

The rich get richer, the poor get even:

Perceived socio-economic position influences micro-social distributions of wealth

Boyka Bratanova^{1,2*}, Steve Loughnan³, Olivier Klein¹, Robert Wood⁴

¹Unité de Psychologie Sociale CP 122, Université Libre de Bruxelles, Belgium

² School of Management, University of St. Andrews, UK

³Department of Psychology, University of Edinburgh, UK

⁴Centre for Ethical Leadership, Ormond College, The University of Melbourne, Australia

* Correspondence to be addressed to Boyka Bratanova, School of Management, University of St. Andrews, The Gateway, North Haugh, St Andrews, Fife, KY16 9RJ, Scotland, UK.

Email: bab20@st-andrews.ac.uk. Phone: +44 (0) 1334 462847.

Acknowledgments:

The authors wish to thank Peter Kuppens for his comments on an earlier version of this manuscript.

This research was supported by a grant from the Bureau des Relations Internationales of the ULB awarded to the first author, and an EASP Seedcorn grant awarded to the second author.

Abstract

Economic inequality has a robust negative effect on a range of important societal outcomes, including health, wellbeing, and education. Yet, it remains insufficiently understood why, how, and by whom unequal systems tend to be perpetuated. In two studies we examine whether psychological mindsets adopted by the wealthy and the poor in their micro-social transactions act to perpetuate or challenge inequality. We hypothesized that occupying a wealthier socio-economic position promotes the pursuit of self-interest and contributes to inequality maintenance; poorer socio-economic position, on the other hand, should promote the pursuit of fairness and equality restoration. In Study 1, participants completed an Ultimatum Game as proposers after being primed to believe they are wealthier or poorer, offering money to either poor or wealthy responders. As expected, the wealthy pursued their self-interest and the net effect of this behavior contributes to the maintenance of inequality. Conversely, the poor pursued fairness and the net effect of this behavior challenges inequality. In Study 2, participants were responders deciding whether to accept or reject unfair distributions. Compared to the wealthier, the poorer challenged inequality by rejecting unequal offers. The links between micro-social processes and macro-societal inequality are discussed.

Word count: 192

Keywords: Inequality, Class, Intergroup Relations, Ultimatum game.

To understand cross-national differences in quality and duration of life, researchers have focused on differences in economic inequality. The literature on this topic is vast and convergent: Inequality has a robust negative impact at the personal, social, and societal level (see Wilkinson & Pickett, 2009 for an overview). At the physical level, the citizens of unequal societies are more likely to be ill, obese, and abuse drugs (Wilkinson & Pickett, 2006). Inequality also undermines wellbeing, making people less happy (Oishi, Kesebir, & Diener, 2011) and more self-aggrandizing (Loughnan et al., 2011). At the societal level, inequality tears the social fabric. People in unequal societies tend to withdraw from others and trust them less (Oishi et al., 2011; Uslaner, 2004), as well as be less honest themselves (Neville, 2012). In short, personal and social functioning is compromised in unequal societies.

Despite the multilateral damage caused by inequality, the last few decades have witnessed a steady increase in levels of inequality across most countries in the world (OECD, 2015). Economists, sociologists, and public health scientists have examined the causes of widespread inequality, pointing to a complex interplay of factors such as rate of economic growth, governmental policies, taxation, technological change, and access to education (for overviews, see Neckerman & Torche, 2007; Piketty, 2014; Wilkinson & Pickett, 2009). However, psychological processes may play an important, previously unrecognized role in maintaining inequality. Occupying a certain position in the socio-economic hierarchy may act as a mindset that systematically alters the way people approach resources distribution in their everyday transactions. If there are distinct strategies adopted by the wealthy and the poor in their micro-level transactions, these may perpetuate or challenge the macro-level distribution of resources.

Given that economic inequality benefits the wealthy rather than the poor, the wealthy may be less inclined to change the status quo. Moreover, although inequality generates harmful effects for society as a whole, the wealthy tend to be less susceptible to its costs (Wilkinson & Pickett, 2009). Therefore, we might expect that wealthier individuals are more tolerant of inequality and in micro-social financial transactions focus on maximizing their gains rather than re-distributing resources. If occupying higher ranks of the socio-economic hierarchy favors gain maximization and comes with political power, it may sustain and even deepen existing inequality.

By contrast, the poor may challenge inequality for at least two reasons: costs and perceived fairness. The costs of economic inequality burden the shoulders of the poor. Not only do they have less wealth, but they typically live shorter (Marmot et al., 1991; WHO, 2008), unhappier lives (Oishi et al., 2011). Compounding these material costs, inequality generates symbolic costs through unfavorable social comparisons, both at an interpersonal and at an intergroup level. These may generate stress and anxiety (Bratanova, Loughnan, Klein, Claassen, & Wood, 2015; Kunz-Ebrecht, Kirschbaum, Marmot, & Steptoe, 2004; Wilkinson & Pickett, 2009) and be detrimental to self-esteem (cf. Tajfel & Turner, 1986). In addition, the poor may perceive economic inequality as fundamentally unfair. Oishi et al. (2011) showed a robust relationship between perceived fairness and economic inequality for poorer Americans; the poor view rising inequality as increasingly unfair. By contrast, wealthier Americans show no link between economic inequality and perceived fairness; rising inequality does not appear increasingly unfair to the rich. Fairness and justice are foundational, widely endorsed moral values (Haidt, 2007). Violations of fairness are likely to elicit anger and a desire to restore justice (Haidt, 2003). If the poor perceive inequality as

costly and unfair, then in micro-social transactions they may challenge inequality by re-distributing wealth and rejecting unfair distributions.

To examine micro-social transactions in the context of macro-economic position, we adopted the Ultimatum game paradigm (Güth & Tietz, 1990). The Ultimatum game is a widely used economic game for examining income maximization and fairness (for a review see Bearden, 2001). In this paradigm participants assigned to the role of a proposer are given a sum of money to split between themselves and a responder. If the responder accepts the amount offered, both players keep their share as divided by the proposer; if the responder rejects the offer, both players receive nothing. Two competing motives have been identified as underlying decision making in the Ultimatum game: concern for fairness and concern for self-interest (Knoch, Pascual-Leone, Meyer, Treyer & Fehr, 2006). Acting with self-interest typically undermines concerns for fairness, and vice versa. Physically suppressing the right dorso-lateral prefrontal cortex (rDLPC) – an area associated with fairness implementation – through transcranial magnetic stimulation (TMS) leads to the increased rates of acceptance of unfair offers by responders (Knoch et al., 2006). This behavior maximizes selfish gains but fails to enforce norms of fairness. Conversely, increasing the salience of fairness has been shown to significantly increase the rejection of unfair offers (Zhou & Wu, 2011). Therefore, we may expect fairness concerns and selfish gain maximization to have different influences on Ultimatum game behavior.

Based on the preceding analysis, we expect that priming people to feel wealthier than others would strengthen the motive to pursue self-interest and undermine concerns for fairness. By contrast, when people feel poorer the motive to observe fairness and restore equality is expected to be more influential, even at the cost of self-interest. We test these hypotheses from the perspective of the proposer and responder in two studies.

Study 1

This study examined whether feeling wealthier or poorer influences how people propose to distribute wealth. Using the Ultimatum game paradigm (Güth & Tietz, 1990), people primed to feel poor or wealthy were asked to distribute money between themselves and a responder. Importantly, the responders were described as either wealthier or poorer than average. Because the Ultimatum game involves interdependence between players, a strategic approach to gain maximization requires the likelihood of the responder rejecting unfair offers to be estimated. The background of the responder can serve as a cue for this estimation (Nowak, Page, & Sigmund, 2000): poor people may be seen as having greater need for money, and therefore more likely to accept unfair offers. Wealthy responders, on the other hand, may be seen as more likely to reject unfair offers as they can afford to lose their share. Thus, we expect that people pursuing gain maximization would offer less than fair share to the poor and a fair share to the wealthy. If the wealthy chronically adopt a strategic gain maximization approach in their micro-social transactions, this would maintain and deepen inequality by concentrating wealth.

Conversely, if poorer proposers are primarily concerned with fairness rather than gain maximization, they should offer a fair share to the poor and less than fair share to the wealthy. If the poor chronically adopt fairness restoration approach in their micro-social transactions, this would challenge inequality by re-distributing wealth. In short, we expect that people who feel poorer will act to challenge inequality, whereas people who feel wealthier will act to maintain inequality.

Method

Participants were U.S. residents recruited via a job website (Amazon's Mechanical Turk). A job website provides a suitable naturalistic setting for studying micro-social

transactions as it increases the salience of financial outcomes. Recent analysis of Mechanical Turk data quality revealed that it is at least as high as the quality of data collected via traditional methods (Buhrmester, Kwang, & Gosling, 2011). Nevertheless, a major disadvantage of studies conducted online is the lack of control over the immediate environment. Participation requires only Internet access, and therefore studies may take place in settings with varying levels of distraction. In the absence of any means of controlling the immediate environment, various strategies have been recommended for screening data and identifying careless responses (e.g., Meade & Craig, 2012). Amongst these strategies are the use of items designed to check whether participants carefully followed the instructions and paid attention to key information. Since the hypotheses tested in the current studies heavily relied on participants understanding the pay-off matrix, recalling the responder's background, and following instructions, we included items checking whether these conditions were fulfilled.

Although every effort was made to convey the task instructions clearly, sixty-nine out of the 159 participants who completed the study were excluded from the analysis for either failing to follow instructions (specifically, not writing how they felt wealthier than others, $n=7$), misunderstanding the pay-offs ($n=12$) or failing to recall the responders' economic background ($n=50$: 28 in the poorer proposer condition and 22 in the wealthier proposer condition)¹. Two participants were excluded for making offers more than three standard deviations from the mean offer of their condition, leaving 88 participants (42 females, $M_{age}=33.83$, $SD=12.05$). All participants who correctly completed the pay-off matrix and recalled the economic background of the responder received \$US0.30.

Participants completed all tasks online. First they were presented with information designed to frame their economic situation. They were randomly assigned to either the

wealthier or poorer proposer condition. Participants in the wealthier condition read the following sentences describing poverty in America: "Poverty is deepening in the US society. Last year a third of the Americans took home as little as 5 percent of the wealth produced in the society. Among them, an estimated 50 million people experienced hunger at various times during the year, including 17 million children." This information was designed to make the participants feel relatively wealthy by eliciting a contrast effect (cf. Mussweiler, 2003; Piff, Kraus, Côté, Cheng, & Kletner, 2010). Participants in the poorer condition read a paragraph describing extreme wealth in America: "Despite the financial crisis, many Americans are increasing their wealth. Last year the top earners took home 49 percent of the wealth produced in the society. Many of these people own multi-million dollar homes, drive expensive cars, and enjoy holidays in tropical destinations." This information was designed to make participants feel relatively poor. After reading the paragraphs, participants were asked to write a few sentences on how they are wealthier or poorer than many people in their society. Then they completed two manipulation check items; "I am deprived in material wealth", "I am relatively advantaged in material wealth" on a seven-point scale (1=*strongly disagree*; 7=*strongly agree*). These ratings were highly correlated, $r(88)=-.83$, and so deprivation was reserved coded and the scores were averaged.

Following this task, participants were introduced to a money distribution activity, which was patterned after the standard Ultimatum game. All participants were told they were randomly assigned the role of the proposer. Their task was to divide \$1 between themselves and a responder. They were told that if the responder accepts the offer, they would receive the money as it was proposed. However, if the responder rejected the offer, both players would receive nothing. Moreover, they were told that they will be matched with a responder who was either poorer *or* wealthier than average. After dividing the sum

as they wished, participants were asked to recall the economic background of their responder from three options: poorer than average, middle class, wealthier than average. They were also asked to complete items checking their comprehension of the pay-offs for both parties if the responder accepted or rejected their offer.

Finally, participants completed demographic questions, including two items measuring subjective wealth, in terms of finances and assets, on a scale ranging from 0 to 100. Since these items were highly correlated ($r(88)=.71$), they were collapsed into a single score.

Results

As expected, the manipulation shifted perceived wealth in the anticipated direction. People in the poorer condition ($M_p=3.07$, $SD_p=1.53$) felt less wealthy than people in the wealthier condition ($M_w=5.19$, $SD_w=1.09$), $t(86)=7.56$, $p<.001$. Further, participants in the poorer condition reported significantly lower subjective wealth ($M_p=35.04$, $SD_p=17.71$) than participants in the wealthier condition ($M_w=52.04$, $SD_w=17.78$), $t(86)=4.49$, $p<.001$. The overall average was 43.15, indicating that participants believed they were on average lower-middle class.

To examine the impact of proposer and responder wealth on offers, we performed a 2(proposer: poorer vs. wealthier) x 2(responder: poorer vs. wealthier) ANOVA. As expected, this analysis revealed a significant interaction, $F(3,83)=9.26$, $p=.003$, $\eta_p^2=.10$. Given the violation of the assumption of homogeneity of variance (Levene's test $p<0.001$), adjusted t-tests were employed for subsequent analyses². These revealed that poorer proposers offered significantly more money to poorer ($M=.50$, $SD=.05$) than to wealthier responders ($M=.43$, $SD=.14$), $t(30.60)=2.50$, $p=.018$, Cohen's $d=.72$. Conversely, wealthier proposers

offered more money to wealthier ($M=.51$, $SD=.02$) than to poorer responders ($M=.44$, $SD=.14$), $t(24.83)=2.26$, $p=.033$, Cohen's $d=.66$ (see Figure 1).

[Figure 1 about here]

Discussion

The findings of this study shed light on how inequalities in wealth are maintained by the wealthy and challenged by the poor. The hypothesized pursuit of differential priorities in micro-social transactions provides a plausible explanation. Poorer proposers challenged systems of inequality by offering unequal distributions to the wealthy. This was not a selfish maximization by poorer proposers – they offered equal distributions to poorer responders. This distinction between offers made to poorer and wealthier responders indicates that poorer proposers are acting to restore fairness by challenging the status of the wealthy, rather than simply trying to offset their relative poverty by maximizing their outcomes. By offering the wealthy less than fair distributions, while treating the poor fairly, poorer proposers challenged their position in society through micro-social transactions.

In contrast, when people were induced to feel wealthier, they offered significantly less money to poorer than wealthier responders. Examination of the means suggests that wealthier proposers were offering fair distributions to wealthier responders and less than fair distributions to poorer responders. This may have been guided by a strategic pursuit of profit maximization in the context of interdependence: poorer responders may have been perceived as less likely to reject unfair distributions and lose the amount offered than wealthier responders.

It is also possible that the findings are explained by ingroup favoritism, specifically ingroup fairness: both wealthier and poorer proposers offered fair distributions to

responders of similar socio-economic standing. Dissimilarity in socio-economic position may have served as a marker of out-group membership, alleviating the requirement to adhere to fairness principles typically required when dealing with members of the same group. The next study was in part designed to disentangle between the explanations based on group membership and differential priorities pursued in micro-social transactions. However, it is important to note that *regardless* of which of the two psychological mechanisms is in operation, the same net outcome emerges: inequality perpetuation for the rich, and challenge for the poor.

Study 2

Study 1 focused on the role of the proposer and revealed that wealthier proposers act in a way that maintains inequality whereas poorer proposers act in a way that challenges inequality. However, it did not reveal whether unfair offers are likely to be accepted or rejected by the responder. If poorer people challenge inequality they should additionally reject unequal offers. By contrast, if wealthier people are comfortable with inequality and oriented towards maximizing their wealth, they should be prepared to accept unequal offers. To test these predictions, we had participants play the role of the responder who received an unequal distribution. To specifically examine responses to unfair offers in the absence of group membership concerns, the socio-economic background of the ostensible proposer was not indicated. Furthermore, to differentiate between poorer responders challenging inequality and wealthier responders maximizing their outcomes, we included a control (equal) condition.

Method

One-hundred and sixteen participants from the U.S. were recruited online via Mechanical Turk. Of these, twenty-two failed to understand the pay-off matrix and one

participant did not follow instructions (specifically, did not write how s/he felt wealthier than others). This left 93 participants for further analysis (49 females, $M_{age}=36.04$, $SD=12.96$). All participants who correctly completed the pay-off matrix were paid \$0.30 for their participation with a bonus of \$0.10 paid to those who accepted the offer.

Participants were randomly assigned to either the poorer, equal, or wealthier condition. The instructions for the wealthier and poorer conditions were the same as in Study 1. People in the equal condition were asked to think about how they were about as wealthy as many people in their society, and write a few sentences on how they are financially similar to others. Given the high correlation of manipulation checks in Study 1, participants were asked to what extent they agreed with the statement "I am deprived in material wealth". Participants were then provided with the instructions for the Ultimatum game and told that they were randomly assigned to be the responder. They were informed that the proposer had divided \$1 such that they were offered \$0.10. Participants completed comprehension items checking whether they understood the pay-off for both parties. In particular, they were informed that if they decided to accept the offer, they would be credited with \$0.10 in addition to their participation fee of \$0.30. Then they indicated whether they accepted or rejected the offer.

Results

Consistent with Study 1, participants in the three conditions significantly differed in their perceived economic deprivation, $F(2,90)=6.37$, $p=.003$. Specifically, participants in the poorer condition ($M_p=4.44$, $SD_p=1.46$) felt more deprived than both participants in the wealthier ($M_w=3.00$, $SD_w=1.69$), $p=.001$, and in the equal conditions ($M_e=3.46$, $SD_e=1.86$), $p=.024$. The difference between the equal and wealthier conditions was non-significant ($p=.288$). The correlation between the two measures of subjective wealth was high

($r(93)=.62, p<.001$) and they were averaged. A one-way ANOVA revealed a marginally significant effect $F(2,90)=2.81, p=.065$. Post-hoc analysis showed that participants in the wealthier ($M=47.23, SD=18.82$) and the poorer ($M=36.65, SD=17.95$) conditions significantly differed ($p=.023$). The equal condition ($M=.44.00, SD=19.81$) did not significantly differ from poorer or wealthier ($ps>.12$).

To examine whether priming of economic position influenced rejection rates amongst responders, we compared the percentage of rejections in each condition. Participants in the poorer condition rejected the unfair offers more frequently (52.9%) compared to people in the wealthier condition (29.0%), and this difference was marginally significant, Pearson $\chi^2=3.82, p=.051$. Stated otherwise, when faced with a 10:90 split against them, people primed to feel poorer tended to *reject* the offer at much higher rate than people primed to feel wealthier, even though this outcome left them with *nothing*. Participants in the equal condition exhibited a rejection rate (35.7%) which was similar to the wealthier (29%), Pearson $\chi^2=.30, p=.583$, and dissimilar to the poorer (52.9%), although the difference did not reach significance, Pearson $\chi^2=1.84, p=.175$ (see Figure 2).

[Figure 2 about here]

Discussion

The findings of Study 2 indicated decreased tolerance of inequality amongst the poor. Even though the result was marginally significant, the magnitude of 23.9% difference in rejections rates between poorer and wealthier responders revealed that poorer responders' were far less tolerant of unequal distributions that disadvantage them. The rejection rate exhibited by the wealthier responders was similar to that in the equality condition, indicating that the difference between the poorer and wealthier responders was primarily driven by high rejection rates amongst the poorer. Unlike in Study 1, these findings

were obtained in a transaction setting where the ostensible proposer's socio-economic position was unclear to responders, and it is therefore unlikely that ingroup favoritism underpinned the results.

That poorer people are more likely to reject unequal offers may appear puzzling; if they are poorer, why not accept whatever they are offered? We suggest that feeling poorer makes fairness concerns a more salient motive than self-interest for decisions on micro-social transactions (Knoch et al., 2006). Receiving a grossly unfair offer in a state of heightened concern for fairness may have elicited a stronger emotional reaction in poorer respondents, leading to higher rejection rates (Haidt, 2003; van't Wout, Kahn, Sanfey, Aleman, 2006; Yamagishi, et al., 2009). Thus, poorer responders may reject unequal offers as a means of challenging inequality which they perceive as profoundly unfair (Oishi et al., 2011). Rather than accept some benefit from an unequal distribution, poorer responders were more inclined to ensure that nobody received any wealth. The net effect of a micro-social rejection of unequal distributions may serve to challenge a system premised on the disadvantaged accepting unfair offers.

Even though the pattern of results is consistent with previously established links between socio-economic position, concern for fairness, emotional response to unfair offers, and rejection rates within the Ultimatum Game paradigm, the small size of the stake (i.e., \$0.10) may be seen as a limitation to the external validity of the finding. In particular, one may wonder whether the pattern of results would remain the same if the stakes are higher.

Issues concerning stake size have long been recognized as a challenge for the external validity not only of the current study, but for all findings obtained within the Ultimatum Game (for an overview, see Hoffman, McCabe, & Smith, 1996). Researchers have therefore set out to examine whether the size of the stake matters, and what should be the

magnitude of the sum offered such that even grossly unfair offers are accepted by respondents (see Andersen, Ertaç, Gneezy, Hoffman, & List, 2011; Cameron, 1999; Muniera & Zaharia 2002; Slonim & Roth, 1998). Contrary to common intuition, several studies have found that respondents do not markedly change their behavior as the stakes increase (Cameron, 1999; Muniera & Zaharia 2002; Slonim & Roth, 1998), even when they reached the equivalent of three months wage (Cameron, 1999). Part of the problem in establishing the precise effect of the stake in these studies was that proposers tended to adhere to broadly fair offers. In a recent study conducted in India, Andersen and colleagues (2011) controlled the percentage offered and utilized stakes amounting to the average wage for 2h (20 rupee), 1 day (100 rupee), 2 days (200 rupees), a month (2,000 rupee), and a year (20,000 rupee). These authors found that for offers under 20%, rejection rate was approximately 40% when the stake was relatively small (up to 200 rupee). This finding is broadly consistent with the equal and wealthier respondent conditions in our study. Rejection rates fell to approximately 25% when the stake was a month worth of salary (2000 rupee). Only about 3% of the respondents rejected offers lower than 20% when the stake was very high (20, 000 rupee). In other words, while stakes indeed change respondents' tendency to reject unfair offers, this change occurs only when the stakes are very high indeed. In the current study the \$0.10 offer comprised 33% of the fee for participation. Although small in absolute terms, the benefit of accepting an unfair offer would have resulted in a substantial increase in payment for our participants. Therefore, while generalizations based on this finding should be made with care, the current results seem not to differ from the typical findings obtained within the Ultimatum Game.

General Discussion

The findings of the current study point to ways in which unequal societies are both maintained and challenged. Making people feel wealthier appears to prime the pursuit of self-interest and pushes them towards micro-social transactions that maintain and deepen inequality by concentrating the wealth of the rich and the poverty of the poor. By contrast, making people feel poorer appears to prime the pursuit of fairness and pushes them towards distributions of wealth that challenge inequality by benefiting the poor relative to the rich and rejecting unequal distributions.

In the absence of corrective mechanisms inequality rapidly increases (Neckerman & Torche, 2007; Piketty, 2014). There are many causes of this process – financial (e.g., investment returns), political (e.g., flat taxation), and socio-demographic (e.g., unequal access to education). The current study suggests that psychological mechanisms are also at play. In particular, wealthier people may tend to pursue personal gain and be less concerned about fairness. In situation of interdependent micro-social transactions this proclivity can take the form of offering unfair distributions to the poor and being inclined to tolerate unfair distributions themselves. This willingness to endorse and tolerate inequality could serve to consolidate wealth in the hands of the few. Since the wealthy typically have the resources to be divided in society, if left unfettered such a bias may lead to an increase in inequality, further deepening the gap between the advantaged and disadvantaged. In line with this reasoning, charity donation research revealed that poorer citizens give nearly 5 times (\$9.34 billion) more than the wealthy (\$1.93billion) to causes aimed at alleviating poverty and meeting basic needs (The Center of Philanthropy, 2007; for a similar findings see Jones & Posnett, 2001).

Our findings also suggest that the poor are prepared to challenge and reject inequality, even when it is not in their immediate self-interest to do so. The precise reasons

for this rejection are currently unclear. By rejecting unequal offers, the poor may communicate that such inequality is unacceptable. Another possibility is that the poor are responding with anger to the perceived injustice of an unfair distribution. From previous research it is clear that poor people view inequality as unjust (Oishi et al., 2011) and that injustice evokes anger (Haidt, 2003), which may motivate the desire to punish an unfair proposer. The emotional tone evoked by inequality may countermand the rational acceptance of unequal distributions (van't Wout, Kahn, Sanfey, Aleman, 2006; Yamagashi et al., 2009).

At least two alternative psychological explanations of the current findings could be offered; system justification and ingroup favouritism. Both theories help explain the differential division of resources in society, and both play out at every level of the social gradient. We believe, however, that both offer weaker explanations of the current findings than concerns for self-interest and fairness.

System justification theory argues that people are motivated to bolster and defend the status quo (for a review see Jost, Banaji, & Nosek, 2004). Importantly, this endorsement of the status quo is strong, perhaps even stronger, amongst people at the bottom of the social hierarchy. At first blush our research may seem to fit with system justification theory – especially for wealthier participants. However, poorer participants clearly do not support the status quo and act to challenge it through both resource distribution (Study 1) and refusing to accept unfair offers (Study 2). Combined, these responses indicate that the poor wish to reverse inequality and refuse to accept a position of poverty; both indicating an unwillingness to support the status quo. This finding is consistent with the findings of Brandt (2013) whose analyses of representative international datasets found no support for the claim that the disadvantaged support the status quo, contrary to what could be predicted by

system justification theory. In addition to showing a challenge to unequal systems by the poor, our studies provide experimental evidence that this group acts against system justification concerns. Wealthier participants in Study 1, however, act in a system justifying manner; they share wealth with the wealthy and deny wealth to the poor, perpetuating economic inequality. Yet, in Study 2 they accept unfair offers which would mean a reversal of inequality. Looking across both studies, it appears that the wealthy are less interested in maintaining the economic order and rather seek to maximize their self-interest

Alternatively, one may suggest that these studies simply demonstrate the well-established phenomenon of ingroup favouritism. Although this may explain the finding that both poorer and wealthier participants provide fairer offers to people of the same economic position, it has more difficulty accounting for the findings of Study 2. In Study 2 we deliberately did not reveal the economic status of the proposer, eliminating explicit intergroup comparison. Further, the independent variable, manipulation check, and dependent variable were all self-focused rather than group-focused. Finally, it is difficult to see how wealthy people accepting unfair offers serves to favour their ingroup. If the wealthy, as a group, accepted unfair divisions of wealth they would rapidly lose their economic rank. Ultimately, although we do not believe it fits these findings, an ingroup favouritism explanation would nevertheless indicate a mechanism via which unequal systems are challenged or perpetuated.

In sum, the current paper maps micro-social processes that may both sustain and challenge economic inequality. The rich tend to get richer; offering unequal distributions to the poor and accepting unequal distributions that increase their wealth. By contrast, the poor get even; offering unequal distributions to the rich and rejecting unequal distributions even if it costs them. It appears that perceived differences in socio-economic standing

create a tension in micro-social transactions; the wealthy act to maintain inequality, the poor to challenge it.

References

Andersen, S., Ertac, S., Gneezy, U., Hoffman, M., & List, J. (2011). Stakes matter in the ultimatum game. *American Economic Review*, 101, 3427-3439.

- Bearden, J.N. (2001). *Ultimatum Bargaining Experiments: The State of the Art*. Working paper, University of North Carolina, Chapel Hill. Available at SSRN: <http://ssrn.com/abstract=626183>
- Bratanova, B., Loughnan, S., Klein, O., Claassen, A. & Wood, R. (2015). Poverty, inequality, and increased consumption of high calorie food: Experimental evidence for a causal link. *Manuscript under review*.
- Buhrmester, M., Kwang, T., & Gosling, S. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6, 3-5.
- Cameron, L. (1999). Raising the stakes in the Ultimatum Game: Experimental Evidence from Indonesia. *Economic Inquiry*, 37, 47-59.
- Güth, W., & Tietz, R. (1990). Ultimatum bargaining behavior: A survey and comparison of experimental results. *Journal of Economic Psychology*, 11, 417-449.
- Haidt, J. (2003). The moral emotions. In R.J. Davidson, K. R. Scherer, & H.H. Goldsmith (eds.) *Handbook of affective sciences* (pp. 852-870). New York: Oxford University Press.
- Haidt, J. (2007). The new synthesis in moral psychology. *Science*, 316, 998-1002.
- Hoffman, E., McCabe, K., & Smith, V. (1996). On expectations and the monetary stakes in ultimatum game. *International Journal of Game Theory*, 25, 289-301.
- Jones, A., & Posner, J. (1991). Charitable donations by UK households: Evidence from the Family Expenditure Survey. *Applied Economics*, 23, 343-351.
- Jost, J., Banaji, M., & Nosek, B. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology*, 25, 881-919.
- Knoch, D., Pascual-Leone, A., Meyer, K., Treyer, V., & Fehr, E. (2006). Diminishing Reciprocal Fairness by Disrupting the Right Prefrontal Cortex. *Science*, 314, 829-832.

- Kunz-Ebrect, S. R., Kirschbaum, C., Marmot, M., Steptoe, A. (2004). Differences in cortisol awakening response on work days and weekends in woman and men from the Whitehall II cohort. *Psychoneuroendocrinology, 29*, 516–528.
- Loughnan, S., Kuppens, P., Allik, J., Balazs, K., de Lemus, S., Dumont, K., Gargurevich, R., Hidegkuti, I., Leidner, B., Matos, L., Park., J., Realo, A., Shi, J., Sojo, V., Tong, Y-Y., Vaes, J., Verduyn, P., Yeung, V., & Haslam., N (2011). Economic inequality is linked to biased self-perception. *Psychological Science, 22*, 1254-1258.
- Marmot, M., Stansfeld, S., Patel, C., North, F., Head, J., White, I., Brunner, E., Feeney, A., Marmot, M., & Smith, G. (1991). Health inequalities among British civil servants: the Whitehall II study. *The Lancet, 337*, 1387-1393.
- Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods, 17*, 437–455.
- Munier, B., & Zaharia, C. (2002). High sand acceptance behavior in Ultimatum bargaining: A contribution from an international experiment. *Theory and Decision, 53*, 187- 207.
- Mussweiler, T. (2003). Comparison processes in social judgment: Mechanisms and consequences. *Psychological Review, 110*, 472-489.
- Neckerman, K., & Torche, F. (2007). Inequality: Causes and Consequences. *Annual Review of Sociology, 33*, 335-357.
- Neville, L. (2012). Do economic equality and generalized trust inhibit academic dishonesty? Evidence from state-level search-engine queries. *Psychological Science, 23*, 339-345.
- Nowak, M. A., Page, K. M., & Sigmund, K. (2000). Fairness versus reason in the ultimatum game. *Science, 289*, 1773–1775.

OECD (2015). *In It Together: Why Less Inequality Benefits All*. OECD Publishing, Paris.

DOI: <http://dx.doi.org/10.1787/9789264235120-en>

Oishi, S., Kesebir, S., & Diener, E. (2011). Income inequality and happiness. *Psychological Science, 22*, 1095-1100.

Piketty, T. (2014). *Capital in the 21st Century*. Cambridge, MA: Harvard University Press.

Simmons, J., Nelson, L. D., Simonsohn, U. (2011), False-positive Psychology: Undisclosed flexibility in data collection and analysis allows presenting anything as significant. *Psychological Science, 22*, 1359-1366.

Slonim, R. & Roth, A. (1998). Learning in high stakes Ultimatum Games: An experiment in Slovak Republic. *Econometrica, 66*, 569-596.

Tajfel, H., & Turner, J.C. (1986). The social identity theory of inter-group behavior. In S. Worchel & L.W. Austin (Eds.), *Psychology of Intergroup Relations*. Chicago: Nelson-Hall.

The Center of Philanthropy, (2007). *Patterns of Household Charitable Giving by Income Group, 2005*. Retrieved on 09.01.2012 from <http://www.philanthropy.iupui.edu/research/giving%20focused%20on%20meeting%20needs%20of%20the%20poor%20july%202007.pdf>

Uslander, E (2002). *The Moral Foundation of Trust*. Cambridge: Cambridge University Press.

van't Wout, M., Kahn, R.S., Sanfey, A.G., Aleman, A. (2006). Affective state and decision-making in the Ultimatum Game. *Experimental Brain Research, 169*, 564–68.

Wilkinson, R., & Pickett, K. (2006). Income inequality and population health: a review and explanation of the evidence. *Social Science & Medicine, 62*, 1768-1784.

Wilkinson, R., & Pickett, K. (2009). *The spirit level: why equality is better for everyone*. Penguin.

World Health Organization (2008). *Closing the gap in a generation: Health equity through action on the social determinants of health*. Retrieved on 09.01.2012 from http://whqlibdoc.who.int/publications/2008/9789241563703_eng.pdf

Yamagishi, T., Horita, Y., Takagishi, H., Shinada, M., Tanida, S., & Cook, K. S. (2009). The private rejection of unfair offers. *Proceedings of the National Academy of Science*, *106*, 11520-11523.

Zhou, X., & Wu, Y. (2011). Sharing losses and sharing gains: Increased demand for fairness under adversity. *Journal of Experimental Social Psychology*, *47*, 582-588.

Footnotes:

¹ Due to the high number of excluded participants, to reduce the likelihood of Type I error we conducted the substantive analyses reported in the Results section using the whole sample from which only the extreme (beyond +/-3SDs) outliers were excluded (cf. Simmons, Nelson, & Simonsohn, 2011). The obtained results were comparable to those reported after the exclusion of the 69 participants. The 2(proposer: poorer vs. wealthier) x 2(responder: poorer vs. wealthier) ANOVA analysis revealed a significant interaction, $F(3,149)=6.58, p=.011, \eta_p^2=.042$. As in the main analysis, a Levine's test revealed a violation of the assumption of homogeneity ($p \leq .001$) in both the wealthier and poorer proposer conditions. Adjusted independent-samples t-test further showed that poorer proposers offered significantly more money to poorer ($M=.49, SD=.05$) than to wealthier responders ($M=.44, SD=.12$), $t(48.44)=2.61, p=.012$. As in the main analysis, wealthier proposers offered more money to wealthier ($M=.49, SD=.07$) than to poorer responders ($M=.46, SD=.11$), although the difference did not reach significance, $t(64.84)=1.07, p=.289$. These findings show that the exclusion of participants who did not follow the instructions accurately affected the significance but not the pattern of results.

² The same pattern of results was also obtained via non-parametric logit analysis.

Figure Captions:

Figure 1. Offers as a function of proposers' and responders' socio-economic position. The error bars represent the standard error of the mean in each condition.

Figure 2. Rejection rate as a function of responders' socio-economic position.

Figure 1

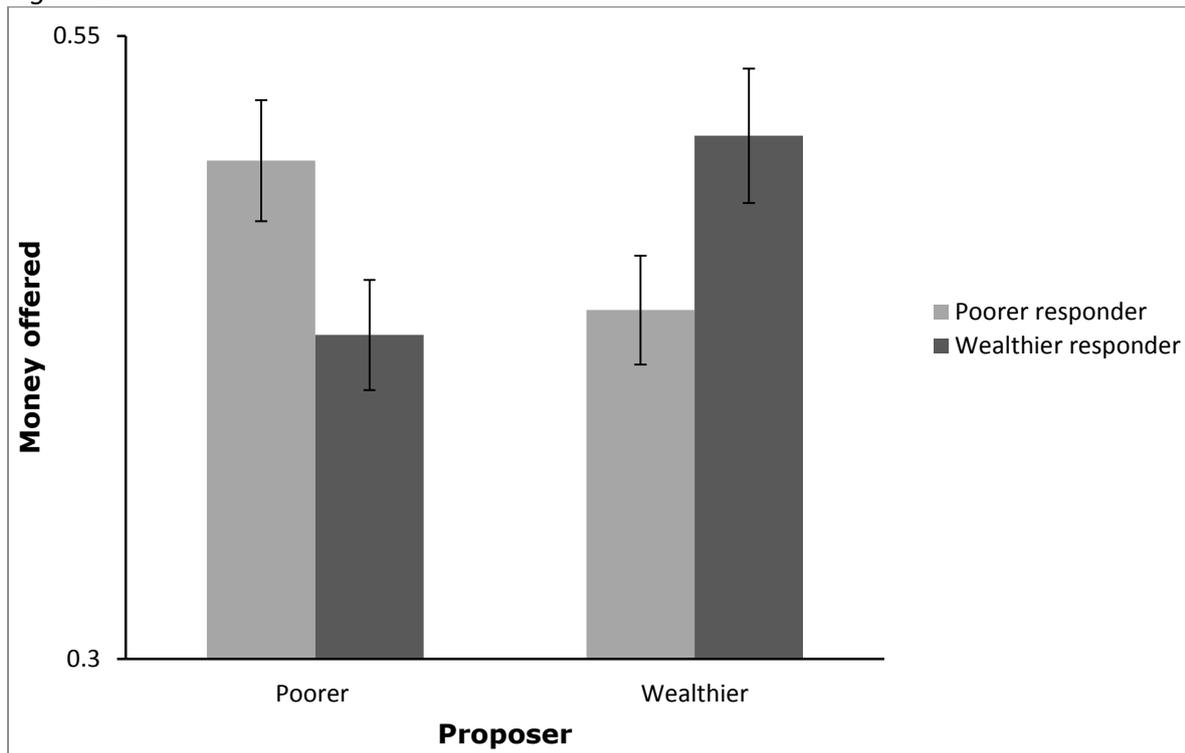


Figure 2

