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Self-Administered Interviews**

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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).

Research objectives and interests

This project examines the social mechanisms in work organizations and private life that influence fathers' participation in the family. It aims to analyze the reciprocal impact of work organizations and employees on the realization of personal and professional life goals. The project focuses on the question of how heterogeneities among the members of an organization result in social inequalities with respect to their capabilities at work and in family life. It asks what role is played in this process by "old" and "new" lines of differentiation; how the underlying, gendered norms of availability and expectations of compatibility between work and family life are constructed; and the extent to which processes of the production of inequality reinforce or attenuate each other within the various fields of action.

The project works with a model of social inequality that analyzes the unequal distribution of opportunities for participation in the various areas of life; it is oriented on Amartya Sen's "capability" approach.

Levels of analysis

On the organizational level, the project investigates how life conduct and the compatibility of family and career are discussed, which models and forms of legitimation acquire relevance, and how heterogeneity among the organization's members influences their capabilities at work and in family life. The analysis looks at micropolitical negotiation processes within work organizations and the role of the actors participating in these, along with the ways that the life conduct of fathers is influenced by the framing conditions of the workplace and its organizational culture. The social construction of expectations of compatibility and norms of availability is examined in the context of organizational cultures and gender norms.

On the level of private life, processes of negotiation within the couple relationship are analyzed in terms of their impact on the compatibility of work and parenthood for fathers. Relevant aspects here are patterns in the intrafamilial division of labor; the economic, social, and cultural resources of the partners; time budgets; and gendered models of parenthood and employment. In addition, individual life choices and cultural models may influence capabilities at work and in the family, as may individuals' evaluation of their own capacity to act, their life skills, and the expectations of compatibility they place on work organizations.

Project design

In its first phase, the project is designed as a qualitative study, carrying out parallel case studies in selected companies. The case studies address the respective work organizations and their structural and cultural features, as the context for the investigation of fathers' life conduct, orientations, and strategies and the negotiation processes within the couple. The analysis of the organizational context deploys document analyses, expert interviews, and observation. For the analysis of individual life conduct and couple negotiation processes, the project will carry out problem-centered interviews with fathers and their partners, group discussions with fathers, and interviews with mothers in the company being studied.

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Inequality Preferences in Interviewer- and Self-Administered Interviews ¹

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Abstract:

Large-scale population surveys predominantly rely on interviewer-assisted data collection. Furthermore, the use of incentives is becoming common practice in survey research to increase response rates. The focus of the present paper is on how these two structural conditions of an interview situation influence the stated preferences for a more or less equal income distribution in society. According to goal-framing theory (GFT) and the findings of empirical justice research, different goal frames are activated in different types of relationships leading to different distributional preferences: a normative goal frame results in a stronger preference for equality in cooperative situations and a gain frame favors inequality in competitive situations. The assumption is that the former type of relationship is established by the presence of an interviewer, the latter by incentivizing in a survey. Two experimental studies were designed to 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 or incentives.

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

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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 to know that there are some mode effects that influence the results but 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 have 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 to 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, there is no existing research – to our knowledge – on the effects of payment or non-material incentives on response behavior which goes beyond the classical issues of non-response or response sets (Göriz 2004). 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 by 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 consequences 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 as just and fair, or, more precisely, if 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 by 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, the findings of behavioral economics on the situational vulnerability of justice behavior and attitudes are reported. The third 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, followed by the presentation and discussion of the findings.

2 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 et al. 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 accord-

ing 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.

3 Research on the Situational Conditions of Justice Behavior and Attitudes

Research indicates that the structural conditions of an interview situation – framing with regard to the type of social relationship, anonymity, and incentivizing – have an effect on the orientation towards equality or inequality of respondents. The relational framing and the degree of anonymity are considered as situational cues also present in an interview situation with an interviewer. The perceived anonymity of the respondent is, for example, reduced in the interview situation by interviewer presence and interaction. In this section, we report research findings on the effects of situational framing and anonymity in experimental research, the use of incentives in survey research, and its implications for research on distributive justice.

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, positive connotations of cooperation led the participants to cooperate more. Also, 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.

Furthermore, 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 and Johannesson 2004) or to give the receiver a higher amount of money in a dicta-

tor game (Xiao and Houser 2009). Findings were similar when the family names of the players were revealed to the others (Charness and Gneezy 2008) or the anonymity between subject and experimenter was varied (Bolton and Zwick 1995).

Moreover, 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 (Burnham and Hare 2007; Haley and Fessler 2005; Rigdon et al. 2009; Bateson et al. 2006). In dictator games, images of eyes presented to the dictator lead to higher than average monetary gifts for the receiver (Haley and 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 and Hare 2007: 98). Bateson et al. (2006) displayed an image of a pair of eyes above an honesty box in a university coffee room and observed that people paid more when they were “watched” by eyes than in a control condition with neutral images. Cues of eyes activate, subconsciously, 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 prosocial or altruistic.

Finally, 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, it often improves (Toepoel 2012; Becker and Mehlkop 2011: 8; Singer et al. 2000). However, there are mixed results for response bias. Most studies were not able to confirm incentive effects on responses (James and Bolstein 1990: 348; Becker and Mehlkop 2011: 19), but some studies find – at least for some attitudinal measures – significant differences (Singer et al. 2000; James and Bolstein 1990: 346). Yet, there has been no research to date – at least to our knowledge – on the effects of incentives on normative attitudes as distributional 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 in 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) 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-preferring and generous than they actually are when incentives are increased.” (Camerer and Hogarth 1999: 8). 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 et al. 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 goal-framing theory (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.

4 Explaining Justice Attitudes by 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 is using 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 2006, 1990, 2001), 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: 34-35). 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, the normative frame is most dependent on the support of other background goals because its strength is the weakest.

The master frame and mental model that is 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 produc-

tion functions (Ormel et al. 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 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.² According to 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 inter-

² 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 in the hedonic frame when it feels good.

view 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, respondents select the equality principle, expressed in the preference for a more *equal* distribution of resources.
- (H₂) In *competitive* situations, respondents use the equity principle, expressed in the preference for 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.

5 Empirical Design

In order to test our hypotheses, we need an accurate measurement of inequality preferences and an adequate empirical method. 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 assures that no external traits of the subjects influence the measured effect (Webster/Sell 2007: 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 experimental 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: Research design of Study 1 and Study 2

Study	Priming	Presence of others	Incentives
1	Cooperation vs. neutral	Interviewer present: yes/no	no treatment: everyone receives 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 groups filled out the questionnaire with no other person in the room in Study 1 or on a computer screen with no images of eyes in Study 2.

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 about inequality preferences. Social desirability or the non-specificity of the research question itself are potential reasons for this. The use of a factorial survey design (Jasso 2006; Rossi and 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 on previous studies (Alves and Rossi 1978; Alves 1982; Jasso and Webster 1997; Jasso and Rossi 1977; Jasso and Webster 1999; Sauer et al. 2011; Sauer et al. 2009; Struck et al. 2006). The vignettes were presented on a computer screen using the same layout in all experimental settings. Figure 1 shows an example of a vignette text.

Figure 1: Example of a vignette

A 55-year-old women 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 over average. Her monthly gross earnings total 1,500 EUR (before tax and other deductions).

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.³ 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.⁴ The just earnings provided by the participants were then used to calculate

³ 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 and Steiner 2010; Dülmer 2007). This is not necessary in the set-up described because we are investigating differences using different experimental settings.

⁴ 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

the Gini coefficient. This inequality measure is the outcome variable for all the following analyses.

5.1 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 semester of 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.⁵ 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.

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

Priming Interviewer presence	Cooperation (experimental group)	Neutrality (control group)	N
Other person/interviewer: present	35	30	65 (45%)
Other person/interviewer: absent	44	36	80 (55%)
N	79 (54%)	66 (46%)	145 (100%)

Source: “Experiment on the influence of cooperative relationships on justice evaluations.” Own calculations. DOI: [10.4119/UNIBI/SFB882.2012.1](https://doi.org/10.4119/UNIBI/SFB882.2012.1)

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. On average, participants completed the questionnaire in 35 minutes.

5.1.1 Measurement

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

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 sen-

earnings by means of individual regression techniques (Jasso 2006; Jasso and Wegener 1997). It is discussed in the literature that the direct answers may lead to anchor effects – respondents orienting their ratings to the income provided on the vignette – but this is unproblematic in this setting because only differences between experimental groups are analyzed.

⁵ The questionnaire was programmed with a web survey software program (Unipark).

tences (50 percent) included primed wordings. The priming instrument was developed on the basis of previous studies on cooperation priming (Bargh et al. 2001; Bry et al. 2009; Drouvelis et al. 2010; Kay and Ross 2003). The control group received neutral sentences that did not activate a competition-specific cognitive frame.⁶

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. Participants in the experimental group were welcomed by an experimenter⁷ who introduced them to the set-up of the study and stayed in the room while the participant filled out the 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 by the secretary after they completed the questionnaire.

Incentives: All participants received a monetary show-up fee of EUR 10 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).

5.1.2 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 ($Gini_{w/o} = .28$; $Gini_{w/} = .29$; $t = -1.20$; $p(t) = .23$). 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 ($Gini_{coop.} = .29$; $Gini_{neutral} = .30$; $t = 0.58$; $p(T>t) = .28$). 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 the effects induced by the laboratory settings (two labs) and/or characteristics of the interviewer, we decided to run a mixed-effects multi-level regression analysis controlling for contextual influences.⁸ We conducted separate analyses for participants with and without the presence of another person in the room. This procedure proved to be the most appropriate since the presence or absence of a third person did not directly reveal any significant differences in response behavior towards earnings inequalities.

Figure 2 shows the findings of a multi-level regression analysis in which the effects of priming on preferences for inequality are reported for the two conditions (with and without the

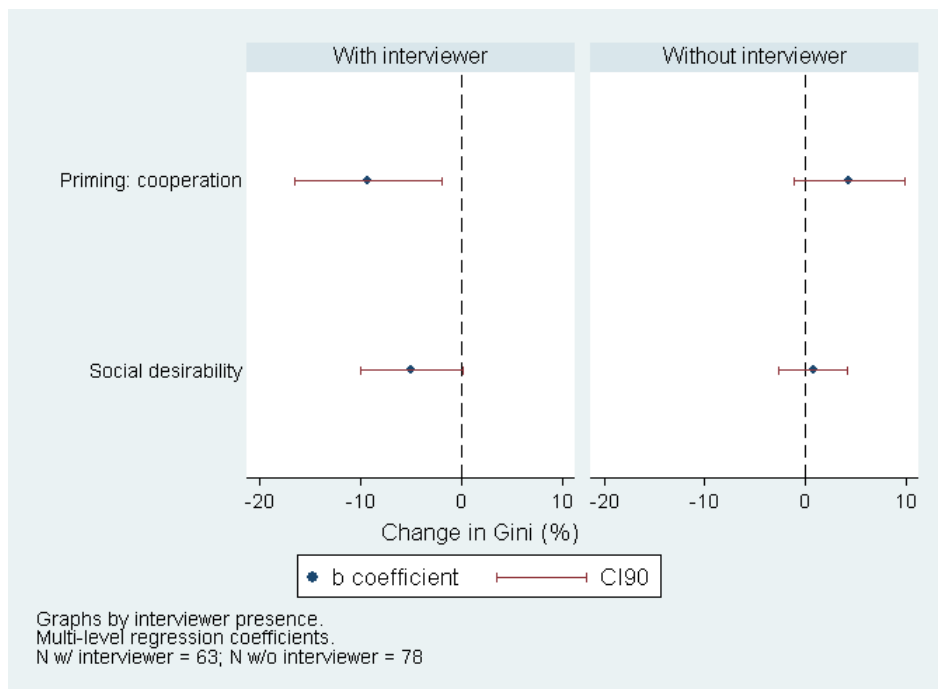
⁶ Four participants reported signs that they were aware of being primed. To avoid contrast effects, we excluded these participants from the analyses.

⁷ We recruited graduate students from a class on social stratification (Master's level) to work as experimenters (N=14; 50% female/male).

⁸ The use of multi-level models is advisable to control for differences in the study set-up. We controlled for influences of (a) the laboratory and (b) the experimenter.

presence of the interviewer). The graph displays the change in the Gini coefficient in percentages (see Table A2 in the Appendix for the regression coefficients).

Figure 2: Change in Gini in percent by interviewer presence



Source: “Experiment on the influence of cooperative relationships on justice evaluations.” Own calculations. DOI: [10.4119/UNIBI/SFB882.2012.1](https://doi.org/10.4119/UNIBI/SFB882.2012.1)

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 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 that participants with high scores also prefer less inequality which is about six percent lower, compared to those without this tendency.

No other person is present: Participants who completed the questionnaire without another person in the room did not vary in their preferences towards inequality (neither by priming nor by social desirability). The findings support the explanations of social desirability that state a bias only in situations with other people present who provide social approval and, thus, satisfy social needs (Stocké 2004; Esser 1991).

5.1.3 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. (2) Since participants knew that they would receive money for completing the interview, it is possible that the gain frame is 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.

5.2 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 semester of 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 the inequality of earnings. Out of 724 who were invited to participate in the study, 210 students completed the questionnaire (response rate: 41%; with incentive; 20% without incentive). All participants were randomly selected: first, they had a 27.6% percent chance of being selected to the incentive sample; second, all participants had a 50 percent chance of being selected for the experimental conditions (priming and the presence of eyes on the computer screen).

Table 2: Number of respondents per experimental condition

	No incentive		Incentive		N
	No eyes	Eyes	No eyes	Eyes	
Priming on cooperation	32	31	23	19	105 (50%)
Priming on competition	35	31	19	20	105 (50%)
N	67 (32%)	62 (29%)	42 (20%)	39 (19%)	210 ⁹

Source: "Experiment on the influence of interviewer presence and incentivizing on justice evaluations." Own calculations. [DOI: 10.4119/UNIBI/SFB882.2012.2](https://doi.org/10.4119/UNIBI/SFB882.2012.2)

5.2.1 Measurement

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

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 (Kay and Ross 2003; Bargh et al. 2001; Bry et al. 2009). Words such as "competition," "comparison," "arguing," "power," "assertion," "provocation," "winning," and "inconsiderate behavior" were used to induce a com-

⁹ For our analysis we excluded three participants because of their awareness of being primed. 9 cases were dropped due to item non-response.

petitive 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 sentence itself.¹⁰

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).

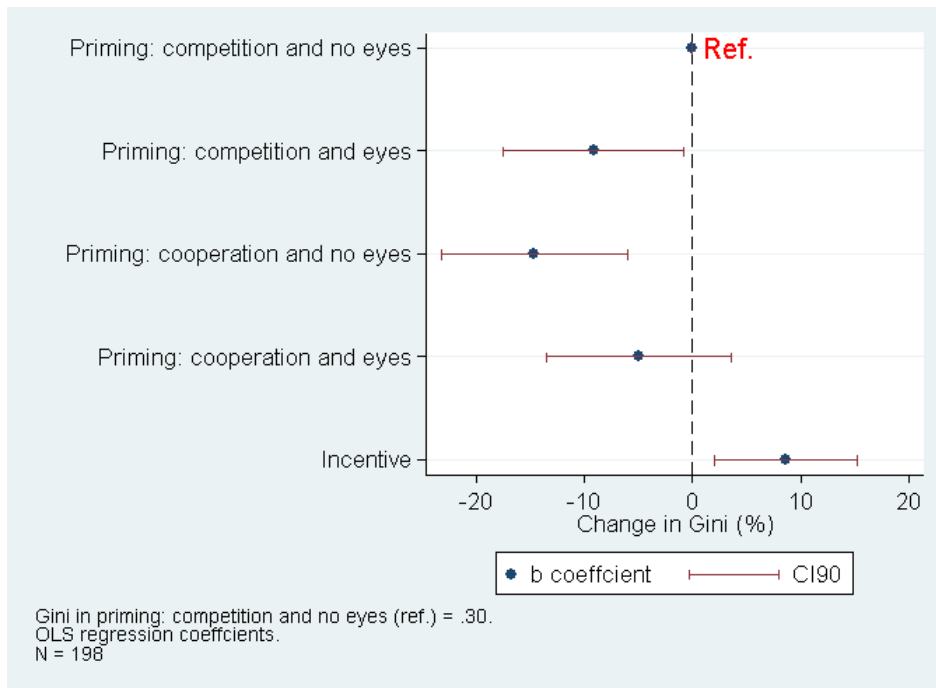
5.2.2 Results

Comparing the means of the individual Gini coefficients of participants with and without the presence of eyes on the computer screen reveals no significant difference in inequality preferences ($Gini_{w/o} = .28$; $Gini_w = .28$; $t = -0.0932$; $p(t) = 0.93$). In contrast, the priming condition shows significant differences in inequality preferences (at the 10% significance level): participants who received a cooperative prime preferred less inequality than participants who received competition priming ($Gini_{coop.} = .27$; $Gini_{comp} = .29$; $t = 1.06$; $p(T>t) = 0.055$). Whether these results are sensitive to characteristics of the participants (sex, age) and/or the contextual setting and whether they are biased due to social desirability is tested in the subsequent section.

We estimated ordinary least square regression models with the rated individual Gini of each respondent as a dependent variable. Figure 3 shows the change in the Gini coefficient in percent in relation to the condition where respondents were primed on competition and no eyes on their screen (see Table A3 in the Appendix for the regression coefficients). The results are highly sensitive to whether eyes were shown on the screen or not. When eyes were placed on the screen, the priming and the incentives did not show any effect on inequality preferences. If eyes were not shown on the screen, respondents primed on cooperation showed a significantly lower inequality preference of about 15 percent compared to those primed for competition. 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.

¹⁰ To avoid any contrast effects, we excluded three participants from our analyses who showed signs of awareness that they were being primed.

Figure 3: Change in Gini in percent with priming and eyes on screen



Source: “Experiment on the influence of interviewer presence and incentivizing on justice evaluations.” Own calculations. [DOI: 10.4119/UNIBI/SFB882.2012.2](https://doi.org/10.4119/UNIBI/SFB882.2012.2)

We also tested for the absolute effect of “eyes on the screen.” 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.

5.2.3 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. Rather, “being watched” by eyes cancels out the cooperation priming as well as the payment effect and may be interpreted as a counter effect. Our findings are, however, in accordance with research results in behavioral economics showing that the main effect of images of eyes is to reduce the size of the group of people who act solely in their own self-interest. Images of eyes have no effect on the group of people who are already acting in a prosocial way (Haley and Fessler 2005; Rigdon et al. 2009).

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. 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 undergraduate 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 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.

7 Literature

- Alves, W. M. (1982). Modeling distributive justice judgments. In P. H. Rossi, & S. L. Nock (Eds.), *Measuring social judgments. The factorial survey approach*. Beverly Hills: Sage.
- Alves, W. M., & Rossi, P. (1978). Who should get what? Fairness judgments of the distribution of earnings. *American Journal of Sociology*, *84*(3), 541-564.
- Atzmüller, C., & Steiner, P. M. (2010). Experimental Vignette Studies in Survey Research. *Methodology*, *6*(3), 128-138.
- Bargh, J. A., & Chartrand, T. L. (2000). The mind in the middle: A practical guide to priming and automaticity research. In H. T. Reis, & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 253-285). New York: Cambridge University Press.
- Bargh, J. A., Gollwitzer, P. M., Lee-Chai, A., Barndollar, K., & Trötschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology*, *81*, 1014–1027.
- Bateson, M., Nettle, D., & Roberts, G. (2006). Cues of being watched enhance cooperation in a real-world setting. *Biology Letters*, *2*(3), 412-414.
- Beck, M., & Opp, K.-D. (2001). Der faktorielle Survey und die Messung von Normen. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, *53*, 283-306.
- Becker, R., & Mehlkop, G. (2011). Effects of Prepaid Monetary Incentives on Mail Survey Response Rates and on Self-reporting about Delinquency - Empirical findings. *Bulletin of Sociological Methodology/Bulletin de Méthodologie Sociologique*, *111*(1), 5-25.
- Bolton, G. E., & Zwick, R. (1995). Anonymity versus punishment in ultimatum bargaining. *Games and Economic Behavior*, *10*(1), 95-121.
- Bry, C., Meyer, T., Oberlé, D., & Gherson, T. (2009). Effect of Priming Cooperation or Individualism on a Collective and Interdependent Task: Changeover Speed in the 4 × 100-meter Relay Race. *Journal of Sport and Exercise Psychology*, *31*, 380-389.
- Burnham, T., & Hare, B. (2007). Engineering Human Cooperation. *Human Nature*, *18*(2), 88-108.
- Camerer, C. F., & Hogarth, R. M. (1999). The Effects of Financial Incentives in Experiments: A Review and Capital-Labor-Production Framework. *Journal of Risk and Uncertainty*, *19*(1), 7-42.
- Charness, G., & Gneezy, U. (2008). What's in a name? Anonymity and social distance in dictator and ultimatum games. *Journal of Economic Behavior & Organization*, *68*(1), 29-35.
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O. L. H., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, *86*(3), 425-445.
- Deutsch, M. (1985). *Distributive justice: A social-psychological perspective*. New Haven: Yale University Press.
- Douglas, M. (1982). *In the Active Voice*. London: Routledge & Kegan Paul.
- Drouvelis, M., Metcalfe, R., & Powdthavee, N. (2010). Priming Cooperation in Social Dilemma Games. *IZA Discussion Paper No. 4963*, 1-39.

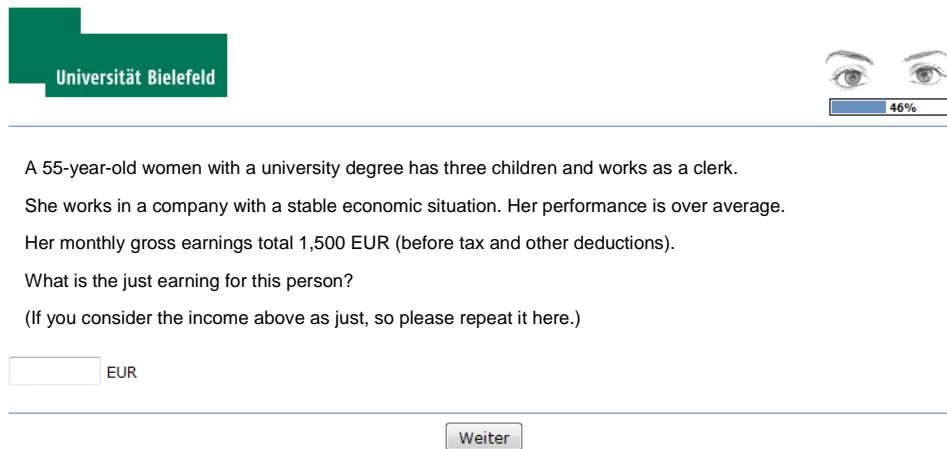
- Dülmer, H. (2007). Experimental Plans in Factorial Surveys: Random or Quota Design? *Sociological Methods Research*, 35, 382-409.
- Ellingsen, T., & Johannesson, M. (2004). Promises, threats and fairness. *The Economic Journal*, 114(495), 397-420.
- Esser, H. (1991). Die Erklärung systematischer Fehler in Interviews: Befragtenverhalten als „rational choice“. In R. Wittenberg (Ed.), *Person - Situation - Institution - Kultur. Günter Büschges zum 65. Geburtstag* (pp. 59-78). Berlin: Duncker & Humblot.
- Fiske, A. P. (1992). The four elementary forms of sociality. Framework for a unified theory of social relations. *Psychological Review*, 99(4), 689-723.
- Fiske, A. P. (2004). Relational Models Theory 2.0. In N. Haslam (Ed.), *Relational Models Theory. A Contemporary Overview* (pp. 3-25). Mahwah: Lawrence Erlbaum.
- Gächter, S., & Fehr, E. (1999). Collective action as a social exchange. *Journal of Economic Behavior & Organization*, 39(4), 341-369.
- Glasser, G. J. (1962). Variance formulas for the mean difference and coefficient of concentration. *Journal of the American Statistical Association*, 57, 648-654.
- Göritz, A. S. (2004). The impact of material incentives on response quantity, response quality, sample composition, survey outcome and cost in online access panels. *International Journal of Market Research*, 46(3), 327-346.
- Haley, K. J., & Fessler, D. M. T. (2005). Nobody's watching?: Subtle cues affect generosity in an anonymous economic game. *Evolution and Human Behavior*, 26(3), 245-256.
- Hertel, G., & Fiedler, K. (1994). Affective and cognitive influences in social dilemma game. *European Journal of Social Psychology*, 24(1), 131-145.
- Hoffman, E., McCabe, K., Shachat, K., & Smith, V. (1994). Preferences, property rights, and anonymity in bargaining games. *Games and Economic Behavior*, 7(3), 346-380.
- Hoffman, E., McCabe, K., & Vernon, L. S. (1996). Social Distance and Other-Regarding Behavior in Dictator Games. *The American Economic Review*, 86(3), 653-660.
- Hole, A. D. (2011). Communication and fair distribution. *Rationality and Society*, 23(2), 234-264.
- James, J. M., & Bolstein, R. (1990). The Effect of Monetary Incentives and Follow-Up Mailings on the Response Rate and Response Quality in Mail Surveys. *Public Opinion Quarterly*, 54(3), 346-361.
- Jasso, G. (2006). Factorial Survey Methods for Studying Beliefs and Judgments. *Sociological Methods & Research*, 34, 334-423.
- Jasso, G., & Rossi, P. H. (1977). Distributive justice and earned income. *American Sociological Review*, 42(4), 639-651.
- Jasso, G., & Webster, M. J. (1997). Double standards in just earnings for male and female workers. *Social Psychology Quarterly*, 60(1), 66-78.
- Jasso, G., & Webster, M. J. (1999). Assessing the gender gap in just earnings and its underlying mechanisms. *Social Psychology Quarterly*, 62(4), 367-380.
- Jasso, G., & Wegener, B. (1997). Methods for empirical justice analysis: Part 1. Framework, Models, and Quantities. *Social Justice Research*, 10, 393-430.
- Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American Psychologist*, 39(4), 341-350.

- Kahneman, D., & Tversky, A. (Eds.). (2000). *Choices, values and frames*. New York: Cambridge University Press.
- Kay, A. C., & Ross, L. (2003). The perceptual push: The interplay of implicit cues and explicit situational construals on behavioral intentions in the Prisoner's dilemma. *Journal of Experimental Social Psychology*, 39, 634–643.
- Liberman, V., Samuels, S. M., & Ross, L. (2004). The Name of the Game: Predictive Power of Reputations versus Situational Labels in Determining Prisoner's Dilemma Game Moves. *Personality and Social Psychology Bulletin*, 30(9), 1175-1185.
- Liebig, S. (2001). Lessons from Philosophy? Interdisciplinary Justice Research and Two Classes of Justice Judgments. *Social Justice Research*, 14(3), 265-287.
- Liebig, S., & Lengfeld, H. (2002). Arbeit, Organisation und moralische Überzeugungen. Eine Grid-Group-Theorie der Gerechtigkeit in Unternehmen. *Soziale Welt*, 53(2), 115-140.
- Lindenberg, S. (1990). Homo socio-oeconomicus: The emergence of a general model of man in the social sciences. *Journal of Institutional and Theoretical Economics (JITE)/Zeitschrift für die gesamte Staatswissenschaft*, 146(4), 727-748.
- Lindenberg, S. (2001). Social Rationality versus Rational Egoism. In J. H. Turner (Ed.), *Handbook of Sociological Theory* (pp. 635-668, Handbooks of Sociology and Social Research). New York: Springer.
- Lindenberg, S. (2006). Prosocial Behavior, Solidarity, and Framing Processes. In D. Fetchenhauer, A. Flache, B. Buunk & S. Lindenberg (Eds.), *Solidarity and Prosocial Behavior. An Integration of Sociological and Psychological Perspectives* (pp. 23-44). New York: Springer.
- Ormel, J., Lindenberg, S., Steverink, N., & Verbrugge, L. M. (1999). Subjective well-being and social production functions. *Social Indicators Research*, 46(1), 61-90.
- Paulhus, D. L. (1984). Two-component models of socially desirable responding. *Journal of Personality and Social Psychology*, 46(3), 598-609.
- Paulhus, D. L. (1991). Measurement and control of response bias. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 17-59, Measures of social psychological attitudes, Vol. 1.). San Diego, CA, US: Academic Press.
- Rigdon, M., Ishii, K., Watabe, M., & Kitayama, S. (2009). Minimal social cues in the dictator game. *Journal of Economic Psychology*, 30(3), 358-367.
- Rossi, P., & Anderson, B. (1982). *The Factorial Survey Approach: An Introduction*. Beverly Hills: Sage.
- Sauer, C., Auspurg, K., Hinz, T., & Liebig, S. (2011). The Application of Factorial Surveys in General Population Samples: The Effects of Respondent Age and Education on Response Times and Response Consistency. *Survey Research Methods*, 5(3), 89-102.
- Sauer, C., Liebig, S., Auspurg, K., Hinz, T., Donaubaue, A., & Schupp, J. (2009). A Factorial Survey on the Justice of Earnings within the SOEP-Pretest 2008. IZA Discussion Paper: 4663.
- Singer, E., Van Hoewyk, J., & Maher, M. P. (2000). Experiments with Incentives in Telephone Surveys. *Public Opinion Quarterly*, 64(2), 171-188.

- Strull, T. K., & Wyer, R. S. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. *Journal of Personality and Social Psychology*, *37*, 1660–1672.
- Stocké, V. (2004). Entstehungsbedingungen von Antwortverzerrungen durch soziale Erwünschtheit. Ein Vergleich der Prognosen der Rational-Choice Theorie und des Modells der Frame-Selektion. *Zeitschrift für Soziologie*, *33*(4), 303-320.
- Struck, O., Stephan, G., Köhler, C., Klause, A., Pfeifer, C., & Sohr, T. (Eds.). (2006). *Arbeit und Gerechtigkeit: Entlassungen und Lohnkürzungen im Urteil der Bevölkerung*. Wiesbaden: VS Verlag.
- Toepoel, V. (2012). Effects of Incentives in Surveys. In L. Gideon (Ed.), *Handbook of Survey Methodology for the Social Sciences* (pp. 209-223). New York: Springer.
- Tyler, T. R., Boeckmann, R. J., Smith, H. J., & Huo, Y. J. (1997). *Social justice in a diverse society*. Boulder, CO, US: Westview Press.
- Wallander, L. (2009). 25 years of factorial surveys in sociology: A review. *Social Science Research*, *38*, 505-520.
- Wegener, B., & Liebig, S. (1995). Hierarchical and social closure conceptions of distributive social justice: A comparison of East and West Germany. In J. R. Kluegel, D. S. Mason, & B. Wegener (Eds.), *Social Justice and Political Change: Public Opinion in Capitalist and Post-communist States* (pp. 263-284). New York: Aldine De Gruyter.
- Wegener, B., & Liebig, S. (2000). Is the “Inner Wall” Here to Stay? Justice Ideologies in Unified Germany. [Article]. *Social Justice Research*, *13*(2), 177-197.
- Winkler, N., Kroh, M., & Spiess, M. (2006). Entwicklung einer deutschen Kurzsкала zur zweidimensionalen Messung von sozialer Erwünschtheit. *Discussion Papers of DIW Berlin*: DIW Berlin, German Institute for Economic Research.
- Xiao, E., & Houser, D. (2009). Avoiding the sharp tongue: Anticipated written messages promote fair economic exchange. *Journal of Economic Psychology*, *30*(3), 393-404.
- Yaish, M., & Anderson, R. (2010). Social class and economic inequality: attitudes toward income inequality in 20 capitalist societies. *University of Toronto*.

8 Appendix

Figure A1: Screenshot of eye condition in Study 2



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46%

A 55-year-old women with a university degree has three children and works as a clerk.
 She works in a company with a stable economic situation. Her performance is over average.
 Her monthly gross earnings total 1,500 EUR (before tax and other deductions).
 What is the just earning for this person?
 (If you consider the income above as just, so please repeat it here.)

EUR

Weiter

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 EUR 500 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/stable

Table A2: Inequality aversion with and without priming by interviewer presence (Study 1)

	(1) with interviewer	(2) with interviewer	(3) without interviewer	(4) without interviewer
Priming	-0.031* (0.017)	-0.035** (0.017)	0.008 (0.019)	0.011 (0.019)
Social desirability		-0.020* (0.011)		0.006 (0.012)
N	63	63	78	78

* p<.05 ** p<.01 (one-tailed t-tests), Multi-level regression models (based on a maximum likelihood estimator). Models 1 and 2: random intercepts of lab & interviewer; Models 3 and 4: random intercept lab. Controlled for sex and age.

Source: “Experiment on the influence of cooperative relationships on justice evaluations.” Own calculations. DOI: [10.4119/UNIBI/SFB882.2012.1](https://doi.org/10.4119/UNIBI/SFB882.2012.1)

Table A3: OLS regression of the Gini on competition, control (eyes) and payment (Study 2)

	(1) Gini		(2) Gini	
Competition*no eyes	ref.		ref.	
Competition*eyes	-.0297* (.0172)		-.0300* (.0171)	
Cooperation*no eyes	-.0458** (.0174)		-.0478** (.0172)	
Cooperation*eyes	-.0153 (.0175)		-.0162 (.0173)	
Soc. des.	-.0074 (.0076)		-.0080 (.0076)	
Payment [1 = yes]			.0281** (.0126)	
N	198		198	

* p<.05 ** p<.01 (one-tailed t-tests); Standard errors in parentheses. OLS regression models. Controlled for sex and age.

Source: “Experiment on the influence of interviewer presence and incentivizing on justice evaluations.” Own calculations. DOI: [10.4119/UNIBI/SFB882.2012.2](https://doi.org/10.4119/UNIBI/SFB882.2012.2)

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