not adjust the alpha level further because the remaining comparisons test different theoretical ideas, and hence do not constitute a "family of tests"[52].

We will conclude that hypotheses are supported if the corresponding *p* values are significant at $\alpha = .025$. If we observe significant interactions in Models 3a-4b, we will follow up with the Johnson-Neyman intervals[54], which allows estimating the value of Honesty-Humility at which the difference between cooperation vs. neutral/bribery framing condition(s) changes from non-significant to significant. If the *p* values are above $\alpha = .025$, we will conclude that the models are insignificant and follow up with Bayesian testing to compute the degree of support for the observed insignificant relations (for details, see Supplemental Materials)

To test for robustness of our findings, each model including Honesty-Humility as a predictor will be followed up with a model controlling for the five remaining HEXACO traits. Furthermore, we will test whether each of the five remaining HEXACO traits moderates the potential relation between cooperation framing (vs. bribery and neutral framing) and bribery engagement. All analyses will be reported both with and without covariates. We will test for ceiling and floor effects in all measures and report accordingly. See Table 2 for a summary of the study design.

Table 2.

Design table.

Research question	Hypothesis	Sampling plan	Analysis plan	Interpretation of different outcomes
Does cooperation framing increase bribery engagement?	Hypotheses 1a and 1b (bribe offers) Hypotheses 2a and 2b (bribe acceptance)	N = 5,500	Logistic regression with one predictor and one DV	If $\alpha < .025$ (one-tailed), then the respective hypothesis is supported. If $\alpha > .025$ (one-tailed), then the interpretation will be based on Bayes Factors.

Does cooperation framing increase bribery engagement especially for prosocial individuals?	Hypotheses 3a and 3b (bribe offers) Hypotheses 4a and 4b (bribe acceptance)	N = 5,500	Logistic regression with three predictors and one DV	If $\alpha < .025$ (one-tailed), for the interaction term + the shape of the interaction is supported by the Johnson-Neyman interval, then the respective hypothesis is supported. If $\alpha > .025$ (one-tailed), then the interpretation will be based on Bayes Factors.

Note. OR = odds ratio, CI = confidence interval, SESOI = smallest effect size of interest.

Pilot Study

We conducted a Pilot Study as a preliminary test of whether cooperation framing increases bribery engagement, and whether this is the case for prosocial individuals in particular. The procedure, methods, and exclusion criteria in the Pilot Study were identical to the suggested study described above, with three exceptions: (1) we did not include a neutral framing condition, (2) the study took part in one measurement occasion only (i.e., demographics, followed by the HEXACO-60, followed by the bribery game framed in either cooperation or bribery terms; between-participants), hence completing the HEXACO-60 questionnaire might have impacted subsequent decisions in the bribery game, and (3) the study included a smaller sample size.

Participants

We used Prolific Academic (prolific.ac) to recruit participants from the general population of the UK. We recruited N = 796 participants (aged from 18 to 81; M = 37.34, SD = 12.64 years; including 529 women, 261 men, and 6 participants who chose the response option “other”).

Results

We found that framing bribery engagement as a cooperative act (vs. as bribery) increased the probability of offering bribes by 119% (*OR* = 4.61, 95% CI = [3.43; 6.23], $p < .001$) and the probability of accepting bribes by 85% (*OR* = 4.02, 95% CI = [2.99; 5.42], $p < .001$; see, Figure 1).

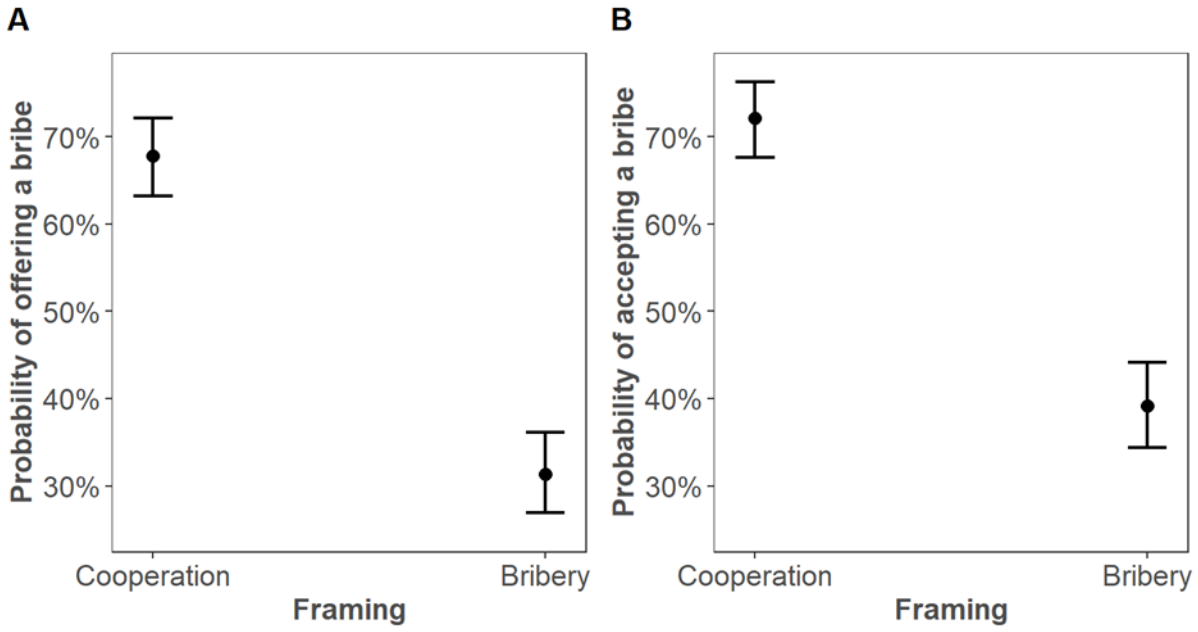

Figure 1. Engagement in bribery in the cooperation and bribery framing conditions (Pilot Study). Black dots indicate estimated probabilities of offering/accepting a bribe, vertical lines indicate 95% confidence intervals. *N* = 796.

Furthermore, we found that cooperation (vs. bribery) framing increased the probability of both offering (*OR* = 2.26, 95% CI = [1.35; 3.80], $p = .002$) and accepting bribes (*OR* = 2.43, 95% CI = [1.43; 4.18], $p = .001$) among participants with higher, but not lower, levels of the basic prosocial trait dimension Honesty-Humility (Figure 2). Both interaction effects were robust when controlling for the other personality traits of the HEXACO model. Finally, we observed no significant interactions between other HEXACO traits and conditions when predicting the probabilities of offering and accepting bribes (see the OSF repository).

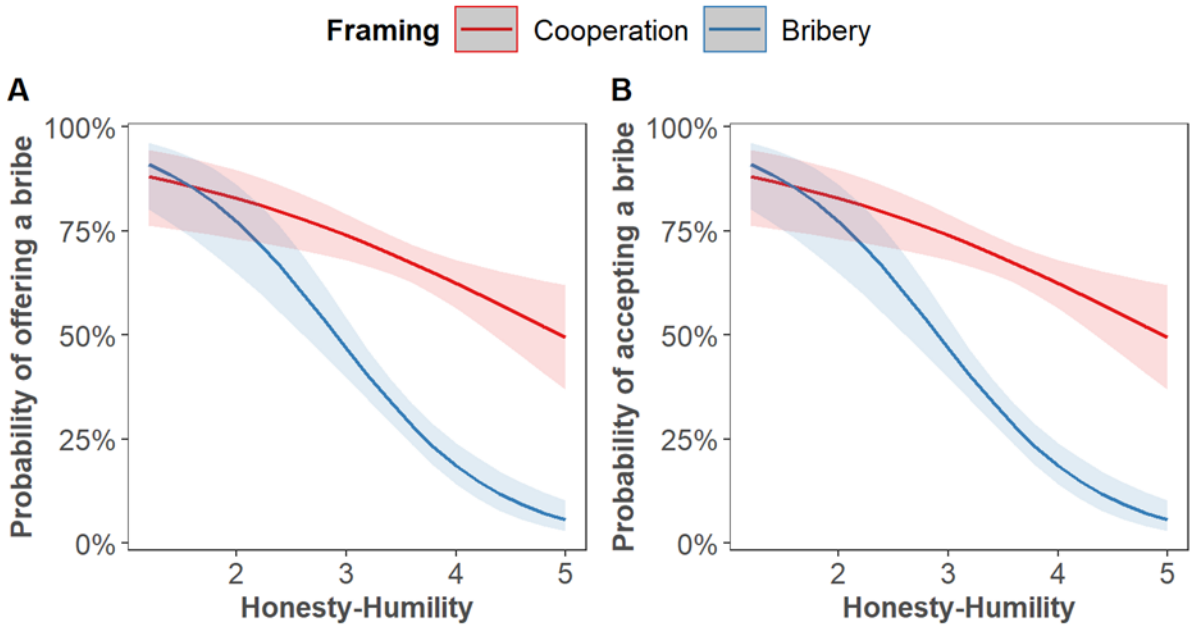

Figure 2. Relations between Honesty-Humility and engagement in bribery in the cooperation and bribery framing conditions. Red and blue ribbons indicate 95% confidence intervals. *N* = 796.

Summarizing, the Pilot Study provides preliminary support for the hypotheses we will test in the study proposed herein. That is, we found that cooperation (vs. bribery) framing increased bribery engagement, and that is the case for prosocial individuals in particular.

Data and code availability

The pre-registration, (power) analysis script, data, and exact study procedure for the Pilot Study, as well as the (power) analysis script, and simulated data for the main study are available in the OSF: https://osf.io/k49ch/.

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