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Intergenerational Transmission of Luck versus Effort Beliefs

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Beliefs about whether luck or effort determines individuals' economic outcomes in life (*luck vs effort beliefs*) are central for individuals' opinions on inequality and political preferences. Those who think that luck is relatively more important than effort generally accept less inequality, want more economic redistribution and support a larger welfare state. We study the transmission of luck vs effort beliefs from parents to children. By means of an original, representative survey of Swedish parents, matched to administrative data, we document that the vast majority teach their children not only that effort is crucial for economic success, but that effort is more important than what they themselves actually believe it to be.

Key words: inequality, redistribution, social mobility, survey

JEL codes: C91, D63, H23

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Introduction

There are significant differences between individuals, and between countries, in their preferred levels of redistribution of economic resources in society. This also translates into differences in the preferred size of the welfare state (see e.g. Alesina and Guiliano, 2011; Alesina and Glaeser, 2004). This variation partly reflects self-serving motives (more affluent people generally demand less redistribution, c.f. Romer, 1975, and Meltzer and Richard, 1981), but there are also other determinants of redistributive preferences. *Luck vs effort beliefs* – the perceptions of the relative importance of luck and effort for individual economic success in society – is one. Those who believe that success primarily comes about through effort and hard work generally want less redistribution (see e.g. Fong, 2001; Konow, 2000; Cappelen et al, 2013; Karadja et al., 2017; Cappelen et al, 2022).

At the individual level, people with higher income, more education and higher cognitive ability tend to believe more in the importance of effort (c.f. Fong, 2001, Cappelen et al, 2013; Karadja et al., 2017). Beyond such rudimentary correlations, our empirical knowledge about how individual luck vs effort beliefs form is limited. Theoretically, two main models have been suggested. First, Piketty (1995) assume that voters have imperfect information about the true relative importance of effort and luck, and form luck vs effort beliefs based on their own, and their family members' social mobility. Voters start out sharing a principle of justice that dictates that hard work should be rewarded, and to demand the correct amount of redistribution voters hence seek to learn the truth about which roles luck and effort play. In this model, voters transfer their best, true estimate of the relative importance of luck and effort to the next generation without any strategic motives in mind.

Second, Benabou and Tirole (2006) instead model the intergenerational transmission of luck vs effort beliefs as one of motivated cognition, and allow individuals to maintain and transfer beliefs for strategic reasons. Here, imperfect willpower makes individuals strive to motivate themselves and their children toward exercising more effort. To that end maintaining overly optimistic beliefs about the payoff of effort can be valuable, in particular if others in society also hold this view (c.f. Alesina and Angeletos, 2005). In this setting, the transmission of luck vs effort beliefs across generations is thus strategic.

We shed empirical light on these opposing views on how luck vs effort beliefs are passed on between generations.

Data

We use the following question to measure individuals' beliefs about luck vs effort beliefs: "Is it mostly effort or luck that matters for how well an individual does economically in life?"

Answers were elicited on a 10-point scale from "Only luck" [1] to "Only effort" [10]. We use the same scale when we ask individuals how they believe other Swedes answer this question, and what they teach their children about the importance of luck and effort. To measure redistributive preferences we use the question "How much economic redistribution do you want in society?" (answers on a 10-point scale from "No redistribution" [1] to "Full redistribution" [10]). In addition, the survey elicits related policy opinions, as well as their correlates (survey materials available in the Online Appendix).

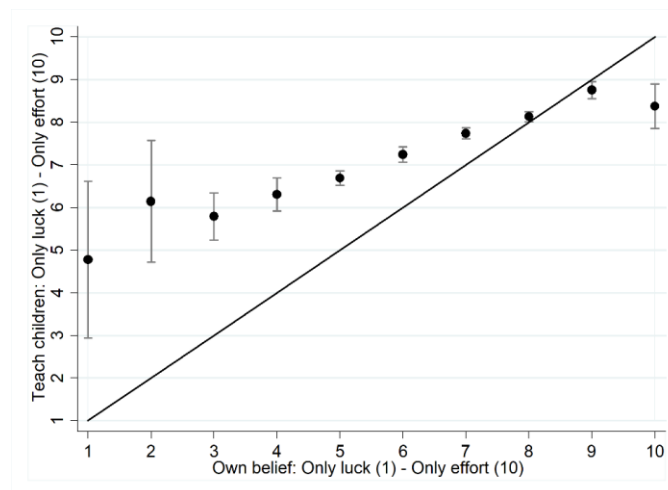
Together with Statistics Sweden, we sent the survey to a representative sample of N=4,500 Swedes aged 18+. 1,565 people responded. We exclude 46 people who did not respond to all questions about luck vs effort beliefs and demand for redistribution from the analysis. All

results are robust to using population weights, provided by Statistics Sweden, based on age, gender and geographical region.¹

Results

On average, individuals believe that economic success is based more on effort than on luck. Figure 1 shows the average of what subjects report teaching their children against their own beliefs. The two are positively correlated, but individuals on average report teaching their children that effort is more important than they themselves believe it to be (own beliefs: $M=6.42$, $SE=1.76$, vs. teaching children: $M=7.39$, $SE=1.64$; $p<0.001$). If we restrict the sample to the subset of respondents who have children currently living in the household, the relation between taught and own beliefs is practically identical to what we see in the full sample.

Figure 1: Own Luck vs Effort Beliefs vs Teach Children



Error bars denote 95% confidence intervals. $N=1,519$. The diagonal indicates the beliefs that would be taught if teaching was truthful in the sense of one teaching what one reports to believe.

¹ The survey was conducted in 2011. Survey responses are matched to administrative data from the Swedish Income and Tax register and the Swedish longitudinal integration database for health insurance and labor market studies (LISA), at the individual level. The use of administrative data is subject to the provisions of Swedish data protection law. Those interested in accessing the data will therefore have to contact Statistics Sweden directly to make arrangements (the authors will be happy to help facilitate the contact if needed; data access includes access to all replication materials).

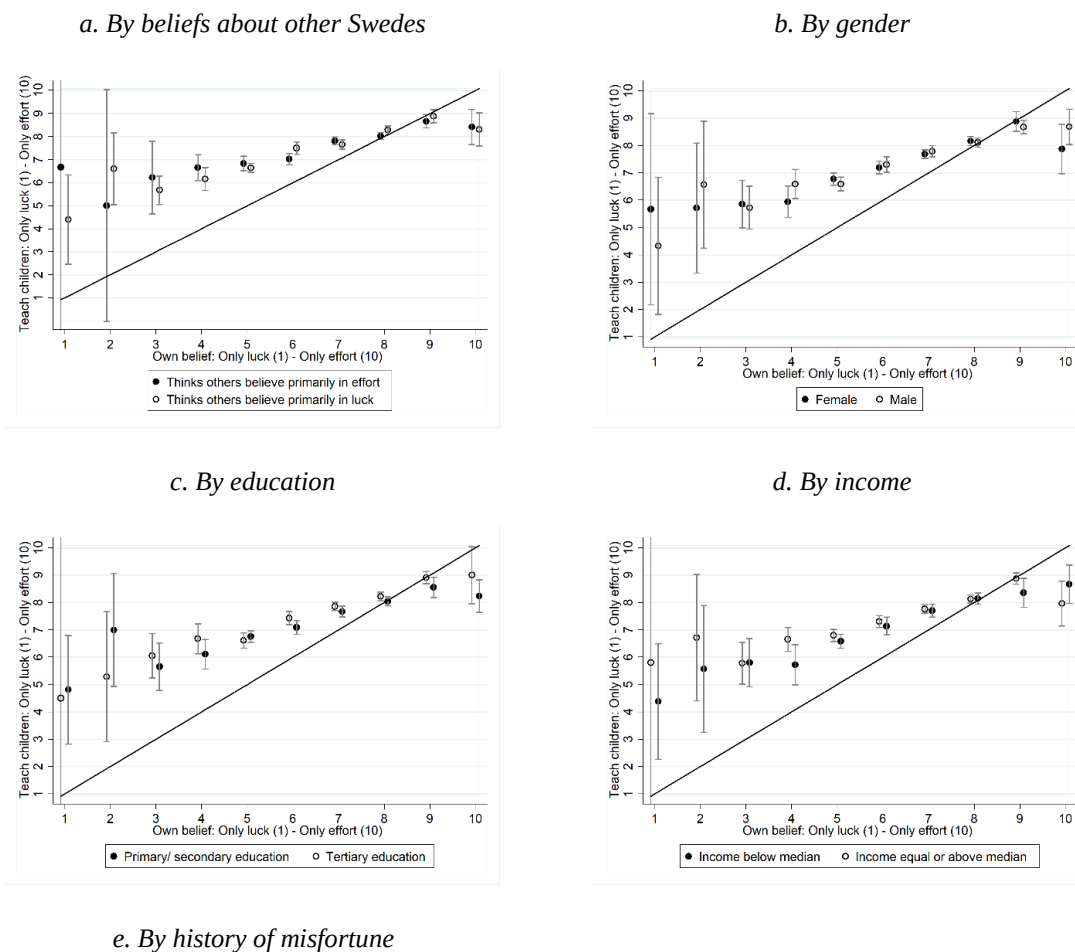
We define a respondent as primarily believing in luck (primarily believing in effort) if they answered the luck vs effort question with a number between 1 and 5 (6 and 10). While 65.31% of subjects believe that success is primarily determined by effort, 84.46% of individuals report to teach their children that this is the case ($p < 0.001$). Taken together, our results hence indicate that the intergenerational transmission of lucks vs effort belief may not be truthful, as parents do not report to teach their children what they themselves actually believe.

The tendency to instruct that effort is more important than one actually thinks it is holds for all levels of own beliefs, except for the very top levels. This may partly be due to a ceiling effect: answering 10 – i.e. that effort alone matters for economic success – means that it is not possible to also report teaching children that effort is more important than that, as the latter question's responses are similarly capped at 10. However, the finding that respondents who believe that only effort matters actually teach their children that effort is less important ($n = 17$, $M = 8.47$, $SE = 0.43$, $p = 0.003$ for test of difference from 10) is interesting. Our data do, however, not allow us to discern the underlying motives of these parents.

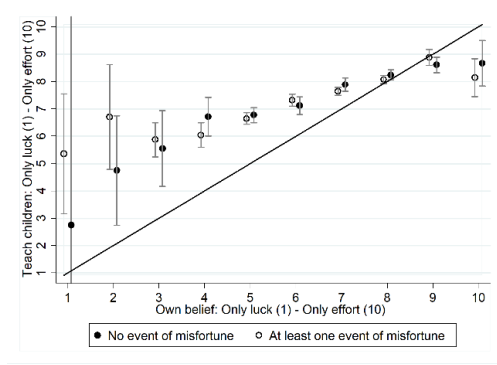
Generally, own beliefs and the perception about average population beliefs are positively and significantly correlated (regression coefficient $\beta = 0.327$, $p < 0.001$). Individuals do, however, believe that the average Swede finds effort to be less important than they themselves do (own beliefs: $M = 6.42$, $SE = 1.76$, vs. perception of others' beliefs: $M = 5.57$, $SE = 1.90$, $p < 0.001$). The tendency to report to exaggerate the importance of effort when teaching children is similar for those who think the average person in society believes primarily in the importance of luck, and for those who think others believe primarily in effort. This is illustrated in panel a) of Figure 2 where we compare the relationship between a person's own beliefs and what they report to teach their children across individuals who believe that other Swedes believe primarily in effort

(n=691) and in luck (n=828), respectively. In the remaining panels of Figure 2 we leverage the administrative data and show that the tendency to report to mislead one's children in this way is displayed by both women and men. It also holds both for those with higher as well as lower education, regardless of whether the respondent has an income that is above or below the median, and for both those who have experienced misfortune, i.e. challenging events like unemployment, in the past 10 years, and those who have not.²

Figure 2: Own Luck vs Effort Beliefs vs Teach Children across Groups



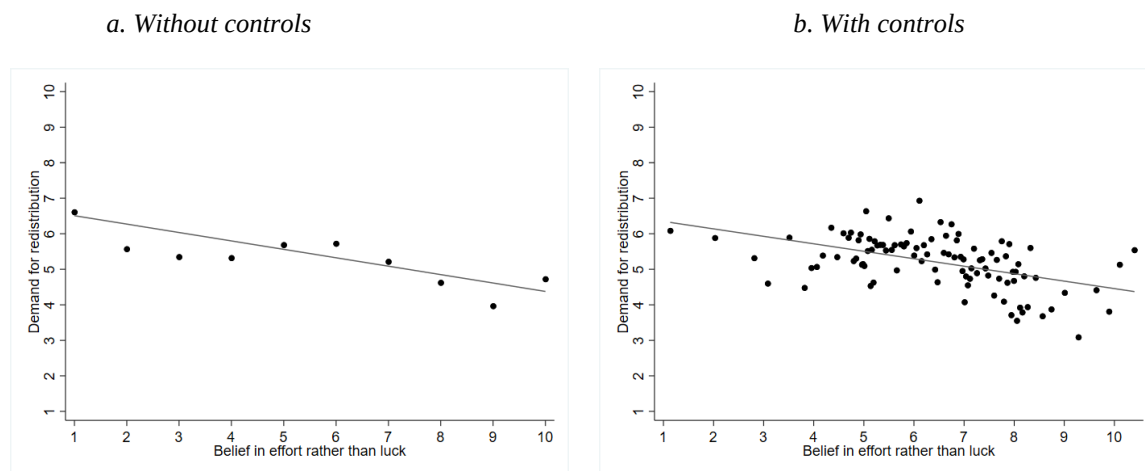
² The particular potential heterogeneities we investigate are informed by the literature on demand for redistribution and its correlates, see e.g. Alesina and Guiliano (2011).



Error bars denote 95% confidence intervals. $N = 1,519$. Beliefs about the beliefs of other Swedes are elicited in our survey. Gender, age, education level, income, and history of misfortune are obtained from administrative data. Income is measured as the mean annual taxable income in 2010. A history of misfortune measures whether the individual was unemployed, received social insurance or received sick pay during the last ten years. There is no significant differences in the correlation coefficients between own and taught beliefs, between the groups. P-values for the test of a difference in correlation coefficient between groups are, in the respective panels, a) $p=0.107$; b) $p=0.568$; c) 0.132 ; d) 0.098 ; e) 0.213 .

Turning to redistributive preferences we find that individuals in our sample on average rate their demand for redistribution at 5.23 (SE=2.36). Figure 3 confirms that stronger belief in the importance of effort is correlated with lower demand for redistribution.

Figure 3: Luck vs Effort Beliefs and the Demand for Redistribution



The graphs depict equal size bins and regression lines. $N = 1,519$. The regression with controls includes gender, age, marital status, number of children in household, education levels, unemployment, fixed effects for actual income

percentiles, fixed effects for 20 quantiles of income and 20 quantiles of wealth. The graphs depict the maximum number of distinct, equal size bins, which are created after residualizing the variable for demand for redistribution and the variable for luck vs effort beliefs with the given set of control variables, and regression lines. $p < 0.001$ without and with controls.

Discussion

We document that parents report to not tell their children their own true beliefs about the relative importance of luck and effort, but instead exaggerate the role of effort for individual economic success. This indicates that the intergenerational transmission of these beliefs may not be truthful, as implicitly assumed by Piketty (1995). Instead our findings are consistent with the transmission potentially containing strategic elements, in line with what Benabou and Tirole (2006) suggest. In the model of Benabou and Tirole (2006), strategic belief formation and transmission serve to motivate individuals to exert more effort than they would have otherwise have done through strengthening the belief of the importance of effort for economic success. We do not ask survey respondents to provide reasons behind luck vs effort beliefs or what they report to teach their children. Hence we can only speculate about the underlying reasons for the difference between own and taught luck/effort beliefs. An interesting path for future research would be to attempt to understand them better. For example, do parents want to motivate their children to exert more effort because they think that this will result in more favorable outcomes for the children per se? Or do parents desire higher-performing children because it may reflect well on them, as parents?

Previous research has documented that children's views and beliefs in general are highly correlated with those of their parents (Degner and Delege, 2013). More specifically it has been found that parents play an active role in the development of their children's perceptions about morality, politics, race, gender roles and social class (Killen et al., 2017; Jennings et al., 2009;

Sinclair et al., 2005; McCrory Calarco, 2014; Gonzalez et al., 2022). Analogously, it can be hypothesized that the views about the roles of effort and luck that parents teach their children have an influence on them. With our data we cannot, however, test if this is the case as we do not survey the children of the responding parents.

Parents' teachings about the relative importance of luck and effort is certainly not the only factor that determines their offspring's beliefs. However, if it would indeed be the case that parents' teachings move children's beliefs in the taught direction, parents' exaggerated emphasis on effort might result in children's beliefs in effort being stronger than if the parents emphasized their own, true beliefs. Further, as luck vs effort beliefs predict demand for redistribution in the sense that a stronger belief in the role of effort is associated with higher inequality acceptance and lower demand for redistribution, the fact that a majority of parents exaggerate the importance of effort for success could potentially contribute to inequality acceptance in society.

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