

Social context and fairness perceptions: The role of status

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Abstract

This study investigates how induced relative status affects fairness perceptions measured by satisfaction from different relative payoffs. We find that participants with lower status are less dissatisfied with disadvantageous payoff inequalities than equal or higher status participants. In contrast, when receiving an advantageous payoff, status does not influence satisfaction. Our findings suggest that relative social status has important implications for the acceptance of income inequalities.

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1 Introduction

In this paper we show that social context in terms of relative status matters for individual fairness perceptions. When receiving a lower relative payoff than another individual, participants are less satisfied when they have a higher status compared to an equal or lower status. In contrast, status does not influence participants' reported satisfaction when they experience an advantageous payoff inequality. This asymmetric impact of status on individual fairness perceptions reveals an important incompleteness of existing fairness models and has far reaching implications for our understanding of the persistence of economic inequality.

Relative social status has been shown to have various implications, for example, influencing social behavior (Piff, et al., 2010; 2012), perceptions of deservingness (Hong & Bohnet, 2007) and even life satisfaction (Boyce et al., 2010). Several studies confirm that being ranked high on a status scale is strongly associated with increased economic benefits and entitlements (Ball & Eckel, 1997; Ball et al., 2001; von Essen & Ranehill, 2010). However, little is known about how status affects fairness perceptions. For example, Loewenstein et al. (1989), investigate the influence of social context other than status. They show that the relationship between individuals influences fairness perceptions: When the relationship is friendly, individuals seem to dislike receiving a higher payoff than an opponent. When the relationship is antagonistic, individuals do not seem to care for the payoff of an opponent, as long as it is less than or equal to their own. However, different to our study, Loewenstein et al. do not manipulate status; further they use fictive scenarios and the decisions are not incentivized.

2 Design of the Experiment

In the experiment we first induce different relative status. In a second step, subjects are confronted with different payoff allocations which they have to evaluate.

Relative status is induced by means of a trivia quiz which consists of 30 questions, each presented with four alternative answers of which only one is correct.⁴ Based on the total quiz score, participants are assigned to three different groups: a *low*, a *medium*, and a *high* score group. The four highest-scoring participants of each experimental session are allocated to the

⁴For example: "How fast does Pluto move in its orbit around the sun? A) 5.7km/s, B) 6.1km/s, C) 6.8km/s or D) 4.7km/s." The quiz in its full length is displayed in the Appendix.

high score group, and the four lowest scoring participants are allocated to the low score group. Accordingly, the medium score group consists of the 16 to 20 participants per session who scored lower than the high score group but higher than the low score group; and who scored similarly as participants of their own group. Thus, we can fully vary status in all directions within individuals in the medium score group. Participants are aware of how groups are constructed.⁵

Trivia quiz have previously been used to successfully induce ability-dependent status in laboratory studies (Ball et al., 2001; Gächter & Riedl, 2006). In our experiment, we use a difficult multiple choice quiz to create a status based on a mixture of ability (knowing the correct answers) and chance (guessing the correct answers). This is an appropriate way to induce status, given that when acquiring status both ability and coincidence possibly play an important role.

In the second part of the study we measure fairness perceptions. Each participant is presented with a series of payoff allocations, and asked to rate each allocation on a scale ranging between -5 to +5. More specifically, participants are asked: “How happy are you with the following payoff allocation between you and the other participant?” For each allocation, a star indicates who scored higher on the quiz. If no star appears both participants belong to the same status group. We use the star, since this symbol is commonly associated with a higher rank; for instance in military, or in the hotel and restaurant businesses. Participants are explicitly told that “the size of the payoff is independent of the quiz result.”

In total, participants from the medium score group (intermediate status group) are presented with 15 payoff allocations.⁶ In our analyses, we concentrate on the nine allocations in which the participant himself always receives EUR 20 (Table 1). We do so in order to hold absolute own payoff constant and hence avoid effects of absolute income. This yields two factors (*status* and *relative payoff*) and allows us to compare all possible combinations between higher, same and lower status and advantageous, equitable and disadvantageous relative payoff, respectively.

⁵Instructions are provided in the Appendix.

⁶Participants from the high and low status groups were only presented with reward allocations between themselves and lower or higher status participants, respectively.

Table 1. Payoff allocations in EUR (D=disadvantageous, A=advantageous, E=equitable). To prevent subjects from repeatedly seeing the exact same monetary amounts, we varied the rewards within a 10% interval from the mean.

Own status	Payoffs (D)	Payoffs (E)	Payoffs (A)
Lower	20:30	20:20	20:10
Same	20:30	20:20	20:10
Higher	20:30	20:20	20:10

Since previous literature indicates that men’s behavior is more sensitive to status than women’s behavior (e.g. Huberman et al., 2004), we invited only men to participate. In total, 133 men (mean age: 25 years) participated. Across the six sessions we conducted, 24 participants were allocated to the high status group, 24 to the low status group, and 85 to the intermediate status group.⁷ All participants received EUR 4 for participating. In addition one of the fifteen allocations was randomly chosen for payment. Participants earned on average EUR 24 (~USD 31).

3 Results and Discussion

Our variable of interest is the satisfaction rating of individuals from the intermediate group since only this group faces opponents from all three status groups.⁸ All analyses were conducted using the Wilcoxon Test. Figure 1 provides an overview of the results and Table 2 displays the according means and p-values.

⁷Participants were recruited via ORSEE (Greiner et al., 2003) and the experiment was programmed with z-Tree (Fischbacher, 2007). The study was conducted in the BonnEconLab in Germany.

⁸When analyzing the satisfaction ratings of the high and low status groups, we find a similar result pattern as for the intermediate status group (see Appendix).

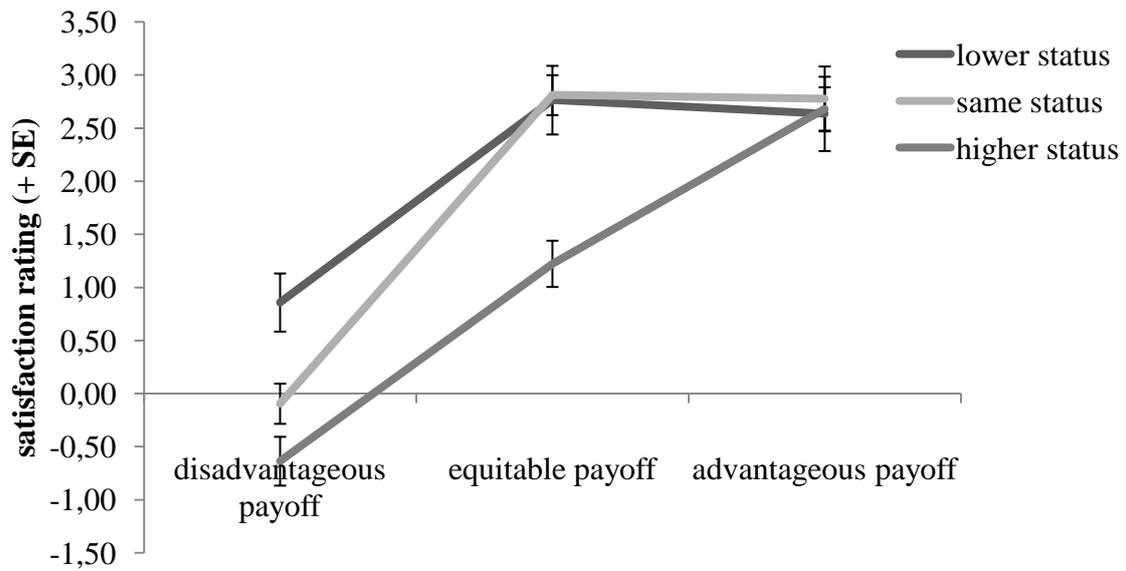


Figure 1. The x-axis displays the relative payoffs and the y-axis displays satisfaction ratings concerning these relative payoffs.

As Figure 1 shows, disadvantageous payoffs are rated less satisfactory than advantageous and equitable payoffs, irrespective of relative status. This finding supports previous studies showing that equitable payoffs are preferred to disadvantageous payoffs (e.g. Loewenstein et al., 1989) and that fairness preferences are asymmetric; disadvantageous inequity is less satisfactory than advantageous inequity (Fehr & Schmidt, 1999).

Table 2. Average satisfaction ratings concerning payoff allocations (D=disadvantageous, A=advantageous, E=equitable) and p-values of the Wilcoxon test.

Own status	satisfac- tion (D)	satisfac- tion (E)	satisfac- tion (A)	p-values (D vs. E)	p-values (A vs. D)	p-values (A vs. E)
lower	.86	2.76	2.64	<.001	<.001	.830
same	-0.09	2.81	2.78	<.001	<.001	.943
higher	-0.64	1.22	2.68	<.001	<.001	<.001
p-values (higher vs. same)	.002	<.001	.552			
p-values (lower vs. same)	<.001	.723	.613			
p-values (higher vs. lower)	<.001	<.001	.945			

The influence of relative status on satisfaction ratings shows a striking asymmetry: While status affects satisfaction when payoffs are disadvantageous, it does not affect satisfaction when payoffs are advantageous. Figure 1 further shows that ratings of equitable payoff allocations stand in contrast to both ratings of disadvantageous and advantageous payoffs: Equitable payoff allocations are rated as equally satisfying when participants are of lower or same status, and as less satisfying when participants are of higher status. This asymmetric influence of relative status on satisfaction ratings shows that the extent to which status is taken into account depends on the interaction of who has the higher status (me or the other person) and of the relative payoff allocation. A possible explanation is that receiving a lower relative payoff triggers negative affect, which can be reduced by taking status into account. Yet, receiving a higher payoff does not trigger negative affect since it serves an individual's self-interest. Hence, participants might not consider it necessary to justify different payoff allocations when being advantaged, so status is not taken into account (see also the literature on selective perception, e.g. Eil & Rao, 2011).

When the participant has the same or a lower status than his opponent, advantageous and equitable payoffs are rated as equally satisfactory. However, when the participant has a higher status, equitable payoffs are rated as less satisfactory than advantageous payoffs. This can

possibly be due to a feeling of entitlement to get more when having a higher status. Again, a subject might feel entitled to more when possessing higher status, but not entitled to less when possessing lower status, because this would not be in his self-interest.

When we compare satisfaction ratings across relative payoff allocations, we find that possessing lower status is in general more satisfactory (mean: 1.09) than higher status (mean: 2.09); ($p < .001$). This suggests that being of inferior social status yields a higher acceptance of disadvantageous income inequalities. Altogether, this may contribute to an explanation of why economic inequality is often accepted and persists in most societies.

4 Concluding Remarks

Our findings highlight an important shortcoming of existing research on fairness perceptions; the study of social context. Future research should include status and social context in general in models of social preferences such as fairness concerns (e.g. Falk & Fischbacher, 2006; Fehr & Schmidt, 1999). These models have significantly enhanced our understanding of what is perceived as fair in terms of inequity aversion; however, they remain silent on how fairness perceptions and accordingly satisfaction with varying relative payoffs interact with social context.

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Appendix

A1: TRIVIA QUIZ

A2: TABLE OF RESULTS FROM HIGH AND LOW STATUS GROUPS

A3: INSTRUCTIONS STAGE 1

A4: INSTRUCTIONS STAGE 2

A1: TRIVIA QUIZ

1. How long is the longest highway in the world?
7000 miles
8000 miles
9000 miles
6000 miles
2. How long is the English channel?
612 kilometers
564 kilometers
551 kilometers
627 kilometers
3. Where do you find the largest bell in the world?
Tsar Kolokol, Kremlin, Moscow
Great Bell of Kyoto, Chion-In Temple, Kyoto
Liberty Bell, Liberty Bell Center, Philadelphia
Big Ben, St. Stephen's Tower, London
4. Which country is the primary producer of news print in the world?
USA
Great Britain
Japan
Canada
5. The Vinson Massif is the highest mountain of which continent?
Antarctica
North America
Australia
Africa
6. World record speed attained in a helicopter?
239 mph
198 mph

249 mph

158 mph

7. How much did it cost to run the BBC website 2002?

72 million Pound

65 million Pound

59 million Pound

48 million Pound

8. The royal mint is recognized as the oldest established business in the UK - what year?

1886

1897

1901

1902

9. How many nuclear reactors are there in the UK?

35

40

45

50

10. In post World War II general elections, in which year did the Conservative Party in the United Kingdom achieve its highest ever number of votes?

1989

1990

1991

1992

11. In what year was 3rd Class rail travel abolished in the UK ?

1958

1957

1956

1955

12. Braxy is a fatal bacterial infection in which animal?
- Cow
 - Horse
 - Sheep
 - Pig
13. Who became president of Uganda after Idi Amin was overthrown in 1980?
- Milton Obote.
 - Benedicto Kiwanuka
 - Paulo Muwanga
 - Tito Okello
14. How much water falls down the 54 m high Niagara falls per second
- 1000 m³
 - 1500 m³
 - 2000 m³
 - 2500 m³
15. How fast does Pluto move in its orbit around the sun
- 4,7 km/s
 - 5.7 km/s
 - 6.1 km/s
 - 6.8 km/s
16. The group ABBA is one of Swedens most wellknown pop groups. How many records have they sold by now
- 300 million
 - 400 million
 - 500 million
 - 600 million
17. Which of these animals walk like a camel?
- the cat
 - the dog
 - the sheep

the horse

18. Which country is the world's leading egg producer?

Japan

China

Vietnam

Korea

19. Which of these countries have most tractors per capita?

Iceland

Canada

Japan

Australia

20. What is the least popular month for U.S. weddings?

January

February

November

December

21. How many days does a cat usually stay in heat?

Five

Six

Seven

Eight

22. How many known poisonous birds are there in the world?

None

One

Two

Three

23. What's the first word uttered in film Citizen Kane?

Rosebud

Xanadu

Kane

Susan

24. What European nation consumes more spicy Mexican food than any other?

Sweden

Finland

Denmark

Norway

25. Buckminster Fuller's innovative inventor's Dymaxion car could carry eleven passengers, exceed 120 mph and get 30 miles per gallon in what year was this?

1937

1934

1928

1927

26. In what year did the boxer George Foreman make his first title defense in 21 years?

1994

1995

1996

1997

27. How hot is the core of the sun, in degrees Fahrenheit?

32,000,000 degrees Fahrenheit

27,000,000 degrees Fahrenheit

20,000,000 degrees Fahrenheit

18,000,000 degrees Fahrenheit

28. In what year did London lose 4,000 people to a "killer fog" of carbon dioxide?

1949

1952

1954

1955

29. How many days can an ant survive under water?

One

Two

Three

Four

30. What is the maximum flight speed of a Boeing 747-300 jetliner?

611 miles per hour

599 miles per hour

583 miles per hour

488 miles per hour

How much does the Eiffel tower weigh in tons? _____⁹

⁹ If participants scores turn out to be equal in the multiple-choice quiz, we use this question as a tie-breaker.

A2: RESULTS OF HIGH AND LOW STATUS GROUPS

The effect of status and relative income on satisfaction in the low and high status groups. AI = advantageous inequity, DI = disadvantageous inequity, E = equity.

TABLE A2.1: Average satisfaction ratings and p-values in low status group (i.e. subjects face higher status only)

Own status	satisfac- tion (D)	satisfac- tion (E)	satisfac- tion (A)	p-values (D vs. E)	p-values (A vs. D)	p-values (A vs E)
lower	1.83	2.88	2.92	.139	.043	.754

TABLE A2.2: Average satisfaction ratings and p-values in high status group (i.e. subjects face lower status only)

Own status	satisfac- tion (D)	satisfac- tion (E)	satisfac- tion (A)	p-values (D vs. E)	p-values (A vs. D)	p-values (A vs E)
higher	-1.63	0.96	2.42	<.001	.052	.069

A3: INSTRUCTIONS (stage 1)

Thanks for participating in this study in economics!

Please read the following instructions carefully. They contain everything you need to know in order to participate in the study. If you have any questions after having read the text below, please raise your hand and we will come to you.

You will be presented with 40 questions one after the other on the computer screen. These questions could be perceived as difficult, but we ask you to think it through and give each question a try. In case you have no idea, make your best guess and choose one of the alternatives. Most people will not know the answer to any of these questions, but have to guess. To answer a question you simply click on the alternative that you think is correct. The next question will then appear automatically. There is no time limit for answering a question, so you can take as much time you need for answering each question.

Please wait after you have finished all questions. The second part of today's study will start soon.

A4: INSTRUCTIONS (stage 2)

Please read the following instructions carefully. They contain everything you need to know for your participation. Should you have any questions after having read the text below please raise your hand and we will come to you to answer your question.

Now, in a number of settings, you will be randomly paired with different persons who also participated in the questionnaire in part 1 of this study. In each trial you will be presented with monetary amounts for you and the other person.

In detail you will, before every setting, be asked to click on a grey rectangle. Through this procedure it will be randomly determined what other person will be your counterpart in the trial, and consecutively how much you and this other person will receive. The size of the payoff is independent of the quiz result.

As soon as you clicked on the rectangle, it will become clear who are playing with. For instance, it may then read: "Please press a button to see the amount the other person* will receive and the amount you will receive." A star is used to indicate the player who scored higher in the quiz last week. When, as in this example, a star appears behind "the other person", it means that he had a higher score than you on the quiz. If, on the other hand, the star appears after the „you“, it means that you were the player with the higher score. When there is neither an asterisk behind "the other person" nor behind the "you", it means that you both performed about equally well on the quiz. When you will press a button now, two amounts will be presented, one will be allotted to the other person, and one will be allotted to you.

The stars are presented according to the quiz score. There will be three groups. One group consists of the four participants with the highest scores. Another group consists of the four participants with the lowest scores. The remaining participants, whose scores are between those of the four best and four worst participants, also form a group. So when there is no star displayed, it means you and your opponent are in the same group. When there is a star behind "the other person", this means that your opponent is from a better group. A star behind "you" means that your opponent is from a worse group.

Afterwards, you will be asked to press a button. After you did this, two monetary rewards are displayed. One of the rewards will be for the other person and one will be for you. Then a scale will be presented on which you shall evaluate how satisfied you were with the allocation

of the amounts. If you choose “-5”, this means you are very unsatisfied, a “0” means you are neither satisfied nor unsatisfied, and an “+5” means you are very satisfied. Other numbers accordingly mean an in-between value on the scale.

This is how the scale looks:



This session will last approximately 20 minutes.

After the study is over, one of the trials you faced will be randomly chosen. You will be paid according to the outcome in this trial. The drawing of the trial that will actually be paid is random and independent of how satisfied you were. The other person of this trial will also receive money according to the amount which was displayed next to his initials. The draw will be random, and although it is possible that “the other person” presented to you is repeatedly the same, it will be guaranteed that every person, including you, will only receive one payment.

If you have any questions, please ask them now. Otherwise please wait until we will tell you when to start.