



Who are the trustworthy, we think?

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ABSTRACT

A representative Swedish sample was asked to judge the relative trustworthiness of people from different groups, characterized by several dimensions such as political views and reading habits. A significant similarity effect was found in each of the seven dimensions analyzed. For example, rightwing voters consider Social Democratic voters to be much less trustworthy than rightwing voters, and vice versa. Thus, perceived trustworthiness appears to decrease generally with social distance, for which social identity theory offers a plausible explanation. Moreover, people who are old and live in small cities are generally considered more trustworthy than young people living in big cities. The results suggest reasons behind discrimination other than those underlying taste-based and statistical discrimination.

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1. Introduction

Society depends on trust between people in order to function well in many different ways (see e.g. Arrow, 1972; Fukuyama, 1995; Seabright, 2004). From an individual point of view, however, it is less clear that increased trust is beneficial since it depends on whether others will exploit the vulnerability that is associated with trusting someone. On the other hand, it is always beneficial for an individual to be *perceived trustworthy*, whether he actually is trustworthy or not. Obvious real life examples include the chance to borrow money, sell a used car, and get a job. It is therefore important to analyze whom people in general consider to be more and less trustworthy, which is the task of this paper. In order to fulfill that task, we simply asked a representative sample in Sweden explicit questions about the relative extent to which they consider people belonging to different groups to be trustworthy.

Most other survey-based economic research on trust otherwise focuses on differences in the extent to which people trust others in general (e.g. Alesina and La Ferrara, 2002; Slemrod and Katuscak, 2005) or particular public institutions or on these issues in light of corresponding implications such as differences in countries' growth rates (e.g. Knack and Keefer, 1997; Zak and Knack, 2001), but not on differences in the extent to which different kinds of people are considered trustworthy. Based on the so-called trust (or investment) game (Berg et al., 1995), several studies in the experimental literature have with

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mixed results¹ investigated whether trust depends on the social distance between people.² However, there is increasing skepticism about the extent to which trust games really measure trust (see e.g. Cox, 2004; Johansson-Stenman et al., 2005, 2006; Karlan, 2005; Schechter, 2007). Moreover, and more fundamentally, what we are interested in here is not trust but *perceived trustworthiness*. The distinction is important since I may trust another person because I believe that he or she (e.g. one's spouse or close friend) will behave particularly trustworthy *towards me*. A Hells Angels member Adam may trust another member Bill more than he trusts Carl who is not a member, but at the same time realize that Bill is generally less trustworthy than Carl.

Moreover, even among anonymous people, the degree of trustworthiness may differ depending on some observed characteristics of the trusting person. Consider for example the situation where a person is looking for a job. The personnel will not judge whether the applicant will be trustworthy towards them personally, but will rather try to judge whether he or she is a trustworthy person in general and hence suitable for the firm to employ. The same applies when a person would like to borrow money from a bank. It should be obvious then that observed differences in the perceived level of trustworthiness among different groups of people may be important for our understanding of discrimination, including labor market discrimination.

This paper does not deal with ethnicity, race, or religion *per se*. Rather, we are interested in the broader underlying issue of whether it is true that we consider people who are more similar to ourselves to be more trustworthy, *ceteris paribus*. The answer from this study is Yes. We asked people to judge the extent to which different groups of people are considered trustworthy in seven dimensions, of which some are not often investigated such as whether people read books or not or whether they live in small or big cities. We found a significant effect of similarity on perceived trustworthiness in each of the dimensions analyzed. Thus, it seems that perceived trustworthiness decreases quite generally with social distance. These results can be seen as examples of in-group bias, that is, that people belonging to the same group as oneself are evaluated and treated better than people outside the group. This is a phenomenon that psychologists such as Brewer (1979) have long observed, but that economists have only recently started to investigate (see Bernhard et al., 2006 and Goette et al., 2006 for recent experimental evidence).

Moreover, we also found some general differences between the perceived trustworthiness of people from different groups, particularly that older people are considered more trustworthy than younger and that people living in small cities are considered more trustworthy than people living in big cities. The remainder of this paper is organized as follows: The survey design and descriptive results are presented in Section 2, whereas Section 3 presents econometric results, and Section 4 discusses the implications of the results (in particular in terms of discrimination) and concludes the paper.

2. The survey and results

The survey was mailed to 1400 randomly selected adults above the age of 18 in Sweden during the spring of 2002. The response rate of the overall survey was 58 percent. Due to missing responses of the targeted questions, the number of observations included in the analysis is around 700, or about 50 percent of the total selected sample. The questionnaire consisted of an introductory text where the subjects were thanked for taking the time to answer our survey, followed by questions under six different headlines: (i) Questions about wages and justice. (ii) Which people are more trustworthy? (iii) What is important in a friend? (iv) Motives for voting. (v) Questions about pensions. (vi) Questions about you and your background. Thus, the trustworthiness question that concerns us came early in the questionnaire (this was the only question in the second section), whereas all background questions regarding political preferences, reading habits, age, and so on appeared in the last section. This is potentially important since if the order had been reversed, the reminder about their own characteristics could have influenced their subsequent responses on the trustworthiness question. The analyzed sample is fairly representative of the overall underlying sample of adults in Sweden; the last column of Table 3 provides mean values and standard deviations of the explanatory variables used. We have a slight over-representation of women and university-educated as well as middle-aged people.

The interest in using survey methodology has increased recently not only within the trust and social capital literature, but also within many other fields of economics such as happiness research (e.g. Di Tella et al., 2001, 2003; Luttmer, 2005), concerns about relative income (e.g. Johansson-Stenman et al., 2002; Solnick and Hemenway, 2005), wage setting in labor economics (e.g. Agell and Lundborg, 2003; Agell, 2004), and public economics (e.g. Fong, 2001; Alesina and La Ferrara, 2005a). Despite this, a large share of economists (in contrast to many other social scientists) apparently remain skeptical to survey

¹ Studies that found no significant differences in the levels of trust, as measured by the amount sent in the trust game, include Glaeser et al. (2000), analysing race and nationality in a US student sample, Willinger et al. (2003) between French and German students, Bouckaert and Dhaene (2004) between Belgian-origin and Turkish-origin business men, and Johansson-Stenman et al. (in press) between Hindus and Muslims in Bangladesh. On the other hand, Fershtman and Gneezy (2001) found a mistrust of men of Eastern origin among Jewish Israeli students, and Fershtman et al. (2005) found that Flemish and Walloon students in Belgium trusted each other less than they trusted students of their own group and that students at an ultra-orthodox institution in Israel trusted students from a secular institution less than students from another ultra-orthodox institution, and vice versa. Buchan and Croson (2004) found in a hypothetical trust experiment that students in the US and China would send much more to close relatives or students they knew well in comparison to unknown students or strangers.

² The term *social distance* is here used broadly in the same way as it is defined in the Encyclopedia of Psychology (2000): "The perceived distance between individuals and groups."

evidence (Bertrand and Mullainathan, 2001). This may partly be explained by economists' emphasis on monetary incentives; if people's behaviors are assumed to be motivated solely by material incentives, it is indeed hard to understand why they would respond truthfully to survey questions.

However, people are evidently motivated by many other factors, and some issues that we are intrinsically interested in are moreover difficult to analyze empirically with revealed preference methodologies. According to Sen (1973, p. 258), "We have been too prone, on the one hand, to overstate the difficulties of introspection and communication and, on the other, to underestimate the problems of studying preferences revealed by observed behavior." Still, the skeptics do have good arguments, in particular when dealing with ethical issues where people may overestimate the extent to which they would act ethically in real life (e.g. Kahneman and Knetsch, 1992; Kahneman et al., 1999).

In our case one may expect that many people consider it more "honorable," or that it reflects less prejudice and is certainly more politically correct, to believe that there are no differences among groups of people with respect to their trustworthiness. For this reason one may expect the observed trustworthiness differences from the survey responses to be biased downwards. Indeed, it turned out that as many as 21.6 percent considered both groups of people equally trustworthy in each of the seven comparisons. It appears reasonable that many of these could be seen as protest responses, and that they largely reflect unease with comparing the trustworthiness of groups of different people. Since this is not what we are interested in measuring, one could argue that we should drop these responses. On the other hand, some of them may reflect genuine judgments, so they are therefore kept in the analysis. The estimated differences in perceived trustworthiness can then be seen as conservative.

In Table 1 there is nevertheless a clear tendency of people to consider those who are similar to themselves, in all dimensions analyzed, to be more trustworthy. For example, among rightwing voters³ more than 40 percent consider rightwing voters to be generally more trustworthy than Social Democratic voters and less than 2 percent consider Social Democratic voters to be more trustworthy. The pattern is reversed when Social Democratic voters are asked. Here almost 60 percent consider Social Democratic voters to be more trustworthy than rightwing voters, whereas only about 0.5 percent consider rightwing voters to be more trustworthy. In order to have a single measure that reflects relative trustworthiness, a simple balance measure is constructed as follows. Each response from left to right is coded as -2 , -1 , 0 , $+1$ and $+2$. Then the mean value of the responses for each comparison is calculated. If, for example, all respondents would have marked the "Group 2 a bit more" alternative, then the balance measure would equal 1, whereas if everybody would have marked the "Equally much" alternative, then the measure would equal zero. Thus, the higher the balance measure, the more the comparison group 2 is trusted compared to group 1, and vice versa. For example, Social Democratic voters on average mark the box 0.54 steps to the right, whereas rightwing voters mark the box 0.7 steps to the left, implying a difference of 1.24 steps, which is clearly substantial.

When comparing the balance measures of the compared sub-samples, we get the expected pattern in each of the comparisons considered. Respondents living in worker families consider industry workers to be more trustworthy than university educated people, whereas the opposite holds for university educated respondents. Similarly, respondents who are Christian believers consider Christian believers to be more trustworthy than convinced atheists, whereas the opposite holds for atheist respondents. There are less strong effects when comparing people with different reading habits and incomes, but the differences are in the expected, self-serving direction.⁴ We also see that both the young (below 30) and the old (above 45) believe that people around the age of 50 are more trustworthy than people around 25, although the latter respondents think so to a larger extent. This can be compared to the recent finding by Holm and Nystedt (2005) that senders in trust games prefer receivers of a similar age as themselves when they can choose the receivers. In the light of the findings here, this may not be because people of the same generation are considered more trustworthy generally, but rather that they believe that the receivers will behave particularly trustworthy towards them.

Are the respondents' judgments that older people are more trustworthy on average correct? According to the findings by List (2004), they probably are. He found in a number of field experiments that the strength of non-selfish social preferences increases with age, corrected for other variables. Similarly, both people living in big cities and those not living in big cities believe that people living in small cities are more trustworthy, although the latter think so to a larger extent.⁵ Considering the criminal statistics in virtually all countries, this overall judgment seems quite reasonable too. In summary, we see that the respondents believe that people who are similar to themselves in all analyzed dimensions are considered relatively more trustworthy. Moreover, in Table 2 it is shown that most of those observed differences between the sub-samples are highly significant, based on non-parametric tests.

³ Rightwing voters refers to those in the survey who answered that if there were an election today, they would vote for Moderata Samlingspartiet. This is the most rightwing party in the Swedish parliament and is typically the second biggest party after the Social Democratic Party.

⁴ "Lives in a working class family" is one out of six alternatives that could be chosen for the question "If you would describe your household today, which of the following categories is the best description?"; "University educated" is one out of three alternatives that could be chosen for the question "Which is your highest school education?"; "Convinced atheist" and "Christian believer" are two out of six alternatives that could be chosen for the question "Which outlook on life describes you best?"; "Every or almost every day" and "Never or very rarely" are the two extreme alternatives out of four alternatives regarding the question "How often do you read fiction, on average?". The equivalent household income is calculated as follows: Total monthly household income is divided by $(\text{number of adults} + 0.5 \times \text{number of children})^{0.75}$.

⁵ "Living in a big city" is defined as living in any of the three biggest cities in Sweden: Stockholm, Göteborg, or Malmö.

Table 1
Responses to questions about perceived relative trustworthiness between groups of people^{a,b}

Sample	<i>n</i>	Comparison group 1	Group 1 much more (%)	Group 1 a bit more (%)	Equally much (%)	Group 2 a bit more (%)	Group 2 much more (%)	Comparison group 2	Balance measure ^c
All	701	Rightwing party voters	3.6	9.3	61.2	20.8	5.1	Social Democratic voters	+0.15
Rightwing party voters	130	Rightwing party voters	14.6	26.9	56.8	0.8	0.8	Social Democratic voters	−0.54
Social Democratic voters	191	Rightwing party voters	0.0	0.5	41.9	45.0	12.6	Social Democratic voters	+0.70
All	703	Industry workers	6.0	12.8	68.1	10.8	2.3	University educated	−0.09
Lives in a “working class family”	253	Industry workers	10.7	16.6	66.0	4.7	2.0	University educated	−0.29
University educated	269	Industry workers	0.4	7.1	74.7	15.6	2.2	University educated	+0.12
All	705	People around age 25	1.0	3.0	55.6	31.4	9.1	People around age 50	+0.45
People aged 30 or below	149	People around age 25	0.7	7.4	59.1	26.9	6.0	People around age 50	+0.30
People aged 45 or above	556	People around age 25	1.4	1.1	50.9	34.3	12.3	People around age 50	+0.55
All	700	People living in big cities	1.3	4.0	55.0	29.7	10.0	People living in a small city	+0.43
People living in a big city	180	People living in big cities	3.3	3.9	61.1	28.3	3.3	People living in a small city	+0.24
People not living in a big city	520	People living in big cities	0.6	4.0	52.9	30.2	12.3	People living in a small city	+0.50
All	700	Christian believers	5.9	17.0	63.9	9.7	3.6	Convinced atheists	−0.12
Christian believers	96	Christian believers	21.9	28.1	49.0	1.0	0.0	Convinced atheists	−0.71
Convinced atheists	59	Christian believers	0.0	1.7	50.8	28.8	18.6	Convinced atheists	+0.64
All	692	People that read fiction each day	3.0	14.6	78.2	3.6	0.6	People who never read fiction	−0.16
People who read fiction every or almost every day	151	People that read fiction each day	6.0	24.5	68.2	1.3	0.0	People who never read fiction	−0.35
People that never or rarely read fiction	210	People that read fiction each day	1.4	6.2	84.3	7.1	0.9	People who never read fiction	0.00
All	698	Low income people	5.2	16.1	70.1	8.2	0.6	High income people	−0.17
Eq. household income per capita less than 7,500 SEK/month	164	Low income people	6.7	20.7	67.1	4.3	1.2	High income people	−0.27
Eq. household income per capita more than 15,000 SEK/month	176	Low income people	4.5	8.0	74.4	12.5	0.6	High income people	−0.03
All		Yourself	28.1	26.6	41.9	1.6	1.8	People in general	−0.78

^a The exact wordings read as follows: Some people seem to be more trustworthy. They are honest and do not try to cheat on others. Now we want to know which people you consider to be more trustworthy, on average. If you think that people in the left group are much more trustworthy, you mark the box to the far left, and vice versa. If you believe that they are somewhat more trustworthy, you mark the second box from the left, and vice versa. Use the middle alternative only when you think that there is no difference between the groups. No answers are “right” or “wrong”; we are interested in your sincere judgment.

^b The respondents got this question word for word, and they had thus eight pairwise comparisons to make. Between the alternative to the left and the one to the right there were five boxes, where they were to mark one box on each row. They were not given any of the additional information in the table.

^c Constructed as the mean value of the responses where each response from left to right is coded as −2, −1, 0, +1, +2. Thus, the higher the balance measure, the more comparison group 2 is trusted compared to group 1, and vice versa.

Table 2

Wilcoxon and Mann–Whitney rank test (WMW) and Kruskal–Wallis test (KW) of differences in the underlying distributions between sub-samples, with respect to differences in perceived trustworthiness between people of different groups

Tests of equal underlying distributions between the samples	Test	P-value
Perceived relative trustworthiness between Rightwing party voters and Social Democratic voters		
Rightwing party voters and Social Democratic voters	WMW	0.000
Rightwing party voters and other voters (neither rightwing nor Social Democratic)	WMW	0.000
Social Democratic voters and other voters	WMW	0.000
Rightwing party voters, Social Democratic voters and other voters	KW	0.000
Perceived relative trustworthiness between Industry workers and University educated		
Low educated and University educated	WMW	0.000
Low educated and neither low nor university educated	WMW	0.022
University educated and All	WMW	0.000
Lives in a “working class family”, University educated and all	KW	0.243
Perceived relative trustworthiness between people around age 25 and people around age 50		
People aged 30 or below and people aged 45 or above	WMW	0.000
People aged 30 or below and people between 30 and 45	WMW	0.288
People aged 45 or above and All	WMW	0.004
People aged 30 or below, People aged 45 or above and all	KW	0.000
Perceived relative trustworthiness between people living in big cities and people living in small cities		
People living in big cities and people not living in big cities	WMW	0.001
Perceived relative trustworthiness between Christian believers and Convinced atheists		
Christian believers and Convinced atheists	WMW	0.000
Christian believers and all	WMW	0.000
Convinced atheists and all	WMW	0.000
Christian believers, Convinced atheists and all	KW	0.000
Perceived relative trustworthiness between people who read fiction each day and people who never read fiction		
People who read fiction every or almost every day and people who never or rarely read fiction	WMW	0.000
People who read fiction every or almost every day and all	WMW	0.001
People who never or rarely read fiction and all	WMW	0.000
People who read fiction every or almost every day, people who never or rarely read fiction and all	KW	0.000
Perceived relative trustworthiness between low income people and high income people		
Eq. household income per capita <7500 SEK/month and Eq. household income per capita >15,000 SEK/month	WMW	0.000
Eq. household income per capita <7500 SEK/month and all	WMW	0.113
Eq. household income per capita >15,000 SEK/month and all	WMW	0.001
Eq. household income per capita <7500 SEK/month, Eq. household income per capita >15,000 SEK/month and all	KW	0.000

From the last row of [Table 1](#) it follows that several times as many respondents believe that they themselves are more trustworthy than others, compared to those who believe the opposite. This is consistent with a large body of literature in psychology, showing that people systematically tend to overestimate their own abilities in various dimensions (see e.g. [Taylor and Brown, 1994](#) or [Baumeister, 1998](#) for overviews).

3. Regression analysis

In [Tables 3 and 4](#) we test whether the observed differences remain statistically significant when correcting for other explanatory variables. The overall pattern remains the same. For example, the -0.59 parameter associated with being a rightwing voter in the first column of [Table 3](#) implies that compared to others, rightwing voters mark the box 0.59 steps more to the left, on average. The difference between rightwing voters and Social Democratic voters is thus $0.59 + 0.58$ steps (i.e. 1.17 steps), which is not only statistically significant, but also substantial. People who live in a working class family also trust Social Democrats more, which is not surprising since this has traditionally been the largest “worker party” in Sweden. We also see that Christians, on average, trust Social Democrats less, which may be explained by the fact that this party has a history of being quite explicitly against the church (as have many other socialist and left parties all over the world).

When comparing the trustworthiness of the university educated and industry workers, we have in addition to the expected effect of living in a working class family and university education that rightwing voters trust the university educated more. This is also quite logical since rightwing voters presumably tend to believe more in personal ambitions and outcome differences to a larger extent reflecting individual effort (cf. [Alesina and La Ferrara, 2005a](#); [Benabou and Tirole, 2006a](#)). It is interesting though that this effect quantitatively is almost as large as the sum of the university education and “working class family” effects.

Moving to the next column, we see that the effects with respect to respondent age are the expected ones. Those aged between 40 and 60 consider people aged 50 to be significantly more trustworthy than 25 year olds, and the same applies to an even larger extent for respondents older than 60. Both Social Democratic and rightwing voters consider 50 year olds

Table 3
OLS regressions of perceived relative trustworthiness between groups of people

	Perceived trustworthiness of								
	Social Democratic voters relative to Rightwing voters	University educated relative to Industry workers	People around age 50 relative to people around age 25	People living in small cities relative to people living in big cities	Convinced atheists relative to Christian believers	People who never read fiction relative to people who read fiction each day	High income people relative to Low income people	People in general relative to yourself	Mean value of the explanatory variables
Intercept	2.03*** (22.34)	1.85*** (19.40)	2.26*** (23.11)	2.55*** (24.21)	1.79*** (18.1)	1.84*** (25.53)	1.68*** (19.40)	1.14*** (9.0)	0.19
Rightwing party voter	-0.59*** (-8.25)	0.34*** (4.55)	0.27*** (3.51)	-0.12 (-1.49)	-0.17** (-2.19)	-0.19*** (-3.46)	0.31*** (4.46)	0.13 (1.29)	0.28
Social Democratic voter	0.58*** (9.68)	-0.070 (-1.10)	0.12* (1.93)	0.054 (0.78)	0.033 (0.50)	-0.029 (-0.61)	0.068 (1.12)	-0.072 (-0.87)	0.37
Lives in a "working class family"	0.12** (2.01)	-0.12* (-1.95)	0.026 (0.42)	-0.014 (-0.021)	0.029 (0.45)	0.047 (1.03)	-0.092 (-1.63)	0.007 (0.091)	0.38
University educated	0.075 (1.26)	0.26*** (4.15)	-0.088 (-1.40)	-0.11 (-1.56)	-0.085 (-1.32)	-0.022 (-0.47)	0.15*** (2.65)	0.075 (0.92)	0.50
Aged between 40 and 60	0.029 (0.52)	-0.076 (-1.30)	0.21*** (3.65)	0.042 (0.66)	-0.039 (-0.64)	-0.041 (-0.95)	-0.066 (-1.24)	0.13* (1.69)	0.11
Aged 60.1 or above	-0.007 (-0.08)	-0.0002 (-0.002)	0.31*** (3.21)	0.17 (1.61)	-0.25** (-2.53)	-0.082 (-1.14)	-0.14 (-1.56)	0.10 (0.83)	0.26
Living in a big city	-0.026 (-0.43)	-0.088 (-1.34)	0.060 (0.91)	-0.20*** (-2.83)	0.0060 (0.089)	-0.081* (-1.66)	-0.049 (-0.83)	-0.044 (-0.52)	0.13
Christian believer	-0.17** (-2.21)	0.091 (1.13)	0.18** (2.24)	0.030 (0.34)	-0.57*** (-6.96)	-0.16*** (-2.59)	0.019 (0.26)	0.053 (0.50)	0.08
Convinced atheist	-0.020 (-0.21)	-0.056 (-0.57)	-0.029 (-0.30)	-0.022 (-0.21)	0.70*** (6.90)	0.026 (0.36)	-0.11 (-1.26)	0.093 (0.71)	0.22
Reads fiction every or almost every day	-0.0007 (-0.01)	-0.048 (-0.68)	-0.12 (-1.64)	-0.010 (-0.13)	0.12* (1.68)	-0.20*** (-3.78)	0.0053 (0.084)	0.094 (1.02)	0.30
Never reads fiction	0.006 (0.09)	-0.091 (-1.38)	0.035 (0.53)	0.068 (0.94)	-0.012 (-0.18)	0.15*** (3.11)	-0.070 (-1.12)	-0.19** (-2.16)	1.21 (10,000 SEK/month)
Eq. household income per capita	-0.034 (-0.74)	0.016 (0.33)	0.030 (0.62)	0.0022 (0.042)	0.12** (2.51)	0.058 (1.63)	0.098** (2.25)	0.028 (0.44)	0.53
Female	0.083 (1.51)	0.059 (1.02)	-0.13** (-2.22)	-0.15** (-2.36)	0.050 (0.83)	0.067 (1.55)	0.025 (0.48)	-0.050 (-0.66)	
R ²	0.291	0.113	0.081	0.051	0.175	0.096	0.087	0.027	

t-Values in parentheses. *, **, *** denote statistical significance at 10%, 5%, and 1% level, respectively.

Table 4
Ordered probit regressions of perceived relative trustworthiness between groups of people

	Perceived trustworthiness of							
	Social Democratic voters relative to Rightwing voters	University educated relative to Industry workers	People around age 50 relative to people around age 25	People living in small cities relative to people living in big cities	Convinced atheists relative to Christian believers	People who never read fiction relative to people who read fiction each day	High income people relative to low income people	People in general relative to yourself
Intercept	2.14*** (12.95)	1.63*** (10.13)	2.20** (13.68)	2.45*** (15.72)	1.60*** (10.0)	1.97*** (10.11)	1.47*** (8.77)	0.48*** (3.2)
Rightwing party voter	-1.08*** (-8.46)	0.60*** (4.78)	0.43*** (3.57)	-0.18 (-1.52)	-0.25** (-2.09)	-0.43*** (-3.19)	0.62*** (4.74)	0.15 (1.32)
Social Democratic voter	1.05*** (9.79)	-0.13 (-1.26)	0.21** (2.02)	0.067 (0.67)	0.063 (0.61)	-0.061 (-0.52)	0.12 (1.16)	-0.081 (-0.83)
Working class family	0.20* (1.95)	-0.21** (-2.07)	0.035 (0.35)	-0.0091 (-0.094)	0.034 (0.34)	0.13 (1.13)	-0.18* (-1.77)	0.0007 (0.007)
University educated	0.12 (1.17)	0.43*** (4.15)	-0.15 (-1.51)	-0.15 (-1.56)	-0.13 (-1.29)	-0.074 (-0.64)	0.27*** (2.57)	0.090 (0.93)
Aged between 40 and 60	0.054 (0.57)	-0.14 (-1.45)	0.36*** (3.82)	0.075 (0.81)	-0.035 (-0.37)	-0.093 (-0.85)	-0.12 (-1.23)	0.16* (1.73)
Aged 60.1 or above	-0.018 (-0.12)	-0.00042 (-0.003)	0.50*** (3.26)	0.25* (1.67)	-0.36** (-2.36)	-0.13 (-0.71)	-0.23 (-1.41)	0.11 (0.72)
Living in a big city	-0.021 (-0.20)	-0.12 (-1.16)	0.097 (0.93)	-0.28*** (-2.68)	0.0046 (0.044)	-0.18 (-1.53)	-0.091 (-0.83)	-0.054 (-0.53)
Christian believer	-0.27** (-2.08)	0.16 (1.25)	0.28** (2.19)	0.039 (0.30)	-0.88*** (-6.85)	-0.37** (-2.53)	0.058 (0.43)	0.080 (0.64)
Convinced atheist	-0.034 (-0.20)	-0.056 (-0.34)	-0.047 (-0.30)	-0.019 (-0.12)	1.10*** (6.87)	0.062 (0.33)	-0.22 (-1.35)	0.10 (0.65)
Reads fiction every or almost every day	-0.016 (-0.14)	-0.064 (-0.55)	-0.19 (-1.65)	-0.028 (-0.25)	0.21* (1.84)	-0.44*** (-3.53)	-0.002 (-0.016)	0.11 (1.04)
Never reads fiction	0.008 (0.07)	-0.13 (-1.12)	0.052 (0.49)	0.081 (0.78)	-0.0067 (-0.06)	0.46*** (3.59)	-0.12 (-1.12)	-0.22** (-2.15)
Eq. household income per capita	-0.075 (-0.95)	0.023 (0.24)	0.044 (0.58)	-0.00093 (-0.012)	0.19** (2.43)	0.15* (1.73)	0.20** (2.46)	0.032 (0.43)
Female	0.13 (1.37)	0.088 (0.93)	-0.21** (-2.28)	-0.23*** (-2.48)	0.080 (0.86)	0.16 (1.49)	0.032 (0.33)	-0.064 (-0.72)
Cut-off values	0.85	0.76	0.63	0.62	0.94	1.04	0.89	0.70
	3.15	2.95	2.75	2.53	3.01	3.95	3.23	2.45
	4.35	3.89	3.91	3.59	3.81	4.77	4.40	2.73

t-Values in parentheses. *, **, *** denote statistical significance at 10%, 5%, and 1% level, respectively.

to be more trustworthy than 25 year olds, whereas the opposite holds for female respondents.⁶ Those who live in big cities consider other people who live in big cities to be relatively more trustworthy. The only other significant effect is that women consider people who live in big cities to be more trustworthy.⁷ The difference between how Christians and atheists judge the relative trustworthiness between Christians and atheists is $0.57 + 0.7 = 1.27$ steps, which is a huge difference. Both rightwing voters and older respondents consider Christians to be more trustworthy, possibly reflecting value conservatism. On the other hand we have that a higher income implies that atheists are considered more trustworthy, perhaps reflecting that the morality of gift-giving (in particular by the rich) emphasized in Christianity is less popular among the rich.

We also have substantial effects on the relative trustworthiness of people with different reading habits: those who read fiction more often also consider others who read often to be more trustworthy and vice versa. Rightwing voters and Christians consider book readers more trustworthy, where the latter may reflect that reading edifying books, and the Bible in particular, is essential to many Christians. Respondents with higher incomes consider others with high incomes more trustworthy, as do rightwing and university educated respondents. The latter may partly reflect a self-serving judgement since university studies on average imply a steeper wage profile over time, implying that they expect a higher future income.

We see very little systematic variation in the extent to which people believe that they themselves are more trustworthy than others. The only significant effect at the 5 percent level is that those who never or rarely read books to a lower extent believe that they are more trustworthy than others. Of course, we cannot say from this study whether this reflects a real difference or not. However, it appears reasonable that it might, since reading books to some extent is related to the ability of overcoming self-control problems, and being trustworthy is presumably to a certain degree also about self-control.

The pattern from Table 4, which presents ordered probit instead of OLS estimates, is almost identical to the one in Table 3 with respect to statistical significance. Overall, the basic pattern is clear also from the regression analysis: people who are perceived as being similar are considered to be more trustworthy by the respondents.

4. Discussion and conclusion

This paper has presented clear survey-based evidence that people consider others who are similar to themselves, in what seems to be almost any dimension, to generally be more trustworthy. This appears to be a potentially important reason behind discrimination, and possibly also behind more general economic consequences such as variations in growth rates among countries.

The economics discrimination literature has largely focused on two kinds of discrimination: taste-based discrimination (TD), where some people are treated worse than others simply because the discriminators have a preference for doing so (Becker, 1957), and statistical discrimination (SD), where some people under imperfect information are treated worse because they belong to a group whose people on average have a less favorable characteristic (Phelps, 1972; Arrow, 1973); hence, unlike a situation with TD, they are treated worse because it is profitable to treat them worse. The results in this paper suggest a third kind of discrimination, which we may denote *biased perception based discrimination* (BPD). In BPD, some people are treated worse because they belong to a group that others erroneously believe have a less favorable characteristic on average, for example that people in this group are less trustworthy on average. Moreover, if people systematically believe that people who are similar to themselves have more favorable characteristics, as is found in this paper, then a consequence is that minorities will be treated worse simply because people belonging to a minority have fewer people who are similar to them.

It is also possible that such discrimination may be amplified by other social mechanisms. For example, by letting young boys of high and low castes in India solve mazes, Hoff and Pandey (2006) investigated experimentally how discrimination may cause stereotypes that in turn affect individual behavior. In the anonymous treatment, no significant caste difference was obtained. However, when names and castes were publicly revealed, a significant caste gap emerged due to a large decline in the average number of mazes solved by the low caste. Thus, subjects in the discriminated group started to perform worse. In this way BPD (or for that matter TD) may induce SD, and since SD is rational and not based on any preferences for discrimination or perception bias, it may be very difficult to change the discriminatory pattern. Also, a rather minor degree of BPD may then cause large and prevailing negative social consequences.

The results here may also contribute to our understanding of the reason behind the empirical finding that higher ethnic diversity is typically associated with lower provision of public goods (e.g. Alesina et al., 1999; Alesina and La Ferrara, 2002; Alesina and La Ferrara, 2005b; Easterly and Levine, 1997). The reasons behind this finding, which in itself appears widely accepted, is less well understood, or at least not agreed upon in the literature. Clearly, public good provision requires an element of cooperation and trust (see e.g. Seabright), which in turn requires that others are considered reasonably trustworthy.

⁶ Both of these parties can be seen as conservative, albeit in different ways. The rightwing party is ideologically conservative, and part of this implies that one should show respect for older people. The Social Democratic Party has been in power for 64 out of the last 75 years in Sweden and is conservative in the sense that it wants to preserve many of the current institutions and social structures. Moreover, the generation that built up much of these institutions in Sweden is currently old. A possible explanation behind the female effect is that since gender equality has increased over time, younger men may be considered more trustworthy than older men.

⁷ Perhaps this reflects that the stronger social control in smaller cities and in the countryside to a larger extent has reduced the liberty of women compared to men. This is also consistent with the pattern that women to a larger extent than men are moving from the countryside to bigger cities.

Now, if others are considered less trustworthy if they are less similar to oneself, as is found in this paper, one would suspect that a larger degree of ethnic diversity would indeed reduce the provision of public goods.

Of course, the methodology used here for measuring differences in perceived trustworthiness among groups of people is not without problems, but on the other hand this applies to all known methods that are used for this purpose. In such a situation, methodological pluralism is valuable in order to test the robustness of the findings, and survey methodology should therefore primarily be seen as a complement rather than a substitute for other methods (e.g. ones that rely on monetary incentives and revealed behavior).

Finally, although beyond the main task of this paper, we may speculate about the reason behind the observed pattern. There are several possible explanations (e.g. based on evolutionary selection), and psychologists have proposed different explanations to the more general phenomenon of in-group bias. Let us just consider a single one that is consistent with the data: *social identity theory*. Tajfel (1981, p. 255) defines social identity as “the individuals’ knowledge that they belong to certain social groups together with some emotional and value significance to them of their group membership.” According to social identity theory, one important reason why people display in-group bias is that it enhances social identity, thereby elevating the self-esteem or self-image of group members (e.g. Tajfel and Turner, 1986).⁸ A testable implication of this theory is that we should observe larger in-group bias in dimensions that are more important for our social identity. This is also what we found. The quantitatively largest effects are between Christians and atheists and between Social Democratic and rightwing voters. Both of these dimensions are presumably very important in many people’s perception of their social identity and for their self-image (cf. Akerlof and Kranton, 2000, 2002).

Another implication of the theory is that we bias our perception of ourselves versus others in a self-serving way,⁹ and the results here also indicate that we are, on average, quite successful in maintaining that we are indeed more trustworthy than others. Apparently we like that.

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References

- Agell, J., 2004. Why are small firms different? Managers’ views. *Scandinavian Journal of Economics* 106, 437–452.
- Agell, J., Lundborg, P., 2003. Survey evidence on wage rigidity and unemployment: Sweden in the 1990s. *Scandinavian Journal of Economics* 105, 15–29.
- Akerlof, G., Kranton, R.E., 2000. Economics and identity. *Quarterly Journal of Economics* 115, 715–753.
- Akerlof, G., Kranton, R.E., 2002. Identity and schooling: some lessons for the economics of education. *Journal of Economic Literature* 40, 1167–1201.
- Alesina, A., Baqir, R., Easterly, R., 1999. Public goods and ethnic divisions. *Quarterly Journal of Economics* 114, 1243–1284.
- Alesina, A., La Ferrara, E., 2002. Who trusts others? *Journal of Public Economics* 85, 207–234.
- Alesina, A., La Ferrara, E., 2005a. Preferences for redistribution in the land of opportunities. *Journal of Public Economics* 89, 897–931.
- Alesina, A., La Ferrara, E., 2005b. Ethnic diversity and economic performance. *Journal of Economic Literature* 63, 762–800.
- Arrow, K.J., 1972. Gift and exchanges. *Philosophy and Public Affairs* 1, 343–362.
- Arrow, K.J., 1973. The theory of discrimination. In: Ashenfelter, O., Rees, A. (Eds.), *Discrimination in Labor Markets*. Princeton University Press, Princeton, pp. 3–33.
- Baumeister, R., 1998. The self. In: Gilbert, D., Fiske, S., Lindzey, G. (Eds.), *Handbook of Social Psychology*. McGraw Hill, Boston, pp. 680–740.
- Becker, G.S., 1957. *The Economics of Discrimination*. The University of Chicago Press, Chicago.
- Benabou, R., Tirole, J., 2002. Self-confidence and personal motivation. *Quarterly Journal of Economics* 117, 871–915.
- Benabou, R., Tirole, J., 2004. Willpower and personal rules. *Journal of Political Economy* 112, 848–887.
- Benabou, R., Tirole, J., 2006a. Belief in a just world and redistributive politics. *Quarterly Journal of Economics* 121, 699–746.
- Benabou, R., Tirole, J., 2006b. Incentives and prosocial behavior. *American Economic Review* 96, 1652–1678.
- Berg, J., Dickhaut, J., McCabe, K., 1995. Trust, reciprocity, and social history. *Games and Economic Behavior* 10, 122–142.
- Bernhard, H., Fehr, E., Fischbacher, U., 2006. Group affiliation and altruistic norm enforcement. *American Economic Review, Papers and Proceedings* 96, 217–221.
- Bertrand, M., Mullainathan, S., 2001. Do people mean what they say? Implications for subjective survey data. *American Economic Review, Papers and Proceedings* 91, 67–72.
- Bouckaert, J., Dhaene, G., 2004. Inter-ethnic trust and reciprocity: results of an experiment with small businessmen. *European Journal of Political Economy* 20, 869–886.
- Brewer, M.B., 1979. In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. *Psychological Bulletin* 86, 307–324.
- Buchan, N., Croson, R., 2004. The boundaries of trust: own and others’ actions in the US and China. *Journal of Economic Behavior and Organization* 55, 485–504.
- Cox, J., 2004. How to identify trust and reciprocity. *Games and Economic Behavior* 46, 260–281.
- Di Tella, R., MacCulloch, R.J., Oswald, A.J., 2001. Preferences over inflation and unemployment: evidence from surveys of happiness. *American Economic Review* 91, 335–341.
- Di Tella, R., MacCulloch, R.J., Oswald, A.J., 2003. The macroeconomics of happiness. *Review of Economics and Statistics* 85, 809–827.
- Easterly, W., Levine, R., 1997. Africa’s growth tragedy: policies and ethnic divisions. *Quarterly Journal of Economics* 112, 1203–1250.
- Fershtman, C., Gneezy, U., 2001. Discrimination in a segmented society. *Quarterly Journal of Economics* 116, 351–377.

⁸ A related reason is self-signaling, which has received much attention within economics recently (e.g. Benabou and Tirole, 2002, 2004, 2006b). In a world where our self-knowledge is imperfect and where we prefer to have a positive self-image, we may consider people who are similar to ourselves as more trustworthy simply because by doing so we signal to ourselves that we are more trustworthy than others.

⁹ This is also consistent with self-enhancement more generally (see e.g. Taylor and Brown, 1994 or Baumeister, 1998).

- Fershtman, C., Gneezy, U., Verboven, F., 2005. Discrimination and nepotism: the efficiency of the anonymity rule. *Journal of Legal Studies* 34, 371–396.
- Fong, C., 2001. Social preferences, self-interest, and the demand for redistribution. *Journal of Public Economics* 82, 225–246.
- Fukuyama, F., 1995. *Trust*. Free Press, New York.
- Glaeser, E.L., Laibson, D.I., Scheinkman, J.A., Soutter, C.L., 2000. Measuring trust Quarterly. *Journal of Economics* 115, 811–846.
- Goette, L., Huffman, D., Meier, S., 2006. The impact of group membership on cooperation and norm enforcement: evidence using random assignment to real social groups. *American Economic Review, Papers and Proceedings* 96, 212–216.
- Hoff, K., Pandey, P., 2006. Discrimination, social identity, and durable inequalities. *American Economic Review, Papers and Proceedings* 96, 206–211.
- Holm, H., Nystedt, P., 2005. Inter-generational trust—a semi-experimental study of trust among different generations. *Journal of Economic Behavior and Organization* 58, 403–419.
- Johansson-Stenman, O., Carlsson, F., Daruvala, D., 2002. Measuring future grandparents' preferences for equality and relative standing. *Economic Journal* 112, 362–383.
- Johansson-Stenman, O., Mahmud, M., Martinsson, P., 2005. Does stake size matter in trust games? *Economics Letters* 88, 365–369.
- Johansson-Stenman, O., Mahmud, M., Martinsson, P., in press. Trust and religion: experimental evidence from rural Bangladesh. *Economica*.
- Johansson-Stenman, O., Mahmud, M., Martinsson, P., 2006. Trust, trust games and stated trust: evidence from rural Bangladesh. Working paper. Department of Economics, University of Gothenburg.
- Kahneman, D., Knetsch, J.L., 1992. Valuing public goods: the purchase of moral satisfaction. *Journal of Environmental Economics and Management* 22, 57–70.
- Kahneman, D., Ritov, I., Schkade, D., 1999. Economic preferences or attitude expressions? An analysis of dollar responses to public issues. *Journal of Risk and Uncertainty* 19, 203–235.
- Karlan, D., 2005. Using experimental economics to measure social capital and predict financial decisions. *American Economic Review* 95, 1688–1699.
- Kazdin, A.A. (Ed.), 2000. *Encyclopaedia of Psychology*. Oxford University Press, New York.
- Knack, S., Keefer, P., 1997. Does social capital have an economic payoff? A cross-country investigation. *Quarterly Journal of Economics* 112, 1251–1288.
- List, J.A., 2004. Young, selfish, and male: field evidence of social preferences. *Economic Journal* 114, 121–149.
- Luttmer, E.F.P., 2005. Neighbors as negatives: relative earnings and well-being. *Quarterly Journal of Economics* 120, 963–1002.
- Phelps, E.S., 1972. The statistical theory of racism and sexism. *American Economic Review* 62, 659–661.
- Schechter, L., 2007. Traditional trust measurement and the risk of confound: an experiment in rural Paraguay. *Journal of Economic Behavior and Organization* 62, 272–292.
- Seabright, P., 2004. *The Company of Strangers: A Natural History of Economic Life*. Princeton University Press, Princeton.
- Sen, A.K., 1973. Behavior and the concept of preference. *Economica* 40, 241–259.
- Slemrod, J., Katuscak, P., 2005. Do trust and trustworthiness pay off? *Journal of Human Resources* 40, 621–646.
- Solnick, S., Hemenway, D., 2005. Are positional concerns stronger in some domains than in others? *American Economic Review, Papers and Proceedings* 45, 147–151.
- Tajfel, H., 1981. *Human Groups and Social Categories: Studies in Social Psychology*. Cambridge University Press, Cambridge.
- Tajfel, H., Turner, J.C., 1986. The social identity theory of intergroup behavior. In: Worchel, S., Austin, W.G. (Eds.), *The Psychology of Intergroup Relations*. Nelson-Hall, Chicago, pp. 7–24.
- Taylor, S.E., Brown, J.D., 1994. Positive illusions and well-being revisited: separating fact from fiction. *Psychological Bulletin* 116, 21–27.
- Willinger, M., Keser, C., Lohmann, C., Usunier, J.-C., 2003. A comparison of trust and reciprocity between France and Germany: experimental investigation based on the investment game. *Journal of Economic Psychology* 24, 447–466.
- Zak, P.J., Knack, S., 2001. Trust and growth. *Economic Journal* 111, 295–321.