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journal homepage: [www.elsevier.com/locate/jesp](http://www.elsevier.com/locate/jesp)Giving (in) to help an identified person<sup>☆</sup>Linh Vu<sup>a,\*</sup>, Catherine Molho<sup>b</sup>, Ivan Soraperra<sup>c</sup>, Susann Fiedler<sup>d</sup>, Shaul Shalvi<sup>a</sup><sup>a</sup> Center for Experimental Economics and Political Decision Making, University of Amsterdam, the Netherlands<sup>b</sup> Department of Experimental and Applied Psychology, Vrije Universiteit Amsterdam, the Netherlands<sup>c</sup> Center for Human and Machines, Max Planck Institute for Human Development, Berlin, Germany<sup>d</sup> Institute for Cognition and Behavior, Vienna University of Business and Economics, Austria

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## ABSTRACT

People give more to a person in need when this person's identity is known. Such altruistic behaviors may arise from a genuine concern for the person, leading people to *give*. Alternatively, altruistic behavior may also arise from one's attempt to reduce the guilt of not giving, leading people to *give in*. Is the increased altruism towards an identified (vs. unidentified) charity recipient driven by a genuine concern for the person or by guilt? The current registered report addressed this question in two experiments ( $N = 3671$ ), in which participants made allocation decisions in transparent vs. ambiguous settings with a predetermined (versus undetermined; Study 1) or an identified (versus unidentified; Study 2) child in need as the recipient. Consistent with our pre-registered hypothesis, results revealed that participants gave significantly less to undetermined/unidentified children in an ambiguous, compared with a transparent setting. However, in contrast to our predictions, predetermined/identified children did not receive more than undetermined/unidentified children in transparent settings in which they know how their choice impacts the children. Accordingly, the predicted interaction between identification and ambiguity was not significant. Exploratory analyses revealed that participants who willingly resolve the ambiguity surrounding the impact of their choice gave more compared to those who were given transparent information by default. The results suggest that some people give in when making their donation decisions, but the tendency to give in is independent of whether the recipient is identified or not.

Altruistic behaviors—costly acts that benefit others (Fehr & Fischbacher, 2003; Pfattheicher, Nielsen, & Thielmann, 2022)—are common: people give money to a panhandler on a street corner, help an elderly stranger cross a busy road, or donate to charity. Cain, Dana, and Newman (2014) propose such behaviors can be a result of two different mechanisms: *giving* versus *giving in*. That is, some altruistic behavior is driven by genuine concerns for others to whom people are willing to give some of their time or money to help the person in need (i.e., *giving*; Batson, 2010). In contrast, some altruistic behavior is driven by societal pressures to help or concerns about maintaining a positive self-concept (i.e., *giving in*; Cialdini & Goldstein, 2004; Shalvi, Handgraaf, & De Dreu, 2010). Recent meta-analytical results show indeed seemingly altruistic behaviors do not always reflect a genuine concern for others. Decision-makers who can avoid learning the impact of their actions on others—that is, can engage in willful ignorance—make more selfish choices than when they cannot exploit such contextual ambiguity (Vu,

Soraperra, Leib, Van der Weele, &amp; Shalvi, 2023).

Situational contexts have a strong impact on altruistic behaviors. Altruistic behaviors are more common when the recipient who will benefit from the altruistic act is identified compared to when they are not, even when identification conveys no personal information (Cryder, Loewenstein, & Scheines, 2013; Small & Loewenstein, 2003). Meta-analytical results show identified charity recipients, especially young children, consistently receive more donations than unidentified charity recipients who are in a similarly dire situation (for a review, see Lee & Feeley, 2016; see also Kogut & Ritov, 2005a, 2005b, 2007; Small, Loewenstein, & Slovic, 2007; Wiss, Andersson, Slovic, Västfjäll, & Tinghog, 2015). Identification benefits single individuals more than groups (Kogut & Ritov, 2005a; Kogut & Ritov, 2005b), especially when the individual is presented as a unique case without referencing other people in need of help (Västfjäll, Slovic, & Mayorga, 2015). The effect of identifiability is especially strong when details about the recipient are

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given (Cryder et al., 2013) such as presenting a photo of the recipient along with their name and age (Kogut & Ritov, 2005a; Lee & Feeley, 2016). Overall, empirical findings suggest that identification triggers strong emotional reactions within the benefactor, leading to an increase in giving. The question we tackle here is: Does facing an identified person lead people to give more or give in more?

### 1. Giving versus giving in: Assessment and mechanism

To differentiate between giving and giving in, Dana, Weber, & Kuang (2007) introduce a willful ignorance task. In this paradigm, anonymous participants choose between two options (A or B) that determine the payoffs for themselves and for another unidentified person. In the Full Information treatment, participants know the exact outcomes associated with both options for themselves and the other. In this setting, the majority of participants (73%) act altruistically by foregoing the option that yields the most money for themselves (option A; \$6) and choose the option that yields less (option B; \$5). By choosing the altruistic option and taking \$1 less, participants help the other person earn \$4 more (\$5 instead of \$1). The level of altruistic behavior measured in the Full Information treatment, however, can result from both the giving and the giving-in mechanisms.

To disentangle the two mechanisms underlying altruistic behavior observed in the Full Information treatment, Dana et al. employed a Hidden Information treatment in which participants know how much each of the two options yields for themselves, but do not know how much each option yields for the other person. In this treatment, participants can effortlessly click the “reveal” button to learn the outcomes associated with the two options for the other person. If they do not reveal, participants can choose between the two options while remaining (willfully) ignorant of the consequence their choice will have for the other.

If all participants who make altruistic choices in the Full Information treatment have the intention to give, we should observe a similar level of altruistic choices in the Hidden Information treatment. That is, assuming random assignment to experimental treatments, we would expect a person who genuinely wants to give to (a) choose the altruistic option in the Full Information treatment and (b) reveal the hidden yet important information about the outcomes for the other person and choose the altruistic option in the Hidden Information treatment. A person who gives in, on the other hand, will similarly choose the altruistic option when provided with full information, but will choose to remain willfully ignorant when possible, in order to make a selfish choice in the Hidden Information treatment. Indeed, Dana et al. find the level of altruistic behavior drops significantly in the Hidden Information treatment. Recent meta-analytical results (summarizing 33,603 decisions made by 6531 participants) show the level of altruistic choices drops by 16 percentage points in the Hidden Information treatment, validating that altruistic behavior is not only due to a concern for others, but also at least partly driven by the desire to maintain a positive self-concept (Vu et al., 2023).

Grossman & Van der Weele, 2017 formally theorize that the altruism gap between the Full and Hidden Information treatments is explained by the use of ignorance as a means to protect one's self-concept. For those who are not willing to give, revealing information and being confronted with a conflicting choice of whether to benefit oneself or the other person poses a threat to their self-concept. Choosing the altruistic option means they get less than the maximum amount; choosing the selfish option means they are confronted with the fact that they are not altruistic after all. Given that social norms dictate people should act altruistically and help others (Cialdini & Goldstein, 2004; Gelfand & Harrington, 2015), not knowing how one's actions influence another person allows decision-makers to enjoy both worlds—maintaining a positive self-concept while getting a higher payoff (Andreoni & Bernheim, 2009; Bénabou & Tirole, 2006; Cialdini & Goldstein, 2004). As such, ignorance is especially valued when people feel the pressure of

internalized social norms to behave altruistically but would rather use situational excuses to reduce the constraints of such norms on their behavior. Accordingly, the behavioral tendency to engage in willful ignorance when the opportunity is available explains the altruism gap between treatments.

### 2. Identification and giving (in): Empathy vs. guilt

Giving to an identified other is empathy-driven. Meta-analytical results (Lee & Feeley, 2016) suggest the mechanism underlying people's tendency to give more to an identified (vs. unidentified) person is the evoked empathy for the less fortunate person (Erlandsson, Björklund, & Bäckström, 2015, 2017; Hou, Zhang, Zhao, & Guo, 2022; Kogut & Ritov, 2005a, 2005b; Sabato & Kogut, 2021; Sah & Loewenstein, 2012). The reason is that personal information such as name, age, and photos, creates a more coherent mental imagery of the person (Dickert, Kleber, Västfjäll, & Slovic, 2016), reinforces the perception of the person (Kogut & Ritov, 2005a), and activates affective processing for the decision-makers (Genevsky, Västfjäll, Slovic, & Knutson, 2013). Such affective processing in turn induces giving (Slovic, 2007). The positive effect of identification is especially strong when decision-makers face a young child rather than an adult (Lee & Feeley, 2016), and the child has a sad facial expression (Small & Verrochi, 2009). Further supporting the empathy mechanism, decision-makers give more to an identified (vs. unidentified) person only when they are feeling empathetic but not when they deliberate over their decision (Small et al., 2007; Small & Verrochi, 2009).

People give more to identified others, even when identification only includes informing the decision-maker that the identity of the person they are giving to has been determined (Ritov & Kogut, 2017; Small & Loewenstein, 2003). The reason is that when the identity of the other person is determined, even when identification is minimal, attention is guided towards the selected person rather than being divided (Dickert & Slovic, 2009). Focusing on a single person whose identity has been determined among a group leads people to feel more strongly (Cryder et al., 2013; Kogut & Ritov, 2005b) and perceive more responsibility towards the identified person (Cryder & Loewenstein, 2012), thus increasing giving.

Giving in to societal pressures, on the other hand, is guilt-driven (Basil, Ridgway, & Basil, 2006, 2008). Some people would prefer not to give. However, identification decreases the social distance between the decision-maker and the recipient (Kogut, Ritov, Rubaltelli, & Liberman, 2018), stresses the importance of helping (Cryder & Loewenstein, 2012), and intensifies the degree of responsibility one perceives (Hou et al., 2022). Anticipating such guilt in case they fail to respond (Charness & Gneezy, 2008; Tangney & Dearing, 2002) leads some people to give in (Charness & Dufwenberg, 2006). People high on guilt proneness – a tendency “characterized by anticipating a bad feeling about committing transgressions” (Cohen, Panter, & Turan, 2012, p. 355) – are especially likely to behave altruistically (Boster, Cruz, Manata, DeAngelis, & Zhuang, 2016; Thielmann, Spadaro, & Balliet, 2020), due to their internalized moral norms (Cohen et al., 2012; Tangney, Stuewig, & Mashek, 2007).

Importantly, research on the positive effect of identification on altruistic behaviors has focused on decision-makers who must choose between giving or not (Lee & Feeley, 2016). Such settings do not allow disentangling between genuine giving which is empathy-driven, and giving in to societal expectation which is guilt-driven. The current registered report tackles exactly this gap.

### 3. The present research: Overview and predictions

In the current registered report, we present two  $2 \times 2$  between-subjects studies to assess whether an increased donation for an identified person is a result of giving or giving in. In both studies, participants made a choice between two options that determine the payoffs for

themselves and for a child in need. Participants were randomly assigned to either (i) the Full Information conditions, in which they are fully informed of how their choice will impact the outcome for the child, or (ii) the Hidden Information conditions, in which they must take action to reveal how their choice will impact the child's outcome. The binary payoff structure, while not common practice in the identified victim effect literature, is consistent with the rest of the literature on willful ignorance (see Vu et al., 2023) and allows for a clean differentiation between selfish and altruistic choices. In addition to manipulating the ambiguity surrounding the child's payoff, we also manipulated the information participants receive about the child.

In Study 1, we use the minimal form of identification – namely, whether the target has (vs. has not) been determined. The aim of study 1 was to test (i) the pure impact of identification on altruistic behaviors while keeping all other dimensions constant, and (ii) whether such impact would be attenuated by the willful ignorance effect. Specifically, participants were informed that one child has been (or will be) randomly chosen from a group of preselected children in need. Each participant was randomly paired with one child either before they made their allocation (in the Determination conditions) or after they made their allocation (in the No Determination conditions).

In Study 2, we use an approach with higher external and ecological validity by providing further identifying information about the child in need. The aim of Study 2 was to test (i) the impact of identifying information of a charity recipient on altruistic behaviors, and (ii) whether such impact would be attenuated by the willful ignorance effect. Specifically, participants were informed that their allocation would impact one child, whom we chose for every participant before the experiment. Participants in the No Identification conditions did not receive further information about this child. In contrast, participants in the Identification conditions received further identifying information about the child including name, age, gender, nationality, and a photo.

By comparing the proportion of altruistic choices between the No Determination versus the Determination conditions in Study 1 and the No Identification versus the Identification conditions in Study 2, we can assess how different levels of identifiability drive giving (in). In this report, we make the same predictions about the effects of both manipulations of identification. If, however, differences arise, they may inspire future work to explore which pieces of information affect giving (in), above and beyond mere identification.

Taken together, the theoretical perspectives explaining people's tendency to be more altruistic towards an identified person (Lee & Feeley, 2016) yet also engage in willful ignorance to justify selfishness (Grossman & Van der Weele, 2017) suggest several testable predictions. For each study, we derive two replication (H1 and H2) and two extension hypotheses (H3 and H4) to address our research question, namely, whether people give more or give in more when facing an identified child in need. Fig. 1 is the graphical representation of our predictions, and Table 1 presents the precise hypotheses and their corresponding analysis. Study 1 varies determination of the target child, whereas Study 2 varies the identification of the target child. The predictions, however, remain the same. Accordingly, we present the predictions for Study 1 and in brackets the predictions for Study 2.

First, we expect to replicate the determined [identified] victim effect within the Full Information conditions (the green bars in Fig. 1), the setting in which it has been exclusively studied. That is, we expect people to give more in the Determination [Identification] condition compared with the No Determination [No Identification] condition.

Second, we expect to replicate the effect of ambiguity and willful ignorance on giving in the No Determination (Study 1) and the No Identification (Study 2) conditions, the settings in which it has been exclusively studied. That is, in the No Determination [No Identification] condition, we expect participants to make fewer altruistic choices in the Hidden Information condition (orange bar), where they can engage in willful ignorance, than in the Full Information condition (green bar).

Third, we extend the literature by assessing an interaction between

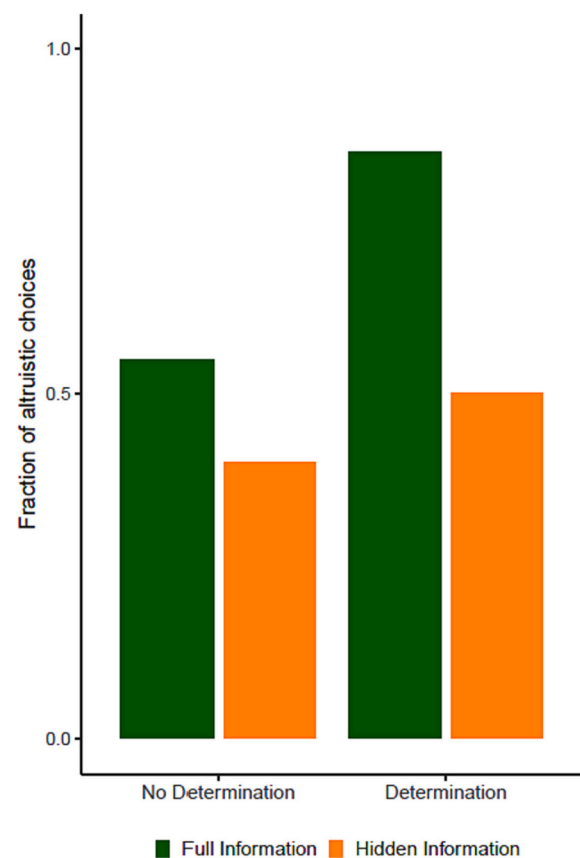


Fig. 1. Graphical Representation of the Predicted Simple Effects and the Interaction Effect.

identification and ambiguity, predicting that identification will increase giving in. That is, part of the increase in giving to an identified child is due to a desire to maintain a positive self-concept, rather than a true concern for child's well-being. Accordingly, we expect the positive effect of determination [identification] will be attenuated in the Hidden Information condition (compared to the Full Information condition) due to willful ignorance. Thus, we hypothesize the gap in altruistic choices between the Full and Hidden Information conditions to be larger in the Determination [Identification] condition than in the No Determination [No Identification] condition.

Fourth, we expect the mechanism which attenuates the positive effect of determination [identification] and underlies giving in is the decision-makers' tendency to remain ignorant more often in the Determination [Identification] than in the No Determination [No Identification] condition.

To further explore the underlying psychological mechanisms, we also measure participants' choice of informing themselves about the consequences of their actions, their level of perceived responsibility for the child, as well as individual differences in trait empathy and guilt proneness as proxy measures for the emotions they may experience during the task. If we find support for the giving-in hypothesis (H3), we expect the negative effect of willful ignorance to be stronger for those who are high (vs. low) on guilt proneness. If, however, we do not find support for H3, indicated by a non-significant interaction between determination [identification] and ambiguity, such results will suggest that determination [identification] increases giving. That is, the increase in altruistic choices towards a determined [identified] child is genuine,

**Table 1**  
Hypotheses, Effects of Interests, and Analytical Approaches of Studies 1 and 2.

Hypothesis	Effect of interest	Analysis
H1: In the Full Information conditions, participants will make more altruistic choices in the Determination [Identification] condition than in the No Determination [No Identification] condition.	Simple effect of determination [identification]	We fitted a logistic regression model predicting altruistic choices (1 = altruistic, 0 = selfish) using two dummy-coded predictors:
H2: In the No Determination [No Identification] condition, participants will make less altruistic choices in the Hidden Information condition than in the Full Information condition.	Simple effect of ambiguity	Determination: 1 = Determination, 0 = No Determination [Identification: 1 = Identification, 0 = No Identification]
H3: The difference in the odds of altruistic choices between the Full and Hidden Information conditions is larger in the Determination [Identification] condition than in the No Determination [No Identification] condition.	Interaction between ambiguity and determination [identification]	Ambiguity: 1 = Hidden Information, 0 = Full Information Interaction term
H4: In the Hidden Information conditions, participants are more likely to avoid information in the Determination [Identification] condition than in the No Determination [No Identification] condition.	Simple effect of determination [identification]	We fitted a logistic regression model predicting ignorance (1 = avoid information, 0 = acquire information) from determination (1 = Determination, 0 = No Determination) [identification (1 = Identification, 0 = No Identification)].

Note. In brackets are the alternative phrases/variables for Study 2.

and altruistic choices are driven by a genuine motivation to improve the child's well-being.<sup>1</sup> In such case, we expect the positive effect of determination [identification] to be stronger for those who are high (vs. low) on empathy as well as those who perceive more (vs. less) responsibility to help the child in need.

## 4. Study 1

### 4.1. Method and procedure

Participants were randomly assigned to one of the conditions in a 2 (Full Information vs. Hidden Information) x 2 (No Determination vs. Determination) factorial between-subjects design. Participants were informed that they would be able to donate to one real child in need. Similar to Small and Loewenstein (2003), each participant was randomly matched with one child from a group of children aged 2–6 from the Children International charity website. The child's identity was either predetermined (in the Determination conditions) or yet to be determined (No Determination condition). Specifically, participants in the No Determination conditions received the following information (the brackets include alternative phrases for the Determination conditions):

“In this experiment, your decision will determine the payoff for yourself and for a charity recipient. The donation will be made to a child [child ID number #X], who will be [has been] randomly chosen among a group of children from the Children International charity at the end [beginning] of the experiment. This child is currently living in a poor community, whose family's income can barely cover the basic necessities. The donation made to the child via Children International will

<sup>1</sup> Our main logistic regression model predicting the likelihood of altruistic choices ( $p$ ) includes two dummy-coded predictors: *determination* (Study 1) / *identification* (Study 2), *ambiguity*, and their interaction term. We expect to replicate the effect of determination [identification], meaning the effects of determination [identification] should be significantly positive, that is,  $\beta_1 > 0$ . Additionally, we expect to replicate the willful ignorance effect, meaning the effect of ambiguity should be significantly negative, that is,  $\beta_2 < 0$ . In case of *giving in*, the effect of determination [identification] in the Full Information treatment will be attenuated in the Hidden Information treatment. That is, we will find support for the giving-in hypothesis if  $\beta_3 < 0$ . In case of *giving*, the effects of determination [identification] in the Full Information treatment should be fully preserved in the Hidden Information treatment, even if the level of altruistic choices slightly decreases due to willful ignorance, that is,  $\beta_3 = 0$ . If determination [identification] increases empathy for a determined [identified] child, the effect of determination [identification] can even attenuate the effect of willful ignorance, that is  $\beta_3 > 0$ . Therefore, we will find support for the giving interpretation if  $\beta_3 \geq 0$ .

provide this child with educational and healthcare services. Children International is a highly rated and impactful charity that supports children in need. You will not find out who this child is in the end.”

#### 4.1.1. Willful ignorance task

After reading the above information, participants made a choice between option A and option B (Fig. 2) that determined the outcome for both themselves and the child they were paired with. For simplicity and to avoid forcing participants to translate monetary units (MU) into real money, we slightly deviated from our preregistration and decided to present the outcomes in actual currency (e.g., 60 pence) instead of MU's (e.g., 6 MU). Option A paid 60 pence to the participant and 10 pence to the child, while option B paid both the participant and the child 50 pence. In the Full Information conditions, participants were fully informed of the payoffs associated with each option for themselves and for the child. In the Hidden Information conditions, participants were only informed of the payoffs associated with each option for themselves. Participants knew that option A would always pay them 10 pence more than option B. However, participants did not know the payoffs associated with each option for the child. Instead, they knew the chance that they were in the state of *alignment* was 50%, where option A gave the child 50 pence and dominated option B, which gave the child 10 pence. In this state, option A was easy to choose because it maximized the payoffs for both parties (60 pence for the participant and 50 pence for the child). Participants also knew the chance that they were in the state of *conflict* was 50%, where option A gave the child 10 pence while option B gave the child 50 pence. In this state, option A maximized the payoff for the participant at the expense of the child (60 pence for the participant and 10 pence for the child). Before choosing between options A and B, participants had the opportunity to costlessly and privately reveal which state of the world they were in. Alternatively, they could avoid learning the payoffs for the child and make their choice without this knowledge. The proportion of participants choosing option B in each condition is our key outcome variable.

#### 4.1.2. Individual differences measures

After completing the willful ignorance task, participants proceeded to the questionnaires measuring individual differences in perceived responsibility, trait empathy, guilt proneness, and demographic details. All items from each questionnaire are provided in the Appendix.

- (i) Perceived responsibility: We asked participants to rate their agreement towards three items on a 5-point Likert scale (1 = *do not agree at all*, 5 = *agree completely*), which measured their perceived responsibility towards the child they could donate to. These items were adapted from Erlandsson et al. (2015).



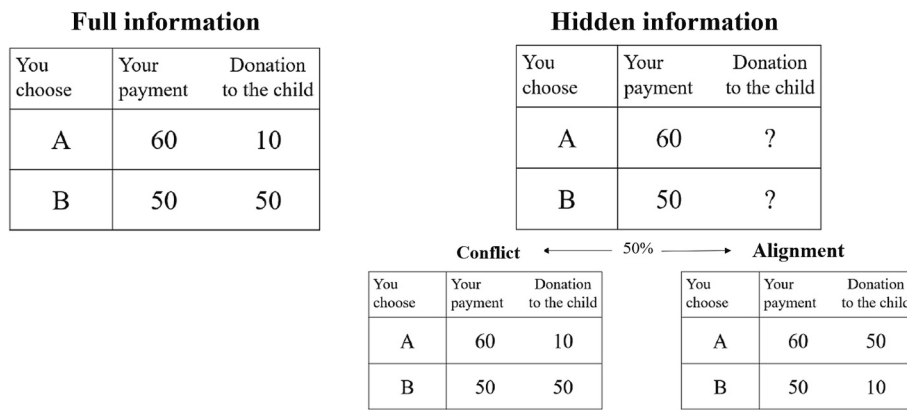


Fig. 2. Payoff Structure (Adapted from Dana et al., 2007).

Note. The figure depicts the payoff structure for participants and the child in the Full Information treatment and the Hidden Information treatment. The two states of the world, conflict and alignment, are depicted below the Hidden Information treatment. Without revealing the free information about the payoffs for the child, participants only saw the payoff structure with the question marks.

- (ii) Empathy. We used the empathic concern and the perspective taking subscales of the Interpersonal Reactivity Index (IRI; Davis, 1983) to assess individual differences in empathy. The empathic concern subscale measured the “other-oriented” feelings of sympathy or compassion for the less fortunate, while the perspective taking subscales measured the cognitive tendency to see things from the point of view of others. Both subscales included seven items, and participants rated how well each statement described them on a 5-point Likert scale (1 = *not well at all*, 5 = *extremely well*).
- (iii) Guilt Proneness. We used the Guilt-Repair and Guilt-Negative-Behavior-Evaluation (Guilt-NBE) subscales of the Guilt and Shame Proneness scale (GASP; Cohen, Wolf, Panter, & Insko, 2011) to measure participants' propensity to experience guilt across a range of personal transgressions. Each subscale consisted of four items that described a situation, and participants rated the likelihood of their reaction to each situation on a 7-point Likert scale from (1 = *very unlikely*, 7 = *very likely*).
- (iv) Demographic Details. At the end of the experiment, participants were asked to fill in details regarding their nationality, year of birth, gender, and socioeconomic status (SES). To assess how participants perceived their SES, participants were shown a ladder in which the top rung represented people who are the best off in the society, that is, are rich, educated, and have the best jobs. The bottom rung represented people who are the worst off. Participants were asked to select the rung that best represented them.

At the conclusion of the data collection, and upon request, we would provide a collective receipt of the donations made to the children in need via Children International. The entire experiment took 8.10 min on average ( $SD = 5.28$ ), for which participants were paid a fixed fee of £1.1 for their participation, not including the additional bonus payment (£0.1 – £0.6) depended on their choice in the willful ignorance task.

#### 4.1.3. Sample size, power, and sensitivity analyses

To determine the number of participants needed to capture the effects of interest, we first conducted a power analysis using the G\*Power 3.1 software (Faul, Erdfelder, Lang, & Buchner, 2007). Specifically, we calculated the weighted average effect of ambiguity observed among seven studies in which the recipient is a charity (supporting people in need or the environment; Exley, 2015; Felgendreher, 2018; Lind, Nyborg, & Pauls, 2019; Momsen & Ohndorf, 2019; Momsen & Ohndorf, 2020a; Momsen & Ohndorf, 2020b; Soraperra, van der Weele, Villeval, & Shalvi, 2023). The weighted average fraction of altruistic choice is

0.53, as observed from 11 Full Information conditions and 0.40 as observed from 20 Hidden Information conditions. The difference between the two conditions in terms of the odds ratio is  $OR = 0.59$ . Thus, to obtain a similar effect with  $\alpha = 0.05$  and  $\beta = 0.90$  for a two-tailed z-test for proportions, we needed 308 participants per cell. Thus, we recruited 616 participants for the two Full Information conditions. Given that participants in the Hidden Information conditions only had a 50% chance of being placed in the state of conflict—the state in which the decision is comparable to that in the Full Information conditions (see Fig. 2)—the number of participants required for the Hidden Information conditions had to be double the number of participants in the Full Information conditions, that is, 1232 participants. Overall, we recruited a total of 1848 participants.

Second, we conducted a sensitivity analysis to assess whether we could capture a meaningful main effect of determination. The effect of determination measured as the difference in the amount of money donated to a single determined person versus a single undetermined person using a preassigned number (Small & Loewenstein, 2003) is  $OR = 2.95$  or Cohen's  $d = 0.60$ .<sup>2</sup> With the determined sample size of 308 participants per cell, that is, 616 participants per comparison,  $\alpha = 0.05$  and  $\beta = 0.90$ , the smallest effect we could capture using a two-tailed z-test for proportions was  $OR = 1.66$  or Cohen's  $d = 0.28$ . Thus, our planned sample size for the current design would allow detecting a small effect of determination.

Finally, we used a Wald test to assess the minimum interaction effect we could detect using our predetermined sample size, following the method of Demidenko (2007). We specified the main effect of ambiguity ( $OR = 0.59$ ) and determination ( $OR = 2.95$ ) as reported in past literature. With  $\alpha = 0.05$ ,  $\beta = 0.90$ , and 1232 participants (that is, only observations made in the states of conflict in the Full and Hidden Information conditions), the smallest effect of an interaction between ambiguity and determination we could detect was  $OR = 0.44$  or Cohen's  $d = -0.45$ . Thus, we could detect a small to medium interaction effect with the current sample size.

#### 4.1.4. Preregistered inclusion criteria and sample characteristics

As planned, 1851 participants, who were native English speakers and at least 18 years old, were recruited via Prolific. To be included in our analyses, our preregistered inclusion criteria stated that participants

<sup>2</sup> To convert Cohen's  $d$  to  $OR$ , we use the following formula:

$$OR = \exp\left(\frac{d\pi}{\sqrt{3}}\right)$$

must: (i) make an allocation decision, (ii) pass the attention check, and (iii) have a unique IP address. Although we had preregistered including one attention check item, we followed Prolific's attention check policy, and included two items to check for attention, one at the end of the IRI (Davis, 1983): "This is an attention check. Please select the second answer from the left for this item" and one at the beginning of the GASP (Cohen et al., 2011): "This is an attention check. Please select 'Somewhat likely' for this item." In cases of IP address duplication, we included only the first response.

Of the 1851 participants, 1 participant did not provide consent for data collection, 12 participants were excluded for having a duplicated IP address, and 85 participants did not answer at least one attention check correctly. The final sample consisted of 1765 participants (46% male;  $M_{age} = 39.53$ ,  $SD_{age} = 13.33$ ).

#### 4.2. Preregistered analyses

Following our planned analyses, we first test H1 and H2, to assess whether we replicate the prior findings on the effect of determination and ambiguity on altruistic behavior. Second, we test H3 to examine the moderating effect of ambiguity on the effect of determination. Third, we test H4 to examine the effect of determination on the likelihood of participants engaging in willful ignorance. Finally, we explore how individual differences in perceived responsibility, trait empathy and guilt proneness affect the observed interaction of determination and ambiguity.

#### 4.3. Transparency and openness

The preregistration (Vu, Molho, Soraperra, Fiedler, & Shalvi, 2023), data (Vu, Molho, Soraperra, Fiedler, & Shalvi, 2023), and code (Vu, Molho, Soraperra, Fiedler, & Shalvi, 2023) supporting the results of the study are openly available on Figshare. We made three deviations from the preregistration. First, for simplicity and to avoid forcing participants to translate monetary units (MU) into real money, we decided to present the outcomes in actual currency (e.g., 60 pence) instead of MU's as preregistered (e.g., 6 MU). Second, we implemented two, instead one, items to check for attention following Prolific's policy. Third, to the preregistered analyses, we added exploratory sorting analyses, based on recent meta-analytical results (Vu et al., 2023) to test the willfulness of participants' choice of ignorance.

#### 4.4. Results

##### 4.4.1. Main effects of determination, ambiguity and their interaction

We tested the simple effects of determination (H1), ambiguity (H2), and the interaction effect (H3) using a logistic regression model predicting the likelihood of altruistic choices (altruistic vs. selfish) using two dummy-coded predictors: determination (1 = Determination, 0 = No Determination) and ambiguity (1 = Hidden Information, 0 = Full Information), and the interaction term.

$$\ln\left(\frac{p}{1-p}\right) = \alpha + \beta_1 \text{Determination} + \beta_2 \text{Ambiguity} + \beta_3 \text{Determination} * \text{Ambiguity} + \epsilon.$$

Below, we specify the predictions in regression coefficient terms and the accompanying results.

##### 4.4.2. Replicating prior findings

Testing H1: When given full information, participants will make more altruistic choices for a child whose identity is determined than for a child whose identity is undetermined.

To replicate the simple effect of determination (e.g., Small & Loewenstein, 2003), we tested whether the likelihood of altruistic choices (altruistic vs. selfish) varies as a function of determination (determination vs. no determination) when decision-makers are provided with full

information (ambiguity = 0). A successful replication would be achieved if participants in the Full Information conditions have a significantly higher likelihood of making altruistic choices in the Determination condition than in the No Determination condition. In terms of regression coefficients, we expect to replicate the positive effect of determination, that is,  $\beta_1 > 0$ .

As can be seen in Fig. 3 (panel a), results did not support H1. We found no difference in the fraction of altruistic choices between the Determination (93%) and the No Determination (92%) conditions when participants had full information about the consequences of their choice for the child,  $\beta = -0.08$ ,  $SE = 0.32$ ,  $z = 0.25$ ,  $p = .784$ .

Testing H2: When the child is undetermined, people will give less to the child in the Hidden Information condition than in the Full Information condition.

To replicate the simple effect of willful ignorance, we compared participants' choices between the Full and Hidden Information conditions when participants faced an undetermined child. To keep the treatments comparable in terms of random assignment, and as is common in prior work (Vu et al., 2023), we focused only on observations made in the state of conflict in the Hidden Information condition. The reason is that in the state of alignment, the option that serves the decision-maker's interest also serves the child's interests. Thus, the choice structure in the state of alignment of the Hidden Information condition is not comparable to that of the Full Information condition, where participants always make choices in the state of conflict (see the payoff structure in Fig. 2). Using the same logistic regression model, we predict altruistic choices (altruistic vs. selfish) from ambiguity (full vs. hidden information) when the child is undetermined (determination = 0). In line with prior work (e.g., Dana et al., 2007), we expect the likelihood of altruistic choices to be lower in the Hidden Information condition compared to the Full Information condition. In terms of the regression coefficient, we expect to replicate the negative effect of willful ignorance and ambiguity, that is,  $\beta_2 < 0$ .

As can be seen in Fig. 3 (panel a), results supported H2. We found a simple effect of ambiguity when the child is undetermined, with participants making significantly more altruistic choices in the Full Information condition (92%) than in the Hidden Information condition (59%),  $\beta = -2.27$ ,  $SE = 0.25$ ,  $z = -9.05$ ,  $p < .001$ .<sup>3</sup>

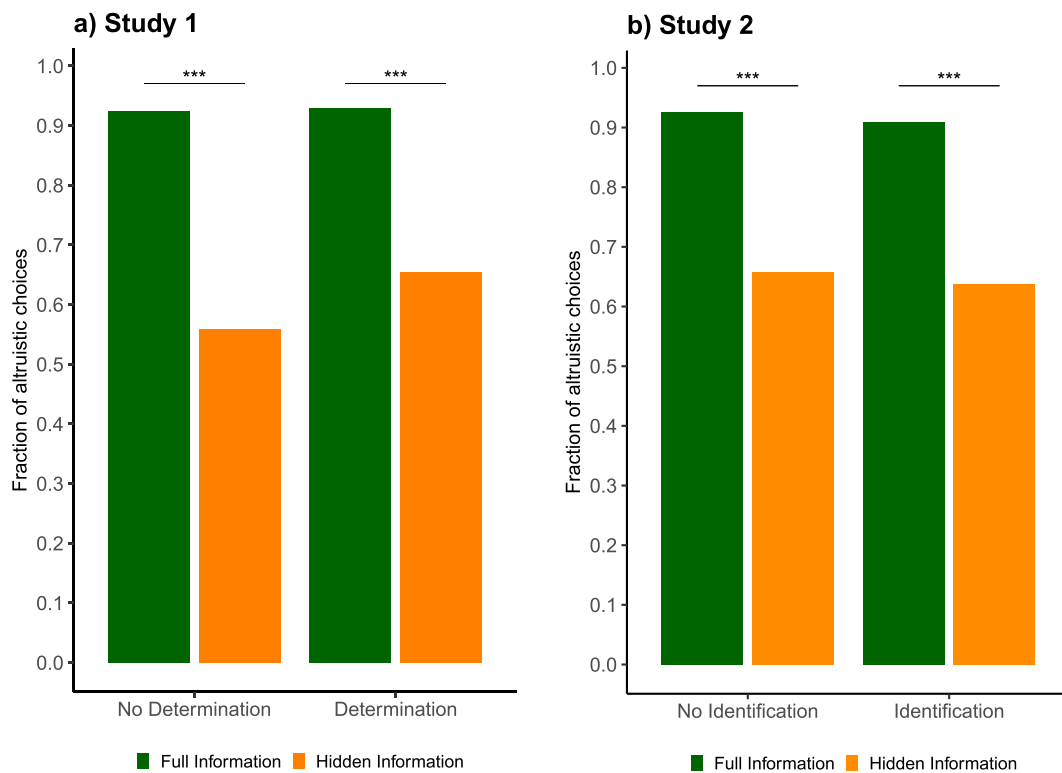
##### 4.4.3. Testing novel predictions

Testing H3: The difference in the odds of altruistic choices between the Full and Hidden Information conditions is larger when the child's identity is determined compared to undetermined.

To examine our novel prediction that the altruism gap between the Full and Hidden Information conditions is larger for a child whose identity is determined (vs. undetermined), we used all observations from the Full Information conditions and observations from the state of conflict of the Hidden Information conditions. A significantly negative interaction effect would support the giving-in hypothesis. That is, if part of the increase in donations for a determined child is due to concerns *other* than the child's wellbeing, the effect of determination in the Full Information treatment would be attenuated in the Hidden Information treatment. As such, we would find support for the giving-in hypothesis if  $\beta_3 < 0$ .

Results did not support H3. The interaction between determination and ambiguity was not significant,  $\beta = 0.32$ ,  $SE = 0.26$ ,  $z = 0.89$ ,  $p = .393$  (Fig. 3, panel a). The difference in the odds of altruistic choices between the Full and Hidden Information conditions for a determined child (Full Information: 93%; Hidden Information 65%; odds = 11.41) is similar to that for an undetermined child (Full Information: 92%; Hidden Information 56%; odds = 11.01).

<sup>3</sup> An exploratory logistic regression testing the simple effect of ambiguity in the Determination conditions also revealed a significantly negative effect,  $\beta = -1.95$ ,  $SE = 0.26$ ,  $z = -7.43$ ,  $p < .001$ .



**Fig. 3.** Fraction of Altruistic Choices for Each Condition.

Note. \*\*\* $p < .001$ .

#### 4.4.4. Information avoidance

Testing H4: Participants are more likely to avoid information when facing a child whose identity is determined than when the child is undetermined.

To test whether information avoidance varies as a function of determination, we used observations from both states of the world in the Hidden Information treatments. We use observations from both the states of conflict and alignment because, before deciding whether to obtain information, participants are unaware of the consequence for the child in both states. In this logistic regression model, we predicted ignorance (1 = avoid information, 0 = acquire information) from determination (1 = Determination, 0 = No Determination). We predict that participants will be more likely to avoid information when the child's identity is determined compared to undetermined, i.e.,  $\beta_1 > 0$ .

The results did not support H4. We found no difference in the likelihood of participants ignoring information when facing a determined child (54%) compared to an undetermined child (56%),  $\beta = -0.08$ ,  $SE = 0.12$ ,  $z = -0.72$ ,  $p = .473$  (Fig. 4, panel a).

#### 4.4.5. Exploratory analyses: Sorting

We conducted an additional, not preregistered, exploratory analysis to examine participants' allocation decisions depending on their information choice. This analysis, called the sorting effect (Vu et al., 2023), tests whether participants self-select into their preferred environment, with or without information, to facilitate their donation decision. For this analysis, we apply a logistic regression model, using only observations in which participants have full information about the consequences of their choices, regardless of whether the information is given by default (in the Full Information condition) or revealed based on the participant's choice (in the Hidden Information condition). The model predicts the likelihood of altruistic choices (1 = altruistic vs. 0 = selfish) using two dummy-coded predictors: determination (1 = Determination vs. 0 = No Determination) and ambiguity (1 = Hidden Information vs. 0 = Full Information). We did not include the interaction term of

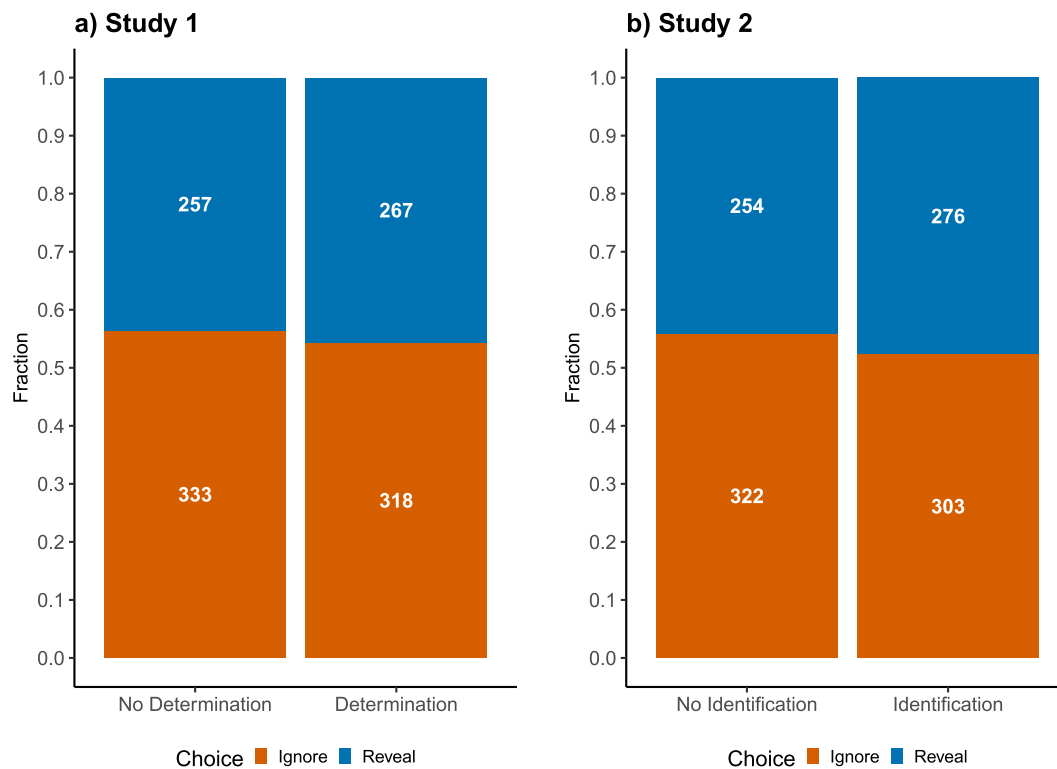
determination and ambiguity in this logistic regression model, because (i) determination and ambiguity did not interact in the main analysis, and (ii) there is no theoretical reason to expect the sorting effect to be moderated by determination.

Replicating meta-analytic results (Vu et al., 2023), results revealed a significant effect of ambiguity,  $\beta = 1.02$ ,  $SE = 0.42$ ,  $z = 2.45$ ,  $p = .015$ . That is, participants who chose information in the Hidden Information condition made more altruistic choices (No Determination: 98%; Determination: 97%) than participants who were given information by default in the Full Information condition (No Determination: 92%; Determination: 93%). The effect of determination was not significant,  $\beta = 0.04$ ,  $SE = 0.30$ ,  $z = 0.12$ ,  $p = .901$  (Fig. 5, panel a).

Comparing the likelihood of altruistic choices between participants who choose information and those who ignore information in the Hidden Information condition, we run an additional logistic regression with information choice (1 = reveal vs. 0 = ignore) and determination (1 = Determination vs. 0 = No Determination) as the predictors of altruistic choices (1 = altruistic vs. 0 = selfish). The results revealed that participants who revealed information (No Determination: 98%; Determination: 97%) made significantly more altruistic choices than participants who ignored information (No Determination: 26%; Determination: 39%),  $\beta = 3.84$ ,  $SE = 0.31$ ,  $z = 12.21$ ,  $p < .001$ . The effect of determination was not significant,  $\beta = 0.29$ ,  $SE = 0.15$ ,  $z = 1.88$ ,  $p = .061$ . See Table S1 in the Supplementary Materials for the frequencies of altruistic choices made in the Hidden Information condition, separated by information choice.

#### 4.4.6. Exploratory analyses: Individual differences

Following our preregistered analysis plan, we also conducted four additional logistic regression models to examine how each measure of individual differences, (i) perceived responsibility, (ii) empathy, (iii) guilt-NBE and (iv) guilt-repair, interact with ambiguity and determination in predicting the likelihood of altruistic choices. We computed the standardized  $z$  score for each variable and assessed the three-way



**Fig. 4.** Frequencies and Fractions of Information Choice in the Hidden Information Condition. Note. Frequencies of choices are denoted by the white texts within the bar graphs.

interaction of each variable with determination and ambiguity in four separate models. We followed the recommendation in Cohen et al. (2011) and tested the two subscales of guilt-proneness: guilt-NBE and guilt-repair, separately in two different models to avoid multicollinearity. While guilt-NBE measures the emotional propensity to feel bad about one's behavior, guilt-repair measures the action tendency to compensate for one's transgression.

The results revealed that perceived responsibility,  $\beta = 1.17$ ,  $SE = 0.21$ ,  $z = 5.51$ ,  $p < .001$ , empathy,  $\beta = 0.61$ ,  $SE = 0.22$ ,  $z = 2.82$ ,  $p = .005$ , and guilt-NBE,  $\beta = 0.59$ ,  $SE = 0.19$ ,  $z = 3.18$ ,  $p = .001$  are significant positive predictors of altruistic choices, above and beyond the other variables, but that was not the case for guilt-repair,  $\beta = 0.93$ ,  $SE = 0.68$ ,  $z = 1.37$ ,  $p = .172$ . The simple effect of ambiguity remained significantly negative after controlling for the four measures of individual differences. We again observe no effect of determination. None of the two- or three-way interactions were significant. See Table S2 in the Supplementary Materials for the detailed regression results.

#### 4.5. Discussion

Results of Study 1 replicated the willful ignorance effect (H2): compared to when participants were informed of the consequences of their choice for a child in need, participants who were allowed to avoid learning the consequences of their choice acted less altruistically (e.g., Dana et al., 2007; Vu et al., 2023). On the other hand, we did not replicate the determination effect (H1), that is, participants did not make more altruistic choices for a determined child than for an undetermined child. Given the lack of a simple effect of determination, we also did not observe an interaction between ambiguity and determination (H3). Participants were also similarly likely to reveal information when facing a determined child compared to those facing an undetermined child (H4).

We suspect the null effect of determination is due to a ceiling effect. That is, even when the child is undetermined, the large majority of participants (92%) still make the altruistic choice, leaving little room for

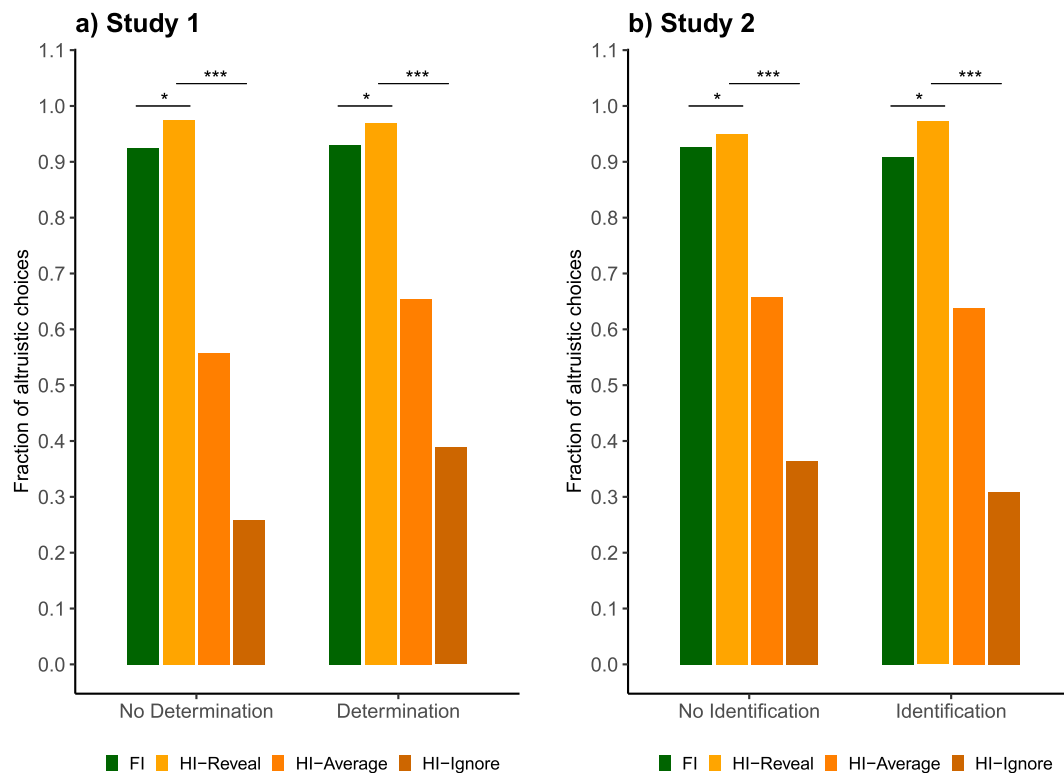
a determined child to receive more donation. Given that (i) a determined child does not receive more donation than an undetermined child and (ii) there is no interaction effect, we cannot conclude that the motivations underlying the allocation decisions are different for a determined child compared to an undetermined child. The large fraction of participants making the altruistic choice is high compared with previous meta-analytical results (Vu et al., 2023), suggesting an average altruism of 92.5% across task parameters. It is possible that the parameters we implemented, which directly replicate the standard parameters used in the willful ignorance literature (Dana et al., 2007; Vu et al., 2023), coupled with the platform we have chosen to sample participants from led to this exceptionally high baseline level of altruism.

Exploratory analyses replicated recent meta-analytical results (Vu et al., 2023) showing that participants who revealed information in the Hidden Information condition made more altruistic choices than participants who received information by default in the Full Information condition. In contrast, participants who ignored information made fewer altruistic choice than participants who revealed information. Further analyses on individual differences showed that perceived responsibility, empathy, and guilt-NBE were significant positive predictors of altruistic choices, but these individual differences did not moderate the willful ignorance effect. Overall, the results suggest that some participants willfully avoid information when given the opportunity, and some indeed give in when asked to make a donation decision in the Full Information conditions. However, the tendency to give in is independent of whether the child who will receive the donations has been predetermined or not.

#### 5. Study 2

Expanding Study 1, we used an approach with higher external and ecological validity to manipulate identification in Study 2. Study 2 serves as a high power replication study of past literature on the identified victim effect, offers practical implications for real-life charity organizations, and further investigates whether and how rich identifying





**Fig. 5.** Fraction of Altruistic Choice Separated by Choice and Condition.

*Note.* FI denotes all observations in the Full Information condition. HI – Reveal denotes observations of participants who revealed information in the Hidden Information condition. HI – Average denotes all observations in the Hidden Information condition. HI – Ignore denotes observations of participants who ignore information in the Hidden Information condition. \* $p < .05$ , \*\*\* $p < .001$ .

information impacts giving (in).

### 5.1. Method and procedure

We used the same materials as in Study 1. Participants were randomly assigned to one of the conditions in a 2 (Full Information vs. Hidden Information)  $\times$  2 (No Identification vs. Identification) factorial between-subjects design. Participants were informed that they would be able to donate to one real child in need via the Children International charity. Similar to the commonly used approach (e.g., Cryder & Loewenstein, 2012; Kogut & Ritov, 2005a, 2005b; Small et al., 2007; Dickert, Kleber, Peters, & Slovic, 2011; Kogut & Kogut, 2013), we chose and presented one child to all participants. The child was 4 years old, had a common Western name and was photographed with a neutral facial expression. Specifically, participants in the No Identification conditions received the following information (the brackets include alternative phrases for the Identification conditions):

“In this experiment, your decision will determine the payoff for yourself and for a charity recipient. The donation will be made to a child [name, age, gender, nationality] via the Children International charity. [Name] is currently living in a poor community, whose family’s income can barely cover the basic necessities. The donation made to [name] will provide [name] with educational and healthcare services. Children International is a highly rated and impactful charity that supports children in need. You will not find out who this child is in the end. [The last sentence is not included in the Identification condition.]”

Information concerning the child in the experiment was real and was retrieved from the website of Children International at the commencement of the data collection. All choices made by the participants in the experiment resulted in real donations made to the child via Children International.

After reading the above information, participants were asked to

make a choice in the willful ignorance task (see Fig. 2) and answer the questionnaires measuring their level of perceived responsibility, trait empathy, guilt proneness and demographic details (see Study 1).

#### 5.1.1. Sample size, power, and sensitivity analyses

As in Study 1, we determined the number of participants needed to capture the effects of interest using the G\*Power 3.1 software (Faul et al., 2007). Our targeted sample size was 1848 participants. The average weighted effect of identification measured as the difference in the amount of money donated to a single identified child versus a single unidentified child, providing the child’s name, age, and photo (Dickert et al., 2011; Kogut & Kogut, 2013; Kogut & Ritov, 2005a, 2005b; Small et al., 2007) is  $OR = 2.71$  or Cohen’s  $d = 0.55$ . With the determined sample size, the smallest effect of identification we can capture is  $OR = 1.66$  or Cohen’s  $d = 0.28$ , and the smallest effect of an interaction between ambiguity and determination we can detect is  $OR = 0.44$  or Cohen’s  $d = -0.45$ . Thus, our planned sample size for the current design allows detection of a small effect of identification and a small to medium interaction effect.

#### 5.1.2. Preregistered inclusion criteria and sample

We used the same preregistered inclusion criteria as specified in Study 1. A total of 1847 native English speakers aged 18 and above took part in Study 2 via Prolific. Out of those, 1 participant did not provide consent for data collection, 11 participants were excluded due to having a duplicated IP addresses, and 98 participants did not answer at least one attention check correctly. The final sample consisted of 1737 participants (50% male;  $M_{age} = 40.69$ ,  $SD_{age} = 13.39$ ).

#### 5.1.3. Preregistered analyses

The planned analyses are the same as in Study 1, except that we included dummy-coded identification (1 = Identification, 0 = No

Identification) as one of the predictors of altruistic choices (1 = altruistic choice, 0 = selfish choice) in the first logistic regression model and of ignorance (1 = avoid information, 0 = acquire information) in the second logistic regression model.

## 5.2. Results

We tested the simple effects of identification (H1), ambiguity (H2), and the interaction effect (H3) using a logistic regression model predicting the likelihood of altruistic choices (altruistic vs. selfish) using two dummy-coded predictors: identification (1 = Identification, 0 = No Identification) and ambiguity (1 = Hidden Information, 0 = Full Information), and the interaction term.

### 5.2.1. Replicating prior findings

Testing H1: When given full information, participants will make more altruistic choices for an identified child than for an unidentified child.

Results did not support H1. We found no difference in the fraction of altruistic choices between the Identification (91%) and the No Identification (93%) conditions when participants had full information,  $\beta = -0.23$ ,  $SE = 0.30$ ,  $z = -0.75$ ,  $p = .453$  (Fig. 3, panel b).

Testing H2: When the child is unidentified, people will give less to the child in the Hidden Information condition than in the Full Information condition.

Results supported H2, revealing a simple effect of ambiguity,  $\beta = -1.87$ ,  $SE = 0.25$ ,  $z = -7.34$ ,  $p < .001$ . When the child is unidentified, participants made significantly more altruistic choices in the Full Information condition (93%) than in the Hidden Information condition (66%; Fig. 3, panel b).<sup>4</sup>

### 5.2.2. Testing novel predictions

Testing H3: The difference in the odds of altruistic choices between the Full and Hidden Information conditions is larger for an identified child compared to an unidentified child.

Results did not support H3, revealing no interaction effect between identification and ambiguity,  $\beta = 0.14$ ,  $SE = 0.35$ ,  $z = 0.39$ ,  $p = .694$ . That is, the difference in the odds of altruistic choices between the Full and Hidden Information conditions is not significantly different for an identified child (Full Information: 91%, Hidden Information: 64%, odds = 8.20) and an unidentified child (Full Information: 93%, Hidden Information: 66%, odds = 10.57; see Fig. 3, panel b).

### 5.2.3. Information avoidance

Testing H4: Participants are more likely to avoid information when facing an identified child than an unidentified child.

To test whether participants are more likely to avoid information when facing an identified child, we conducted the second logistic regression model predicting the likelihood of ignorance (ignore vs. reveal) using a dummy-coded predictor: identification (1 = Identification, 0 = No Identification).

Results did not support H4, revealing no difference in the likelihood of participants ignoring information when facing an identified child (52%) compared to an unidentified child (57%),  $\beta = -0.14$ ,  $SE = 0.12$ ,  $z = -1.22$ ,  $p = .223$  (Fig. 4, panel b).

### 5.2.4. Exploratory analyses: Sorting

Similar to Study 1, we conducted an additional, and not preregistered, exploratory sorting analysis to examine participants' allocation decisions depending on their information choice. Using only observations in which participants have full information, regardless of whether

the information is given by default (in the Full Information condition) or revealed based on the participant's choice (in the Hidden Information condition), the model predicts the likelihood of altruistic choices (1 = altruistic vs. 0 = selfish) using two dummy-coded predictors: identification (1 = Identification vs. 0 = No Identification) and ambiguity (1 = Hidden Information vs. 0 = Hidden Information). The results revealed a significant effect of ambiguity,  $\beta = 0.81$ ,  $SE = 0.34$ ,  $z = 2.36$ ,  $p = .018$ . That is, participants who reveal information in the Hidden Information condition (No Identification: 95%; Identification: 97%) made more altruistic choices than participants who were given information by default in the Full Information condition (No Identification: 91%; Identification: 93%). Similar to the main analysis, there was no effect of identification,  $\beta = -0.06$ ,  $SE = 0.27$ ,  $z = -0.25$ ,  $p = .800$  (Fig. 5, panel b).

To compare the likelihood of altruistic choices in the Hidden Information condition between participants who revealed (vs. those who ignored) information, we ran an additional logistic regression model predicting altruistic choices (1 = altruistic vs. 0 = selfish) with information choice (1 = reveal vs. 0 = ignore) and identification (1 = Identification vs. 0 = No Identification) as the predictors. The results showed that participants who revealed information (No Identification: 95%; Identification: 97%) made significantly more altruistic choices than participants who ignored information (No Identification: 31%; Identification: 36%),  $\beta = 3.60$ ,  $SE = 0.28$ ,  $z = 12.74$ ,  $p < .001$ . There was again no effect of identification,  $\beta = -0.02$ ,  $SE = 0.15$ ,  $z = -0.14$ ,  $p = .886$ . See Table S3 in the Supplementary Materials for the frequencies and fractions of altruistic choices in the Hidden Information condition separated by information choice.

### 5.2.5. Exploratory analyses: Individual differences

We also conducted four logistic regression models to examine how each measure of individual differences, (i) perceived responsibility, (ii) empathy, (iii) guilt-NBE and (iv) guilt-repair, interact with ambiguity and identification in predicting the likelihood of altruistic choices. The two subscales of guilt-proneness: guilt-NBE and guilt-repair, were tested as two separate predictors in two different models following the recommendation in Cohen et al. (2011). The variables were standardized as  $z$  scores before entered into the models.

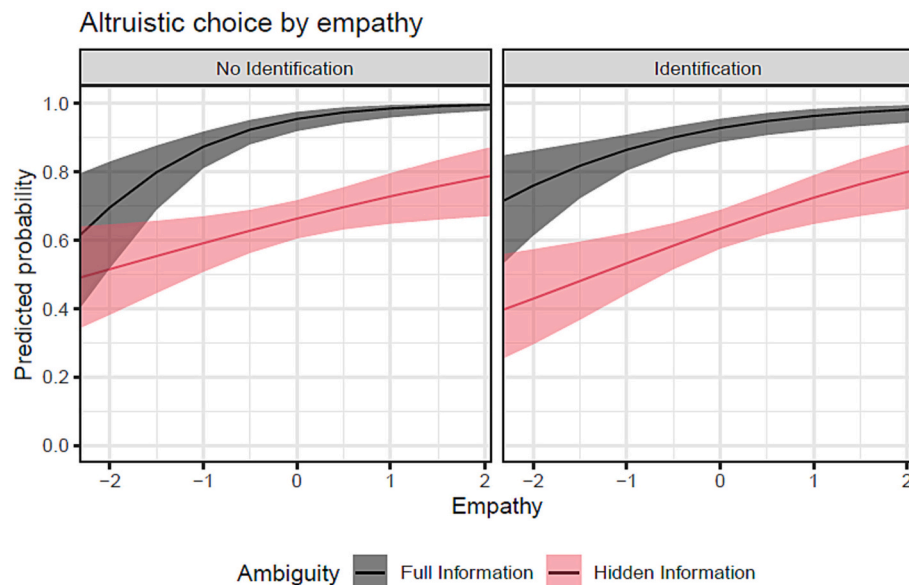
Table S4 in the Supplementary Materials shows the detailed regression results. The four logistic regression models revealed that perceived responsibility,  $\beta = 1.19$ ,  $SE = 0.22$ ,  $z = 5.32$ ,  $p < .001$ , empathy,  $\beta = 1.08$ ,  $SE = 0.25$ ,  $z = 4.38$ ,  $p < .001$ , guilt-NBE,  $\beta = 0.71$ ,  $SE = 0.20$ ,  $z = 3.54$ ,  $p < .001$ , and guilt-repair,  $\beta = 2.5$ ,  $SE = 0.67$ ,  $z = 3.76$ ,  $p < .001$  were significant positive predictors of altruistic choices. The simple effect of ambiguity remained significantly negative after controlling for the four measures of individual differences. We again observe no effect of identification.

There was a significant interaction between ambiguity and empathy,  $\beta = 0.78$ ,  $SE = 0.28$ ,  $z = -2.81$ ,  $p = .005$ . Fig. 6 illustrates the relationship, showing that at low level of empathy (below the mean), the predicted probability of altruistic choices increases as empathy increases, but this increase is smaller in the Hidden Information condition compared to the Full Information condition. At high level of empathy (above the mean), the relationship reverses so that the increase in the predicted probability of altruistic choices as empathy increases is smaller in the Full Information condition compared to the Hidden Information condition. This relationship between the empathy and ambiguity is independent of identification. No three-way interactions were significant. See the detailed regression results in Table S4 in the Supplementary Materials.

## 5.3. Discussion

Study 2 replicated the results of Study 1 and the willful ignorance effect (H2): participants make fewer altruistic choices when they are allowed to avoid learning the consequences of their choices compared to

<sup>4</sup> An exploratory logistic regression testing the simple effect of ambiguity in the Identification conditions also revealed a significantly negative effect,  $\beta = -1.73$ ,  $SE = 0.24$ ,  $z = -7.24$ ,  $p < .001$ .



**Fig. 6.** The Predicted Probability of Altruistic Choices as a Function of Empathy.  
*Note.* The figure plots data in the 95th quantile of the standardized empathy scores.

when they are informed by default. A further exploratory analysis replicated the sorting effect: participants who willingly informed themselves of the consequences of their actions in the Hidden Information condition were more altruistic than those who were informed by default in the control condition. Participants who avoided information were significantly less altruistic than those who revealed information.

We again did not replicate the identification effect (H1), that is, participants were similarly altruistic to the identified child as to an unidentified child. Accordingly, we did not observe an interaction between ambiguity and identification (H3). Participants were also similarly likely to reveal information when facing an identified child compared to those facing an unidentified child (H4). Similar to Study 1, we observe a ceiling effect, that is, the fraction of altruistic choices made in the Full Information condition for an unidentified child is very high (93%), leaving little room for an identified child to receive more donations. Given that an identified child did not receive more donations than an unidentified child, and that there is no significant interaction between identification and ambiguity, we cannot conclude that the motivations underlying giving behaviors for identified versus unidentified children differ. Additional analyses revealed that perceived responsibility, trait empathy and guilt-proneness were significant positive predictors of altruistic choices, and there was a significant negative interaction between empathy and ambiguity.

## 6. General discussion

The current registered report was designed to disentangle whether people *give more* or *give in more* when facing an identified (vs. unidentified) charity recipient. We compare the donation decisions for a determined (vs. undetermined) child in Study 1 and an identified (vs. unidentified) child in Study 2 in two different settings. In the first setting, participants choose one of two allocation options, and they have full information about how each option would impact the donation to the child. In the second setting, participants choose between two allocation options in an ambiguous setting, in which they can either reveal the consequences of their choice for the child or remain willfully ignorant.

Results from two preregistered studies ( $N = 3671$ ) revealed a strong and robust effect of willful ignorance in both Studies 1 and 2, supporting H2. That is, the large majority of participants (> 90%) were willing to give up a small amount of personal payoff to choose the altruistic option

that benefits the child when they were fully informed of how their choice would impact the donation to the child. However, when participants had to take action to learn the consequences of their choices, >50% of participants avoided learning the impact of their choice for the child, even when such information could easily be obtained for free. This willful ignorance led to a significant decrease in altruistic choices made for the child, down to approximately 60% from >90%. The effect was not moderated by whether the child has been determined or identified, possibly due to the very high baseline fraction of giving in the Full Information conditions.

Further exploratory sorting analyses revealed that participants in both Studies 1 and 2 self-select into their preferred environment to facilitate their donation decisions. Replicating meta-analytical results (Vu et al., 2023; see also Grossman & Van der Weele, 2017), participants who willingly acquired information to resolve the ambiguity in the Hidden Information condition made more altruistic choices (97%–98% in Study 1; 95%–97% in Study 2) than those who were given information by default in the Full Information condition (92%–93% and 91%–93% respectively). In contrast, participants who ignored information were much less likely to make altruistic choices (26%–39% and 31%–36% respectively) compared to those who acquired information.

In contrast to past literature, we did not replicate the identified victim effect. That is, participants were similarly altruistic to an undetermined (Study 1) and an unidentified (Study 2) child compared to a determined or an identified child. Further, contrary to our preregistered predictions, determination (Study 1) and identification (Study 2) did not moderate the willful ignorance effect. That is, the altruism gaps between the Full and Hidden Information conditions were similar both when the child was determined/identified and when the child was undetermined/unidentified. Participants were also similarly likely to avoid information when facing a determined/identified child compared to an undetermined/unidentified child. Thus, we did not find evidence supporting H1, H3, and H4.

While we did not find determination and identification to be significant predictors of altruistic choices, we found those who perceived more responsibility towards the child, as well as those with higher empathy and guilt-NBE (that is, the emotional disposition to feel bad about one's action) to be more likely to choose altruistically. These results are consistent between Study 1 and 2 and are in line with past literature showing that perceived responsibility (e.g., Erlandsson et al., 2015), empathy (e.g., Small, Loewenstein and Slovic, 2007) and guilt-

prone to (e.g., Cohen et al., 2012; Thielmann et al., 2020) are related to altruistic decisions. We found participants who scored higher on the guilt-repair subscale, which measures the action tendency to correct for one's behavior, had a higher likelihood of making altruistic choices in Study 2 but not in Study 1. In both studies, we did not observe any three-way interaction between the measures of individual differences, ambiguity and determination/identification.

In Study 2 (but not Study 1), we observed a negative interaction between ambiguity and empathy. The result suggests that at low level of empathy (below the mean), an increase in empathy leads to a faster increase in the predicted probability of altruistic choices in the Full compared to the Hidden Information condition. In the Full Information condition, the predicted probability of altruistic choices quickly approached 1.0 for participants who scored 1 SD above the mean in empathy. Thus, at high level of empathy, one unit increase in empathy leads to a slower increase in altruistic choices in the Full compared to the Hidden Information condition. This interaction between empathy and ambiguity was only observed in one study; thus, the result should be interpreted with care and requires further testing.

## 7. Implications, limitations and future directions

Given that (i) participants did not make more altruistic choices for a determined/identified child compared to an undetermined/unidentified child and that (ii) there was no interaction between determination/identification and ambiguity, the results suggest that the motives underlying giving behaviors to the children are similar irrespective of determination/identification. On the other hand, (i) the strong and robust decrease in altruistic choices in ambiguous settings and (ii) the clear pattern of participants sorting into their preferred environment, suggest that some people willfully avoid information to facilitate making selfish choices. Overall, the experimental results suggest that some people indeed *give in* when asked to make a donation in a transparent environment but would rather avoid such environment when allowed the opportunity. This tendency to give in, however, is independent of whether the charity recipient has been determined or identified. In the charity giving context, our experimental results suggest that ensuring a transparent donation setting is important for fundraising success.

The null effect of determination/identification (and the subsequent null interaction effect) is most likely due to a ceiling effect. That is, in both studies participants demonstrated high levels of altruistic choices towards an undetermined/unidentified child (>90% in both studies), leaving little room for a determined/identified child to receive more donations. We believe there are two reasons behind this ceiling effect. First, the recipient of the task is a child in need, currently living in poverty. In previous studies examining the willful ignorance effect, the recipient has either been an anonymous peer or a charity supporting people in need or the environment (Vu et al., 2023). Even when the recipient child in our studies was undetermined or unidentified, highlighting the existence of one poor child might have led to a high level of baseline altruism (Kogut & Ritov, 2005b).

Second, the experiment presents participants with a relatively low cost for altruism. Participants in our experiments engaged in a binary dictator game and choose between two fixed allocation options. This is the common procedure in the willful ignorance literature (Vu et al., 2023) but is typically different from past work on the identified victim effect, in which participants were free to choose the amount they want to donate from their allocated endowment (Lee & Feeley, 2016). While our method allows for a clear distinction of altruistic vs. selfish choices, it limits participants' ability to express their levels of altruism. The parameters we used meant that participants can earn only £0.1 more by making the selfish choice. If they were willing to give up £0.1 of their own profits, they would increase the child's donation by £0.4. Given that the selfish option (£0.6 for the participants and £0.1 for the child) provided relatively low temptation but higher potential harm for the child, most participants choose altruistically even when the child is

undetermined/unidentified when provided with full information, aligned with previous meta-analytic findings (Vu et al., 2023). To further test the role of determination/identification in shaping giving vs. giving in behavior, changing the incentive scheme or increasing the cost of altruism for participants seems promising.

One may also argue against the interpretation of the ceiling effect. That is, even though the room for altruism to increase is small, we still found participants who acquired information to act more altruistically than participants in the control condition. Further, we also did not observe an effect of identification in the Hidden Information treatments (56%–64% vs. 64%–66%). It is important, however, to note that we cannot tell from the null interaction effect if there is no identification effect in the Hidden Information conditions or if the identification effect is reduced by ambiguity. Furthermore, the low cost of the altruistic act may have motivated even people with minimal altruistic concerns, driven more by image concerns, to choose the altruistic option for an undetermined/unidentified child. This leaves primarily self-interested individual to make more altruistic choices for a determined/identified child, and it is reasonable to assume, albeit speculatively, that self-interested individuals are the least likely to be affected by the child's information. Similarly, we can make the same argument as for why people who acquired information were significantly more likely to act altruistically. Giving participants the choice to acquire information distinguishes people who genuinely care about the children from those who give in in the baseline condition, leading to an observable difference in the likelihood of altruistic choices between participants who acquired information willingly and those who received the information passively. Overall, we believe it is worthwhile for future research to test more systematically the boundary conditions of the identification effect and whether such effect varies as a function of the cost of altruism.

## 8. Conclusion

Every year, many people donate to charity. Our research shows that some of the donations may have been reluctantly given. The tendency to give reluctantly, to preserve a positive image, is independent of whether the charity recipient is identified. Overall, the studies suggest that to increase donations, designing a transparent environment, in which potential donors receive explicit information about how their actions impact others, would be valuable for charity organizations.

## Declaration of Competing Interest

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## Data availability

Data studies 1 and 2 - "Giving in to help an identified person" (Original data) (Figshare)

## Appendix A. Questionnaires measuring individual differences

### A.1. Perceived responsibility (Erlandsson et al., 2015)

Rate how you consider your personal responsibility to the child

1. I have a moral obligation to help to the best of my ability.
2. I have a personal responsibility to help as much as I can.
3. I have a duty to try to help.



### A.2. Interpersonal reactivity index (Davis, 1983)

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate option from 1 (not well at all) to 5 (extremely well). Read each item carefully before responding. Answer as honestly as you can.

1. I often have tender, concerned feelings for people less fortunate than me. (EC)
2. I sometimes find it difficult to see things from the "other guy's" point of view. (PT-)
3. Sometimes I don't feel very sorry for other people when they are having problems. (EC-)
4. I try to look at everybody's side of a disagreement before I make a decision. (PT)
5. When I see someone being taken advantage of, I feel kind of protective towards them. (EC)
6. I sometimes try to understand my friends better by imagining how things look from their perspective. (PT)
7. Other people's misfortunes do not usually disturb me a great deal. (EC-)
8. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (PT-)
9. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (EC-)
10. I am often quite touched by things that I see happen. (EC)
11. I believe that there are two sides to every question and try to look at them both. (PT)
12. I would describe myself as a pretty soft-hearted person. (EC)
13. When I'm upset at someone, I usually try to "put myself in his shoes" for a while. (PT)
14. Before criticizing somebody, I try to imagine how I would feel if I were in their place. (PT)

### A.3. Guilt and Shame Proneness Scale (Cohen et al., 2011)

In this questionnaire you will read about situations that people are likely to encounter in day-to-day life, followed by common reactions to those situations. As you read each scenario, try to imagine yourself in that situation. Then indicate the likelihood that you would react in the way described on a scale from 1 (very unlikely) to 7 (very likely).

1. After realizing you have received too much change at a store, you decide to keep it because the salesclerk doesn't notice. What is the likelihood that you would feel uncomfortable about keeping the money?
2. You are privately informed that you are the only one in your group that did not make the honor society because you skipped too many days of school. What is the likelihood that this would lead you to become more responsible about attending school?
3. You reveal a friend's secret, though your friend never finds out. What is the likelihood that your failure to keep the secret would lead you to exert extra effort to keep secrets in the future?
4. You secretly commit a felony. What is the likelihood that you would feel remorse about breaking the law?
5. At a coworker's housewarming party, you spill red wine on their new cream-colored carpet. You cover the stain with a chair so that nobody notices your mess. What is the likelihood that you would feel that the way you acted was pathetic?
6. While discussing a heated subject with friends, you suddenly realize you are shouting though nobody seems to notice. What is the likelihood that you would try to act more considerately towards your friends?
7. You lie to people but they never find out about it. What is the likelihood that you would feel terrible about the lies you told?

### A.4. Demographic questions

1. What is your nationality?
2. What is your year of birth?
3. What is your gender?
4. This ladder represents where people stand in society. At the top of the ladder are the people who are the best off, those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off, those who have the least money, least education, worst jobs, or no job. Please click on the rung that best represents where you think you stand on the ladder.

### Appendix B. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jesp.2023.104557>.

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