

**How Much Inequality of Earnings do People
Perceive as Just?
The Effect of Interviewer Presence on
Inequality Preferences**

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DFG Research Center (SFB) “From Heterogeneities to Inequalities”

Whether fat or thin, male or female, young or old – people are different. Alongside their physical features, they also differ in terms of nationality and ethnicity; in their cultural preferences, lifestyles, attitudes, orientations, and philosophies; in their competencies, qualifications, and traits; and in their professions. But how do such heterogeneities lead to social inequalities? What are the social mechanisms that underlie this process? These are the questions pursued by the DFG Research Center (Sonderforschungsbereich (SFB)) “From Heterogeneities to Inequalities” at Bielefeld University, which was approved by the German Research Foundation (DFG) as “SFB 882” on May 25, 2011.

In the social sciences, research on inequality is dispersed across different research fields such as education, the labor market, equality, migration, health, or gender. One goal of the SFB is to integrate these fields, searching for common mechanisms in the emergence of inequality that can be compiled into a typology. More than fifty senior and junior researchers and the Bielefeld University Library are involved in the SFB. Along with sociologists, it brings together scholars from the Bielefeld University faculties of Business Administration and Economics, Educational Science, Health Science, and Law, as well as from the German Institute for Economic Research (DIW) in Berlin and the University of Erlangen-Nuremberg. In addition to carrying out research, the SFB is concerned to nurture new academic talent, and therefore provides doctoral training in its own integrated Research Training Group. A data infrastructure project has also been launched to archive, prepare, and disseminate the data gathered.

Research Project A6 “The Legitimation of Inequalities – Structural Conditions of Justice Attitudes over the Life-span”

This project investigates (a) the conditions under which inequalities are perceived as problems of justice and (b) how embedment in different social contexts influences the formation of attitudes to justice across the life course.

We assume that individuals evaluate inequalities in terms of whether they consider them just, and that they hold particular attitudes toward justice because, and as long as, these help them to attain their fundamental goals and to solve, especially, the problems that arise through cooperation with other people (cooperative relations). As a result, attitudes on justice are not viewed either as rigidly stable orientations across the life span or as “Sunday best beliefs” i.e. short-lived opinions that are adjusted continuously to fit situational interests. Instead, they are regarded as being shaped by the opportunities for learning and making comparisons in different phases of the life course and different social contexts.

The goal of the project is to use longitudinal survey data to explain why individuals have particular notions of justice. The key aspect is taken to be changes in the social context – particularly households, social networks, or workplaces – in which individuals are embedded across their life course. This is because social contexts offer opportunities to make social comparisons and engage in social learning, processes that are decisive in the formation of particular attitudes to justice. The project will test this empirically by setting up a special longitudinal panel in which the same individuals will be interviewed three times over an 11-year period.

The results of the project will permit conclusions to be drawn on the consequences of changes in a society's social and economic structure for its members' ideas about justice. The project therefore supplements the analysis of the mechanisms that produce inequality, which is the focus of SFB 882 as a whole, by looking at subjective evaluations, and it complements that focus by addressing the mechanisms of attitude formation.

Research goals

- (1) Analysis of the conditions in which justice is used as a criterion for evaluating inequalities.
- (2) Explanation of attitudes toward justice as the outcome of comparison and learning processes mediated by the social context.
- (3) Longitudinal observation of the individual development of attitudes to justice over the life course.

Research design

- (1) Continuation and expansion of the longitudinal survey of evaluations of justice conducted by the German Socio-Economic Panel Study (SOEP).
- (2) Commencement of an independent longitudinal panel with ties to the process-generated individual data of the German Institute for Employment Research (IAB) and information on companies and households (the plan is to carry out three survey waves over an 11-year period).

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Abstract

This paper asks how two structural conditions of an interview situation – the presence of the interviewer and the use of incentives – influence the preferences towards inequality. According to goal-framing theory and the findings of empirical justice research, different goal frames are activated in different types of relationships, producing different distributional preferences: A normative goal frame results in a stronger preference for equality in cooperative situations whereas a gain frame favors inequality in competitive situations. We assume the former type of relationship to be established by the presence of an interviewer, and the latter type to be established by incentivizing. Two experimental studies test our hypotheses. The results suggest that generating a collaborative relationship through interviewer presence and cooperation priming leads to a preference for equality in comparison to a neutral, competitive, or exchange situation using competitive priming techniques. The use of incentives generates a clear preference for inequality.

Keywords: justice attitudes, inequality preferences, interviewer presence, incentives, priming techniques, survey methodology

1 Introduction

It is a well-established finding from decades of research on survey methodology that the mode of data collection affects the willingness both to participate in a survey and to provide full, detailed responses to the questions asked. Coverage error, non-response error, and measurement error are the most prominent types of survey errors related to how questionnaires are presented to respondents. Although there are some general findings that allow us to assess what topics, issues, and items are more likely to produce higher rates of survey errors, there is still a lack of theories that inform us accurately about the response behavior to be expected under certain structural conditions in an interview situation. Knowing exactly what kind of response sets are evoked by the structural condition of an interview situation is essential for identifying measurement errors and choosing appropriate adjustment methods. This is particularly important in public opinion and attitude research where aggregate measures are used to draw substantial conclusions on the sentiments and opinions in a society with regard to various political and societal issues. Here, it is not sufficient merely to know that there are some mode effects that influence the results but also necessary to understand how the structural conditions of an interview situation systematically lead to a response set changing the overall picture of how the population of a certain society thinks, for instance, about social inequalities, welfare state issues, etc.

The present paper focuses on two central structural features of an interview situation within large population surveys: the presence of an interviewer and conditional incentivizing. We examine how these two structural conditions affect a certain class of attitudes; preferences for social inequalities, i.e. the justice of the wage distribution in a society. A large number of studies show that each justice norm or justice principle – for example, the principle of equality, equity, or need – is associated with a specific type of social relation (cf. Tyler et al. 1997). The “logic of justice” means that in collaborative relationships goods should be distributed equally, in competitive relationships equitably and in family and kinship relations according to individual need. The resulting problem is well known in behavioral economics: When individuals need to make decisions on the allocation of rewards in various types of decision games, they divide up the money depending on the relationship they have with others in the situation. If individuals have *collaborative* relationships within the experimental setting, they allocate money and other rewards equally; if they are bound together in *competitive* relationships, they prefer unequal allocations. Following the logic of justice, these findings show nothing more than that the kind of relationship an individual has in a decision-making situation is significant for his or her justice preferences. Applying these findings to large-scale

survey research means that justice preferences expressed in these studies should be affected by the kind of relationship respondents share in the situation in which they are completing the questionnaire. Therefore, particularly in justice research, the kind of social relationship established by the interview setting is crucial and it makes a difference whether there is an interviewer present – seeking to establish a collaborative relationship with the respondents – or whether a lone respondent is sitting in front of a computer screen or with a questionnaire at the kitchen table without any personal contact with an interviewer.

However, standard situations in large-scale surveys are not only characterized by the presence or absence of an interviewer; in the light of declining participation rates, more and more population surveys are attempting to increase willingness to participate by offering (monetary or non-monetary) incentives. Research shows that incentives do indeed lead to an increase in participation but they appear to have no effect on data quality (i.e., item non-response, dropouts, etc., Toepoel, 2012). Surprisingly, to our knowledge there is no existing research – that goes beyond the classical issues of non-response or response sets (Görizt, 2004) – on the effects of payment or non-material incentives on response behavior. However, on the basis of the research on the logic of justice, it should not be irrelevant whether respondents are paid for completing a questionnaire or whether they participate voluntarily. In both cases, different social relations are established through the interview setting. The basic idea behind incentivizing is to compensate a respondent for the time he or she spends with an interviewer or takes to complete a self-administered questionnaire. If respondents are paid for their participation, an (economic) exchange situation is established between them and an interviewer or the institution carrying out the survey. According to the logic of justice, the appropriate principle in such a social relation is the equity principle, which is a principle of inequality. In contrast, if respondents participate voluntarily, they cannot expect either monetary or non-monetary compensation for their effort. Instead – in the case of scientific surveys – they collaborate with the interviewer to produce a “public good.” Thus, interview settings without payments resemble the type of relationship where the equality principle seems to be appropriate. The decision to employ incentives in a survey is then also a decision about the social relationship within the interview situation. The central question becomes whether the “priming” by the structural features of an interview situation has any consequence for the justice attitudes expressed by respondents. Following the logic of justice, we would expect preferences for equality under voluntary conditions and more inequality-oriented attitudes to justice under incentivized conditions.

The aim of this paper is to prove these assumptions. It examines whether the two stated characteristics of an interview situation – interviewer presence and incentivizing – affect what respondents regard to be just and fair, or, more precisely, whether a respondent’s preference for an equal or unequal distribution of earnings within a society depends on the fact that an interviewer is present or that he or she receives money for participating in a survey after having completed a self-administered questionnaire. Following Lindenberg’s goal-framing theory (GFT), we explain the dependency of justice preferences on an interview setting using the activation of cognitive frames: We expect the situational context to influence attitudes towards social justice by activating specific (master) frames. In more cooperative settings, induced, for instance, by the presence of an interviewer, a normative frame evokes a sense of equality. In economic exchange situations, induced for example by the use of incentives, the gain frame produces a sense of inequality. We test our assumptions in two experimental settings with undergraduates from a German university.

The paper is organized as follows: First, the logic of justice is introduced on the basis of empirical justice research. Next, we report the findings of behavioral economics on the situational vulnerability of justice behavior. The subsequent section presents the theoretical model based on GFT and the hypotheses on the situational dependency of (in)equality preferences. The methods section describes the experimental design, measurement of variables, and sample issues, and is followed by the presentation and discussion of the findings.

2 Theoretical Background

2.1 The Logic of Justice

What people consider to be just depends on the situational context. Following the pioneering work of Morton Deutsch (1985) and a number of subsequent empirical studies (Tyler, Boeckmann, Smith, & Huo, 1997), each distributive principle has – at least in Western countries – a corresponding social context that determines what people consider to be just. Four distributive principles may be distinguished: equity, equality, need, and desert. While the equity and the desert principle result in an unequal distribution of resources, goods or burdens, principles of equality and need aim at an equal distribution. Furthermore, research suggests there is a link between relational ties and distributive principles: In enduring, close, and collaborative relationships (e.g. work groups, peer groups, and families) the equality principle is generally preferred as the predominant norm to solve distributive problems. In situations of social competition and economic exchange that prohibit deep emotional ties

among actors and are meant to increase personal (material) welfare, an unequal distribution of resources is considered to be just according to individual contributions and personal achievements. Consequently, perceptions of social injustice occur if the type of social relation conflicts with the “appropriate” distributive principle (for instance, if resources in a family are allocated according to the equity principle, i.e., food for affection or performance). In short, research on social justice demonstrates the importance of the relational and structural context for distributional preferences. The question arises whether these relational dependencies help to understand whether and how situational cues in the interview setting affect responses on justice issues. Empirical studies in behavioral economics and social psychology provide useful insights by experimentally testing the influences of situational conditions on attitudes towards and behavior related to the allocation of scarce resources.

2.2 Research on the Situational Conditions of Justice Behavior and Attitudes

Research indicates that the structural conditions of an interview situation – (1) framing with regard to the type of social relationship, (2) anonymity, and (3) incentivizing – have an effect on the orientation towards equality or inequality of respondents. In the following, we report the findings from experimental research and its implications for research on justice attitudes.

(1) Behavior regarding distributional decisions about the allocation of monetary resources in experimental settings illustrates the vulnerability of attitudes towards justice linked to situational conditions. Liberman et al. (2004) framed an iterated prisoner’s dilemma either as the Wall Street Game or as the Community Game, the former inducing a competitive frame and the latter a collaborative frame. Participants in the Community Game were significantly more willing to cooperate with the other participants. Hertel and Fiedler (1994) primed their subjects by using evaluative and emotional priming with positive and negative connotations of cooperation and competition. Unsurprisingly, the positive connotations of cooperation led the participants to cooperate more. Also, it is clear that situational framing in general is effective in altering behavior or attitudes; Hole (2011) tested how priming by using a communication phase on fairness before a one-shot dictator game would influence the decision of dictators in the distribution phase. Participants in the treatment group were asked during this communication phase what they thought might be a fair distribution. There was no communication on fairness in the control group before the dictator game. The offers of the framed subjects were significantly higher than those of the control group. This result was supported by Liebig (2001) with regard to justice attitudes. Subjects who were given a

detailed description of how philosophers understand justice and that justice attitudes must rely on a “moral judgment” to overcome self-interest showed an attitude pattern on the justice of taxes which was less affected by self-interest. In sum, the relational framing of a situation has an effect on the distributional decision-making process. This confirms the hypothesis of the dependency of justice attitudes on the relationship at hand; the logic of justice.

(2) Empirical findings report that anonymity or social relations between participants has an effect on the generosity in dictator games or the amount of investment in public goods games or trust games. Hoffman et al. (1994; 1996) varied the anonymity between participants in a dictator game. The more anonymous the situation was for the dictator, the less he or she was willing to give. Gächter and Fehr (1999) show similar results for investments in a public good game. Communication between participants also led them to invest more in a trust game (Ellingsen & Johannesson, 2004) or to give the receiver a higher amount of money in a dictator game (Xiao & Houser, 2009). Findings were similar when the family names of the players were revealed to the others (Charness & Gneezy, 2008) or the anonymity between subject and experimenter was varied (Bolton & Zwick, 1995).

There is some evidence that it is not only the physical presence of others that affects individual inequality preferences but that simply placing visual cues of eyes on a computer screen alters participant behavior (Bateson, Nettle, & Roberts, 2006; Burnham & Hare, 2007; Haley & Fessler, 2005; Rigdon, Ishii, Watabe, & Kitayama, 2009). In dictator games, images of eyes presented to the dictator lead to higher than average monetary gifts for the receiver (Haley & Fessler, 2005; Rigdon, et al., 2009). Similar results were found by Burnham and Hare (2007) in a public goods game displaying the image of a robot with human eyes on the computer screen. Subjects in the “eyes” condition contributed significantly more (29% more) to the public good than subjects in the control condition (Burnham & Hare, 2007). Bateson et al. (2006) displayed an image of a pair of eyes above an honesty box in a university coffee area and observed that people paid more for their coffee when they were “watched” by eyes than in a control condition with neutral images. Cues of eyes subconsciously activate, brain regions that are responsible for detecting human faces, including gaze and facial expression, and result in a subconscious awareness of “being watched” or “observed.” In summary, an image or even very weak cues of eyes seem to foster behavior that is interpreted as altruistic and equality-oriented.

(3) In survey research, the positive effect of incentives on the willingness to participate is well documented (Toepoel, 2012). Besides this targeted effect, several studies examine the unintended effects of incentives on data quality and response bias. Regarding data quality, no

negative effect of incentives could be found; in fact, the quality often improves (Becker & Mehlkop, 2011; Singer, Van Hoewyk, & Maher, 2000; Toepoel, 2012). However, there are mixed results for response bias. Most studies were not able to confirm incentive effects on responses (Becker & Mehlkop, 2011; James & Bolstein, 1990), but some studies find – at least for some attitudinal measures – significant differences (James & Bolstein, 1990; Singer, et al., 2000).

Yet, there has been no research to date – at least to our knowledge – on the effects of incentives on attitudes towards distributive justice. Nonetheless, in experimental research, incentives affect distributional decision-making processes. Incentives are used in laboratory experiments in two ways: first as a “show up” fee for participants and then as performance-related incentives incorporated into the experimental setting. Regarding the latter, many studies have been conducted to examine the effects on behavior in relation to performance and decisions. As Camerer and Hogarth (1999, p. 9) state, “the overwhelming finding is that increased incentives do not change average behavior substantively although the variance of responses often decreases. When behavior does change, incentives can be interpreted as shifting behavior away from an overly socially-desirable presentation of oneself to a more realistic one: When incentives are low subjects say they would be more risk-inclined and generous than they actually are when incentives are increased.” We can conclude that the results on incentives and response behavior are not homogenous and not significantly related to justice behavior or attitudes.

However, we know little on the use of incentives for survey research on social justice. We can only learn from past research that incentives establish what Peter Blau called an “economic exchange situation,” where the norm of reciprocity regulates the expectations of the actors. Two types of incentives are used in surveys: Unconditional incentives – respondents receive a reward before the interview starts – and conditional incentives with a payment afterwards. According to the literature on gift exchange, payment in advance establishes an exchange relation which is unbalanced on the side of the respondents and the reciprocity norm demands a rebalancing, so respondents who show a strong norm-orientation will feel obliged to participate. On the other hand, the conditional incentives create an economic exchange situation where the respondent has to solve the task in order to obtain the reward (Van Veen, Sattler, & Göritz, 2012).

According to the logic of justice, it will be relevant whether respondents are paid for completing a questionnaire or whether they participate voluntarily. If respondents are paid retrospectively for participation, an economic exchange situation is established between the

respondent and interviewer carrying out the survey, invoking the equity principle which fosters inequality preferences. In contrast, if respondents participate in non-incentivized studies, they collaborate with the interviewer to produce a “public good.” Thus, interview settings without payments or incentives are close to the type of relationship for which the equality principle seems to be appropriate. In short, research suggests that (1) justice attitudes or distributive behaviors are prone to the situational cues of an experimental set-up or an interview setting, (2) justice behaviors and attitudes depend on the fact that there is a social relationship while people formulate their judgments or decide how to behave, and (3) payment or incentivizing may trigger a different perception of the kind of social relationship within an interview setting. These findings can be explained by Lindenberg’s GFT. It (a) clarifies the theoretical link between the situational or relational cues and justice attitudes and (b) helps to formulate specific hypotheses on the situational conditions in which people prefer more or less inequality in society.

2.3 Explaining Justice Attitudes with Goal-Framing Theory

Following the seminal work of Kahneman and Tversky (1984, 2000), the literature on situational framing shows that people pay selective attention to situational cues when they make decisions. They are aware of cues that give them the information needed to pursue their current motivational goal and other information is suppressed. On the other hand, certain situational cues activate specific information and knowledge in the memory. Selective attention and the activation process are governed by a cognitive-motivational process which is called the “framing process.” It includes the mechanism by which motivational goals influence the cognitive processes of an actor and his or her mental models of the given situation. Mental models are particularly relevant in social relationships because a mental model contains information about the prototype of a relationship and its behavioral rules, expectations, and social norms. Therefore, it helps to know what kind of behavior is appropriate or expected of an actor in a specific situation. The actor uses situational cues in order to define what kind of situation or relationship is at hand and to act appropriately and efficiently according to his or her goals.

As part of a general theory of human action (Lindenberg, 1990, 2001, 2006), GFT classifies three types of “master frames”: a normative frame with the goal “to act appropriately,” a gain frame with the goal “to increase one’s resources,” and a hedonic frame with the goal “to feel better” (Lindenberg, 2006). The master frame forms the core motivation for behavior as long as it is in the foreground. There are other goals that influence selective

attention and behavior from the background. GFT also assumes that the three frames have a different strength. The hedonic frame is considered first because it is the strongest due to its closeness to the self and its emotional connection. The gain frame is considered second and the normative frame third. Therefore – because its strength is weakest – the normative frame is most dependent on the support of the other background goals.

The master frame and mental models that are active in a given situation depend on the structural conditions of that situation, a person's cultural knowledge (for example, what rules exist for solving distributional conflicts) and – according to the more general theory of social production functions (Ormel, Lindenberg, Steverink, & Verbrugge, 1999) – the actual level of physical well-being and social approval. We assume that the two structural conditions within an interview or experimental situation, i.e. the presence of an interviewer and the use of incentives, affect which foreground goal frame may be activated. Once a goal frame is activated, it is part of the “cultural” knowledge of an individual to know the “right” mental model for behaving properly. Here, the findings from justice research come into play: The corresponding mental model is the logic of justice where an ideal type of social relation connects with one of the four general justice principles.

In order to derive empirical assumptions on the situational characteristics of an interview situation and the resulting “biases” towards equality or inequality, we must (1) consider what type of social relation is established within an interview situation and (2) ask what kind of expected behavior or attitude is related to this (Lindenberg, 2006). In a non-incentivized population survey, respondents receive no money for participating and they must also bear costs in terms of time and answering cognitively demanding or personal questions; accordingly, people mainly participate in surveys because they feel obliged to do so. Therefore, non-incentivized surveys basically rely on the willingness of the participant to cooperate in order to produce a public good. This collaborative motivation on the side of respondents is reinforced by interviewers as they often try to motivate respondents to participate by asking for “help” or “support.” Under these conditions, GFT assumes that a respondent's goal is to act appropriately and that the normative frame will be active in the foreground. The behavior associated with a normative goal frame is prosocial behavior where a person is prepared to bear costs to benefit others because this is appropriate.¹ According to

¹ Prosocial behavior can also be observed in the gain or hedonic frame, but the motivation is different. In the former frame, people act prosocially when it is an efficient means to increase gain and they do so in the hedonic frame when it feels good.

the logic of justice, the dominant norm of allocating or distributing resources within a collaborative relation is the equality principle. Under the condition of an activated normative goal frame, we expect respondents, when asked to evaluate inequalities, to formulate their judgments in light of the equality principle. Hence, respondents should reveal higher preferences for equality in non-incentivized interview settings. Interviewer presence will enforce this equality orientation as the interviewer tries actively to establish a collaborative relationship; the interviewer will also be perceived as an agency controlling whether or not respondents are acting appropriately. Incentivizing participation in a survey establishes a social relationship where both actors are oriented towards their self-interest. Giving money conditionally for completing the questionnaire establishes a short-term exchange relation; investing time and effort for completing a questionnaire is rewarded with a certain amount of money. Under these conditions, GFT assumes that respondents frame the situation according to their personal gains. Following the logic of justice, the principle required to solve distributional conflicts under these conditions is the equity principle; all players receive according to what they contribute. Therefore, we would expect respondents with an activated gain frame to evaluate inequalities on the basis of the equity principle, which leads to a stronger orientation towards inequality.

Our baseline assumption is that the type of social relationship established in an interview setting determines the activation of a specific cognitive frame that in turn influences the response behavior (here preferences towards inequality). In particular, we assume a cooperative relationship to activate a normative frame that consequently induces preferences for equality; a competitive situation is meant to activate the gain frame that induces preferences for inequality. These relational conditions may cause biases in the response behavior in survey research, especially on attitudes towards social justice. Following our theoretical reasoning, the interview condition will produce different preferences for (in)equality. We expect two situational cues to be of specific importance: (a) the presence of others, for instance, an interviewer, and (b) the use of incentives. In total, four hypotheses are derived from the above theoretical reasoning. First, we expect a correlation between the types of social relations and the preferred distributive principles:

- (H₁) In *collaborative* situations, the equality principle is the predominant justice norm; therefore respondents will prefer a more *equal* distribution of resources.
- (H₂) In *competitive* situations, the equity principle is the predominant justice norm; therefore respondents will prefer a more *unequal* distribution of resources.

Accordingly, we expect the specific interview conditions to influence the response behavior:

- (H₃) In *interviewer-assisted* situations, the *equality* orientation is stronger compared to situations without the presence of an interviewer.
- (H₄) In *incentivized* interview situations, the *inequality* orientation is stronger compared to those that are non-incentivized.

3 Empirical Design

In order to test our hypotheses, we need an adequate research design and an accurate measure of justice preferences. We opted for a laboratory experiment (Study 1) and an experimental survey study (Study 2). The laboratory experiment has several advantages such as allowing us to test the direct effect of a factor on the dependent variable in an artificial situation where other factors are controlled for. Furthermore, the random assignment of subjects to the control or the treatment group ensures that no external traits of the subjects influence the measured effect (Webster & Sell, 2007, p. 12). For our research question, the experiment gives us the opportunity to control the interview situation regarding the presence of other people and the behavior of the interviewer. The second study was an experimental survey study where the design (random assignment) allows for the analysis of the treatments. In both studies, we varied between three experimental conditions: (a) the activation of a specific mindset (cooperation vs. neutrality and cooperation vs. competition) through priming techniques, (b) the presence of another person while a self-administered questionnaire is completed, and (c) the use of incentives for participation. Table 1 provides an overview.

Table 1: Research design of Study 1 and Study 2

Study	Priming	Presence of others	Incentives
1	Cooperation vs. neutral	Experimenter present: yes/no	no treatment: every participant received EUR 10 as a “show-up fee”
2	Cooperation vs. competition	Eyes on screen: yes/no	EUR 5 vs. no incentive

Priming: Two relational cues, “cooperation” and “competition,” are activated subliminally by using the scrambled sentence test as a priming technique. It was originally introduced by Srull and Wyer (1979) and appeared to be the most appropriate technique for our study. Before being presented with the actual questionnaire, respondents were asked to participate in a “cognitive language test” (which we called a “Sprachfertigungsübung”). They had to build logical sentences out of a given number of word sets. We expected to activate a “cooperative” or a “competitive” mindset through the use of specific words associated with the two mindsets initiated. We varied the priming conditions in the two experiments and

tested cooperation priming vs. a neutral control group in Study 1 and cooperation priming vs. competition priming in Study 2.

Presence of others: We measure the influence of the presence of an interviewer on (in)equality orientations using two different experimental set-ups: (a) the presence or absence of another person in the room (simulating interviewer presence or absence) in Study 1, and (b) the placement or not of an image of eyes on the screen of the online questionnaire in Study 2 (cf. Figure A1 in the Appendix). The control group in Study 1 filled out the questionnaire without another person in the room, and in Study 2 the control group completed the questionnaire on a computer screen without any images of eyes.

Incentives: We tested the effect of incentives on (in)equality orientations in Study 2. We randomly selected two groups; the first group was asked to participate in our online survey without any incentive. The second group was offered a payment of EUR 5 for participating in the study which they would receive *after* completing the questionnaire.

Inequality preference: One-item measures of attitudes towards income inequality are problematic since they produce virtually no variation in the responses regarding inequality preferences. Social desirability or the non-specificity of the research question itself are both potential reasons for this. The use of a factorial survey design (Jasso, 2006; Rossi & Anderson, 1982; Wallander, 2009) seems to be advisable since it measures specific preferences towards earnings inequality indirectly by asking respondents to evaluate the justice of earnings on the basis of several descriptions of fictitious employees (vignettes). These multiple evaluations of just earnings can be used to reconstruct the individual inequality preference.

For our study, we used vignettes that describe full-time employees (working 40 hours per week) who differ in ascribed and labor-market-related characteristics and who earn a specific monthly gross income (cf. Table 1A in the Appendix). The selection of these dimensions was based on theoretical considerations grounded in previous studies (Alves, 1982; Jasso & Rossi, 1977; Jasso & Webster, 1997; Sauer, Auspurg, Hinz, & Liebig, 2011; 2009; Struck et al., 2006). The vignettes were presented on a computer screen using the same layout in all experimental settings. The wording was as follows:

<p>A 55-year-old woman with no vocational training has three children and works as a clerk. She works in a company with a stable economic situation. Her performance is above average. Her monthly gross earnings total 1,500 EUR (before tax and other deductions).</p>
--

A sample of 20 vignettes was drawn randomly from the vignette universe and presented to the subjects, meaning that each participant rated exactly the same vignettes.² The evaluation task was to decide whether or not the specific amount of gross earnings was just for the person described in the vignette and if not, what a just amount of gross earnings in local currency (EUR) would be.³ The just earnings provided by the participants were then used to calculate the Gini coefficient. This inequality measure is the outcome variable for all the following analyses.

4 Study 1

Study 1 was designed to test the impact of two experimental conditions on individual preferences for inequality: (1) the effect of cooperation priming and (2) the presence of others on preferences towards (in)equality. The experiment was conducted at a German University during the winter term 2011. The participants were undergraduate students who responded to handouts that were distributed in the university building containing basic information about the study (time, place, duration, and compensation).

The sample consists of 145 undergraduate students. Participants were randomly assigned to the experimental treatments. Table 2 shows the distribution of participants for the different experimental conditions: 65 participants (45%) completed the survey in the presence of another person, while 80 participants (55%) filled out the questionnaire with no other person present in the room; 79 (54%) of all participants were primed on cooperation, while 66 (46%) were given neutral primes.

² In other research designs, it is useful to draw several decks to have ratings of as many vignettes as possible. Furthermore, sophisticated sampling techniques are recommended in order to arrive at efficient estimations of the coefficients (Atzmüller & Steiner, 2010; Dülmer, 2007). This is not necessary in the set-up described because we are investigating differences using different experimental settings.

³ To avoid response heuristics that make it easier to state a preference for the earnings described on the vignette by simply checking a box instead of typing, participants were forced to insert a specific amount of money even when they thought the given earnings were just. In this situation, subjects had to type into the blank field the value that was given on the vignette description. Within the factorial survey literature, this is known as the “direct approach” where respondents use an open scale to insert a value as opposed to the “indirect approach” where respondents do not provide a specific amount of money but evaluate the justice by ratings on a justice scale (sometimes a rating scale but may also be open scales) and, subsequently, the researcher estimates the just earnings by means of individual regression techniques (Jasso, 2006; Jasso & Wegener, 1997). It is discussed in the literature that the direct answers may lead to anchor effects – respondents adjusting their ratings to the income provided on the vignette – but this is unproblematic in this setting because only differences between experimental groups are analyzed.

Table 2: Number of respondents per experimental condition in absolute values

	cooperation-primed group	control group	N
no other person present	44	36	80
other person present	35	30	65
N	79	66	145

Source: "Experiment on the influence of cooperative relationships on justice evaluations."

The experiments were conducted in two labs equipped with a computer screen on a table along with a chair for the participant, and a table and chair for the interviewer. Participants were asked to fill in a questionnaire on issues of social justice, personal background, and other questions used to control for side effects, for example, using a social desirability scale.⁴ On average, participants completed the questionnaire in 35 minutes.

4.1 Measurement

Preferences towards (in)equality were measured by the factorial survey design described in Section 3.

Priming: Participants were asked to construct 20 sentences using 4 of 5 words given to them. The cooperative mindset was activated by the use of words closely tied to "cooperation" such as "together," "help," "cooperation," "fair," "trust," and "sharing." In total, 10 out of 20 sentences (50 percent) included primed wordings. The priming instrument was developed on the basis of previous studies on cooperation priming (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001; Bry, Meyer, Oberlé, & Gherson, 2009; Drouvelis, Metcalfe, & Powdthavee, 2010; Kay & Ross, 2003). The control group received neutral sentences that did not activate a competition-specific cognitive frame.⁵

Presence of others: All participants filled out the questionnaire in a laboratory. Participants who were randomly assigned to the experimental group did so with another person present in the room. They were welcomed by an experimenter⁶ who introduced them to the set-up of the study and stayed in the room while the participant filled out the

⁴ The questionnaire was programmed with a web survey software program (Unipark).

⁵ Four participants reported signs that they were aware of being primed. To avoid contrast effects, we excluded these participants from the analyses. Another respondent was excluded due to missing information on age and sex, so the analysis is based on 140 participants.

⁶ We recruited graduate students from a class on social stratification (Master's level) to work as experimenters (N=14; 50% female/male).

questionnaire. The experimenter was asked to behave quietly without watching the computer screen of the participant, to create a cooperative atmosphere and to hand a show-up fee to the participant after he or she completed the questionnaire. Participants in the control group were shown to the room by the secretary and filled out the questionnaire with no other person present. The participants were paid the show-up fee in cash by the secretary after they completed the questionnaire.

Incentives: All participants received a monetary show-up fee of EUR 10 in cash after completing the questionnaire. As we do not vary incentivizing in this study, we are not able to test the effect of incentives.

Social desirability: To ensure that our results are not biased by social desirability, we used three items of the impression management scale based on the work of Paulhus (1984, 1991) and empirically tested by Winkler et al. (2006).

4.2 Results

Comparing the means of the individual Gini coefficients of participants with and without the presence of an interviewer reveals no significant difference in inequality preferences ($Gini_{w/o} = .29$; $Gini_{w/} = .31$; $t = -1.16$; $p(t) = .25$). The same applies to the priming condition: participants who received a cooperative prime did not deviate significantly in their reports on inequality preferences from those in the neutral priming condition ($Gini_{coop.} = .29$; $Gini_{neutral} = .30$; $t = .37$; $p(t) = .71$). It seems that neither the mere presence of others nor the cognitive priming on cooperation is a sufficient condition for activating a normative goal frame.

To filter the true effect of the two experimental conditions from effects induced by characteristics of respondents and experimenters, we run an ordinary least square (OLS) regression controlling for sex and age of respondents and the interviewer ID (least-square dummy variable method). We conducted separate analyses for participants with and without the presence of an experimenter. This procedure proved to be the most appropriate since the presence or absence of another person did not directly reveal any significant differences in response behavior towards earnings inequalities.

Figure 1 shows the findings of the OLS regression models in which the effects of priming on preferences for inequality are reported for the two conditions (with and without the presence of experimenter). The graph displays the change in the Gini coefficient in percentages (see Table A2 in the Appendix for the regression coefficients).

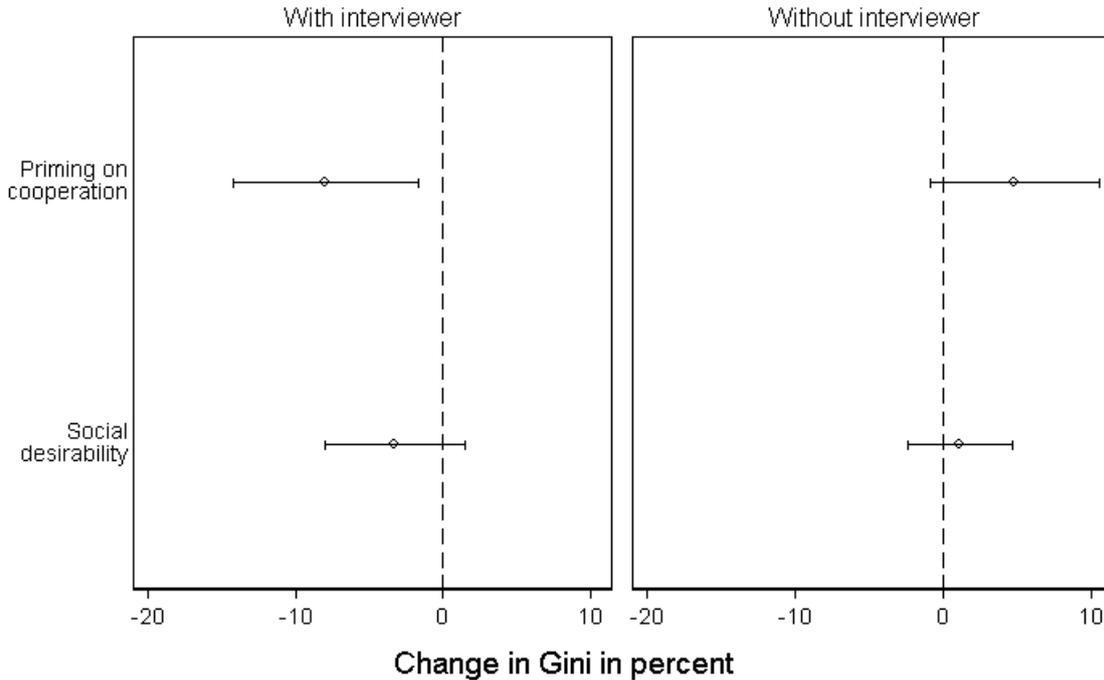


Figure 1: Change in Gini in percent by interviewer presence and non presence. Based on OLS regression coefficients with 90% Confidence intervals. N (with interviewer) = 63; N (without interviewer) = 77
Source: “Experiment on the influence of cooperative relationships on justice evaluations.”

Findings in the left-hand panel show differences in preferences towards inequalities (Gini coefficient) for the experimental setting *with* the experimenter in the room; the right-hand panel shows the differences for the experimental setting *without* the presence of the experimenter.

Presence of another person: The cooperative priming condition reduced preferences for inequality if another person was present. Participants primed on cooperation preferred less inequality (10 percent of the absolute value of the Gini) than did those with neutral mindsets. To control for social desirability biases, the impression management scale was included in the analysis. Findings on social desirability biases show no significant effects.

No other person is present: Participants who completed the questionnaire without another person in the room did not vary in their preferences towards inequality (either by priming or by social desirability).

4.3 Summary

In sum, the results indicate that the combination of the presence of another person in the room while the cooperative frame is activated significantly reduces individual preferences

for inequality. Nevertheless, it is quite unclear why the priming on cooperation has no significant main effect. Following GFT, the single activation of a normative frame should be enough to alter the behavior of individuals. There are at least two possible explanations: (1) the priming was too weak and the difference between the two priming conditions not distinct enough, and (2) since participants knew that they would receive money for completing the interview, it is possible that the gain frame was activated, which conflicts with the cooperative frame. Therefore, we conducted a second study that enabled us to empirically answer the remaining questions on the use of (a) different priming conditions, (b) incentives, and (c) (simulated) presence of others, on preferences towards (in)equality.

5 Study 2

Study 2 was designed as a follow-up study to test the impact of three experimental conditions on individual preferences for inequality: (1) the differing effects of priming (cooperation vs. competition), (2) the presence of others simulated by eyes on the computer screen (eyes vs. no eyes) and (3) the impact of incentives (incentivized vs. voluntary participation) on attitudes towards inequality. The study was conducted during the summer term 2012 at the same German university. The respondents were recruited from an undergraduate course. Students received an email inviting them to participate in an online survey regarding inequality of earnings. Out of 724 who were invited to participate in the study, 210 students completed the questionnaire (response rate: 41%; with incentive and 20% without incentive; see Table 3). All participants were randomly selected; first, they had a 27.6% chance of being selected to the incentive sample; second, all participants had a 50% chance of being selected for the experimental conditions (priming and the presence of eyes on the computer screen).

Table 3: Number of respondents per experimental condition in absolute values

	<u>No incentive</u>		<u>Incentive</u>		N
	no eyes	eyes	no eyes	eyes	
priming on cooperation	32	31	23	19	105
priming on competition	35	31	19	20	105
N	67	62	42	39	210

Source: "Experiment on the influence of interviewer presence and incentivizing on justice evaluations."

5.1 Measurement

Preferences towards (in)equality were measured by the factorial survey design described in Section 3.

Priming for cooperation vs. competition: We induced two different mindsets: cooperation and competition. For this reason, we improved the scrambled sentence test we used in Study 1 by shortening it to 12 sentences and increasing the number of primed words. The 9 “cooperation” primes mostly resemble the words of the first priming condition in Study 1. The 9 “competition” primes were developed on the basis of recent literature (Bargh, et al., 2001; Bry, et al., 2009; Kay & Ross, 2003). Words such as “competition,” “comparison,” “arguing,” “power,” “assertion,” “provocation,” “winning,” and “inconsiderate behavior” were used to induce a competitive mindset. To ensure the comparability of the two experimental conditions, the sentences only differed in the specific priming but not in the structure of the sentences themselves.⁷

Presence of others: We choose to simulate the presence of others by displaying eyes on the computer screen while the respondent answered the questions. We used natural looking eyes in the top right-hand corner of the screen (see Figure A1 in the Appendix). The eyes were not meant to be too prominent since we wanted to induce a feeling of being watched at a subconscious level. Questions on awareness and interpretation of the eyes were asked at the end of the questionnaire. In the control group, participants answered the same questionnaire without seeing eyes on the screen.

Social desirability: Again, we used the three items on social desirability, i.e. impression management (see Winkler, et al., 2006).

5.2 Results

Comparing the means of the individual Gini coefficients of participants with and without the presence of eyes on the computer screen reveals no difference in inequality preferences ($Gini_{w/o} = .28$; $Gini_w = .28$; $t = -.01$; $p(t) = .98$). The priming condition also shows no significant differences in inequality preferences; participants who received a cooperative

⁷ To avoid any contrast effects, we excluded three participants from our analyses who showed signs of awareness that they were being primed and eleven participants due to missing information on just earnings in the vignettes, sex, or age so the analysis is based on 196 respondents.

prime preferred less inequality than participants who received competition priming ($Gini_{coop.} = .27$; $Gini_{comp} = .29$; $t = 1.55$; $p(t) = .12$). The difference between the payment and non-payment condition is significant ($Gini_{nonpay.} = .27$; $Gini_{comp} = .29$; $t = -2.01$; $p(t) = .05$). Whether these results are sensitive to the contextual setting and whether they are biased due to social desirability is tested in the following using OLS regression.

Figure 2 shows the change in the Gini coefficient in percent in relation to the condition where respondents were primed on competition and had no eyes on their screen (see Table A3 in the Appendix for the regression coefficients). Compared to these participants the group of those who were primed on competition and saw eyes on the screen had a significantly lower inequality preference (about 9 %). If eyes were not shown on the screen, respondents primed on cooperation showed a significantly lower inequality preference of about 15% compared to the reference group. However, those participants primed on cooperation and with eyes on the screen showed no significantly lower inequality preference compared to the reference group. Additionally, we found an effect of incentives: Respondents who received an incentive showed a significantly higher preference for inequality compared to those who answered the questionnaire voluntarily. The results show no biases for social desirability.

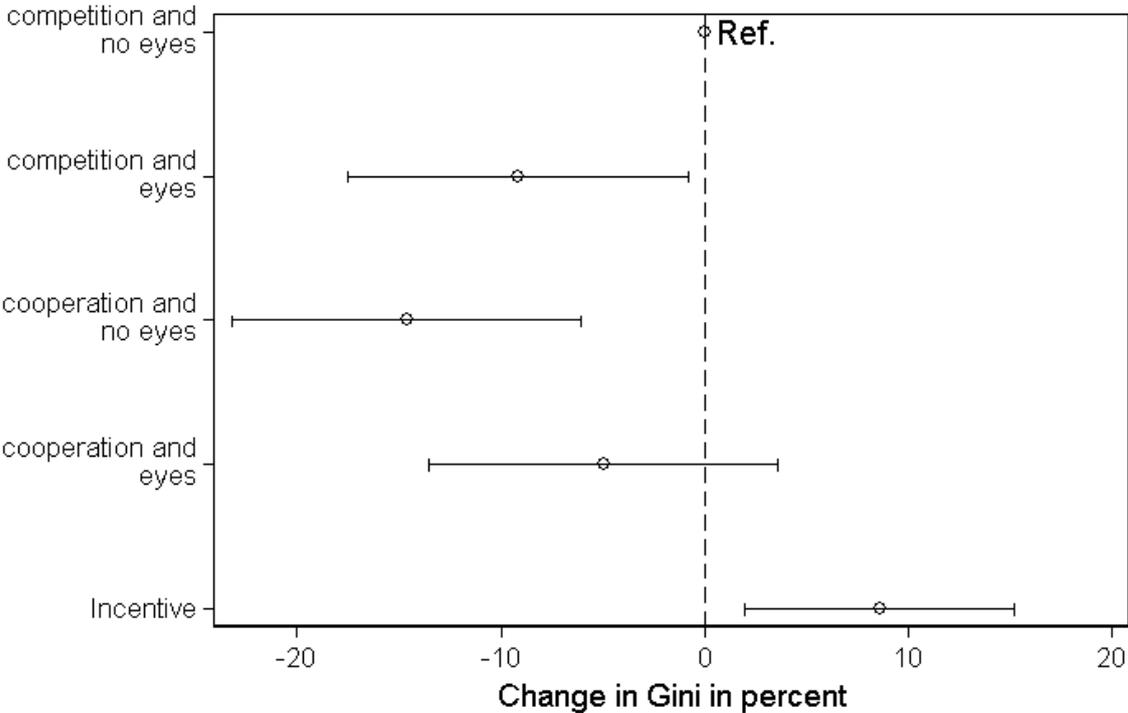


Figure 2: Change in Gini in percent with priming and eyes on screen. Based on OLS regression coefficients with 90% Confidence intervals. N = 196.
 Source: “Experiment on the influence of interviewer presence and incentivizing on justice evaluations.”

5.3 Summary

In sum, the results confirm our hypothesis on relational mindsets: In the no-eyes condition, respondents with cooperation priming prefer more equality than those with competition priming. Furthermore, there is a significant effect of payment, which is in accordance with our hypothesis (H₄). Both hypotheses (H₂, H₄) regarding the activated gain frame can be confirmed. The results regarding the presence of another person in the room, substituted by “eyes on the screen,” are less straight forward. Hence, “being watched” has no effect on people who are already primed on collaborative action (the Gini for those is even bigger, although insignificantly). Our findings for the group primed on competition are, however, in accordance with research results in behavioral economics showing that images of eyes reduce the number of people who act solely in their own self-interest. (Haley & Fessler, 2005; Rigdon, et al., 2009).

We assumed that eyes can be seen as a substitute for interviewer presence and, therefore, expected eyes on the screen to lead to a smaller Gini. The results only show a significant effect of eyes for people who are primed on competition. Presumably, if a person is in a competitive frame, eyes are perceived as situational cues for social control and anticipated sanctions in the event of norm-violating behavior.

6 Discussion

As large-scale population surveys are predominantly based on interviewer-assisted data collection and while incentivizing is becoming a more and more common practice in survey research, this paper investigates whether these structural conditions of interview situations influence individual preferences on income inequality. Following goal-framing theory (GFT) and empirical justice research, the main argument was that in both structural conditions, different types of social relationships are established and either a normative or a gain frame is activated on the respondent’s side. The consequence of the different framing is that respondents apply different distributive principles when they evaluate income inequalities. In the case of a normative framing, the equality principle is dominant and in the case of a gain frame, the equity principle is the strongest. Therefore, it was expected that the presence of another person in the room along with the establishment of a collaborative relationship would influence respondents’ preferences in favor of a more equal distribution of incomes. When they are paid for participating and a competitive relationship is established,

they prefer more unequal distributions. The results from two experiments conducted with students at a German university show that establishing a competitive relationship and incentivizing respondents results in a response bias towards inequality. The results on the interviewer presence are not as straightforward; the combination of interviewer presence and an induced collaborative relationship results in an equality bias. Hence, the mere presence of an interviewer is not sufficient for triggering a normative framing of the interview situation. Using eye cues as a substitute for interviewer presence does not activate equality orientations. In contrast, the results suggest that respondents feel watched or controlled by the stylized eyes on the computer screen, which undermines the perception as a collaborative relationship and the activation of a normative goal frame. The effects of eye cues under the condition of an experimentally induced competitive relationship are in line with our theoretical argument. Here, respondents seem to align their evaluation to what is expected to be the social norm, meaning they prefer a more equal distribution.

Generally, our results show that measures of justice attitudes are affected by situational conditions and cues. Certainly, since we used student samples and the interviewer settings in both experiments were not exactly in line with those used in large population surveys, the results cannot be generalized and simply transferred to the “survey reality.” Our assumptions must be tested under conditions which are closer to survey reality. Nevertheless, we can show that there are design effects which have to be controlled for as they affect the substantive findings of surveys on justice attitudes.

Overall, our results show that population surveys on attitudes towards social inequality or social justice should not rely on one mode of data collection. Each mode is characterized by different structural conditions and produces certain situational cues that affect respondents’ behavior systematically. If our experimental data reflect a general phenomenon of framing and adopting of justice preferences to situational cues, the existing survey data using interviewer-assisted modes may overestimate the equality orientation within a population.

Our results may also be important for the ongoing discussion on whether large-scale population surveys should use incentives to increase willingness to participate. Apart from the question of whether payment really contributes to a better quality of data by increasing the response rates in population surveys, we can show that paying for participation is not only relevant for methodological but also substantive issues. If other respondents behave the same way as our student sample when they are paid for stating their justice preferences, we may end up with a very different picture of the justice preferences within a society. The question

for future research is then what attitudes – those resulting from a normative or from a gain framing – are relevant for political or other types of behavior.

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Appendix

Table A1: Vignette dimensions and their levels used in both experiments

#	Dimensions	Levels
1	age	30/40/50/60 years
2	sex	male/female
3	vocational degree	without degree/vocational degree/university degree
4	occupation	unskilled worker/door(wo)man/engine driver/clerk/hairdresser/social worker/software engineer/electrical engineer/manager/medical doctor
5	gross earnings/month	ten values ranging from EUR500 to 15,000
6	children	no child/1 child/2 children/3 children/4 children
7	performance	below/above average
8	economic situation of the firm	high profits/threatened by bankruptcy/solid

Table A2: Inequality aversion with and without priming by interviewer presence

	with interviewer		without interviewer	
	Model 1	Model 2	Model 3	Model 4
Priming (Ref.: no prime)	-0.035 ⁺ (0.018)	-0.038* (0.018)	0.023 (0.017)	0.025 (0.018)
Social desirability		-0.015 (0.013)		0.006 (0.011)
Constant	0.484** (0.074)	0.473** (0.074)	0.526** (0.052)	0.524** (0.052)
N	63	63	77	77

Standard errors in parentheses, OLS regression coefficients; Model 1 & 2: controlled for interviewer ID; all Models controlled for age and sex of respondents, ⁺ $p < .10$, * $p < .05$, ** $p < .01$

Table A3: OLS regression of the Gini coefficient on competition, control (eyes) and payment

	Model 1		Model 2	
Competition*no eyes	ref.		ref.	
Competition*eyes	-.030 ⁺ (.017)		-.030 ⁺ (.017)	
Cooperation*no eyes	-.046** (.017)		-.048** (.017)	
Cooperation*eyes	-.015 (.017)		-.016 (.017)	
Social desirability (metric)	-.007 (.007)		-.008 (.007)	
Payment (Ref.: no pay)			.028** (.013)	
Constant	.331** (.036)		.327** (.036)	
N	196		196	

Standard errors in parentheses; OLS regression coefficients; controlled for sex and age;
⁺ $p < .10$, * $p < .05$, ** $p < .01$

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