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### Agency and structure

*The role of individual social values and material interests in changing contribution rules to, and benefits from, a collective good*

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## CHAPTER 4

# WHO PAYS FOR EQUALITY? EXAMINING INDIVIDUAL ATTEMPTS TO CHANGE UNEQUAL ALLOCATION OF BENEFITS

### ABSTRACT

In this chapter we examine experimentally whether individuals who contribute to a team collective initiate a change from an unequal to an equal allocation of benefits. We study this in two distinct public goods environments, one where a rule mandates a low level of contribution, and one where it demands a high level of contribution. In each of these two environments the individual benefits from the team collective differ, leading to high earners and low earners within a team. In our analyses we consider the influence of the position of individuals on the income ladder, as well as the influence of individual social value orientation, on attempts to change the unequal allocation of benefits. We do not find evidence that the environment, determined by the contribution rules, directly influences an attempt to change an unequal allocation of benefits. We do find, however, that low earners are more likely than high earners to attempt to change an unequal allocation of benefits to an equal allocation when individual team members are unable to contribute in proportion to their expected benefits from the team's collective. Because the contribution rules allow or instead constrain proportional contributions, the environmental influence is thus indirect. We also find that a change attempt towards greater equality is more likely to be initiated by prosocial than by proself individuals; however their attempt is independent from the possibility to contribute proportionally. This is possibly due to the aversion of prosocial individuals towards both unequal allocations and contributions. Last, we investigate the likelihood of an *actual* change from inequality to equality of the allocation of benefits by varying the decision-making structure across these environments. We observe that an actual change to an equal allocation of benefits does happen, and that it is facilitated by a majority decision-making structure when the majority consists of low earners.

## 4.1. INTRODUCTION

The income gap between ‘average workers’ and their CEOs features prominently in the public discourse. Less attention is given to *intragroup* income inequality, meaning the monetary spread within teams of ‘the average workers’ themselves. Research has noted that unequal distribution of the benefits of cooperation can result from the simultaneous use of standard and non-standard employment, which is a common practice within companies (Bonache 2004; Kalleberg 2000; Klein 1999). In this chapter we consider this type of benefit inequality, where an unequal allocation of benefits from the team collective (i.e., the public good) results in ‘high earners’ and ‘low earners’ within teams.

Individuals experience distress when inequality exists (Deutsch 1975; Folger and Konovsky 1989; Lerner and Lerner 2013; Runciman 1966). Moreover, most individuals perceive this as inequity and are motivated to repair it (Adams 1965; Bolton and Ockenfels 2006; Cook and Hegtvedt 1983; Fehr and Schmidt 1999). Inequity exists for an individual whenever such person perceives that “the ratio of ‘outcomes’ to ‘input’ and the ratio of relevant other persons’ outcomes to their inputs are unequal” (Adams 1965:280). To restore inequity, the ratio of outcome to input must be changed. Different forms of behavior can restore equity, for example by adjusting contributions towards the team collective (Cook and Hegtvedt 1983; Reuben and Riedl 2013), or by changing the compensation scheme itself, i.e., change the unequal allocation of benefits. The former is considered reactive behavior, by individuals who want to avoid the stressful state associated with inequity, while the latter is proactive behavior aimed at obtaining equal outcomes (Van Avermaet, McClintock, and Moskowitz 1978). The question we aim to answer is whether and under what conditions individual team members attempt to do the latter, i.e., attempt to change an unequal allocation of benefits to an equal allocation.

The adjustment of contributions argument holds that individuals within a team will contribute proportionally to their expected benefits from the team productivity (Reuben and Riedl 2013). They contribute according to their position on the income ladder (Pritchard, Dunnette, and Gorgenson 1972), with low earners slowing their pace of work (Adams 1965) while high earners do the opposite (Fellner et al. 2010; Fisher et al. 1995; Tan 2008). This does not change the inequality itself; it simply removes the immediate need for changing the unequal allocation of benefits (Adams 1965).

Proportional contribution can moreover be constrained by the formal rules and social norms that govern team interactions. Because of our focus on the

allocation of benefits from cooperation within a team<sup>33</sup>, the rules and norms that affect cooperation are of particular interest to our study. Rules can vary depending on the formally enforced level of individual contributions to the team collective (i.e., high versus low mandatory contributions) (Sewell 1998). A rule mandating a high level of contribution will lead to greater cooperation and higher collective benefits (Barber and Simmering 2002), but it also constrains the leeway to adjust one's personal contribution. A more lenient rule, on the other hand, allows for more free-riding as it formally mandates a low contribution (Ledyard 1995); however, it has the benefit of greater autonomy to adjust individual contributions (Tyler and Lind 1992).

At the same time, social norms likewise structure behavior by enforcing it informally (Ostrom 2005). A social norm refers to a person's perception of what behavior is appropriate in a specific situation, or 'the expected behavior, specifying how one ought to behave' (Interis 2011). Relevant to our topic are the norms which informally enforce contributions to a team collective. These norms promote cooperation because deviations from the appropriate level of contributions to the team collective are subject to peer punishment (i.e., by team members) (Fehr and Fischbacher 2004; Herrmann, Thöni, and Gächter 2008; Van Miltenburg et al. 2014). When such a norm prescribes contributions that are independent from earnings, equal contributions by all team members are informally enforced, regardless of whether team members are low or high earners (Reuben and Riedl 2013). In this case, both low earners who slow their pace of work and high earners who accelerate their pace of work are likely to be punished, or to experience social pressure to conform their behavior, by team members who wish to adhere to the norm (Fehr and Gächter 1999; Tan 2008).

As with rules, norms which prescribe contributions that are independent from earnings can therefore constrain proportional contribution to the team collective, making the repair of inequity by this route difficult. In this chapter we investigate whether the alternative, namely an attempt to change the compensation scheme itself, then becomes more likely. In this study we thus consider the influence of rules (i.e., high versus low level of mandatory contribution) and norms (i.e., socially acceptable contribution level) on an individual attempt to change an unequal allocation of benefits.

What are the underlying individual motives for an attempt to change an unequal allocation? If only material motives matter to individuals, low earners in the team – who benefit less from the team collective – would most likely initiate a change. We thus look at how individual benefits from the team collective (i.e., being a high or a low earner in the team) might influence an attempt to

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<sup>33</sup> A contribution rule prescribes the individual contributions towards a group. Cooperation is the general term for cooperation through contributions to a team collective.

change an unequal to an equal allocation of benefits. We do, however, know from prior research that individuals value not only their own outcomes, but also the outcomes of others (McClintock and Liebrand 1988). Because a person's social value orientation determines how much weight that person assigns to the outcomes of others, we also focus on how prosocial and proself social value orientations (i.e., non-material motives) influence attempts to change an unequal allocation of benefits.

Finally, the actual change of an unequal allocation of benefits may depend on the decision-making structure that regulates the degree to which team members participate in decision making. Studies on redistributive policy choices, for instance, report that the type of decision-making structure determines the chance of successful implementation of income equality policies (Scharpf 1989). To capture the effect of the decision-making structure on the actual change of an unequal allocation of benefits, we consider two opposing types: a majority decision-making structure and a dictator decision-making structure.

We designed a laboratory experiment in which we test whether and how material and non-material motives underlie attempts to change an unequal allocation of benefits, while taking account of the rules and norms that enforce contribution levels to a collective good. We vary the decision-making structure and examine the actual change of the unequal allocation of benefits. Furthermore, we elicit inequality by implementing an unequal allocation of benefits, and we measure the social values of individuals and the social norm in a controlled environment.

## **4.2. ATTEMPTS TO CHANGE AN UNEQUAL ALLOCATION OF BENEFITS**

### **4.2.1. The rules and norms constrain proportional contributions**

As mentioned above, the immediate need for changing an unequal allocation of benefits is taken away when team members are able to contribute proportionally to their expected benefits from the team collective (Adams 1965). To start, the rules on mandatory contribution levels to the team collective determine whether individual team members are able to do this. A rule of a high contribution level formally mandates that each individual must make a high contribution to the team's collective good. By enforcing a high contribution from all members, contributions cannot be adjusted downward (i.e., lower the contributions). This means that individuals are not able to contribute proportional to the team collective and the motivation to restore equity thus remains intact.

When the rule requires a low contribution level, an individual will have more leeway to contribute proportionally because the formal control allows

both lower and higher contributions. Nevertheless, even when a rule mandates a low contribution, the freedom to contribute proportionally can be informally constrained by an existing norm of what one ought to contribute to the team collective. When the norm prescribes non-equitable contributions, low and high earners are expected to contribute to the team collective regardless of the allocation of benefits from it (Martin and Sell 1986). If everyone in the team conforms to this norm,<sup>34</sup> proportional contributions will not take place and, again, equity will be not restored.

When the motivation to restore equity remains, an attempt to change an unequal to an equal allocation of benefits is more likely. We thus propose that this is the case when the proportional adjustment of individual contributions to the team collective does not take place. This can either be due to a rule enforcing high contributions thereby constraining proportional contributions, or due to compliance by individuals with a norm which prescribes non-equitable contributions when the rule in place requires low levels of contribution.<sup>35</sup>

*Hypothesis 1:* An individual attempt to change an unequal to an equal allocation of benefits is more likely when proportional contributions to a collective good do not take place, either because they are constrained by a rule demanding high contributions or by conformity to a non-equitable norm.

We have to consider the possibility that, even though individuals prefer to comply with a norm (Bicchieri and Mercier 2014), they do not always do so, as evidenced by considerable research (see Packer 2008:51 for an overview; Van Kleef et al. 2015). Because norms are implicit and “offer considerable scope for skill, choice, interpretation and manipulation” (Elster 1989:100), both low and high earners could be encouraged by distributive justice considerations (Konow 2003) to ignore a non-equitable contribution norm. When the rule allows for it, high earners may increase their contributions, while low earners decrease theirs. Our experimental set-up allows us to measure whether team members contribute proportional to their expected benefits from the team’s collective. When proportional contributions take place, it follows from our arguments above that the immediate need for changing an unequal allocation of benefits is taken away.

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<sup>34</sup> Conforming to a norm does not automatically imply (individual) agreement with the norm.

Conforming may be due to considerations for the collective, or to avoid negative social sanctions and to receive positive ones (Dequech 2013; Elster 1994).

<sup>35</sup> Another possibility is that when an equitable contribution norm exists, individuals are already expected to contribute proportionally to their benefits from the team’s collective good (Reuben and Riedl 2013). We argue that in such a case, an attempt to change the unequal allocation of benefits is thus less likely.

#### 4.2.2. The role of individual (non)material motives

When the motivation to restore equity remains, as implied by Hypothesis 1, a subsequent challenge to the status quo of the unequal allocation of benefits may nonetheless have consequences for the individual attempting the challenge. For one thing, an attempt for a change towards an equal allocation may involve (non) material costs, for instance organizational sanctions such as a reprimand or a fine (Morrison 2006). However, assuming that people are self-interested (see Miller 1999 for a discussion), direct maximization of individual benefits can motivate low earners in the team to initiate a change from an unequal to an equal allocation of benefits. If such a change implies an increase of benefits for them, this gain can compensate for the (non)material costs. Martin and Sell (1986), for example, observed that low earners are willing to rebel against a rule if the result is beneficial to them. From the self-interest assumption it also follows that high earners within a team have no motivation to seek a change as they would incur the costs of the attempt, but without any added material benefits.

An additional argument for a change attempt by low earners can be made if we consider the possibility that the change would also imply a decrease of the benefits of high earners. Low earners might not only be willing to pay the costs of restoring equality but also attempt to change the unequal allocation in order to 'punish' the high earners ((Dawes et al. 2007). Complementing Hypothesis 1, we hypothesize that:

*Hypothesis 2:* When proportional contributions to a collective good do not take place, low earners are more likely than high earners to attempt a change from an unequal to an equal allocation of benefits.

Individuals not only value their own self-interest, they also value the outcomes of others (McClintock and Liebrand 1988). An individual's social value orientation determines how much weight someone assigns to the outcomes of others; while the enhancement of own outcomes comes foremost in a proself value orientation, a prosocial value orientation emphasizes equality in outcomes (Eek and Gärling 2008). In addition to material motives, social values thus also frequently influence behavior (Tao and Au 2014); individuals with different social value orientations react differently when confronted with a cooperative situation where the distribution of outcomes is unequal. Numerous studies show that, compared to proselfs, prosocials cooperate more, and value equality of outcomes more than the maximization of outcomes (see e.g., De Cremer and Van Lange 2001; Eek and Gärling 2008; McClintock and Liebrand 1988; Van Avermaet et al. 1978; Van Lange 1999).

Because the main concern of proself individuals is to look after their personal self-interest, then in line with the arguments provided above, proself low earners can enhance their outcomes by attempting to change the unequal allocation into an equal one. Proself high earners, on the other hand, maximize their earnings by not challenging the status quo. This means that the material motives of proself low and high earners are in line with their value orientations. Accordingly the same can be expected as in Hypothesis 2.

The integrative model of social value orientation (Van Lange 1999) argues that the inequality aversion of prosocials encompasses both equality of *outcomes* and equality of *contributions* to a collective good (Stouten et al. 2005). Research shows evidence for both preferences. For instance, (i) in interdependent situations prosocials prefer an equal outcome allocation (Eek and Gärling 2008), and (ii) prosocials reciprocate the higher or lower contributions of their team members, thus ensuring equal contributions (De Cremer and Van Lange 2001; Stouten et al. 2005).

This implies first of all that prosocial individuals will be averse to an unequal allocation because of the unequal beneficial outcomes that results from this. Research shows that prosocials are willing to act upon this value. For instance, they forestalled on maximization of both their own outcome and the joint outcome in favor of an equally distributed outcome (Eek and Gärling 2008). Furthermore, in Chapter 3 we showed that prosocials are less willing to change a rule when this results in a greater income gap, despite the circumstance that this would also lead to a high contribution level. We thus expect that, in the case of ensuring equality of benefits from the team collective for all team members, prosocials are willing to incur costs and attempt a change, independent from their interests in providing the team collective, i.e., of whether they are high or low earners.

A second implication is that because prosocials are also averse to unequal contributions, they should be averse to proportional contributions, as these are by definition unequal. While proportional contributions may restore equity (Cook and Hegtvedt 1983), taking away the immediate need to attempt a change, for prosocials these unequal contributions constitute an added problem. Not only is the unequal allocation of benefits itself not resolved, it is now accompanied by the inequality of contributions. The potential consequence of this is that an attempt by prosocials to change an unequal allocation of benefits does not depend on proportional contributions being constrained or taking place, as theorized above.

Combining both arguments, we thus propose firstly that it is more likely that prosocials, compared to proselfs, will attempt to change an unequal allocation of benefits. Taking into account that the inequality aversion of prosocials encompasses both the equality of outcomes and that of contributions, we also



propose that this attempt is not conditional on proportional contributions. We hypothesize that:

*Hypothesis 3:* Independent from proportional contributions, prosocial individuals are more likely than prosocial individuals to attempt to change an unequal allocation of benefits to an equal allocation.

### **4.3. THE INFLUENCE OF THE DECISION-MAKING STRUCTURE ON AN ACTUAL CHANGE**

Finally, we direct our attention to the possibility of an actual change from an unequal to an equal allocation of benefits. We maintain that the first premise of an actual change is an attempt to change, which makes the individual proposition of an equal allocation of benefits known to the team members. Subsequently, the procedures by which a group of organized individuals arrive at a collective decision regarding this proposition come into play (Jacob 2015; Walker et al. 2000). We thus consider the influence of the decision-making structure on the actual change to an equal allocation of benefits after a change attempt.

Hierarchical and majority decision-making structures are common within public and private sector organizations (Scharpf 1989). A hierarchical decision-making structure implies that the power to decide lies in the hands of one individual, i.e., the dictator. With such a structure in place, the decision-maker can disregard attempts to change unequal allocations, both when a majority or a minority of team members would be supportive of a change towards equal allocations. Under a majority decision-making structure, on the other hand, the team can disregard attempts to change an unequal allocation of benefits only when a minority supports the change (Scharpf 1989). Hence, we propose that an actual change from an unequal to an equal allocation of benefits will be more likely under a majority decision-making structure than under a dictator decision-making structure.

However, given our expectations regarding individual motivations as formulated above, we expect that this effect will depend on those motivations. More specifically, it depends on the social values, and the benefits from the team collective (i.e., being a high or low earner), of the individuals making up the majority within the team. If this majority consists of low earners or prosocial individuals – who, as we hypothesized earlier, are more likely to initiate a change attempt – then also a majority decision towards a change of the unequal allocation of benefits will be more likely. This is because the majority will have aligned preferences that oppose those of the minority (Straffin 1977). We hypothesize that:

*Hypothesis 4:* An actual change from an unequal to an equal allocation of benefits is more likely under a majority decision-making structure when the majority consists of either low earners or prosocials.

## 4.4. METHOD

### 4.4.1. Research Design

The core of our experiment<sup>36</sup> consists of two consecutive 10-round public goods games (PGG1 and PGG2) (e.g., Fehr and Gächter 1999) that were presented as a team project. A public goods game is particularly suited for our purpose because the individual contribution to a team collective is mirrored by the voluntary contribution mechanism to elicit contributions to a public good (Croson 1995). Before the first PGG, we measured the participants' willingness to take risks<sup>37</sup>, their social value orientation (Van Lange et al. 1997), and their beliefs about the social norm of the PGG, and we provided feedback on the prevalent norm<sup>38</sup>. We provide details on all measures below.<sup>39</sup> After PGG1 and before PGG2, participants had the possibility to attempt to change the unequal allocation of benefits.

We mimicked the ongoing interactions in a team by letting individuals cooperate for ten rounds during both PGGs in the same teams of five persons each, to which they were randomly assigned.<sup>40</sup> Every participant received an equal endowment of 10 points each round, for which they had to decide how much to contribute to their team collective and how much they would keep for themselves. In each of the ten rounds of PGG1 and PGG2, the total contribution to the team collective was made public to the members, whereas individual contributions were not visible to other team members.

We used a 2 x 2 x 2 between subject design. The first treatment that participants were randomly assigned to was the *Contribution rule*. Either a rule mandating a low level of contribution or a rule mandating a high level

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<sup>36</sup> The experiment was programmed and conducted with z-Tree software (Fischbacher 2007).

<sup>37</sup> Because an individual's willingness to take risks may positively influence the likelihood of organizational rule breaking (Morrison 2006), we asked the participants: "How willing are you to take risks in general?" The answers were recorded on an 11-point Likert scale ranging from 0 (not at all) to 10 (very much) (Dohmen et al. 2011). As with gender and age, we use this variable as a control variable.

<sup>38</sup> For a detailed description of how the social norm was measured, see Chapter 2.

<sup>39</sup> We also measured the participants' emotions to examine the influence of guilt on institutional change. Because this research is the focus of future research, we do not report on it here.

<sup>40</sup> According to meta-analysis, ten rounds is a common number of periods applied in a PGG (see Table 1 in Zelmer 2003). Participants in experimental studies are able to cooperate during these rounds, even if they know that a PGG is finite (Andreoni 1988).

of contribution to the team's collective was implemented, as discussed in our theoretical section. We enforced a minimal amount of contribution with the rule mandating a low level of contribution, and we did not enforce full contributions with the rule demanding a high level of contribution. This does justice to the fact that in organizational environments the formalized control (i.e., bureaucratic control, (Sewell 1998)) is either at least somewhat present (low contribution level rule) but this control is not total (high contribution level rule). More specifically, in both PGG1 and PGG2 one of the two following rules applied: (i) *Rule 2*, where a minimum contribution of two points (out of ten possible points) was mandatory in each round; and (ii) *Rule 8*, where a minimum contribution of eight points (out of ten possible points) was mandatory in each round. These rules were strictly enforced by the experimenters; participants were unable to contribute less than the treatment called for.

For PGG1, participants were randomly assigned to one of two roles with different benefits from the team collective, defined as heterogeneous payoffs (Reuben and Riedl 2013). We thus created low and high earners by implementing a different marginal per capita return (MPCR) for each type, which relates to different personal benefits from a public good. This differentiation of earnings was known to all five team members, whereas the individual income was private information. Making the allocation of benefits common knowledge allows for richer reciprocal interactions (Tan 2008). In each round in PGG1, the individual earning from the team project was either  $(10 \text{ points} - \text{points contributed to the team project}) + 0.3 * (\text{total team contribution})$ , or  $(10 \text{ points} - \text{points contributed to the team project}) + 0.5 * (\text{total team contribution})$ . This *Unequal allocation of benefits* in PGG1 constitutes our second treatment.

Immediately after participating in PGG1 all participants were given the option to change the unequal allocation of benefits before a second public goods game (PGG2) would start. At a cost, each individual could initiate this call to vote to replace the unequal with the equal allocation of benefits. Consequently, in each team of five persons there could be zero to five calls to vote. The initiation of a vote costed 10 points for each member calling it, thereby ensuring that expressing a dissenting view (i.e., an attempt to change) actually reflected the possible costs in real world scenarios of attempting to change an unequal allocation. The equal allocation entailed that all team members would receive the same benefit in PGG2, i.e., an equal marginal per capita return (MPCR) for all team members. Individual earnings from the team project would then be  $(10 \text{ points} - \text{points contributed to the team project}) + 0.4 * (\text{total team contribution})$  for all. If no one called for a vote, the unequal allocation of benefits that was in place during PGG1 would also apply to PGG2. Voting took place if at least one team member called for a vote, without disclosure of the number of team members who called for a vote.

We varied the voting procedure; some teams of participants were randomly assigned to a majority decision-making structure, whereas others were randomly assigned to a dictator decision-making structure. This variation is our third experimental treatment, namely the *Decision-making structure*. A majority decision-making structure makes it possible to change an unequal to an equal allocation of benefits when those voting in favor of change constitute the majority (three out of five).<sup>41</sup> A dictator decision-making structure, on the other hand, requires the support (i.e., vote) of only one of the team members to realize the actual change. Such a team member (i.e., the dictator) was randomly appointed in our experiment, and this information was known to the participants.

#### 4.4.2. Participants and procedure

The main experiment was conducted in September 2015 at the CREED Laboratory of the University of Amsterdam. Participants were recruited from the CREED student participant pool consisting of approximately 2,000 individuals. All Dutch-speaking students received an invitation to sign up, and participation was on a first-come, first-serve basis. A total of 225 individuals (136 men and 89 women,  $M_{\text{age}} = 22.39$ ,  $SD = 3.01$ ) participated in one of the ten sessions of the experiment. No participant took part in more than one session. A session lasted approximately sixty minutes.

The same protocol was in place during all sessions. Upon arrival, participants were randomly seated at separate computer cubicles. Participants completed the risk measure and were randomly and anonymously paired for the social value measure. Following this, they participated in the social norm measure and received feedback on the prevalent norm. Next they were randomly assigned to a team of five for the first PGG (anonymous matching) and remained in this team for the second PGG. Participants were unaware during PGG1 that a second game would follow. They were informed that the experimental session consisted of multiple tasks and rounds.

All participants received the same general instructions<sup>42</sup> during the experiment; before they could proceed, they had to indicate that they understood these instructions. The instructions regarding the mandatory minimum contribution in each round of PGG1 and PGG2 and the voting procedure after PGG1 varied depending on our treatments *Contribution rule* and *Decision-making structure*. In PGG1, participants were given the corresponding instructions to being a high or a low earner, whereas in PGG2 the allocation of benefits depended

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<sup>41</sup> To avoid ties, each team consisted of five team members. Having five members in each team allowed us to form two types of heterogeneous teams, with a majority of either high earners or low earners (Brañas-Garza et al. 2016).

<sup>42</sup> See Appendix C for a version translated into English.

on the result of the voting procedure (provided that an attempt to change the unequal allocation of benefits took place). Each session concluded with a short questionnaire on the participants' socio-demographic characteristics. They were then thanked for their participation. The experimenter called each participant separately to the back of the room to receive payment, without disclosing this to other participants.

### *Payoffs*

Earnings in the experiment were in 'points' and were exchanged for euros at a rate of 1 euro per 100 points; payoffs were based on their decisions on several tasks. First, one of their decisions for the social value orientation measure was chosen randomly for payment. Second, they received a bonus for providing the modal answer to the norm measure. Finally, participants received the points that they earned during PGG1 and PGG2 (points kept for themselves, plus returns from the team collective), and they lost points if they attempted to change the unequal allocation, i.e., asked for a call to vote. Participants were paid in cash privately at the end of each session; they earned on average €21.79, including a €7 show-up fee.

## **4.4.3. Measures**

### **4.4.3.1. Measures for attempt to change an unequal allocation of benefits**

#### *Social values*

We assessed the participants' social value orientations using the most commonly used technique, namely the Triple Dominance Measure (TDM) (Van Lange et al. 1997), which correlates reliably with behavior (Eek and Gärling 2008). This measure consists of nine items, each containing three distinct outcome distributions with points for oneself and an anonymous paired other person.<sup>43</sup> Each outcome distribution represents a specific social value orientation. Consider for example the first of the nine options, the choice between alternatives A, B, and C in Figure 4.1.

*Figure 4.1. Item 1 of the Triple Dominance Measure capturing participants' social value orientations*

	A	B	C
You get	480	540	480
The other gets	80	280	480

<sup>43</sup> We used anonymous RING matching, such that for participant 1 'the other' is participant 2, for 2 it is 3, and so forth. For the last participant 'the other' is participant 1.

Option A represents the competitive orientation, maximizing the difference between own outcomes and the other's outcomes; option B represents the self-interested orientation, maximizing own outcomes; and option C represents the prosocial orientation, which provides an equal distribution of outcomes (Van den Bergh et al. 2006). The triple-dominance measure categorizes individuals into one of three categories (prosocial, self-interested, or competitive) if at least six out of nine choices can be consistently attributed to one of these motives; otherwise they are uncategorized.

In line with earlier research (Eek and Gärling 2008), we combined the self-interested and competitive categories into a single category ('proselfs'). This decision is based on the idea that both self-interested and competitive participants seek to enhance their own outcomes, either in an absolute sense (self-interested) or in a relative or comparative sense (competitive) (Van Lange et al. 1997). This way, we had proself and prosocial categories as well as a group of participants who are uncategorized. Following, we categorized participants in this last group as proself if they had made at least six choices consistent with either self-interested or competitive motivations (thus making six consistent choices for the combined category).

Concurrent with earlier research (Stouten et al. 2005), participants who remain uncategorized are not considered in our analyses. Of the 225 participants, 21 could not be categorized as either proself or prosocial. Of the remaining 204 participants, 133 (65%) had a proself value orientation and 71 (35%) had a prosocial value orientation (125 men and 79 women,  $M_{\text{age}} = 22.40$ ,  $SD = 3.07$ ).

#### *Low versus high earners*

As mentioned above, we created an unequal allocation of benefits by varying the marginal per capita return (MPCR), thereby introducing high and low earners within each team. The variable *earner type* indicates whether participants are high earners (received benefits from the public good equal to  $0.5 \times$  team contribution) or low earners (received benefits from the public good equal to  $0.3 \times$  team contribution).

#### *Contribution norm*

Our norm measure captures two important features of a social norm: one pertains to what is considered socially appropriate, while the other addresses the social consensus through a coordination game (Bicchieri 2006; Krupka and Weber 2013).<sup>44</sup>

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<sup>44</sup> We thus do not indirectly derive the norm from participants' behavior during interactions (a method more commonly used in economic experimental literature (Schram and Charness 2015)).

We conducted a method adapted from Krupka and Weber (2013) to measure the contribution norm. We started by eliciting the norm applicable to the PGG from individuals who did not participate in our main experiment through a questionnaire study prior to our main experiment.<sup>45</sup> Participants were given the instructions for the PGG used later in the main experiment and were asked which contribution to the team project is most socially appropriate (from zero to ten points). We elicited the norm in two conditions: the norm for the total group, and the norm for the income type to which one was allocated (i.e., the norm for either high earners or low earners). Participants who chose the modal response (i.e., the most frequently chosen response) earned 250 points for each condition. By rewarding for the modal response, we ensured that we did not elicit the participants' personal preferences; instead we asked them to match the responses of others.

Participants thus played a matching coordination game (Schelling 1960), eliciting higher order expectations concerning the most socially appropriate behavior. The modal response was five points (out of ten) for the overall group, five points for the low earners, and ten points for the high earners. The estimate of the modal response as to the shared understanding of the appropriate contribution for the total group was provided by 32% of the participants.

In the main experiment, before PGG1, we presented the participants with the instructions of the questionnaire study and asked them to indicate which contribution for the total group the participants of the questionnaire study regarded as most socially appropriate. Again, participants thus played a matching coordination game. Here we provided a 500-point bonus for the modal response. Five points for the overall group norm was the modal response (39.7% of the participants). Next, we disclosed to all participants in the main experiment that those who took part in the questionnaire study considered the overall group norm of contributing five points to the team project as most socially appropriate. This revelation of the modal response (of the questionnaire study) served to create a shared understanding of the prevalent norm for the environment of the main experiment, which captures the third important feature of a social norm (Interis 2011).

### *Proportional contributions*

We measured the average contributions by low and high earners within each team in all rounds of PGG1. We consider contributions to be proportional when the

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<sup>45</sup> The questionnaire study was executed in May 2015 at the CREED Laboratory, using a similar invitation method as in the main experiment. A total of 28 individuals participated in this study, 12 men and 16 women ( $M_{\text{age}} = 22.93$ ,  $SD = 2.24$ ). The session lasted approximately 20 minutes. They earned €9.18 on average, including a €7 show-up fee, earning an additional €2.50 for each of the modal responses to the norm measure.

average contributions by low earners are significantly lower compared to those of high earners. When the contributions by low and high earners match each other (equally high or low) we do not consider them to be proportional. Recall that the adjustment of individual contributions argument holds that both low and high earners contribute proportionally to their expected benefits from the team's collective. We argued above that a rule or a norm can constrain proportional contributions. Note also that, when proportional contributions deviate from a non-equitable norm, individual team members do not comply with the norm. In our experiment, the norm was to contribute five out of ten points to the team collective. Proportional contributions which would entail non-conformity can thus be in a downward (low earners) or upward (high earners) direction of five points respectively. This can only take place when the rule allows for it.

#### *Change attempt of an unequal benefit allocation*

Directly after participating in PGG1, all participants could initiate a call to vote to replace the unequal with an equal allocation of benefits; this initiation of a change costed ten points. The equal allocation entails that all team members receive the same benefit:  $(10 \text{ points} - \text{points contributed to the team project}) + 0.4 * (\text{total team contribution})$ . They had to indicate 'yes' (1) or 'no' (0) on whether they would wish to call for a vote. This call to vote is our first dependent variable: *change attempt*.

#### **4.4.3.2. Measures for an actual change of unequal allocation of benefits**

##### *Majority of low earners*

To account for the fact that a majority of either high or low earners exists in each team of five, we randomly assigned participants to two conditions: one where, in each group of five, three individuals are high earners and two are low earners, and one with the reverse composition. We created the measure *majority of low earners*, with a value of 1 assigned to teams with three low earners, and a value of 0 assigned to teams with three high earners.

##### *Majority of prosocials*

Each team of five may have a majority of either proselves or prosocials, depending on their response to the *social values* measure. We added up all prosocial individuals for each team, and created the measure *majority of prosocials*, with a value of 1 assigned to teams with three or more prosocials and a value of 0 assigned to all other teams.



*Individual support for actual change*

After the change attempt (i.e., call to vote) a subsequent vote in support for a change from an unequal to an equal allocation of benefits was assigned a value of 1, while a vote against this change was assigned a value of 0.

*Actual change*

An actual change is defined as the switch from the unequal allocation of benefits, implemented by the experimenters in PGG1, to an equal allocation of benefits (to be implemented in PGG2). As explained above, this switch depends on both the individual support for actual change and the decision-making structure. The variable takes a value of 1 if voting led to change and a value of 0 if it did not. The result of the voting procedure is our second dependent variable: *actual change*.

**4.5. RESULTS****4.5.1. Descriptives***Demographics*

We investigated all our measures for differences pertaining to the socio-demographics of our participants. We found no significant differences regarding our participants' gender or age for social value orientation, contribution norm, change attempt, individual support for an actual change, and contributions in the second PGG. As to the age of participants, we also found no significant differences on the willingness to take risks and contributions in PGG1. We did find that gender influenced these last two measures. Female participants were less willing to take risks (women  $M = 5.96$ ,  $SD = 1.89$  and men  $M = 6.51$ ,  $SD = 1.90$ ,  $t(202) = 2.018$ ,  $p = .045$ ) and contributed more on average in PGG1 (women  $M = 6.54$ ,  $SD = 2.46$  and men  $M = 5.78$ ,  $SD = 2.60$ ,  $t(202) = -2.084$ ,  $p = .038$ ).

*Contribution norm*

The social norm of what is socially acceptable to contribute to a public good was equal for low and high earners (no difference between high and low earners,  $M = 5.72$ ,  $SD = 2.28$  and  $M = 5.89$ ,  $SD = 2.61$  respectively, Mann-Whitney U test  $z = -.725$ ,  $p = .469$ , two-tailed), and for prosocials and proselfs ( $M = 5.90$ ,  $SD = 2.11$  and  $M = 5.74$ ,  $SD = 2.60$  respectively, Mann-Whitney U test  $z = -.827$ ,  $p = .408$ , two-tailed). This provides evidence that individual beliefs about the prevalent norm were not affected by *earning type* or *social values*.

*Proportional contributions*

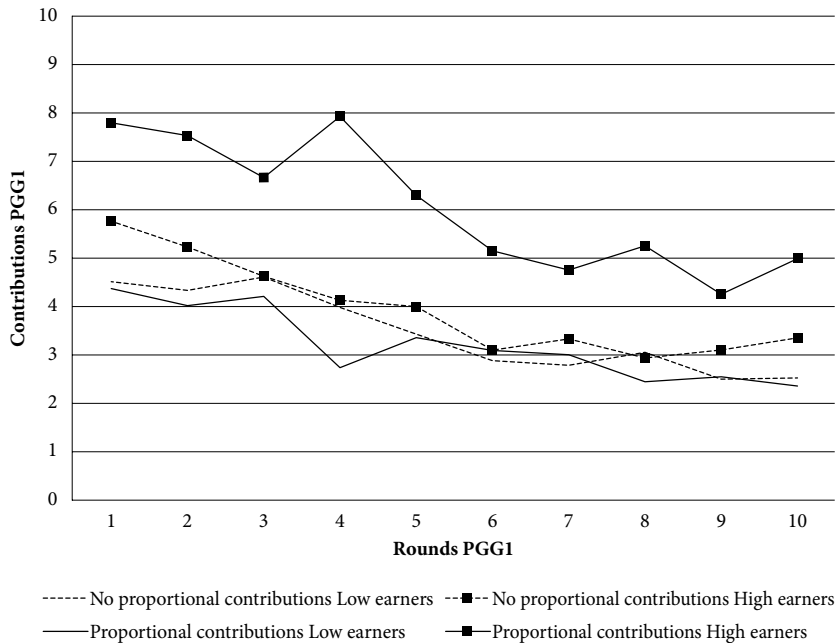
For PGG1 we examined whether proportional contributions took place during the ten rounds. In the *Rule 2* treatment, contributions were proportional in four out of 23 teams (17.4%). As shown in Figure 4.2, in these teams the average contributions by the low and the high earners differed significantly in all ten rounds of PGG1 (low earners  $M = 3.21$ ,  $SD = 1.02$  and high earners  $M = 6.04$ ,  $SD = 1.11$ ,  $t(17) = 5.766$ ,  $p < .001$ ).<sup>46</sup> Moreover, these average contributions also deviated from the norm of five in a downward (low earners) and upward (high earners) direction, respectively, during eight of the ten rounds of PGG1. This indicates that in these four teams both low and high earners did not conform to the norm of contributing five points.

In the remaining 19 teams in *Rule 2*, the average contributions by the low and high earners did not differ significantly (low earners  $M = 3.45$ ,  $SD = 1.20$  and high earners  $M = 3.95$ ,  $SD = 1.28$ ,  $t(84) = 1.865$ ,  $p = .066$ ), indicating that proportional contributions (i.e., both low and high earners contribute proportional to their expected benefits from the team collective) were not present here. Note that Figure 4.2 shows that there is a common downward trend across rounds in contributions (Andreoni 1988; Isaac et al. 1984; Ledyard 1995). However, in the four teams with proportional contributions, the contributions remained proportional during the decline, meaning that the gap between low and high earners' contributions stayed intact.

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<sup>46</sup> Note that due to the constraints of high mandatory contribution in the *Rule 8* treatment, proportional contributions are by definition almost impossible. Indeed, the average contributions by low earners and high earners did not differ significantly in this treatment ( $M = 8.39$ ,  $SD = .50$  and  $M = 8.56$ ,  $SD = .55$  respectively,  $t(97) = 1.644$ ,  $p = .103$ ).

Figure 4.2. Average contributions in all ten rounds of PGG1, for low and high earners, in Rule 2 treatment (low level of contribution), for teams with and without proportional contributions



Recall that in the theoretical section we differentiated between the adjustment of contributions, i.e., contributing proportionally towards the team collective, and an attempt to change the compensation scheme itself, i.e., change the unequal allocation of benefits. Our hypotheses conjectured that individual motivations would influence the latter, while we did not make any assumptions about the influence of individual motivations on the former. Before turning to our analysis of the hypotheses on an attempt to change the unequal allocation of benefits after PGG1, we first examine whether these motivations also influenced proportional contributions in the *Rule 2* treatment during PGG1. In the teams where proportional contributions were present, two-way between groups analysis of variance revealed no significant effect of *social value orientation* (being a prosocial or proself) on proportional contributions (main effect *social value orientation*,  $F(1,15) = .770$ ,  $p = .394$ , and interaction effect between *earner type* and *social value orientation*,  $F(1,15) = 1.352$ ,  $p = .263$  on average contributions in PGG1 are insignificant).

## 4.5.2. Analyses

### 4.5.2.1. Individual attempts to change an unequal allocation of benefits

Of the 204 participants, 58 (28.4%) attempted to change the unequal allocation of benefits. In 42 of the 45 teams (92.9%) taking part in the experiment, a change attempt took place. We expected that such an attempt is more likely when proportional contributions do not take place because they are constrained by a rule or by conformity to a non-equitable norm [H1]. Furthermore, we expected that when proportional contributions to a collective good do not take place, low earners are more likely than high earners to attempt a change from an unequal to an equal allocation of benefits [H2]. Lastly, we expected that independent from proportional contributions, prosocial individuals are more likely to attempt to change an unequal allocation of benefits to an equal one compared to proself individuals. [H3].

To test all these hypotheses, we ran a logistic regression (see Table 4.1) of a change attempt (i.e., call to vote to change an equal allocation of benefits) on the mandatory contribution rule (*Rule 2* versus *Rule 8*), earner type (being a low versus high earner), a dummy variable indicating that *no* proportional contributions took place during the interactions in PGG1, the interaction between this dummy variable and earner type, social value orientation (prosocials versus proselfs), and the control measures of risk, gender, and age. None of the controls have a significant effect on the call to vote.

Table 4.1. Attempts to change an unequal allocation of benefits

	B	SE	OR	CI (OR)
Contribution rule = Rule 8 <sup>47</sup>	.252	.399	1.287	[.589, 2.813]
Proportional contributions = No	-1.784	1.002	.168	[.024, 1.198]
Earners type = Low earner	.580	1.117	1.786	[.200, 15.936]
Proportional contributions * Earners type	2.631*	1.225	13.885	[1.258, 153.231] <sup>48</sup>
Social value = Prosocial	1.243**	.409	3.467	[1.556, 7.725]
Risk	-.151	.105	.860	[.700, 1.056]
Age	-.070	.062	.933	[.826, 1.053]
Gender = Female	-.396	.394	.673	[.311, 1.455]
Constant	.754	1.898	2.126	
$\chi^2 = 63.515, df = 8, p < .001$				
Nagelkerke R <sup>2</sup>	38.4%			
Hosmer & Lemeshowtest	$p = .844$			
Classification	76.5%			

Note: The results are presented for a logistic regression of a change attempt (call to vote yes/no) on contribution rule, the presence of proportional contributions in PGG1, earners type, the interaction term between these two, and social value orientation, while controlling for risk, gender, and age. An analysis without these control variables yields similar results. Reference categories are Contribution rule = Rule 2, Proportional contributions = Yes, Earners type = High earner, Social value = Proself, and Gender = Male.

\*  $p < .05$ , \*\*  $p < .01$  (two-tailed tests);  $N = 204$ .

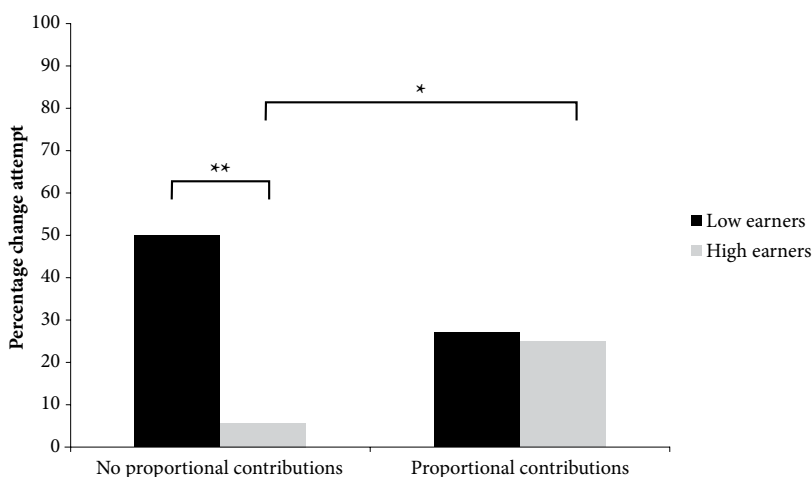
To find evidence in support of Hypothesis 1 we would expect to see a significant main effect for proportional contributions. This is because we expected that the absence of proportional contributions due to either the rule in place or conformity to the norm would increase the likelihood of an attempt to change an unequal allocation. Our results show that we do not obtain this evidence for Hypothesis 1. However, looking at the insignificant main effects for both proportional contributions and earners type, together with the significant interaction effect between the two, we observe that, when proportional contributions to a collective good do not take place, low earners within a team are more likely than high earners to attempt to change an unequal allocation of benefits. We thus obtain

<sup>47</sup> An LR without this variable provides similar results with respect to significance and magnitude.

<sup>48</sup> The magnitude of this odds ratio and the confidence interval surrounding it suggests separation in the data. However, an LR with penalized maximum likelihood estimation and corresponding penalized likelihood ratio tests (Firth method: (Firth 1993; Heinze and Schemper 2002)) showed no major differences in coefficients or in p-values from the standard LR.

evidence in favor of Hypothesis 2. We present this interaction in the bar graph in Figure 4.3.

Figure 4.3. Interaction effect of proportional contributions with earner type (low and high earners) on an attempt to change an unequal allocation of benefits to an equal one



Note: Bars represent the proportion of change attempts when proportional contributions are present and when not present, for low and high earners.

\*\*  $p < .001$ , \*  $p = .044$ ;  $N = 204$

Further inspection of this interaction effect confirms that low earners within a team are more likely than high earners to attempt to change an unequal allocation of benefits in the absence of proportional contributions in PGG1 (Mann-Whitney U test  $z = -6.653$   $p < .001$ ).

We also observe that if proportional contributions *were present* during the interactions, high earners are more likely to attempt to change the equal allocation of benefits compared to when no proportional contributions were present (Mann-Whitney U test  $z = -2.019$   $p = .044$ ). These results cannot be explained by the fact that these high earners were more prosocial; recall that in the descriptives section we reported that in teams where proportional contributions were present, social value orientation (being a prosocial or a proself) did not influence these contributions. One explanation could be that these high earners acted upon an earnings-based notion of justice (Hoffman and Spitzer 1985; Rutström and Williams 2000), meaning that they found the unequal allocation of benefits in PGG1 unfair because the initial 'entitlements', i.e., earner type, were randomly assigned. This may lead to non-self-interested behavior (Hoffman and Spitzer 1985), in this case an attempt to change an unequal allocation of benefits.

Lastly, the results presented in Table 4.1 show that an individual's social value orientation is a strong predictor of an attempt to change an unequal allocation of benefits. Prosocial individuals were more likely than proselves to attempt a change towards equality, thereby providing evidence for Hypothesis 3.

#### 4.5.2.2. Actual change of an unequal allocation of benefits

Next, we examine whether the attempts (i.e., call to vote) and the subsequent votes result in an actual change of the allocation of benefits. We expected that a change from an unequal to an equal allocation of benefits is facilitated by a majority decision-making structure, when the majority consists of low earners or prosocials [H4].

Recall that 28.4% of our participants attempted to change the unequal allocation of benefits. Subsequently, 130 participants (63.7%) voted in support of a change of the unequal allocation. An actual change to an equal allocation of benefits was observed in 36 of the 45 teams (80%).

Because of (quasi)separation in our data concerning the dependent variable *actual change* (i.e., a small number of cases on the rarer of the two outcomes, in this case *actual change* = no), we used the Firth method to run a logistic regression (Firth 1993; Heinze and Schemper 2002).<sup>49</sup> Table 4.2 presents the results of this Firth logistic regression of actual change (i.e., a switch from the unequal benefit allocation, implemented by the experimenters, to an equal allocation of benefits) on decision-making structure (majority versus dictator), majority of low earners in each team, majority of prosocials in each team, the interaction terms between decision-making structure and both majority of low earners and majority of prosocials, while controlling for the mandatory contribution rule (low or high level of contribution).

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<sup>49</sup> This method uses penalized maximum likelihood estimation and corresponding penalized likelihood ratio tests and confidence intervals. We used the R Essentials package 'logistf' for SPSS.

Table 4.2. Actual change to an unequal allocation of benefits

	<i>B</i>	<i>SE</i>	<i>CI(B)</i>
Decision-making structure = Majority rule	-1.692***	.569	[-2.879, -.640]
Majority of low earners = Yes	-.929	.565	[-2.103, .123]
Majority of prosocials = Yes	-.097	1.707	[-2.591, 4.852]
Decision-making structure * Majority low earners	1.889*	.837	[.304, 3.603]
Decision-making structure * Majority prosocials	3.645	2.262	[-1.745, 9.045]
Contribution rule = High level	-.978**	.396	[-1.777, -.216]
Constant	2.495	.545	

$\chi^2 = 35.040$ ,  $df = 6$ ,  $p < .001$

Note: The results (coefficients *B*) are presented for a Firth logistic regression of an actual change (change from an unequal to an equal benefit allocation by voting yes/no) on decision-making structure, majority of low earners (majority of either low or high earners within each team), majority of prosocials (majority of either prosocials or proselfs within each team), their interaction terms with the decision-making structure, and the control variable contribution rule. Reference categories are Decision-making structure = Dictator rule, Majority of low earners = No (i.e., majority of high earners), Majority of prosocials = No (i.e., majority of proselfs), Contribution rule = Low level.

\*  $p = .019$ , \*\*  $p = .012$ , \*\*\* $p = .001$  (two-tailed tests);  $N = 204$ .

The results show that the decision-making structure is a significant predictor of an actual change towards equality ( $p = .001$ ). However, the likelihood that the change actually happens *decreases* when a majority decision-making structure is in place, thus the opposite of what we expected. The significant interaction between the decision-making structure and a majority of low earners clarifies this result. It indicates that a majority of low earners within a team positively influences an actual change, depending on the decision-making structure. We examine this interaction in the bar graph in Figure 4.4.



Figure 4.4. Interaction effect of decision-making structure with majority of earners on an actual change from an unequal to an equal allocation of benefits



Note: Bars represent the proportion of actual change from an unequal to an equal benefit allocation for teams with a majority of low earners or instead high earners, depending on decision-making structure (i.e., majority vs. dictator rule).

\*  $p = .001$ ;  $N = 204$ .

More specifically, we find that a majority of low earners within a team positively influences an actual change of unequal to equal benefit allocation when a majority decision-making structure is in place (Mann-Whitney U test  $z = -3.447$   $p = .001$ ), while this effect is not present with a dictator decision-making structure. This result partially supports Hypothesis 4.

The non-significant interaction between a majority of prosocials and the decision-making structure indicates that an actual change from an unequal to an equal allocation of benefits is not facilitated by a majority decision-making structure when prosocials within the team constitute the majority. We thus do not obtain evidence in favor of the latter part of Hypothesis 4. A possible explanation for this result emerges if we inspect the data. First, the majority of prosocials was determined by a combination of endogenous individual social values and the random distribution of those prosocials across groups, without experimentally controlling the split. In both types of decision-making structures, teams with a majority of prosocials have a 'success rate' of 100% for an actual change. However, in the 'dictator decision-making structure' treatment there was only one team that had a majority of prosocials. To be precise, this team consisted of five prosocials, and not surprisingly the randomly assigned dictator of this group supported a change.

Additionally, we find that the contribution rule is a significant predictor of an actual change of unequal benefit allocation ( $p < .05$ ).<sup>50</sup> With a rule mandating a low contribution level (*Rule 2*), an actual change was observed in 86.96% of the teams, compared to 72.73% when a rule demanding a high contribution level (*Rule 8*) was in place. We did not make any assumptions about the influence of the contribution rule on an actual change of an unequal allocation of benefits. In the concluding discussion we will attempt to shed light on this result.

#### 4.6. CONCLUDING DISCUSSION

In this chapter we first examined whether, and under what conditions, individuals will initiate a change from an unequal to an equal allocation of benefits. We incorporated the influence of two different contribution rules on these change attempts, while also considering the social norm. We thus investigated attempts to change an unequal income allocation, both in an environment where a rule mandated a low level of contribution to a team collective and in one where it demanded a high level of contribution. We argued that the contribution rules would not constrain individual change attempts directly, but that, together with a social norm, they would constrain the possibility of making proportional contributions. And that in turn would influence individual change attempts.

We also considered the role of individual social value orientations such as being pro-social. Because a prosocial value orientation influences the weight that individuals assign to the outcome of others, we expected that it could motivate individual attempts aimed at an equal allocation of benefits.

Our results show that when considering individual attempts to change an unequal allocation of benefits, material interests alone of both low and high earners may not be a sufficient explanation. It is through the interplay between these interests and the governing rules and norms in place that attempts to change inequality in benefit allocation take place. When individuals were unable to make a proportional contribution to the team collective, low earners were more likely than high earners to attempt to change an unequal to an equal allocation of benefits. This is understandable from the point of view of a cost-benefit analysis, as those who are in disadvantage are expected to want a change.

A surprising result was that for high earners the opposite was true; they were more likely to attempt a change after they had already made a proportional contribution, meaning that they made relatively higher contributions to the team collective compared to the low earners. Since, according to our analyses, these

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<sup>50</sup> Without this control variable, the reported results for Hypothesis 4 are of the same magnitude and direction.

high earners are not characterized by prosocial values, it would be an interesting avenue for future research to find out why they took the initiative, at additional cost to themselves, to propose an equal allocation of benefits for all team members.

Some literature argues that equality is considered the fairest rule (e.g., Messick and Sentis 1979), and our study indicates that for prosocials this is almost always true. As expected, we found that the social values of individuals matter in their attempts to change an unequal benefit allocation. Moreover, equality in contributions seems to be as important as equality of outcomes. More prosocial than proself individuals attempted to change an unequal allocation of benefits, irrespective of which rule of contribution level was in place. It could be that by changing the compensation scheme, prosocials intended to make cooperation more attractive for all (Webb and Foddy 2004). Prosocials not only value equality, they also desire maximization of joint outcomes (Van Lange 1999). The current study provides evidence that prosocials are willing to attempt to change an inequality of benefit allocation, and suggests that an increase in collective wealth could be a secondary motive, complementing the first.

We also obtained evidence that an actual change of benefit inequality does happen when a majority of low earners makes use of a majority decision-making structure. A majority of low earners more often manages to change the allocation under the majority compared to a dictator decision-making structure because they outnumber the high earners and have a common interest in providing the change. Under a dictator decision-making structure, on the other hand, the decision maker can disregard such a majority (Scharpf 1989). But why then did a majority of prosocials not have the same effect, i.e., manage to change the allocation more often under the majority but not under the dictator decision-making structure? After all, their (majority) preferences for equality would outnumber the (minority) preference of proselfs to look after their own interest. As explained in the results section above (4.5.2.2), we contend that our experimental design may have contributed negatively to this non-result. This possible limitation of our study may be attended to in future research.

Lastly, we have to address our results that show that an actual change of the unequal benefit allocation occurred more often in an environment where a rule mandated a low level of contribution to the team's collective good, compared to an environment where a rule mandated a high level of contribution. An explanation suggests itself if we consider the nature of the former environment. First, as is obvious, in this environment the rule mandates only a low level of contributions to the team collective. Second, with an unequal allocation of benefits, individual interests in contributing to this public good are unequal (Fisher et al. 1995) and low earners have less interest to contribute to this public good. These two facts combined do not positively influence the team collective, and hence a change in

one of these components could lead to an enhancement of the team collective. The only way our participants could increase these collective benefits was by changing the benefit inequality.

In this chapter we focused on how and when individuals change intragroup inequality, mimicking a change in the unequal distribution of the benefits of cooperation resulting from, for instance, the simultaneous use of standard and non-standard employment (Bonache 2004; Kalleberg 2000; Klein 1999). We thereby add to the literature across disciplines on equity and inequality aversion (Adams 1965; Cook and Hegtvedt 1983; Deutsch 1975; Fehr et al. 2006; Fehr and Schmidt 1999; Folger and Konovsky 1989; Lerner and Lerner 2013). By examining the proportional contributions and the attempts to change the unequal allocation itself, we add evidence to the accounts of how individuals respond to inequity. Furthermore, by incorporating the interaction of social values and self-interest, we enhance our understanding of the motivation that underlies these responses.

More generally, we looked at whether and how individuals change the “rules of the game” (North 1993:3). For those who think that equality is the fairest rule (Messick and Sentis 1979) it must be encouraging that our results show that the low earners and the prosocials do not take existing inequalities for granted, and that they are prepared to bear the costs of an attempt to change an unequal allocation of benefits. We have to take into account, however, that we provided participants with the opportunity to attempt a change, whereas in real life these opportunities may not be as obvious to individuals. Nonetheless, it is promising that in our study these attempts resulted in an equal allocation of benefits in the majority of teams.