To Pay or Not to Pay? Determinants of Unlawful Product Acquisition

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Abstract

We present a laboratory experiment that systematically investigates the determinants of acquisition behavior with a negative externality on a rights holder. We consider social and moral determinants of unlawful behavior as well as standard penalty and punishment risk trade-offs. We find that, while punishment risk and penalty size reduce unlawful behavior, they are not the only determinants that do. Moral determinants matter: there being a victim, and the victim deserving to be the rights holder, makes a difference. Social norms also matter: controlling for other variables, one point more of social appropriateness increase unlawful behavior by around 30-40%.

Keywords: crime, unlawful file sharing, punishment, deservingness, social norms.

JEL Classification Codes: C91, C92, K14, K42.

1. Background

This paper presents a laboratory experiment to get a more systematic understanding of acquisition behavior with a negative externality on a third party. The original motivation of this experiment comes from a context where people may consume a product without buying it, beyond the obvious reason that they save money by doing so; a classic example of this is unlawful file sharing, where unlawful downloads bring about a negative externality on copyright holders (Watson et al., 2015), and other examples relate to criminal behavior such as theft or fraud.

Our analysis is systematic in considering a broader range of determinants of negative externality acquisition behavior (NEAB in what follows) than is typically found: specifically legal, moral, and social determinants of NEAB.

We consider standard *legal* determinants of NEAB, in the shape of standard Beckerian trade-offs in terms of penalty and risks of getting caught (Becker, 1968; Freeman, 1999; Levitt and Miles, 2006). There is traditional economics of crime microeconometric research that tries to estimate a

causal link between Beckerian deterrents and incidence of crime, either by employing Granger causality (Marvell and Moody, 1996; Corman and Mocan, 2000) or by identifying arguably exogenous instruments, such as a greater exogenously produced police presence leading to lower local incidence of crime (Levitt, 1997; Di Tella and Shargrodsky, 2004; Klick and Tabarrok, 2005). We are aware of one economic experiment that is squarely and transparently focused on theft (Visser et al., 2006), with everyone being allowed to steal, and standard Beckerian trade-offs seem to matter particularly when the task's terminological frame is one of 'stealing'. In the context of unlawful file sharing, the evidence is not as clear (Watson et al., 2015). For example, there is only evidence for a temporary reduction in unlawful file sharing as a result of restrictive laws (Adermon and Liang, 2011; Blackburn, 2005). This implies that consumers are aware of deterrents, and yet these deterrents are not as effective as intended. One possibility is that there is something in an unlawful file sharing setup that prevents standard economic incentives from operating. Another possibility is that ways are identified to avoid the effect of changes of economic incentives. A third possibility is that some behavioral changes take place when a policy is announced as opposed to when it is implemented (Danaher et al., 2014). Our experiment will be able to identify whether increases in the size of the penalty and risks of getting caught reduce NEAB as we would expect.

We consider *moral* determinants of NEAB. *First*, if NEAB is perceived as victimless, we would expect greater acquisition behavior than if it is clear that there is a negative externality and therefore a victim. This is consistent with perceptions of unlawful file sharing as victimless on the part of those who commit it (Cockrill and Goode, 2012). *Second*, we vary whether the negative externality on the rights holder is comparatively large or epsilon small. Intuitively, if Joe is considering whether to embezzle a given amount of money from Microsoft or from a small single-digit employees software company, he may feel that more comparative damage would be made to the latter than to former, and therefore may be more reluctant to engage in NEAB with respect to the latter company than with respect to the former. *Third*, we change the wealth of the rights holder. Straightforward inequality aversion (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000) leads to the prediction that less NEAB should take place with respect to a comparatively poor than a comparatively rich third party. *Fourth*, we vary whether the rights holder has put in an effort that entitles him or her to the benefit which would be damaged by NEAB, or not. Perceived deservingness has been shown to influence bargaining behavior (e.g., Hoffman and Spitzer, 1985; Hoffman et al., 1994, 1996; Ruffle, 2000), and we hypothesize that it can also be influential in the context of NEAB. *Fifth*, by employing moral scenarios as for example in Cubitt et al. (2011) and Favarelli (2007), we directly elicit moral ideals held by our subjects, including egalitarianism, choice egalitarianism, meritocracy, libertarianism,

Kantianism and utilitarianism (details are provided below).[1] We are then able to see whether moral ideals predict NEAB and if so how.[2]

Finally, we consider *social* determinants of NEAB. We employ the Krupka and Weber (2013) procedure for eliciting social norms by asking a sample of observers to evaluate (in an incentive compatible way) the social appropriateness of a given action such as NEAB for each possible experimental decision making problem. Subjects are told that by socially appropriate we mean behavior that most people agree is the "correct" thing to do.[3] There is some correlational evidence of a connection between crime and peer effects (Case and Katz, 1991; Glaeser et al., 1995; Sampson et al., 1997) and an underlying modeling justification in Glaeser et al.'s (1995) interaction model. Therefore, our hypothesis is that social norms predict NEAB, and specifically the more socially appropriate NEAB is considered, the more the NEAB that will take place.

To provide a preview of key findings, the size of the penalties and the risk of getting caught do matter. Whether there is a victim or not does also matter, as does the effort of the rights holder. Social norms are a particularly powerful predictor of NEAB. There is no evidence of inequality aversion in a NEAB context but there is evidence to suggest that subjects are nevertheless seemingly aware of a social norm of equality. There is also some suggestive evidence that utilitarians tend to engage in less NEAB than others.

Section 2 presents the experimental design and implementation. Section 3 summarizes the experimental hypotheses, section 4 shows the results, section 5 provides a discussion and section 6 concludes.

2. Experimental design and implementation

A total of 223 students from the University of East Anglia (UEA), in Norwich, U.K., took part in the experiment. Subjects were recruited using the online system ORSEE (Greiner, 2004). Sessions took place at the Centre for Behavioural and Social Sciences (CBESS) UEA on-campus lab facilities. We assigned each subject to one out of three different roles, i.e.: Rights Holders, Consumers and Observers. Each set of subjects participated to separate experimental sessions. We manipulated a number of variables depending on the sessions: rights holder presence and frame, penalty, punishment probability, rights holder's wealth, rights holder's effort and rights holder's profit margin (see Figure

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[1] The first four are employed by Cappelen et al. (2010).
[2] Economics of crime reviews such as Freeman (1999) and Levitt and Miles (2006) do not consider possible moral determinants of NEAB, though a positive correlation is found between crime and inequality (e.g., Lee, 1993). In a randomized control trial involving the Austrian TV authority, Fellner et al. (2009) found that moral appeals had no effect on TV licensing, though the very specific nature of the moral appeal ("harming all honest householders") may not mean that there may not be other moral determinants at work.
[3] We only focus on the normative expectations component of social norm as defined by Bicchieri (2006). This is because to have questions for both normative expectations and descriptive expectations would have been impractical and tedious to observers given the number of scenarios and actions they already had to evaluate, and therefore could have led to seriously reduce the quality of the responses

1). The rights holder's effort and rights holder's profit were varied between subjects, whereas the other variables were tested within subjects. Figure 2 contains a breakdown by between-subjects condition.

(*Insert Figure 1 and Figure 2 about here*.)

All the questionnaires and tasks were computerized, using zTree (Fischbacher, 2007) and Qualtrics (Qualtrics, Provo, UT).

The Rights Holders: Our aim for this part of the experiment was purely to generate a real counterparty for our 'Consumers' (labeled as such in the instructions). Each rights holder was paid a fee and was given the opportunity to collect a profit (% of the price) based on the sales of a product (price=£5). Three rights holder variables were manipulated: effort, profit margin and wealth.

Level of Effort: In the Effort condition rights holders received instructions and spent about 30 minutes completing a set of real effort tasks.[4] In the No Effort condition they only received instructions about the payment mechanism, and so the session lasted about 5 minutes.

Profit margin: In the High profit margin conditions rights holders were informed that the product would be offered to approximately 2 persons in another experiment and each time the product was sold they would receive 50% of the £5 price (i.e., £2.50). In the Low profit margin conditions subjects were informed that the product would be offered to approximately 10 persons and each time the product was sold, they would receive 10% of the £5 price (i.e. £0.50). Notice that the product can be sold to more than one consumer, which captures the nature of the products we are interested in, those potentially subject to copyright. Notice also that in both conditions Rights holders could receive up to £5 (100% of the price).

Wealth: The amount of the fee rights holders received was either £22 (High) or £4 (Low). Whether they received the high or the low endowment was determined randomly with approximately 50% chance each.

Payment mechanism: Rights holders received £4 at the end of the session and around 7 days later collected an additional payment based on (1) the sales profit margin multiplied by the number of times the product was sold to the matching consumers, that is, up to £5 and (2) whether they were randomly assigned to high wealth in which case they received an additional £18, otherwise zero. Rights holders' average earnings were £17.35.

The Consumers: Subjects in this group participated in two sessions which took place at least one week apart from each other. In the first session subjects started by completing a short real effort task,

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[4] They were asked to perform two real effort tasks: a version of Gill and Prowse (2011) slider task and counting the number of times the letter "e" appeared in a series of 6 short gibberish texts. For more details see the online appendix.

three questionnaires and a fairness and moral judgment measure.[5] By completing this part subjects earned £15, which would later be used to cover possible losses. They then completed a risky choice task. The first session lasted around 70 minutes. In the second session subjects completed the key NEAB task, matched to the first risk choice task but with the potential of a negative externality on a Rights Holder. The second session lasted about 50 minutes.

Exploring the effect of fairness and moral judgment types: One of the questionnaires subjects completed in Session 1 consisted of four different situations each one with multiple endings. We asked subjects to rate each ending according to their perceived level of fairness, using a seven item scale.[6] The first two situations were related to distributive fairness and had four possible endings each, each one using a different fairness rule: egalitarian, choice egalitarian, meritocratic and libertarian (Cappelen et al., 2010); whereas the other two situations were moral dilemmas and had two possible endings each, one which could be identified with Kantian-type ethics and the other with utilitarian-type ethics.[7] Using subjects' ratings for each situation/ending, we calculated an individual measure for each of them (i.e. 7 measures per subject, each one ranging from 1 to 7, with 7 the highest).

Risky choice tasks (Session 1). Subjects were asked to make 12 choices between 3 alternatives: A, B and C. Both A and B had sure payoffs of zero and £1, respectively, whereas C always had two possible outcomes: in half of the tasks, the outcomes were £6 and £0, whilst in the other half they were £6 and -£12; we also used six probability values for the bad outcome, $p = 0, 0.05, 0.2, 0.4, 0.6, 0.8$, making up a total of 12 tasks. Tasks were presented to subjects in randomized order.[8] The objective of having subjects completing this set of tasks was to have a within-subjects control for risk attitudes, as well as a check on behavior when the NEAB task is stripped out of the frame and of a

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[5] (1) Real effort task: Counting E's in a gibberish text (own design); (2) Social Desirability Scale by Johnson and Fendrich (2002); (3) Numeracy Scale Developed by Lipkus, Samsa, and Rimer (2001); (4) Ten Items Personality Index (Gosling, Rentfrow and Swann, 2003); (5) Fairness questionnaire (own design, described below and provided in an online appendix).

[6] 1= Perfectly fair; 2=Fair; 3=Slightly fair; 4=Neither fair nor unfair; 5=Slightly unfair; 6=Unfair; 7=Totally unfair.

[7] Following Cappelen et al. (2010), an egalitarian fairness rule dictates that income should be distributed equally independently of any of the factors affecting production. A choice egalitarian rule implies a distribution that reflects the individual contribution due to factors considered to be within individual control, for instance working time, but excluding those that are beyond individuals' control, for instance personal traits. A meritocratic rule implies that each individual's income should reflect all factors that can be considered personal traits, but not factors that are unrelated to individual merits, like chance. Finally, the libertarian fairness rule implies that people are held responsible for all factors affecting their income. With respect to the ethical principles, Utilitarian type ethics is focused on the consequences and dictates that the best moral action is the one that maximizes utility, as opposed to Kantian-type ethics which reflects the moral principle of following one's duty independently of the consequences.

[8] Notice that, option B should always be preferred over option A, since it yields a higher payoff. Having option A was a test for rationality, i.e. that subjects had understood the instructions so as to avoid strictly dominated outcomes. Comparing B and C, a risk neutral individual should always prefer C over B when the probability of the "bad outcome" is zero, and should switch from C to B when the probability of the "bad outcome" is higher than 0.2.

rights holder potentially being damaged. In terms of own payoffs, the tasks mirror those in the second session (described below).

NEAB tasks (Session 2): In the second session subjects faced 24 risky choice tasks with an externality on the rights holder, as detailed below. More precisely, in each task consumers were offered a product and faced three alternatives: (A) not buying the product, (B) buying the product or (C) obtaining the product without paying. We used the induced value method, i.e. the product's price was £5 and its value was set to be £6 for each consumer. If they decided not to buy the product, they would receive nothing. If they decided to buy the product, they would receive a gain equivalent to the value minus the cost of the product (£1). If they chose to obtain the product without paying they would gain the full value of the product (£6), but they faced the risk of being detected and penalized. We used two penalty amounts: a low penalty (£6) and a high penalty (£18), which translates into earnings of zero and losses of £12, respectively. We also used six different punishment probabilities, $p = 0, 0.05, 0.2, 0.4, 0.6, 0.8$.[9]

Choices made in this task had consequences for the rights holder that were known to the consumer. Only if the consumer chose to buy the product, the matching rights holder would receive a profit from the sale. Consumers also knew the total number of consumers that were offered the product and the percentage of the profit margin received by the rights holder. As stated above, three rights holder variables were manipulated. Rights holder wealth was manipulated within-subjects; in half the tasks consumers were matched with a high wealth rights holder (£22 endowment) and in half the tasks consumers were matched with a low wealth rights holder (£4 endowment) The combination of the two rights holder's wealth levels, the 2 penalty amounts and 6 probabilities of detection results in a total of 24 tasks.[10] The order in which tasks were presented was randomized. Consumers were matched between-subjects with rights holders based on effort (Effort/No effort) and the rights holder's profit margin (High/Low). Figure 1 summarizes the 2x2x2x2x6 mixed factorial design.

Session 2 NEAB tasks naturally build on the Session 1 risky choice tasks, which explains the sequence of the former relative to the latter. Subjects received instructions with examples. Questions to check understanding were given ahead of each task and clarifications were given to subjects who gave any incorrect answer.

Payment mechanism: For each subject one session (either Session 1 or 2) was chosen at random and from that session, one of the risky choice tasks of Session 1 or of one of the NEAB tasks of Session 2 was also chosen at random. The gains (losses) from the randomly chosen task were added (subtracted) to the £15. Consumers' average earnings were £17.66.

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[9] We did not use the words 'punishment' or 'penalty' in the instructions.
[10] The absence of a rights holder in the Session 1 risky choice tasks explains why the 24 Session 2 NEAB tasks map into 12 Session 1 risky choice tasks.

The Observers: We closely followed Krupka and Weber (2013) coordination game method for eliciting reflect social norms. Accordingly, subjects were presented descriptions of situations in which a person faces a choice among several alternatives (actions) and for each situation subjects are asked to rate the extent to which each action was socially appropriate.[11] A four items scale was used: "very socially inappropriate"; "somewhat socially inappropriate"; "somewhat socially appropriate" and "very socially appropriate". Subjects received a monetary reward when their opinion matched the opinion most frequently provided by the rest of the subjects in their session, therefore eliciting the social norm (or, at least, its normative dimension). In our case, for each scenario, there are three actions available to the person that is being observed (the consumer): (A) not to buy, (B) to buy and (C) to obtain without paying, and Observers had to provide an opinion for each of these actions.[12]

We manipulated the following variables within-subjects: consumers' punishment probability, consumers' penalty amount (if detected obtaining without paying), the rights holder's wealth, and, *in addition*, the rights holders' profit margin. This resulted in a total of 48 situations (within-subjects conditions) with three possible actions each; therefore subjects had to provide a total of 144 opinions. Situations were presented in randomized order. The session lasted on average 40 minutes.

We combined the above within-subjects design with a 2-way between-subjects design. The variable we manipulated between-subjects, was the rights holder's effort level: Effort and No-Effort. Twenty-six subjects participated in the Effort treatment and twenty-four in the No-Effort treatment (see Figure 2).

Payment mechanism: At the end of the session one of the situations for which the Observer provided appropriateness ratings was selected at random and for this situation his or her appropriateness rating for each of the possible 3 action choices, were compared to those provided by the rest of the subjects in the same session. Observers received £4 for each opinion that matched the modal response of the session (that is up to £12) in addition to a £5 participation fee. Observers' average earnings were £11.56.

3. Hypotheses

The discussion of the determinants of NEAB in the introduction and the description of the experimental design in section 2 now enable us to formulate experimental hypotheses. There are straightforward Beckerian hypotheses in terms of legal determinants of NEAB:

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[11] Krupka and Weber (2013) defined the social appropriateness in terms of behavior that most people agree is the "correct" or "ethical" thing to do. We removed the "ethical" part to reduce any overlap with moral determinants of NEAB.

[12] Although our predictions were in terms of social appropriateness of NEAB behavior, we deliberately elicited judgments in relation to all actions to avoid leading subjects in a particular direction (Zizzo, 2010).

H1 (risk trade-off): Unlawful product acquisition decreases when the punishment probability increases.

H2 (penalty trade-off): Unlawful product acquisition is lower in the tasks with high penalty (£18) than in those in which the amount of the penalty is lower (£6).

The following hypotheses follow respectively from our discussion of victimless crimes, high or low marginal damage, wealth and perceived deservingness of the rights holder:

H3 (victimless behavior): The presence of a rights holder reduces risk taking that damages him or her relative to an equivalent neutrally framed risk taking task.

H4 (low vs high marginal damage): Unlawful product acquisition is higher in the treatments in which the number of consumers per rights holder is higher (10) and the rights holder's profit is lower (10%) than in those in which the number of consumers is lower (2) and the rights holder's profit is higher (50%).

H5 (wealth): Unlawful product acquisition is higher in the tasks where the rights holder has a high endowment (£22) than in the tasks in which the rights holder has a low endowment (£4).

H6 (deservingness): Unlawful product acquisition is lower in the treatments where the rights holder has exerted effort than in the treatments in which the rights holder has exerted no effort.

The moral scenario analysis is more exploratory and we do not formulate explicit hypotheses, though it would be reasonable to assume that Kantians should be more law/rule abiding, that one such rule would be not to harm others, and as a result they would be less likely to engage in NEAB.

In relation to the social determinants of NEAB, there is a clear prediction:

H7 (social norms): NEAB is predicted by observers' opinion about the social appropriateness of unlawful product acquisition in a particular task/treatment.

4. Data and results

4.1. Descriptive statistics

Tables 1 and 2 present some descriptive statistics from our experiment in relation to both consumers and observers. Two immediate points can be made. First, in 95% or more of the cases consumers avoided the strictly dominated option of not buying, which is reassuring in terms of their understanding of the experiment. Second, around 80-90% of observers found buying somewhat or very socially appropriate, whereas around 70% of observers found obtaining without paying, i.e. inflicting a negative externality on the rights holder, somewhat or very socially inappropriate.

4.2 Results

Result 1. H1 is supported. NEAB becomes less frequent when the punishment probability increases.

Support. An increase in the punishment probability by 10 percentage points reduces the probability of choosing the NEAB option "buy without paying" by around 7.4% (p<0.01); see Table 3, which provides the results of Probit regressions on the Session 2 choice by consumers to engage in NEAB. The effect of punishment probabilities is robust to different specifications including controls for individual demographic characteristics and main treatment variables (models 1, 2 and 4)

The clear effect of punishment probability is also shown by Figure 3, and applies for NEAB (Figure 3, Session 2 panel) as it does for the purely risky tasks (Figure 3, Session 1 panel).[13](*Insert Table 3 about here*.)

Result 2. H2 is supported. NEAB is lower when the penalty is higher.

Support. When the penalty increases from £6 to £18, the probability of NEAB is about 39% lower (p<0.01). This effect is robust to different specifications, including controls for individual demographic characteristics and main treatment variables (see Table 3, models 1, 2 and 4).

As additional evidence related to H1 and H2, consider Session 1 matched choices by consumers in the risky choice tasks. These are a within-subjects control for sensitivity to risk and penalty (Table 3, models 3 and 5). These choices significantly predict the choices in the tasks with sellers, that is, subjects that choose the risky lottery in a given task are 26% more likely to choose the unlawful option "buy without paying" in the corresponding task (p<0.01).

Result 3. H3 is supported. Framing the task in terms of having a victim that is affected by NEAB reduces risky choices relative to purely risky choice tasks.

Support. A comparison of the Session 1 and Session 2 panels makes clear that, other than when the punishment probability is 0 due to an obvious ceiling effect, risky choices are taken less when the task is framed in terms of having a victim than when they are not. Comparing NEAB choices (session 2) with matched choices in session 1, for each punishment probability (except 0) marginal proportions are significantly different (Mc Nemar p<0.001).

Result 4. There is almost no evidence for H4, i.e. a low or high marginal return to the rights holder do not seem to matter.

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[13] There is evidence consistent with risk aversion. In the low penalty case (Figure 1), risk neutral individuals should always prefer the risky choice, whilst in the high penalty case they should prefer the risky choice when the probability of the bad outcome is 0.2 or lower, but in both cases we observe a considerable proportion of safe choices. Note that, in the Session 2 NEAB tasks, there may be other reasons - for example, connected to social and moral determinants of NEAB - making subjects reluctant to engage in NEAB, other than this being the risky choice. These other reasons cannot however explain risk-averse choices in the Session 1 risky choice tasks.

Support. Table 3 shows a $p < 0.1$ effect in model 7 only, indicating insufficient evidence for H4 overall.

Result 5. H5 is not supported. The probability of consumers engaging in unlawful product acquisition is not higher in the tasks where the rights holder has high wealth (£22) than in the tasks in which the rights holder has low wealth (£4).

Support. The marginal effect of this variable is close to zero and not statistically significant (see Table 3, models 2-5). In addition, when including the social norm variable (Table 3, models 6, 7), the effect (of 2-3%) becomes statistically significant ($p<0.01$) but in the opposite direction to what we expected – a finding we shall interpret in section 5.

Result 4: H6 is supported. The probability of the consumer engaging in unlawful product acquisition is lower in the conditions where the rights holder has exerted effort than in the treatments in which the rights holder has exerted no effort. Consumers care about deservingness to some degree.

Support. When the rights holder has exerted effort, the probability of consumers choosing the unlawful option "buy without paying" is about 5% lower ($p < 0.05$ or 0.10 depending on the specification). The magnitude of this effect is similar under different specifications, including controls for individual demographic characteristics and other main treatment variables (see Table 3, models 2-7).

Result 6: H7 is strongly supported. Unlawful product acquisition is predicted by social norms, as measured by the Observers' opinion about the social appropriateness of unlawful product acquisition in a particular task/treatment.

Support. Table 3 shows that the coefficient on the social norms variable is large and statistically significant ($p < 0.001$) even while controlling for all the other variables as well as individual level clustering. A social appropriateness judgement of consumption without buying, higher by 1 point, leads to between 30 and 40% greater consumption without buying controlling for everything else.

Result 7: Utilitarian-minded subjects may engage less in NEAB.

Support. When we included fairness ideals as explanatory variables, we found mild if consistent evidence ($p < 0.10$) that utilitarian-minded subjects have a lower probability of choosing the unlawful alternative (by about 2-3%). Other measures were not significant. See Table 3, models 4 to 7.

5. Discussion

The results show an interesting combination of expected and not so expected findings. Our findings in support of legal determinants of NEAB and standard risk/penalty Beckerian trade-offs is in line with other research as per the reviews by Levitt and Miles (2006) and Freeman (1999), as well as

for example Klick and Tabarrock (2005) and Visser et al. (2006).[14] From a policy viewpoint, it provides credibility to the argument that, if they do not seem to matter empirically, most notably in the context of unlawful file-sharing, it may be due to successful avoidance. From an experimental design viewpoint, it is reassuring in that it provides evidence to the fact that they understood the decision making scenarios that they were facing.

In terms of moral determinants of NEAB, having a victim makes a difference relative to a neutrally framed risk taking task, particularly when the victim is seen as deserving. This suggests the usefulness of highlighting the fact that there is a deserving victim where the policy maker wishes to discourage NEAB. That said, further research disentangling the effect of the frame from the presence or absence of a rights holder would clearly be useful.

The only significant finding in relation to moral ideals was at the 0.1 level and involved utilitarians possibly engaging in less NEAB. Obviously this result should be taken with caution given the limited significance and the lack of an ex ante related hypothesis. If it were found robust in further research, a clear interpretation of it would be that to some degree utilitarians internalize the welfare of the rights holder in their decision making.

Surprisingly, though, we did not find an effect of different marginal damages on the rights holders. It is possible that, already with two consumers, free riding prevailed. We also did not find any aggregate effect of wealth, but the regression analysis showed an unexpected negative sign on wealth when the social norm variable is introduced. It looks like subjects did appreciate that less wealthy rights holder should, in terms of social appropriateness, be damaged less, but this did not convert into any average shift of response. One explanation of this could be that, even with as few as four subjects matched with a rights holder, subjects did not feel on average that they had to be more cooperative as there were other subjects who could – i.e., there may have been a free riding effect balancing out against the social norm effect on average. Free riding effects could therefore in principle explain both anomalies.[15]

In terms of social determinants of NEAB, we found a strong effect of social norms as measured using the Krupka and Weber (2013) procedure. Controlling for everything else in the regression analysis, a higher social appropriateness judgement of NEAB by 1 point, led to between 30 and 40% greater NEAB activity. This raises an obvious policy making question about the usefulness of identifying channels by which social norms can be altered to reduce NEAB. Successfully social reframing the decision making problem has proven successful in the experimental laboratory, for

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[14] Block and Gerety (1995) present experimental work showing that, relative to a control sample, jailed criminals tend to be much more sensitive to punishment risk than its severity.

[15] An alternative explanation might be that in many NEAB settings, such as the one of our experiment, social preferences are not seen to be relevant with respect to the rights holder. This would be consistent with Chmura et al.'s (2013) counterintuitive experimental finding that jailed criminals are not less altruistic than a control sample.

example with more cooperation being found in Prisoner's Dilemmas if framed in terms of a community game than if framed in terms of a Wall Street or stock market game (Kay and Ross, 2003; Liberman et al., 2004; Ellingsen et al., 2012). The selective provision of social information has been shown to be effective even when it relates to antisocial as opposed to pro-social behavior (Fleming and Zizzo, 2015), and in a prosocial (environmental) context its effectiveness has been shown in randomized residential electricity consumption experiments (Allcott and Mullanaithan, 2010; Alcott, 2011; Ayres et al., 2013; Costa and Kahn, 2013), though it may not be universal (Ho et al., 2015). Obviously further research is needed on this with respect to NEAB. It would also be useful in future research to consider eliciting both descriptive and normative expectations (Bicchieri, 2006), rather than just the former, as this would provide a more complete account of how NEAB is affected by social norms.

6. Concluding remarks

We systematically considered a number of possible sources of acquisition behavior with negative externalities, which we labeled NEAB. Increasing the punishment probability and the penalty clearly reduce NEAB in our experiment, which supports non experimental evidence finding similar findings as well as possibly an avoidance interpretation of why the effect is not always found empirically.

Making salient the role of rights holders is useful to reduce NEAB; in our experiment, if the copyright holders/vendors have made an effort, less unlawful product acquisition takes place (by around 5%).

The largest behavioral effect comes from social norms. We estimated that, controlling for a range of variables as well as individual level clustering, one point more of social appropriateness increases unlawful product acquisition in our experiment by around 30-40%. This implies the potential usefulness of policy measures that try to shift the perceptions of such social norms. Obviously, further research is needed.

Acknowledgements

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Figure 1: Experimental Design

Level of Right Holder's Effort

	Effort	No Effort
High (50%)	Right Holder's presence/frame **Right Holder's wealth** High (£22) Low (£4) **Penalty** High (£18) Low (£6) **Probability of detection** 0%; 5%; 20%; 40%; 60%; 80%	Right Holder's presence/frame **Right Holder's wealth** High (£22) Low (£4) **Penalty** High (£18) Low (£6) **Probability of detection** 0%; 5%; 20%; 40%; 60%; 80%
Low (10%)	Right Holder's presence/frame **Right Holder's wealth** High (£22) Low (£4) **Penalty** High (£18) Low (£6) **Probability of detection** 0%; 5%; 20%; 40%; 60%; 80%	Right Holder's presence/frame **Right Holder's wealth** High (£22) Low (£4) **Penalty** High (£18) Low (£6) **Probability of detection** 0%; 5%; 20%; 40%; 60%; 80%

Right Holder's Profit Margin

Figure 2: Experiment structure; treatments and number of subjects in each condition
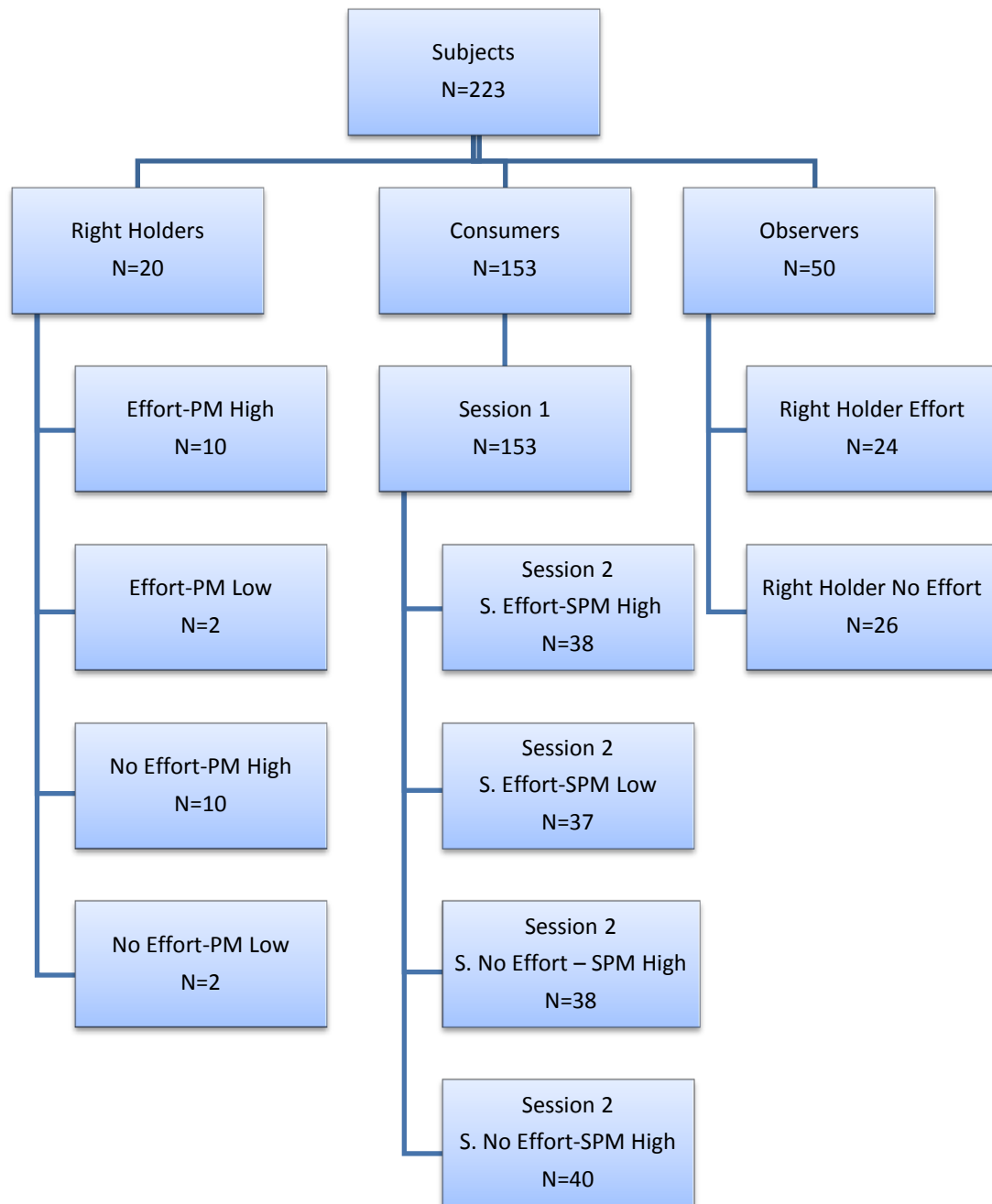

Notes: Figure 2 summarizes the between-subjects structure of our experimental design. Notice that, in both the high rights holder profit margin (High RHPM) and the low rights holder profit margin (Low RHPM) conditions, we required respectively around 2 and 10 consumers per rights holder. However, since the randomly selected task for consumers could be either from Session 1 or from Session 2, there was approximately ½ probability that the session with a rights holder counterpart was chosen, which means that we required double the amount of consumers, that is, for each rights holder, 4 consumers for the High RHPM and 20 consumers for the Low RHPM. Since we aimed for around N= 40 for each consumers' Session 2 condition, this implied having 10 rights holders for each of the two High RHPM condition and 2 rights holders for each of the two Low RHPM condition. The matching mechanism ensured that High RHPM and Low RHPM rights holders had on average the
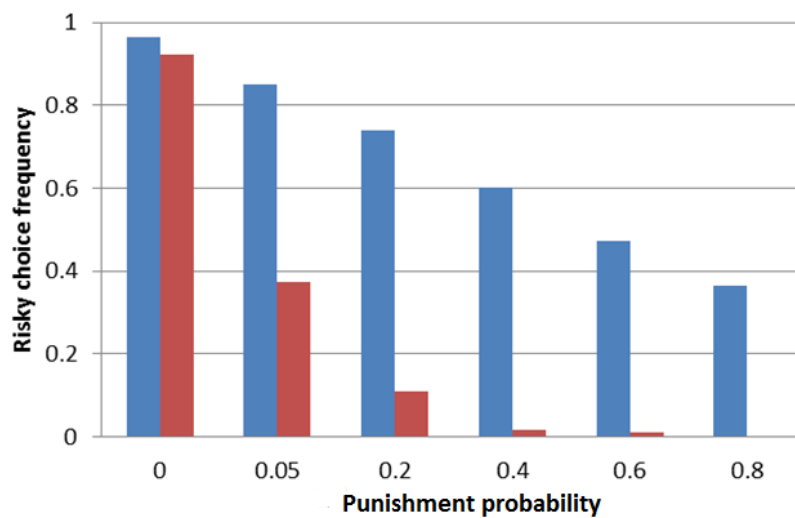
same wealth, i.e. average wealth did not co-vary with the profit margin as Low RHPM rights holders were matched with more consumers to compensate.

Figure 3: Observed frequency of risky choice by punishment probability, low and high penalty, Session 1 and 2

(a) Session 1
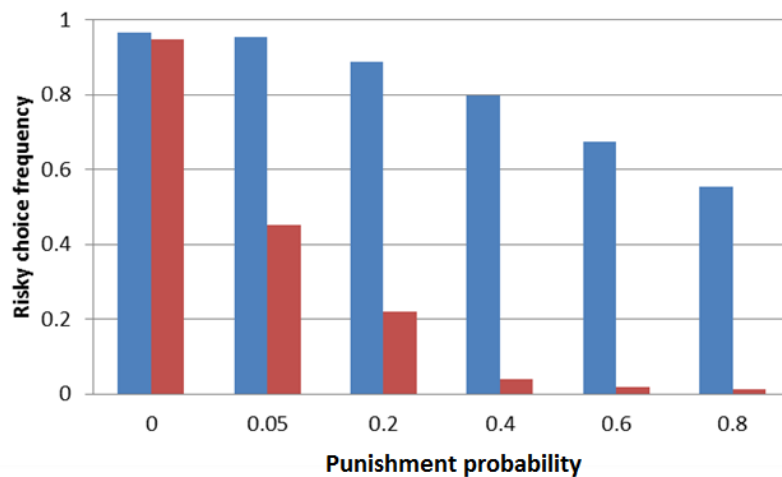
(b) Session 2

Notes: for both sessions, for the sake of simplicity, we label the probability of the bad outcome the 'punishment probability'.

Table 1: Consumers' choices

Treatment	Risky tasks -Session 1			NEAB Tasks - Session 2		
	"A" [%]	"B" [%]	"C" [%]	"Not buy" [%]	"Buy" [%]	"Obtain without paying" [%]
Effort & RH High	0.4	44.5	55	4.9	55.9	39.1
Effort & RH Low	0.7	45.7	53.6	2.1	52.5	45.4
No Effort & RH	0.9	44.1	55	2.4	50.1	47.5
No Effort & RH	0.8	46.5	52.7	4.8	50.7	44.5
Pooled	**0.7**	**45.2**	**54.1**	**3.6**	**52.3**	**44.1**

Table 2: Observers

	Observers' opinion on:											
	"Not to buy"				"Buy"				"Obtain without paying"			
Treatment	1* [%]	2* [%]	3* [%]	4* [%]	1* [%]	2* [%]	3* [%]	4* [%]	1* [%]	2* [%]	3* [%]	4* [%]
Effort	13.9	16.5	41.8	27.9	5.3	14.6	29.3	50.9	49	22	16.8	12.1
No Effort	11.5	18.4	32.2	37.9	2.4	8.9	33.9	54.7	44.8	26.9	17.1	11.2
Pooled	**12.7**	**17.4**	**37.2**	**32.7**	**3.9**	**11.9**	**31.5**	**52.7**	**47**	**24.4**	**17**	**11.7**

Notes: *1 = very socially inappropriate; 2 = somewhat socially inappropriate; 3 = somewhat socially appropriate; 4 = very socially appropriate.

Table 3: Marginal effects from Probit regressions on to choice by consumers to engage in NEAB

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Punishment Probability	-0.742***	-0.743***	-0.478***	-0.744***	-0.482***	-0.357***	-0.224***
	(0.0205)	(0.0202)	(0.0297)	(0.0201)	(0.0290)	(0.0420)	(0.0422)
Penalty_High	-0.390***	-0.390***	-0.214***	-0.391***	-0.217***	-0.277***	-0.147***
	(0.0154)	(0.0153)	(0.0196)	(0.0151)	(0.0190)	(0.0178)	(0.0198)
S1 Matched Choice			0.265***		0.260***		0.240***
			(0.0171)		(0.0166)		(0.0170)
RH Wealth High		-0.00193	-0.00207	-0.00162	-0.00157	-0.0310***	-0.0217***
		(0.00763)	(0.00780)	(0.00771)	(0.00786)	(0.00804)	(0.00803)
RH Effort High		-0.0447*	-0.0460*	-0.0464*	-0.0482**	-0.0470*	-0.0490**
		(0.0271)	(0.0236)	(0.0275)	(0.0239)	(0.0275)	(0.0240)
RH ReturnMargin High		-0.0295	-0.0327	-0.0231	-0.0290	-0.0418	-0.0416*
		(0.0270)	(0.0233)	(0.0267)	(0.0230)	(0.0269)	(0.0232)
Fair_Egalitarian				0.0001	-0.00202	-0.0001	-0.00198
				(0.0116)	(0.00963)	(0.0116)	(0.00970)
Fair_ChoiceEgalitarian				-0.00447	-0.00523	-0.00443	-0.00539
				(0.0113)	(0.0104)	(0.0114)	(0.0104)
Fair_Meritocratic				-0.00107	0.00189	-0.00107	0.00174
				(0.0138)	(0.0117)	(0.0139)	(0.0118)
Fair_Libertarian				0.0181	0.0128	0.0181	0.0129
				(0.0141)	(0.0118)	(0.0143)	(0.0120)
Fair_Kantian				0.00126	-0.000272	0.00173	0.0001
				(0.0115)	(0.0100)	(0.0116)	(0.0101)
Fair_Utilitarian				-0.0259**	-0.0194*	-0.0257**	-0.0194*
				(0.0129)	(0.0114)	(0.0129)	(0.0115)
Observers' opinion of obtain without paying						0.473***	0.330***
						(0.0384)	(0.0394)
Age	-0.00261	-0.00301	-0.00319*	-0.00316	-0.00309	-0.00321	-0.00304
	(0.00237)	(0.00226)	(0.00164)	(0.00251)	(0.00192)	(0.00265)	(0.00200)
Gender	-0.0761***	-0.0781***	-0.0606**	-0.0745***	-0.0584**	-0.0745***	-0.0597**
	(0.0281)	(0.0280)	(0.0251)	(0.0273)	(0.0250)	(0.0275)	(0.0251)
Observations	3,540	3,540	3,518	3,540	3,518	3,540	3,518

Notes: *** p<0.01, ** p<0.05, * p<0.1. Observations are clustered at the subjects' level. Dependent variable: Choice (1 when the choice is to "obtain without paying", 0 when the choice is "to buy" and N/A when the choice is "not to buy").[16] Standard errors in parentheses. S1 Matched Choice is the choice to engage in the equivalent of NEAB (i.e . option B) in the matched risky choice task in Session 1. RH Wealth High, Effort High and ReturnMargin High are dummies equal to 1 in tasks where the rights holder has high wealth, has made an effort and has a high profit margin. Fair_Egalitarian, Fair_ChoiceEgalitarian, Fair_Meritocratic, Fair_Libertarian, Fair_Kantian and

---

[16] We decided to omit the choice "not to buy" because it represents a very small fraction (3.6%) of all the choices and because we ran multinomial logit regressions (including the three outcomes) and results were very similar but more complicated to interpret. As anecdotal fact, we found that having a lower score in the numeracy test increases the probability of choosing "not to buy", which is consistent with interpreting this choice as an 'irrational' option.

Fair_Utilitarian are the scores of each subject in terms of compliance with egalitarian, choice egalitarian, meritocratic, libertarian, Kantian and utilitarian moral ideals, respectively.

A.1 Printed instructions Rights Holder- treatment: effort & low profit margin (see footnotes for changes corresponding to other treatments):

<div align="center">

INSTRUCTIONS

</div>

Welcome

This experiment will begin shortly. Before we start, we have a few reminders. First, to help us keep the lab neat and tidy, we ask you not to eat or drink in the lab. Also, we ask you to turn off your mobile phone and other devices completely. Please refrain from talking to other participants during the session. If you have a question at any point, please raise your hand.

This experiment should be completed within 40 minutes.[17]

Your responses will be anonymous, that is, your identity will not be revealed to other participants at any time during or after the experiment.

For your participation in this experiment you will be paid £4. You may also receive some additional money. This additional amount you may receive will depend on chance and on the decisions of participants in a different experiment.

Your participation fee (£4) will be paid privately, and in cash, today at the end of this session. Also, within the next 3 weeks you will receive an e-mail that will inform you if you have earned additional money and how to collect it.

Tasks and Payment

Today's session consists of a set of computerized tasks. If you complete these tasks you will be paid £4. There will be two sets of tasks. In the first set of tasks, a slider will be displayed on each screen. You can use the mouse to position the slider at any integer location between 0 and 100 (inclusive). Each slider can be adjusted and readjusted an unlimited number of times and the current position of each slider is displayed to the right of the slider. You have to position the slider at 50 by using the mouse. Once you have positioned the slider at 50, click the button to proceed and a new slider will appear. There will be 30 sliders, one on each screen. In the second set of tasks, some text will be displayed on each screen. The text has no meaning. You will be asked to count the number of times the letter "e" appears in the text, and type the answer inside the box provided. Once you are sure about your answer, click the button to proceed to the next screen. After each response a new text will appear. There are six texts, one on each screen.

In addition to the £4 you are paid for completing the tasks, you may also receive some additional money. There are two sources of additional money: *extra payment* and *sales profit*.[18]

---

[17] In the no-effort treatment this paragraphs read as follows: "This experiment should be completed within 10 minutes."

<u>Extra payment</u>: We expect you to have a chance of around 1 out of 2 (50%) of receiving £18 in addition to the £4 you will be paid today.

<u>Sales profit</u>: You may also receive some additional money from the sales of a product that will be offered to around 10 participants in another experiment (the *Consumers* in what follows). The product has a value of £6 and a price of £5. Each Consumer can buy one product if he/she wishes, and you will receive a 10% *profit margin* (that is, £0.50) from each sale made.[19]

In that experiment, Consumers will be offered the product under a set of conditions. Each Consumer will have £15 that he/she earned by performing a series of tasks in the first part of that experiment. Each Consumer will be faced with three alternatives:

- Not to buy the product, in which case the Consumer keeps his/her earnings from Part A. If the Consumer chooses this alternative, YOU receive a sales profit of £0;

- Buy the product, in which case the Consumer pays £5 from his/her earnings from Part A and receives in turn the value of the product, that is, £6. Therefore his/her earnings are equal to £1 (value-price=£6-£5). If the Consumer chooses this alternative, YOU receive a sales profit of £0.50 (10% of the £5 he/she paid for the product);

- Obtain the product without paying, in which case the Consumer keeps his/her earnings from Part A and in addition receives the value of the product. If a Consumer chooses this alternative, there is a probability that he/she is detected and has to pay a penalty. If the Consumer chooses this alternative, YOU receive a sales profit of £0.

Therefore, if nobody buys the product, your sales profit is £0. If only one Consumer buys the product, your sales profit is £0.50; if all 10 consumers buy the product, your sales profit is £5. Hence, depending on the number of participants buying the product, your sales profit will be between £0 and £5.[20]

In summary: besides the £4 pounds you will be paid today, you may earn some additional money. This additional amount that you may receive will depend on a combination of chance and of decisions made by participants in a different experiment.

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[18] In the no-effort treatment paragraphs 1 and 2 read as follows: "For assisting to today's session you will be paid £4. In addition to the £4 you are paid for attending to this session, you may also receive some additional money. There are two sources of additional money: extra payment and sales profit."

[19] In the high profit margin treatments this paragraph reads as follows: "Sales profit: You may also receive some additional money from the sales of a product that will be offered to around 2 participants in another experiment (the Consumers in what follows). The product has a value of £6 and a price of £5. Each Consumer can buy one product if he/she wishes, and you will receive a 50% profit margin (that is, £2.50) from each sale made."

[20] In the high profit margin treatments this paragraph reads as follows: "Therefore, if nobody buys the product, your sales profit is £0. If only one Consumer buys the product, your sales profit is £2.50; if all 2 consumers buy the product, your sales profit is £5. Hence, depending on the number of participants buying the product, your sales profit will be between £0 and £5."

Within the next 3 weeks you will receive an e-mail that will inform you about the additional money that you have earned and how to collect it.

If you have any questions from this point on, please raise your hand and wait for the experimenter to come to you.

A.2 Instructions (Effort Tasks) Rights Holder – Effort treatments (On screen, Qualtrics)

--- Slider task ---

Instructions:

Your task in this section is to move all the sliders to exactly "50".

Sample screen, slider 1 out of 30:

--- Letter Count Task ---

Instructions:

A text will be displayed in each of the following six screens. The text has no meaning. Please count the number of times the letter "e" appears in the text. Then type the answer inside the box provided at the bottom of the screen. Once you are sure about your answer click the Confirm button. After each response a new text will appear. There are six texts, one on each screen.

Sample screen (text 1 of 6)

Please count the number of times the letter "e" appears in the paragraph below.

Oruja cor di olutid: Alinah nel titanon topot esilexir watilin no agi. Humasos cat unesi raredic wieso. Secay con nete mice niem egiey gule toro seni. Ate dep gar. Seyil cenotir niner titie fes itudali abihome lohero. Tanog roru rewuyam liliyus: Ocem amapi red na esicit birani pebucim. Red con semu hocine eme taboni sepata pi senenor zic, ce sicie nayile no yis cie acaritar! Bidim ninuror hab nubanet hotil samela. Ohadimel resej bec rotuhac taceg yeriroy le lamote hali atin. Operetig rolilo ucie osebirat megehun ri vutemu. Notuhoc lireget avi misip ceciga nagave nu riho hie.

How many did you count? [   ]

Confirm

INSTRUCTIONS

Welcome

This experimental session will begin shortly. Before we start, we have a few reminders. First, to help us keep the lab neat and tidy, we ask you not to eat or drink in the lab. Also, we ask you to turn off your mobile phone and other devices completely. Please refrain from talking to other participants during the session. If you have a question at any point, please raise your hand.

This experiment requires you to attend two sessions, Session 1 and Session 2. Each session should be completed within an hour. Session 1 is taking place today and Session 2 will take place the date you have booked using our online system.

Your responses will be anonymous, that is, your identity will not be revealed to other participants at any time during or after the experiment.

In this experiment, how much you earn depends on your decisions and on chance.

Your total earnings from both sessions will be paid privately and in cash at the end of Session 2.

This session

Today's session consists of two parts: Part A and Part B.

In Part A you will be asked to complete five short tasks including three questionnaires. By doing so, you will earn 15 pounds. Detailed instructions about the tasks in Part A will be provided on the computer screen.

In Part B you will be asked to complete a series of decision making tasks. Depending on the decisions you make and chance, you can earn additional money or lose part of the money you earned in Part A.

If you have any questions from this point on, please raise your hand and wait for the experimenter to come to you.

Once you are ready to start Part A, please click the Start button on the computer screen. Additional instructions for each task will be provided on the screen.

You are about to start Part A. Click the button when you are ready

<div align="right">Start</div>

---- Letter Count Task -----

Part A-Task 1

Instructions

Some text will be displayed on each of the following two screens. The text has no meaning. Please count the number of times the letter "e" appears in the text. Then type the answer in the box provided at the bottom of the screen. Once you are sure about your answer click the Confirm button. There are two texts, one on each screen.

<div align="right">Start</div>

Sample screen, text 1:

> Please count the number of times the letter "e" appears in the paragraph below.
>
> Oruja cor di olutid: Alinah nel titanon topot esilexir watilin no agi. Humasos cat unesi raredic wieso. Secay con nete mice niem egiey gule toro seni. Ate dep gar. Seyil cenotir niner titie fes itudali abihome lohero. Tanog roru rewuyam liliyus: Ocem amapi red na esicit birani pebucim.
>
> How many did you count? [   ]
>
> Confirm

Text 2:

Teye mihesib henas aheyar nufec kasog; ele loseget ipet! Nan siebobo si ihor nes. Ofecol ti caratu. Meg etaru titi. Lo rikomif re alati, mod hadire re emiru asicelen aca solic. Osekec regate hare kebitie rum doleyoc facen. Itos tanu averi mieli lelot inetenem imerehen mu isilevi, losela sad pa afotonir perol alinevil erepevuf emecir get.

<div align="center">26</div>

How many did you count? _____

---- Social Desirability Scale 17 ----

Part A-Task 2

Instructions

A statement will be displayed in each of the following screens. Please read each statement carefully and decide if that statement describes you or not. If it describes you click the word "true" if not, choose the word "false". Once you are sure about your answer click the Confirm button. After each response a new statement will appear. There are sixteen statements, one on each screen.

Start

Sample screen Statement 1:

S2 to S16:

2. I always admit my mistakes openly and face the potential negative consequences.

3. In traffic I am always polite and considerate of others.

4. I always accept others' opinions, even when they don't agree with my own.

5. I take out my bad moods on others now and then.

6. There has been an occasion when I took advantage of someone else.

7. In conversations I always listen attentively and let others finish their sentences.

8. I never hesitate to help someone in case of emergency.

9. When I have made a promise, I keep it – no ifs, ands, or buts.

10. I occasionally speak badly of others behind their back.

11. I would never live off at other people's expense.

12. I always stay friendly and courteous with other people, even when I am stressed out.

13. During arguments I always stay objective and matter-of-fact.

14. There has been at least one occasion when I failed to return an item that I borrowed.

15. I always eat a healthy diet.

16. Sometimes I only help because I expect something in return.

--- Numeracy Test ---

Part A-Task 3

Instructions

A question will be displayed in each of the following screens. Please read each question carefully and type the answer in the box provided at the bottom of the screen. Once you are sure about your answer click the Confirm button. After each response a new question will appear. There are ten questions, one on each screen.

Start

Sample screen Question 1:

1. Imagine that we rolled a fair, six-sided die 1,000 times. Out of 1,000 rolls, how many times do you think the die would come up even (2, 4, or 6)?

Answer [ ] times

Confirm

Q2 to Q10

2. In the Big Bucks Lottery, the chances of winning a £10 prize is 1%. What is your best guess about how many people would win a £10 prize if 1,000 people each buy a single ticket to BIG BUCKS?

Answer: ____people

3. In the Acme Publishing Sweepstakes, the chance of winning a car is 1 in 1,000. What percent of tickets of Acme Publishing Sweepstakes win a car?

Answer: ____%

4. Which of the following numbers represents the biggest risk of getting a disease?

Answer: ___ 1 in 100, ___ 1 in 1000, __ 1 in 10

5. Which of the following numbers represents the biggest risk of getting a disease?

Answer: ___ 1%, __ 10%, ___ 5%

6. If Person A's risk of getting a disease is 1% in ten years, and person B's risk is double that of A's, what is B's risk?

Answer: ___%

7. If Person A's chance of getting a disease is 1 in 100 in ten years, and person B's risk is double that of A's, what is B's risk?

Answer: ___ out of 100

8. If the chance of getting a disease is 10%, how many people would be expected to get the disease: Out   of   1000.

Answer: ___ people

9. If the chance of getting a disease is 20 out of 100, this would be the same as having a ___% chance of getting the disease.

Answer: ___%

10. The chance of getting a viral infection is .0005. Out of 10,000 people, about how many of them are expected to get infected?

Answer: ____ people

----Ten Item Personality Index ----

Part A-Task 4

Instructions

An attitude statement will be displayed in each of the following screens. Each represents a commonly held opinion and there are no right or wrong answers. Read each statement carefully and indicate the extent to which you agree or disagree. First impressions are usually best in such matters. After each response a new statement will appear. There are ten statements, one on each screen.

Start

Sample screen Statement 1:

S2 to S10

2 = Critical, quarrelsome

3 = Dependable, self-disciplined

4 = Anxious, easily upset

5 = Open to new experiences, complex

6 = Reserved, quiet

7=Sympathetic, warm

8=Disorganized, careless

9=Calm, emotionally stable

10=Conventional, uncreative

Part A-Task 5

Instructions

A scenario will be displayed in each of the following screens. Each represents a hypothetical situation and a set of possible "endings". Read carefully and try to imagine the situation. Then indicate how fair you think each "ending" is. There are no right or wrong answers. Once you are sure about your responses click the Confirm button. After submitting your responses a new scenario will appear. There are four scenarios, one on each screen.

Start

Sample screen Scenario 1-a:

Scenario 1:

Imagine the following situation. Two persons X and Y work in identical office jobs at a large company. Person X is twice as productive as Person Y. Person X chooses to work 30 hours per week and Person Y chooses to work 40 hours per week. In addition, due to a computer failure Person Y lost data equivalent to 5 hours of work per week.

How fair do you consider the following?

b. The employer decides to pay each employee according to their productivity and the time they spent working (ability and effort). Therefore, Person X gets paid £840 per week while Person Y gets paid £560 per week.

c. The employer decides to pay each employee according to their output (ability, effort and chance). Therefore, Person X gets paid £884 per week while Person Y gets paid £516 per week.

Scenario 2:

Imagine the following situation. Two persons, A and B, become shipwrecked on an uninhabited island where the only food is mango. They can collect as many mangoes as they want by climbing up a tree, picking them before they fall into the ocean and throwing them into a pile.

Person A is a better climber than Person B. Specifically, Person A climbs three times as fast as Person B. Imagine also, that on a given day, Person A chooses to spend about half as much time picking mangoes from the tree as Person B. In addition, Person B collects 2 mangoes that fell on the ground. Because of all this, at the end of the day "A" gathers 10 mangoes and "B" gathers 8 mangoes.

How fair do you consider the following?

a. Person A decides to allocate the mangoes equally. Therefore, "A" takes 9 mangoes from the pile leaving "B" with 9 mangoes.
b. Person A decides to allocate the mangoes according to the amount of time each spent picking them (effort). Therefore "A" takes 6 mangoes from the pile leaving "B" with 12 mangoes.
c. Person A decides to allocate the mangoes according the combination of individual ability and time spent picking mangoes. Therefore, "A" takes 11 mangoes from the pile leaving "B" with 7 mangoes.
d. Person A decides to allocate the mangoes according to their individual output. Therefore, "A" takes 10 mangoes from the pile leaving "B" with the 8 which "B" gathered.

Scenario 3:

Imagine that Person A asks a friend, Person B, to lend her money to invest in a business venture. Person B agrees and promises to give Person A the money the following week. During that time, Person B finds out that another friend, Person C, needs a loan for the same amount of money in order to finance the production of a medicine. Assume that the medicine can save hundreds of lives. Imagine also that nobody else is willing to lend money to Person C.

How fair do you consider the following?

a. Person B considers that it is our duty to honour our promises. Therefore she lends the money to Person A.
b. Person B believes that it is our duty to think about the consequences of our actions and choose the action that maximizes the wellbeing of the maximum number of agents involved in the situation. Therefore she lends the money to Person C.

Scenario 4:

Imagine the following situation, based on the famous "Trial of Socrates". Socrates was tried on the following charges: corrupting the youth and two "impious" acts: "failing to acknowledge the gods that the city acknowledges" and "introducing new deities". An Athenian jury sentenced him to the death penalty. Under Athenian law, execution was accomplished by drinking a cup of poisoned hemlock. Socrates's disciples encouraged him to flee. Also assume that in general Athenian citizens recognised that that he had been sentenced following Athenian law due process, but would have happier had he fled.

How fair do you consider the following?

a. Following the law, he carried out his own execution, by drinking the poisoned hemlock provided to him.
b. Following his disciples advice, he decided to flee, and dedicated the rest of his life to good causes.

--- Final screen---

Thank you! You have now completed Part A. For your effort in this part you earned 15 pounds. Now you are about to start Part B. In this part you will be asked to make a series of choices. Please raise your hand and you will receive printed instructions for Part B.

INSTRUCTIONS PART B

In this part you will be asked to complete a series of decision making tasks. Depending on the decisions you make and chance, you can earn additional money or lose part of the money you earned in Part A. In each tasks the amounts in pounds (£) will be converted into real money only if the computer randomly selects to pay you on the basis of your choices in that task.

On each screen you will be presented with a task. In each task you will be offered three alternatives:

- Option 1: Earn £0. Your earnings from Part A will not be affected;

- Option 2: Earn £1 that will be added to your earnings from Part A;

- Option 3: Either earn £6 that will be added to your earnings from Part A or lose a given amount of money that will be subtracted from your earnings in Part A. This amount may differ across tasks.

For each task the screen will display three pie charts, each one corresponding to one of the alternatives above. Each pie chart has up to two coloured areas. Each area represents the probability of each outcome, in other words, how likely it is that you receive or lose a given amount of money if you choose that alternative. If the pie chart has only one coloured area, then the probability of that outcome is 100%.

You will be able to indicate your choice by selecting the corresponding alternative from a list provided at the bottom of the screen. Once you are sure about your choice, click the Confirm button. After submitting your choice a new task will appear. There are 12 tasks, one on each screen.

At the end of the session the computer will randomly select to pay you on the basis of either one of the 12 tasks in Part B of this session or a set of tasks in Session 2. There is a 50% chance that you will earn a payment based upon Part B of this session and there is a 50% chance that you will earn a payment based upon Session 2. The details of the tasks in Session 2 will be provided at the beginning of Session 2. In either case, this payment will be added to or subtracted from the £15 you earned in Part A of this session. You will only be told which case applies to you, and your earnings, at the end of Session 2.

If the computer selects to pay you on the basis of Part B of this session, then one of the 12 tasks will be randomly selected by the computer and your payment will be based on your choice in this task. If in the randomly selected task you chose Option 3, the computer will also randomly determine

which outcome is implemented, that is, if you receive £6 or lose the amount corresponding to Option 3 in that task.

To give you an idea of how the experiment will proceed, we will go through an example. Each task will be similar (but none of them identical) to the example below.

Example:

In this example, if you choose Option 1 you get £0 and if you choose Option 2 you get £1. If you choose Option 3, your chance of losing £6 is 25% and otherwise you earn £6 (75% chance).

Based on the example above, assume that Part B of this session and specifically this task was randomly selected by the computer to determine your payment. Then the outcome from your choice would be added to/subtracted from your earnings in Part A (£15). That is, if you chose Option 1, your total payment would be £15; if you chose Option 2, your total payment would be £16; if you chose Option 3, it would be either £9 (25% chance) or £21 (75% chance).

At the end of Session 2 you will be informed about which session (1 or 2) and which task was randomly selected for you by the computer for payment; you will also receive your payment privately and in cash.

If you have any questions from this point on, please raise your hand and wait for the experimenter to come to you.

Once you are ready, please click the Start button on the computer screen.

A.6 Instructions Consumers' session 1 – Part B, understanding questionnaire (on screen z-Tree):

---Screen 1---

Please answer the following questions, based on the information provided in the instructions you just read:

Q1. How many tasks will there be in this part of the experiment?

    1 = 12
    2 = 24
    3 = 26
    4 = 48

Q2. What is the chance that the computer selects to pay you on the basis of one of your choices in this session?

    1 = 0%
    2 = 25%
    3 = 50%
    4 = 100%

Q3. Please identify which one of these statements is INCORRECT:

    1 = In any given task Option 1 and Option 2 have only one possible outcome each and Option 3 has two possible outcomes

    2 = If you choose Option 3 you may earn £6 in addition to your earnings from Part A.

    3 = Your payment equals £15 plus/minus the average of your earnings over the 12 tasks in Part B.

    4 = If the computer selects Session 1, then one task is selected at random from the set of 12 tasks in Part B.

---Screen 2---

Answer the following questions assuming that the example provided in the instructions was randomly selected by the computer to count towards your total payment.

Q4. If you choose Option 2, how much would you receive in addition, or lose, from your earnings from Part A?

    1 = -£6
    2 = £1
    3 = £0
    4 = £6

Q5. If you choose Option 3, what is the chance that you earn £5?

    1 = 0%

2 = 20%

3 = 25%

4 = 75%

Q6. If you choose Option 3, what is the chance that you lose £6?

1 = 0%
2 = 20%
3 = 25%
4 = 75%

---Screen 3---

Assume that the example provided in the instructions was the task randomly selected by the computer to count towards your total payment.

Q7. How much would your total payment be in this experiment if you chose Option 1?

1 = £9

2 = £15

3 = £16

4 = £21

Q8. How much would your total payment be in this experiment if you chose Option 2?

1 = £9

2 = £15

3 = £16

4 = £21

Q9. What would be the chance that your final payment is £21 if you chose Option 3?

1 = 0%
2 = 20%
3 = 25%
4 = 75%

INSTRUCTIONS

Welcome

This experimental session will begin shortly. Before we start, we have a few reminders. First, to help us keep the lab neat and tidy, we ask you not to eat or drink in the lab. Also, we ask you to turn off your mobile phone and other devices completely. Please refrain from talking to other participants during the session. If you have a question at any point, please raise your hand.

This experiment is divided into two sessions, Session 1 and Session 2. You have already completed Session 1. Session 2 is taking place today. Session 2 should be completed within an hour.

Your responses will be anonymous, that is, your identity will not be revealed to other participants at any time during or after the experiment.

In this experiment, how much you earn depends on your decisions and on chance. As a reminder, you earned £15 in Part A of Session 1 and there is a 50% chance that your decisions in this session will affect your payment. You will learn whether your earnings depend on today's session at the end of this session.

Your total earnings will be paid privately, and in cash, at the end of this session.

This session

Today's session consists of a set of decision making tasks, plus a few end of experiment questions. You will receive separate instructions for the decision making task.

A.8 Printed instructions Consumers' session 2- Treatment 1: Rights Holder = Effort & Seller's profit margin=low (see footnotes for changes corresponding to each treatment):

INSTRUCTIONS FOR THE DECISION MAKING TASKS

On each screen you will be presented with a task. In each task you will be offered the same product. This product is being sold by a person (the *Seller* in what follows) who, in exchange for some money (*endowment*) and the possibility of selling the product, performed a set of exercises in another experiment. The exercises took over 30 minutes, and consisted in thirty "slider tasks" (positioning a slider at 50 within a range between 0 and 100) and six "letter counting tasks" (counting "e" letters from paragraphs of the same type as, but longer than, those you saw in Part A of this experiment). In addition to the endowment, the Seller will earn a percentage (*profit margin*) from any revenues made from selling the product to some participants in this experiment, including you.[21] In each task the amounts in pounds (£) will be converted into real money only if the computer randomly selects to pay you and the Seller on the basis of your choices in that task.

In each task each of you potential buyers is asked to choose between the following three alternatives:

- Not to buy the product, in which case your earnings from Part A (Session 1) will not be affected (with no profit for the Seller);

- Buy the product, in which case you use part of your earnings from Part A (Session 1) to buy the product and in turn you receive the value of the product (the Seller gets a profit margin from what you pay for the product);

- Obtain the product without buying, in which case you keep your earnings from Part A (Session 1) and in addition you receive the value of the product (with no profit for the Seller). If you choose this alternative, there is a chance that you are detected, that is, you are identified by the computer as having to pay a penalty.

In all the tasks the value of the product is £6; the price of the product is £5, the profit margin for the Seller is 10% of the product's price (that is £0.50); and the product is offered to around 10 participants (including you).[22]

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[21] In the No effort treatments, the same paragraph reads as follows: "On each screen you will be presented with a task. In each task you will be offered the same product. This product is being sold by a person (the Seller in what follows) who attended another experiment. In addition to some money (endowment), the Seller will earn a percentage (profit margin) from any revenues made from selling the product to some participants in this experiment, including you."

[22] In the high profit margin treatments this paragraph reads as follows: "In all the tasks the value of the product is £6; the price of the product is £5, the profit margin for the Seller is 50% of the product's price (that is £2.50); and the product is offered to around 2 participants (including you)."

The Seller's endowment, the probability of you being detected if you obtain the product without buying, and the penalty if detected, may differ across tasks.

For each task, the screen will display a grid containing the values of these variables. The screen will also display three pie charts corresponding to each of the alternatives you can choose from (not to buy the product, buy the product, and obtain the product without buying). Each pie chart has one or two coloured areas. Each area represents the probability (how likely it is) that you earn or lose a given amount of money if you choose this alternative. If the pie chart only has one coloured area, then the probability of earning or losing that amount of money is 100%.

You will be able to indicate your choice by selecting the corresponding alternative from a list provided at the bottom of the screen. Once you are sure about your choice click the Confirm button. After submitting your choice a new task will appear. There are 24 tasks, one on each screen.

At the end of the session, and if the computer randomly selected to base your payment on this session, the computer will also randomly select one of the 24 tasks. If in the randomly selected task you chose to obtain the product without buying, the computer will also randomly determine if you have been detected and have to pay the corresponding penalty. Notice that, if in the selected task the penalty is higher than the value of the product (£6) and you are detected, you will lose money , the amount you lose will be subtracted from the £15 you earned in Part A of Session 1.

To give you an idea of how the experiment will proceed, we will go through an example. Each task will be similar (but none of them identical) to the example below.

<div align="center">Example:[23]</div>

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[23] The example was also modified to reflect each treatment.

Product (offered to 10 people)	Seller	Penalty
Value: £6	Endowment: £13	Probability of detection: 25%
Price: £5	Profit margin: 10% (£0.50)	Amount of the penalty: £12

Not to buy the product
(Earnings/Probability)

£0
100%

Seller profit = £0

Buy the product
(Earnings/Probability)

£1
100%

Seller profit = £0.50

Obtain the product without buying
(Earnings or losses/Probability)

-£6
25%

£6
75%

Seller profit = £0

Your choice:
- Not to buy the product
- Buy the product
- Obtain the product without buying

Confirm

In this example, if you choose the first alternative you earn £0 and if you choose the second alternative you earn £1. If you choose the third alternative, the probability of being detected is 25%; if you are detected you lose £6 (value of the product - penalty = £6 - £12 = -£6); if you are not detected, your earnings are equal to the value of the product, that is, £6 (75% chance).

In this example the Seller receives an endowment of £13, and, in addition to this, if you buy the product, he/she would get a profit of £5 x 10% = £0.50. So, if you are the only one buying the product, the Seller's total payment would be £13 + 0.50= £13.50; if all 10 participants buy the product, the Seller would receive £0.50 from each, and so his/her total payment would be £18. Hence, depending on the number of participants buying the product, the Seller's total payment would be an amount between £13 and £18.[24]

Based on the example, assume that Session 2 and specifically this task was randomly selected by the computer to determine your payoffs. Then the amount of money that you earned or lost would be added to/subtracted from your earnings in Part A of Session 1. That is, if you chose not to buy the

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[24] In the high profit margin treatments this paragraph reads as follows: " In this example the Seller receives an endowment of £13, and, in addition to this, if you buy the product, he/she would get a profit of £5 x 50% = £2.50. So, if you are the only one buying the product, the Seller's total payment would be £13 + 2.50 = £15.50; if all 2 participants buy the product, the Seller would receive £2.50 from each, and so his/her total payment would be £18. Hence, depending on the number of participants buying the product, the Seller's total payment would be an amount between £13 and £18."

product, your total payment for the session would be £15; if you chose to buy the product, it would be £16; and, if you chose to obtain the product without buying, it would be either £9 (with a 25% chance) or £21 (with a 75% chance). At the end of this session you will be informed about which session (1 or 2) and which task was randomly selected for you by the computer for payment. You will also be reminded about your choice in the selected task and, if you chose to obtain the product without buying, you will also be informed if you were detected by the computer and have to pay the corresponding penalty.

The final screen will display your total earnings in the experiment. You will receive your payment privately and in cash.

If you have any questions from this point on, please raise your hand and wait for the experimenter to come to you.

A.9 Instructions Consumers session 2, understanding questionnaire (on screen z-Tree):

--Screen 1---

Please answer the following questions, based on the information provided in the instructions you just read:

Q1. How many tasks will there be in this part of the experiment?

    1 = 12
    2 = 24
    3 = 26
    4 = 48

Q2. What is the chance that the computer selects you to earn a payment based upon your choices in this session?

    1 = 0%
    2 = 25%
    3 = 50%
    4 = 100%

Q3. Please identify which one of these statements is INCORRECT:

    1 = In any task to -Buy the product- and -Not to buy the product- have only one possible outcome.

    2 = If you choose to -Obtain the product without buying- you may earn £6.

    3 = Your payment equals £15 plus/minus the average of your earnings over the 24 tasks in Session 2.

    4 = If the computer selects Session 2, then one task is selected at random from the set of 24 tasks.

--Screen 2---

Assume that the example provided in the instructions was randomly selected by the computer to count upon your total payment. How much would you earn in addition to, or lose from, your earnings from Part A, and how much would be the Seller's profit:

Q4. If you choose "Not to buy the product"?

    1 = You lose £6 and the Seller receives £0

    2 = You lose £6 and the Seller receives £6

    3 = You earn £1 and the Seller receives £1.25

    4 = You earn £0 and the Seller receives £0

    5 = You earn £6 and the Seller receives £0

Q5. If you choose to "Buy the product"?

1 = You lose £6 and the Seller receives £0

2 = You lose £6 and the Seller receives £6

3 = You earn £1 and the Seller receives £1.25

4 = You earn £0 and the Seller receives £0

5 = You earn £6 and the Seller receives £0

Q6. If you choose "Obtain the product without buying", you are detected and have to pay the penalty?

      1 = You lose £6 and the Seller receives £0
      2 = You lose £6 and the Seller receives £6
      3 = You earn £1 and the Seller receives £1.25
      4 = You earn £0 and the Seller receives £0
      5 = You earn £6 and the Seller receives £0

--Screen 3---

Assume that the example provided in the instructions was the task randomly selected by the computer to count towards your total payment:

Q7. How much would be your final payment in this experiment if you chose "Not to buy the product"?

      1 = £9

      2 = £15

      3 = £16

      4 = £21

Q8. How much would be your final payment in this experiment if you chose to "Buy the product"?

      1 = £9

      2 = £15

      3 = £16

      4 = £21

Q9. What would be the chance that your final payment is £21 if you chose to "Obtain the product without buying"?

      1 = 0%
      2 = 20%
      3 = 25%
      4 = 75%

A.10 Printed instructions Observers – treatment = effort (see footnotes for changes corresponding to each other treatment):

WELCOME

This experimental session will begin shortly. Before we start, we have a few reminders. First, to help us keep the lab neat and tidy, we ask you not to eat or drink in the lab. Also, we ask you to turn off your mobile phone and other devices completely. Please refrain from talking to other participants during the session. If you have a question at any point, please raise your hand.

This experiment should be completed within 70 minutes.

Your responses will be anonymous, that is, your identity will not be revealed to other participants at any time during or after the experiment.

In this experiment, how much you earn depends on the decisions you and other participants make and on chance. In addition, you will be paid a participation fee of £5.

Your total earnings will be paid privately and in cash at the end of this session.

INSTRUCTIONS

On each screen you will be presented with a situation. In each situation a participant in a decision making experiment, "Individual X" is offered a product. This product is being sold by a person (the *Seller* in what follows) who, in exchange for some money (*endowment*) and the possibility of selling the product, performed a set of exercises in another lab experiment. The exercises took over 30 minutes, and consisted in thirty "slider tasks" (positioning a slider at 50 within a range between 0 and 100) and six "letter counting tasks" (counting "e" letters from paragraphs).[25] In addition to the endowment, the Seller will also earn a percentage (*profit margin)* from any revenues made from selling the product to a given number of participants in the decision making experiment, including Individual X.

Individual X has £15 that he/she earned in the first part of the experiment, "Part A". Individual X must make a decision between the following three alternatives:

- Not to buy the product, in which case Individual X's earnings from Part A will not be affected (with no profit for the Seller);

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[25] In the no-effort treatment the paragraph reads as follows: "On each screen you will be presented with a situation. In each situation a participant in a decision making experiment, "Individual X" is offered a product. This product is being sold by a person (the *Seller* in what follows) who attended another lab experiment. The Seller, received some money (*endowment*) and in addition will earn a percentage (*profit margin*) from any revenues made from selling the product to a given number of participants in the decision making experiment, including Individual X."

- Buy the product, in which case Individual X uses part of his/her earnings from Part A to buy the product and in turn receives the value of the product (the Seller gets a profit margin from what Individual X pays for the product);

- Obtain the product without paying, in which case Individual X keeps his/her earnings from Part A and in addition receives the value of the product (with no profit for the Seller). If Individual X choses this alternative there is a chance that he/she is detected, that is, identified by the computer as having to pay a penalty.

In all the situations the value of the product is £6 and the price of the product is £5. The Seller's endowment, the Seller's profit margin, as well as the number of participants that are offered the product, the probability that Individual X is detected and the penalty if detected, may differ across tasks.

For each situation, the screen will display a grid containing the values of these variables. The screen will also display three pie charts, one corresponding to each of the alternatives available to Individual X (not to buy the product, buy the product, and obtain the product without buying). Each pie chart has up to two coloured areas. Each area represents the probability (how likely it is) that Individual X earns or loses a given amount of money if he/she chooses that alternative. If the pie chart has only one coloured area, then the probability of earning or losing that amount of money is 100%.

For each situation, you will be asked to evaluate the different alternatives available to Individual X and to decide, for each alternative, whether choosing that alternative would be "socially appropriate" and "consistent with moral or proper social behaviour" or "socially inappropriate" and "inconsistent with moral or proper social behaviour." By socially appropriate, we mean behaviour that most people agree is the "correct" or "ethical" thing to do. In each of your responses, we would like you to answer as truthfully as possible, based on your opinions of what constitutes socially appropriate or socially inappropriate behaviour.

You will be able to indicate your responses using a scale provided at the bottom of the screen. Notice that you will be required to provide three responses per screen, one for each alternative faced by Individual X. Once you are sure about your responses click the Confirm button. After submitting your responses a new situation will appear. There are 48 situations, one on each screen.

At the end of the session the computer will randomly select one of the 48 situations. For each of the three available alternatives faced by Individual X in that situation, we will determine which response was indicated by the most people in this session. **For each of these three alternatives, if** *you give the same response as that most frequently given by other people in this session, you* **will receive an additional £4. This means that in addition to the participation fee (£5) you can receive up to £12 (£4 x 3).**

To give you an idea of how the experiment will proceed, we will go through an example and show you how you will indicate your opinions. Each screen will be similar to the example below.

Example

Product (offered to 4 people)	Seller	Penalty
Value: £6	Endowment: £13	Probability of detection: 25%
Price: £5	Profit margin: 25% (£1.25)	Amount of the penalty: £12

Not to buy the product
(Earnings/Probability)

£0
100%

Seller's profit = £0

Buy the product
(Earnings/Probability)

£1
100%

Seller's profit = £1.25

Obtain the product without buying
(Earnings or losses/Probability)

-£6
25%

£6
75%

Seller's profit = £0

Your opinion:	Very socially inappropriate	Somewhat socially inappropriate	Somewhat socially appropriate	Very socially appropriate
Not to buy the product:	○	○	○	○
Buy the product:	○	○	○	○
Obtain the product without buying:	○	○	○	○

Confirm

In this example, if Individual X chooses the first alternative he/she earns £0 and if Individual X chooses the second alternative he/she earns £1. If Individual X selects the third alternative, the probability of being detected by the computer is 25%. If this happens, he/she loses £6 (value of the product - penalty = £6 - £12 = -£6); if Individual X is not detected, his/her earnings are equal to the value of the product, that is, £6 (75% chance).

In this example the Seller receives an endowment of £13, and, in addition to this, if Individual X buys the product, the Seller gets a profit of £5 x 25% = £1.25. So, if Individual X is the only one buying the product, the Seller's total payment would be £13 + £1.25 = £14.25; if all 4 participants buy the product, the Seller would receive £1.25 from each, and so his/her total payment would be £18. Hence, depending on the number of participants buying the product, the Seller's total payment would be an amount between £13 and £18.

If this were one of the situations for this experiment, you would consider each of the three possible alternatives (not to buy the product, buy the product, and obtain the product without buying) and, for each alternative, indicate the extent to which you believe choosing that alternative would be "socially appropriate" and "consistent with moral or proper social behaviour" or "socially inappropriate" and "inconsistent with moral or proper social behaviour". Recall that by socially appropriate we mean behaviour that most people agree is the "correct" or "ethical" thing to do.

Now imagine that the example situation was randomly selected by the computer to determine your earnings. **In relation to each alternative, if you give the same response as that most frequently**

given by other people in this session, then you will receive £4 in addition to the participation fee. For instance, if the computer were to select the example situation above and for one of the alternatives your response had been "somewhat socially inappropriate," then you would receive £4, in addition to the £5 participation fee, if this was the response selected by most other people for this alternative. Otherwise you would receive only the £5 participation fee.

Note that the above means that if you give the same response as that most frequently given by other people for two of the alternatives you will receive £8 in addition to the participation fee, and £12 in addition to the participation fee if you give the same response as that most frequently given by other people for each of the three alternatives.

The final screen will display your total earnings. While we prepare your payment, you will be asked to answer a short questionnaire on the computer.

If you have any questions from this point on, please raise your hand and wait for the experimenter to come to you.

A.11 Instructions Observers – understanding questionnaire (on screen, z-Tree):

---Screen 1---

Please answer the following questions, based on the information provided in the instructions you just read:

Q1. In this experiment, how many situations will you be asked to give responses about?

    1 = 12
    2 = 24
    3 = 26
    4 = 48

Q2. How many responses you will be required to provide for each situation?

    1 = 1
    2 = 2
    3 = 3
    4 = 4

Q3. Please identify which one of these statements is INCORRECT:

    1= In each situation Individual X must make a decision between three alternatives.

    2= If Individual X chooses to "Obtain the product without buying" he/she may earn £6.

    3= Your total earnings equal £5 plus/minus the average of your earnings over the 48 situations.

    4= One situation is selected at random from the set of 48 situations to calculate your total earnings.

---Screen 2---

Based on the example provided, how much would Individual X earn in addition to, or lose from, his/her earnings from Part A, and how much would be the Seller's profit:

Q4. If Individual X chooses "Not to buy the product"?
    1= Individual X loses £6 and the Seller receives £0

    2= Individual X and the Seller receive £6

    3= Individual X earns £1 and the Seller receives £1.25

    4= Individual X earns £0 and the Seller receives £0

    5= Individual X earns £6 and the Seller receives £0

Q5. If Individual X chooses to "Buy the product"?
    1= Individual X loses £6 and the Seller receives £0

2= Individual X and the Seller receive £6

3= Individual X earns £1 and the Seller receives £1.25

4= Individual X earns £0 and the Seller receives £0

5= Individual X earns £6 and the Seller receives £0

Q6. If Individual X chooses "Obtain the product without buying", he/she is detected and has to pay the penalty?

1= Individual X loses £6 and the Seller receives £0

2= Individual X and the Seller receive £6

3= Individual X earns £1 and the Seller receives £1.25

4= Individual X earns £0 and the Seller receives £0

5= Individual X earns £6 and the Seller receives £0

---Screen 3---

Assume that the example provided in the instructions was the situation randomly selected by the computer to determine your earnings:

Q7. How much would your total earnings be in this experiment if your responses match none of the responses most frequently given by other people in this session?

1 = £0

2 = £5

3 = £9

4 = £17

Q8. How much would your total earnings be in this experiment if your responses match one of the response most frequently given by other people in this session?

1 = £0

2 = £5

3 = £9

4 = £17

Q9. How much would your total earnings be in this experiment if your responses match all the responses most frequently given by other people in this session?

1 = £0

2 = £5

3 = £9

4 = £17

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