



The Dark Side of Meritocratic Beliefs: Is Believing in Meritocracy Detrimental to Individuals from Low Socioeconomic Backgrounds?

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Abstract

Individuals' perceptions of how the path toward success is built might affect their choices and behaviors. This study examines whether holding meritocratic beliefs has heterogeneous effects on the long-term socioeconomic outcomes of individuals from different SES. I argue that, when the hurdles faced by the less privileged groups during their educational and labor market trajectories clash with their meritocratic beliefs, the generated frustration and low self-efficacy will affect their decisions and their performance, which eventually may impact their socioeconomic outcomes. Using German longitudinal data and siblings' fixed effects, results reveal that individuals from low socioeconomic backgrounds who hold strong meritocratic beliefs during their adolescence are more likely to have a precarious work situation when they are adults, as well as less likely to be fully working. This effect is reversed or non-existent for those from high socioeconomic status. These results open new paths to explore the crucial effect that societal discourses praising the meritocratic ideal could have on individuals from more deprived socioeconomic backgrounds.

Keywords Meritocratic beliefs · Labor market · Siblings fixed effects · SES · Adolescence

Introduction

Meritocracy, which emerges as one of the most important foundational myths of contemporary societies, has been undoubtedly fruitful in turning the *effort plus ability* formula into the hegemonic understanding of how success can be reached. However, climbing the tricky ladder of success has not been equally accessible to individuals from different starting points. This is why some studies have suggested that believing

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in meritocracy may be detrimental for those individuals who come from less privileged backgrounds (Darnon et al., 2018; Mijis, 2019). The reason behind this is that, in the event of someone not achieving the desired results despite hard work, holding meritocratic beliefs can generate frustration and affect the perceived self-efficacy (Madeira et al., 2019). The counterpart of this is that holding meritocratic beliefs will be a source of motivation for those from more privileged backgrounds because these beliefs have a system-justifying character which reinforces the idea that they have what they deserve thanks to their effort and hard work (Darnon et al., 2018; Sagioglou et al., 2019; Sternberg, 2017).

This paper suggests a new application of these arguments by examining whether holding meritocratic beliefs during the teenage period, a particularly relevant time for the personality development, has heterogeneous long-term effects on the socioeconomic outcomes of individuals from more and less advantaged backgrounds. The existing literature has examined how psychological traits (Feng et al., 2013; McCoy & Major, 2007) or school performance (Shane & Heckhausen, 2017) are affected by meritocratic beliefs. Yet, the effect of meritocratic beliefs on later-in-life socioeconomic outcomes such as labor market status has not been addressed.

Following the points stated by the previous literature, I suggest that meritocratic beliefs will boost the motivation and improve the performance and choices of young individuals from higher socioeconomic status (hereafter SES), with the consequent positive impact on their socioeconomic outcomes. However, those individuals from lower SES that believe that hard work pays off might be discouraged by the lack of short-term rewards and the numerous obstacles they find in their way. Eventually, this would negatively affect their socioeconomic outcomes.

Using German data (SOEP), individuals' information is collected at two different time points, in their late teenage period, when beliefs are consolidated, and in their adulthood period, when those individuals are already integrated into the labor market. A series of siblings' fixed-effects models are implemented to capture the effect of meritocratic beliefs on the individual's socioeconomic outcomes (operationalized as labor market status) later-in-life. The core finding of this paper shows that low-SES individuals holding stronger meritocratic beliefs are more likely to end up in a precarious work situation in the long-term, as well as less likely to be fully working. These effects, however, are reversed or non-existent for high-SES ones.

The main contribution of this paper is two-fold. First, this is, to the extent of my knowledge, the first study to address with a longitudinal and within-family design how meritocratic beliefs impact the socioeconomic of the individuals endorsing them. Secondly, this paper discloses the daunting effects that endorsing a meritocratic discourse has for individuals from more deprived socioeconomic backgrounds, which has important implications for the principle of equality in a society.

Theoretical Background

The Impact of Meritocratic Beliefs

From Young's first account of the concept of meritocracy (1958), the *ability plus effort equation* has caused great controversy within the social sciences. While

defenders of meritocratic ideals have been focused on the premise of efficiency that was at the origin of the term, more critical voices have increasingly pointed out the potentially dangerous link that exists between meritocracy and inequality (Breen & Goldthorpe, 1997; Jackson, 2001). Among the first group of supporters, two main arguments have been addressed to stand up for meritocracy: it produces an efficient allocation of scarce resources (i), and it enhances effort and productivity (ii) (Saunders, 1995). The most condemning voices have sustained that merit is only a justification for a new way of concentration and perpetuation of wealth and privilege across generations (Markovits, 2019).

Later works have explored how individuals conceive meritocracy, to what extent they support this idea, and which are the effects of this endorsement on different societal outcomes (Bucca, 2016; Mijs & Hoy, 2021; Roex et al., 2019). A general overview shows that the percentage of people that believe in meritocracy has grown in almost every country in the world since the '80 s. This is especially visible in Western countries, where around 70% of the population associate success with some sort of meritocratic factor (Mijs, 2019).

Besides the broad scholarship addressing how meritocratic beliefs are formed and how they vary among different societal groups, a growing body of literature in psychology and neuroscience has been recently focused on the actual effects that holding meritocratic beliefs could have on the individuals themselves. The most remarkable studies show that beliefs in meritocracy affect the levels of tolerance for inequality: just having the idea of meritocracy in mind makes people more permissive to unequal outcomes (Feng et al., 2013; McCoy & Major, 2007). Furthermore, popular views on meritocracy are related to the alignment with certain policies (Kluegel & Smith, 1981), support for redistribution (Alesina et al., 2018; Barr & Miller, 2020), workplace inequality (Light et al., 2011), health outcomes (Kwate & Meyer, 2010) or voting behavior (Reynolds & Xian, 2014).

These approaches imply a radical questioning of the expected direction of the causal relationship between beliefs and social or political outcomes: whereas scholars have traditionally looked at the distributions of beliefs among individuals assuming that it is their social position that triggers the formation of a certain set of beliefs, this recent literature states that holding certain beliefs could be also influential for the lives of those individuals (Mijs, 2016, 2019; Olivos, 2021).

Among the consequences of believing in meritocracy for the lives of individuals is especially relevant for the sociological literature the effect that these beliefs can have on people's socioeconomic trajectories (Keller & Neidhoefer, 2014; Sagioglou et al., 2019). As Shane and Heckhausen (2013) show, believing that effort drives success increases the students' level of goal-engagement, which often impacts their short-term educational achievement. The rationale behind these studies is that when individuals trust the fact that they can succeed they will try harder, make better decisions, or persist more in their attempts (Carbonaro, 2005). Hsin and Xie (2017) show that there is an important connection between considering that educational attainment is not completely predestined—but a product of hard work—and achieving higher for young Asian-American students. Similarly, Hu et al. (2020) and Laurin et al. (2011) find that meritocratic beliefs have a positive impact on the self-regulatory abilities of the students, which

improves their goal clarity and perspective, and eventually positively impacts their attainment.

However, this argument has two sides: what if, despite believing in effort as the main driver of success, the obstacles that people encounter along the way are too discouraging? Will believing in meritocracy still be a source of motivation, or will it affect them negatively? This could be the case of individuals from low SES, for whom these meritocratic beliefs are not consistent with the real-life opportunities they find (i.e., there is not a mechanic relationship between hard work and success). This paper aims to shed light on this by examining whether holding meritocratic beliefs during the adolescence period have heterogeneous long-term effects on the socioeconomic outcomes of individuals from more and less privileged backgrounds. The long-term effects of these meritocratic beliefs on socioeconomic outcomes remain mostly unexplored, although the underlying logic is similar to the studies focusing on mid-term psychological and educational outcomes (Shane & Heckhausen, 2017). The implications of this question are relevant: if that is the case, and there are heterogeneous SES effects of the meritocratic beliefs on individual's long-term outcomes, this would imply that system-justifying beliefs are especially harmful for those individuals who are already in a disadvantaged social position.

Heterogeneous Socioeconomic Effects

The first step in understanding the relationship between meritocratic values and socioeconomic backgrounds is to see how much individuals in each group believe in meritocracy (Bucca, 2016; Mijs, 2019). Most of this literature sustains that individuals who come from more privileged socioeconomic groups will be more likely to assume that their social position is product of hard work and therefore, will hold strong meritocratic beliefs (McCoy & Major, 2007). The main reason for this is that meritocratic beliefs play a role in (self-)justifying their own social position. It is also noteworthy, however, that some studies point out the irony of students from lower socioeconomic backgrounds endorsing these beliefs to a higher extent than high-SES ones (Darnon et al., 2018; McCoy et al., 2013).

The second step, and what is relevant to the question posed above is not how much low- and high-SES people believe in meritocracy, but what is the impact of their belief in meritocracy on their socioeconomic trajectories and outcomes. In this sense, the literature has suggested two psychological mechanisms¹ that can be useful to understand how the contrast between structural conditions (socioeconomic background) and beliefs (meritocratic) can eventually affect the socioeconomic position attained in the long-term.

First, frustration can play a crucial role in understanding this relationship between meritocratic beliefs and socioeconomic outcomes (Otten, 2019; Souto-Otero, 2010).

¹ Note that these mechanisms are not tested in this paper, but just reviewed from a theoretical perspective. They sustain the argumentation of the potential effect between meritocratic beliefs and socioeconomic outcomes.

Believing that success is possible if one works hard is usually related to higher expectations about the future (Domina & Roksa, 2012). These expectations usually guarantee a certain level of motivation and effort (Bandura et al., 2001), which are also good predictors of better socioeconomic outcomes (Halleröd, 2011; Levi et al., 2014). However, in the case of low-SES individuals, these expectations will clash with the actual possibilities of realization of their objectives. Thus, frustration emerges from the resistance to the fulfillment of someone’s goals. When individuals’ goals are driven by the idea that hard work will bring success, but on their way, they encounter major drawbacks and obstacles, as in the case of those individuals belonging to low SES, frustration will be very likely to appear (Darnon et al., 2018; Sagioglou et al., 2019; Sternberg, 2017).

Second, a branch of explanations has suggested that self-efficacy (Darnon et al., 2018; Keller & Neidhoefer, 2014; Sagioglou et al., 2019) and locus of control (McCoy et al., 2013) will be affected when the structural obstacles collide with meritocratic beliefs. In other words, when an individual believes that through effort and hard work, they will achieve an outcome, but they find important hurdles in the process, that individual’s perception of their own ability to achieve a goal or of their own control over the circumstances will be crucially influenced (Darnon et al., 2018; Jost, 2001). Similarly, some literature has also noted that self-esteem is usually affected by children’s unaccomplished expectations and that this impacts educational attainment later in life (Flouri, 2006).

These two channels, which take place in the psychological domain, are materialized in two elements that are very relevant for the long-term socioeconomic trajectories: the process of decision-making and the levels of performance. This theoretical frame is represented in Fig. 1 below.

The role of decision-making has been usually emphasized from the literature focused on the secondary effects of social class. As Keller and Neidhoefer (2014) and Stocké et al. (2019) note, students from different social classes make different educational decisions, even when they have similar abilities. High levels of frustration have been associated with worse career planning, disjointed job choices and, all in all, a poor process of decision-making (A. M. Young, 2009). Lower self-efficacy and self-esteem have also been associated with more dysfunctional decision-making styles (Filippello et al., 2013).

Regarding the levels of performance, it has been consistently shown in the literature that low levels of self-efficacy negatively affect educational performance

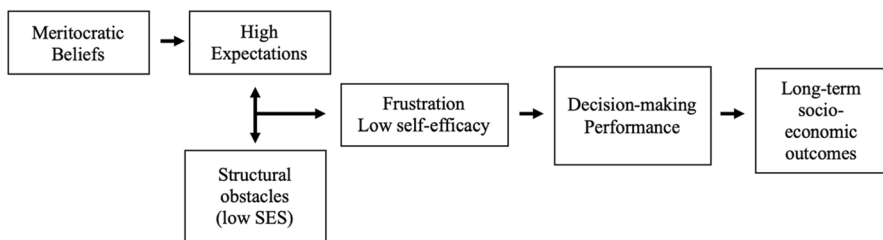


Fig. 1 Theoretical Frame Representation

(Bouffard-Bouchard, 1990; Vancouver et al., 2002). This is simply because an individuals' low judgment of their own capacity decreases the level of effort and motivation to improve (Schunk, 1995). In this line, recent experimental research by Madeira et al. (2019) shows that priming meritocracy increases the negative self-evaluations and attributions that affect performance among low-status students, but not for their well-off counterparts. Moreover, frustration is also considered one of the psychological factors that predict lower academic achievement, mainly by reducing the level of academic engagement (Buzzai et al., 2021; Wilde, 2012)..

Building on all this, I argue that whereas **(H1a)** *holding meritocratic beliefs will have a negative impact on the long-term socioeconomic outcomes of low-SES individuals*, **(H1b)** *meritocratic beliefs will positively affect the long-term socioeconomic status of high-SES individuals*.

Data and Methods

Data

The data used for this paper come from the German Socioeconomic Panel (SOEP). This is a longitudinal database covering individuals and households in Germany from 1984 to 2019 (in its 36th version) (Goebel et al., 2019). Within its several modules, the SOEP-Core includes the fundamental datasets for this study: the Individual Questionnaire and the Youth Questionnaire.² The former, which gathers information from all the people within the original—or parental—household, also allows me to follow those individuals once they leave the house. The Youth Questionnaire, which was released in the year 2000 for the first time, includes relevant information about the young individuals' perceptions, beliefs, familial context, school environment or future aspirations.³ It includes all the individuals living in the household when they turn 17, which is considered a crucial moment for their educational and occupational status. Therefore, this paper employs information about those individuals from their late teenage period to their adult life. The final sample presents information of 3203 individuals.⁴

The longitudinal structure of this dataset is crucial here since I aim to understand how the meritocratic beliefs developed during the childhood period and consolidated in adolescence eventually impact the socioeconomic outcomes of the individuals. Furthermore, there are four other advantages related to the nature of this data: (i)

² This dataset is publicly available upon request from the Research Data Center of the SocioEconomic Panel, DIW. Replication codes can be provided by the author upon request.

³ For a comprehensive review see: SOEP Group, 2017. SOEP-Core—2015: Youth Questionnaire (with Reference to Variables). SOEP Survey Papers 422: Series A—Survey Instruments (Erhebungsinstrumente). Berlin: DIW Berlin/SOEP.

⁴ The analytical sample is restricted to those with complete information for all the key variables of interest. From the original SOEP-Youth sample, only 2,5% and 1.75% (depends on the operationalization) of the individuals providing information about their meritocratic beliefs fail to provide information about their labor market status later in the lives. There are no SES differences in these attrition patterns.

since beliefs are being measured at t and the outcomes at $t+1$, I avoid capturing ex-post rationalization that individuals may do of their achievements once they become adults; (ii) the fact that these beliefs start to be stable during the late-adolescence—whereas during the early adolescence, they may be still overly optimistic (Klassen, 2002), increases the reliability of these measures; (iii) the late stages of the formative period have been noted to be crucial for young students to become aware of their potentialities and establish their future goals (Bandura et al., 2001); (iv) the multi-level structure of the data (individuals nested within families) allows me to control for family unobservable characteristics.

Variables

The dependent variable of this study is individuals' socioeconomic outcomes during the adulthood period. I operationalize this through labor market outcomes because (i) they are a fundamental part of the socioeconomic status of a person (Croll, 2008) and (ii) they can be measured later-in-life that the most obvious alternative, educational outcomes, which is more coherent with the longitudinal analysis framework suggested in this paper. I use a two-fold operationalization of labor market outcomes, intending to capture different dimensions of the same phenomenon: a precarious working situation measure and a fully working status one. Whereas the fully working operationalization measures whether the individual is working or not, the precarious working situation variable focuses on the specificities of that job in terms of the living conditions the individual is subject to. Details about the descriptive statistics and the process of construction of all the variables are provided in Table 3 in the [Appendix](#).

- (a) *Precarious Working Situation*: this dichotomous variable takes a value of 1 if the individual (i) has a part-time job (both regular and irregular) or (ii) is not employed at all. It takes a value of 0 otherwise. 72% of this sample has a precarious working situation.
- (b) *Fully Working Status*: this measure captures the current employment status of the individual. This dichotomous variable presents a value of 1 if the individual is fully working, and a value of 0 if the individual (i) has sporadic secondary jobs, (ii) is on leave, or (iii) is unemployed. 37,9% of this sample is fully working.

The data for each survey respondent correspond to the last possible observation available. In other words, if that specific person has been interviewed for the Individual Questionnaire in three different rounds, the last one is picked up. In this way, the aim is to capture the final or more stable occupation ever held. The average age of the individuals in the sample at the time when the dependent variable is measured is 28.5 years old.

The main independent variable of interest captures meritocratic beliefs measured at age 17. The original question is: *to what degree do you personally agree with the following statement: one has to work hard to be successful*. This is a Likert-type scale that originally goes from 1 to 7, being 7 the highest level of agreement (and

the most meritocratic answer). This specific measure of meritocratic beliefs is the most commonly used in the literature and general surveys to capture meritocratic beliefs (Alesina et al., 2018; Darnon et al., 2018; Mijs, 2019; Newman et al., 2015). The main analyses are replicated in the robustness section using a dichotomous operationalization of meritocratic beliefs. The adolescence period has been noted to be a good time to measure beliefs because they start to be stable at this time (Elkins et al., 2017) and because, given the importance of these last formative years, beliefs can crucially impact well-being and future life outcomes (Leikas & Salmela-Aro, 2014).

The family socioeconomic background, the second main independent variable, is measured through parental occupation. A simplified adaptation of the EGP scale is employed, capturing if the parents hold or not a service class occupation.⁵ Although the main results are presented for fathers' occupation, which is one of the best parental predictors of children's occupational outcomes (Thaning & Hällsten, 2020), the analyses are rerun using a dominance analysis in the robustness section, as well as a measure of parental education.

Two sets of control variables are introduced in these models. First, sociodemographic controls, including gender and age (both in a continuous and categorical form⁶). Second, personality-related traits, concretely, locus of control and self-efficacy, which have been noted in the literature to be explicative factors for the main predictor and the outcome variables. I refrain from including further controls given the nature of the siblings fixed-effect models implemented, which only produce estimates for those variables that vary across siblings.

The German Case

The German case is characterized by a large percentage of educational participation among young individuals and a historically very effective vocational training system (Brzinsky-Fay & Solga, 2016). However, the educational system is also highly segregated, with important differences between school types (Bol & van de Werfhorst, 2013). Importantly for this paper, the German entry labor market conditions show that educational credentials are more relevant than experience in achieving youth labor market integration (Gangl, 2001).

In terms of the general situation of the entry to the labor market in Germany, Becker and Blossfeld (2017) show that, whereas the expansion of the welfare state in the 60 s and 70 s brought with it a progressive improvement of the entry-level job opportunities, the situation has changed in the last decades, with declining job entry

⁵ This simplified operationalization, instead of a more detailed one, is justified by the sample size not being large enough for many categories since very few observations would remain in each of them.

⁶ This variable includes three different groups: those who are younger than 22, between 22 and 27, and those who are older than 27. This age categorization is based on the average levels of entry and exit from tertiary education and the labor market, as stated in the report "Education at a Glance" for the German case. Available at: OECD (2007). Education at a Glance 2007: OECD Indicators, OECD Publishing, Paris.

opportunities (Scherer, 2005). This explains, according to Brady and Biegert (2017), the rise of precarious employment in Germany. The authors point out that major social policy and labor market reforms are behind this increase, together with the decline in unionization.

Analytical Strategy

A series of within sibling fixed-effects models are estimated⁷ to test the effect of holding meritocratic beliefs during the teenage period on the labor market outcomes. This implies that the occupational outcomes analyzed are compared between those siblings raised in the same family (Conley et al., 2007; Grätz, 2018). The main advantage of these models is that the bias derived from observed and, especially, unobserved family-specific heterogeneity, is controlled for. The basic premise of the model is that siblings must hold different levels of meritocratic beliefs.

Given the characteristics of the sibling fixed-effects models, only variables that are sibling-specific can be introduced in the models (Allison, 2009). This is the case of gender, age or personality traits. However, that is not the case of the moderator variable, family SES (i.e., it does not vary between siblings). Therefore, the only possibility to include this variable in the analysis is using the exception contemplated by Allison (2009) for which an invariant characteristic might be introduced in the fixed-effect models if and only if it is interacted with a variant one. In this specific case, this means that parental occupation should be interacted with meritocratic beliefs to be introduced in the models.

Formally, the final model is the following:

$$\begin{aligned} \gamma_{p_s} - \bar{\gamma}_p &= \beta_1 \left(MB_{p_s} - \overline{MB}_p \right) + \beta_2 \left(SES_{p_s} - \overline{SES}_p \right) + \beta_3 \left(MB_{p_s} - \overline{MB}_p \right) \\ &* \left(SES_{p_s} - \overline{SES}_p \right) + (\varepsilon_{p_s} - \varepsilon_p) \end{aligned} \quad (1)$$

where γ is the labor market status, p refers to the siblings-pair,⁸ s to the individual sibling, MB to the meritocratic beliefs of the individual, and SES to the family socioeconomic background. β_3 captures the main effect of interest, the interaction between meritocratic beliefs and SES, which emerges as the core part of this analysis.

Note that these models do not test the theoretical mechanisms suggested in the theoretical framework section, given data availability limitations. For the sake of simplification in the interpretation of the results, linear fixed-effects models are presented here, although all the models have been rerun using conditional fixed-effects

⁷ The logistic regressions replications of the main models (without fixed effects) are presented in "Appendix 2", Supplementary Materials, Table 11.

⁸ In the case of families with more than one pair of siblings (i.e., more than two children), all the possible permutations of siblings-pairs are considered. 24% of this sample of families present more than 2 siblings. Of these, 75% have 3 siblings, and only a marginal 2% have 6 or 7 siblings.

logits (results available upon request), without finding any significant change. The models have been run using the package *FIXEST* in R Software.

Results

Descriptive Findings

Figure 2 below displays the distribution of the meritocratic beliefs' variable for each of the SES groups explored. Low and high-SES individuals present similar patterns of beliefs, both with a quite right-skewed distribution, meaning that most of the individuals in this sample believe to a certain extent that one must work hard to be successful. On a scale from 1 to 7, the average is 5.81 points of trust in meritocracy. This is relatively similar among individuals from any of the SES groups studied. Whereas low-SES individuals present an average of 5.86, high SES seems to trust slightly less the meritocratic ideal with an average of 5.64 points.

It is also important to notice that, both high and low-SES individuals seem, on average, more likely to be in a precarious working situation (73% of the sample) than not being in one. Similarly, both low and high SES are more likely to not be fully working (i.e., more likely to have secondary jobs only, be on leave, or unemployed). There are some small variations between low and high SES, with the latter being slightly less likely to be in a fully working situation. However, these are not significant, and, by exploring within-family variation, I will be circumventing the potential biases derived from this unbalanced sample.

A fundamental aspect for these analyses is exploring how (dis)similar siblings are. A requirement for the models is that siblings present different levels of meritocratic beliefs at age 17 so that that the variation within the family can be exploited. Figure 3 below displays the Intraclass Correlation Coefficients (ICCs), which capture to what extent siblings are alike in a certain trait. Higher values of ICCs will reflect more similar siblings. The average values are around 0.2 for high-SES

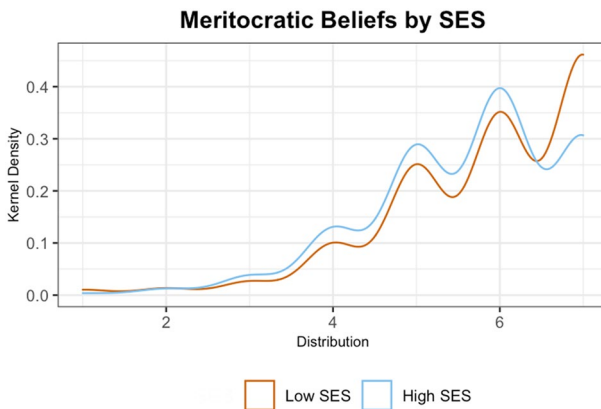


Fig. 2 Distribution of Meritocratic Beliefs by SES

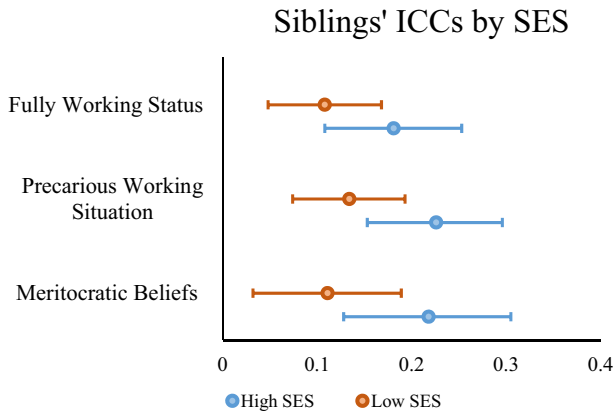


Fig. 3 ICCs of the Siblings for the Variables of Interest, by SES. CI 95%

individuals and around 0.1 for low SES. These are fairly low levels of similarity, and doubtlessly, enough variation for these analyses. There are no significant differences in these ICCs by SES, although high-SES siblings are generally more alike than low-SES ones. This goes in line with some previous results in the literature exploring sibling resemblance in socioeconomic outcomes (i.e. Anger & Schnitzlein, 2017; Conley et al., 2007 or Grätz et al., 2021 for the US and Sweden).

Siblings Fixed Effect Models

Table 1 presents the effects that endorsing meritocratic beliefs at the age of 17 have on the likelihood of being in a precarious working situation later-in-life. Since these are sibling fixed-effects models, the coefficients measure the differences in outcomes between siblings. Model 1 shows that for low-SES individuals having had stronger meritocratic beliefs increases the likelihood of being in this precarious working situation. However, within high-SES families, the sibling with more meritocratic beliefs will be slightly less likely ($0.036 - 0.045 = 0.009$) to have a precarious job than the counterpart sibling with weaker meritocratic beliefs.

These results keep constant across the rest of the models when I introduce the different control variables (see Fig. 4 below). Model 2, for instance, shows that these results are not modified when the gender and age of the individual are incorporated. As expected, women are more likely to have a precarious work than their male siblings, and older siblings are less likely than the younger ones to be in this situation. More relevant in substantive terms is that neither locus of control nor self-efficacy seem to absorb the effect of meritocratic beliefs on the outcome variable. Also unsurprisingly, self-efficacy has a negative and significant effect on the likelihood of being in a precarious job.

Regarding the second outcome of interest, there is a negative effect of holding stronger meritocratic beliefs on the likelihood of having a fully working status for those from lower SES (Table 2). Nevertheless, within those high-SES families, the effect of holding meritocratic beliefs on the siblings' likelihood of having a

Table 1 Main models for precarious work situation

	Dependent variable: precarious work situation			
	Model 1	Model 2	Model 3	Model 4
Meritocratic (ref. category: Low SES)	0.036** (0.013)	0.039** (0.012)	0.039** (0.012)	0.043*** (0.012)
Meritocratic beliefs \times High SES	−0.045* (0.018)	−0.049** (0.018)	−0.05** (0.018)	−0.05** (0.017)
Female		0.083*** (0.019)	0.084*** (0.019)	0.089*** (0.019)
Age (cont.)		−0.023** (0.007)	−0.023** (0.007)	−0.022** (0.007)
Age 22–26		−0.015 (0.035)	−0.001 (0.035)	−0.026 (0.035)
Age older than 26		−0.003 (0.06)	−0.004 (0.06)	−0.012 (0.059)
Locus of control			−0.013 (0.02)	−0.005 (0.02)
Self-efficacy				−0.035*** (0.008)
N	3203	3203	3203	3203

Siblings Fixed-Effects. Standard Errors clustered at the family level. Note that the main effect of the SES variable is not presented in the model because it does not vary between siblings, and therefore, cannot be a predictor in the siblings fixed-effects models unless interacted with a varying predictor (i.e., meritocratic beliefs). *** = 0.001, ** = 0.01, * = 0.05, † = 0.10

fully working arrangement is virtually 0 (−0.042 + 0.042). There are no differences between male and female siblings in the probability of being fully working, and older siblings are more likely to do so than those younger siblings.

These main results are again unaffected by the incorporation of demographic and personality controls into the models (see Fig. 5 below). This is especially relevant in the case of self-efficacy, which has itself a positive and significant effect on the likelihood of being fully working but without reducing the impact of meritocratic beliefs.

Robustness and Sensitivity Checks

The main results in the previous section suggest that meritocratic beliefs have heterogeneous effects for each of the socioeconomic groups explored. There are six further robustness checks that can be made to validate these results.

First, a necessary next step at this point is exploring whether an individual's ability is playing a role in this whole framework. It could be the case that individuals with higher ability are just more likely to develop stronger meritocratic beliefs than those with lower levels of ability. To test this idea further, I include controls for mathematics and German performance in the models, as well as general cognitive abilities. Results in Table 4 in the Appendix show that the results remain similar. Among those low-SES individuals, the sibling holding stronger meritocratic beliefs will be more likely to be in a precarious working situation, as well as less likely to have a fully working status than the weaker believer sibling. In the case of higher SES individuals, however, the significant interaction effect disappears when we look at the precarious working situation, although it is still

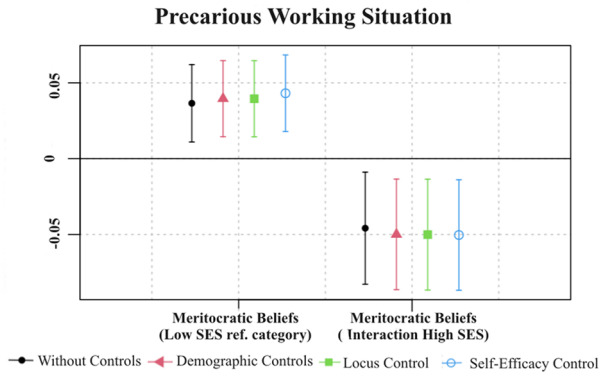


Fig. 4 Effect of Meritocratic Beliefs on the Likelihood of having a Precarious Working Situation by SES. Estimated CI at 95%. Estimates correspond to Table 1

Table 2 Main models for fully working status

	Dependent variable fully working status			
	Model 1	Model 2	Model 3	Model 4
Meritocratic Beliefs (ref. category: Low SES)	-0.037** (0.012)	-0.039** (0.013)	-0.038** (0.013)	-0.042** (0.013)
Meritocratic Beliefs × High SES	0.038 [†] (0.021)	0.041 [†] (0.02)	0.042* (0.021)	0.042* (0.021)
Female		-0.027 (0.022)	-0.028 (0.022)	-0.032 (0.022)
Age (cont.)		0.018* (0.008)	0.018* (0.008)	0.017* (0.008)
Age 22–26		0.082 [†] (0.04)	0.085* (0.042)	0.093* (0.04)
Age older than 26		0.079 (0.069)	0.082 (0.069)	0.089 (0.069)
Locus of control			0.037 (0.023)	0.03 (0.023)
Self-efficacy				0.032** (0.01)
N	3203	3203	3203	3203

Siblings Fixed-Effects. Standard Errors clustered at the family level. Note that the main effect of the SES variable is not presented in the model because it does not vary between siblings, and therefore, cannot be a predictor in the siblings fixed-effects models unless interacted with a varying predictor (i.e., meritocratic beliefs). *** = 0.001, ** = 0.01, * = 0.05, [†] = 0.10

there for the likelihood of having a fully working status. Moreover, grades seem to barely affect the outcomes of interest, net of the other sociodemographic and personality characteristics of the individual. Table 5 displays the results of the main models including the cognitive abilities control, showing that the effects noted in the main section of these analyses keep also constant with this specification.

Second, Table 6 in the Appendix presents a replication of the analyses using a dichotomous operationalization of the meritocratic beliefs’ variable. There are two reasons for this. First, the original variable presents a quite right-skewed distribution, as shown in Fig. 2. This means that I might be assuming that, for

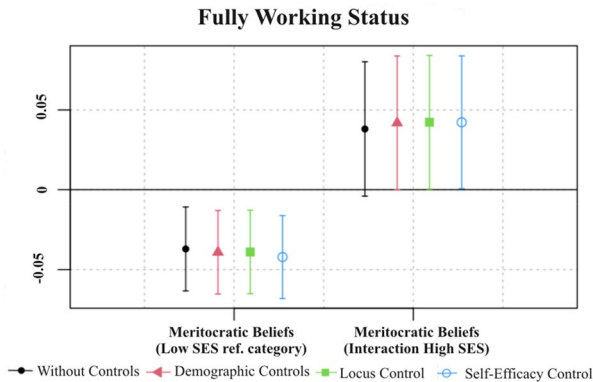


Fig. 5 Effect of Meritocratic Beliefs on the Likelihood of having a Fully Working Status by SES. Estimated CI at 95%. Correspond to Table 2

instance, an individual with 5 points on a scale of 1 to 7 has strong beliefs in meritocracy, whereas this value might actually correspond to the lower part of the distribution. Second, the current meritocratic beliefs variable is only part of the SOEP Young Questionnaire waves released after 2006. This means that the analyses are restricted to those who turned 17 from that year onwards. However, a slightly different variable was part of the survey during those 6 previous years (since the release of the Young Questionnaire in the year 2000), asking the respondents how much they agree with the idea that one has to work to be successful. The original problem with this variable is that it presents a very particular operationalization, with only four categories (i.e., strongly agree/agree/strongly disagree/disagree), which makes it incomparable with the other 7 points Likert-type scales employed to measure personality traits and later meritocratic beliefs. That is why, as a robustness test, I pool both variables, assigning values of 1 (*strong believers*) if individuals (strongly) agree in the pre-2006 question, or show values over 5.86 on a scale from 1 to 7 in the first variable (i.e., above the mean). In the replicated analyses (Table 6), the results keep constant. The number of observations, however, increases given the new timespan included. Within low-SES families, the *strong believer sibling* will be more likely to be in a precarious working situation than the *weaker believer sibling*. In the case of high-SES families, this effect virtually 0 (i.e., $0.127 - 0.114 = 0.0$), but still different from the low-SES group.

Third, it is pertinent to explore whether the fathers' occupation is a good proxy for the general family SES. To do so, a dominance model is implemented, and the highest occupation between the father and mother is chosen (Erikson, 1984). The main reason to select this specification over a purely mothers' occupation variable is that there is a considerably big proportion of mothers who do not report their job, so the sample would be markedly reduced. Using this dominance model, 50.3% of the children have at least one parent with a service class job. The last reported occupation is chosen for each parent and those who have never reported a job are excluded

from the sample. Table 7 shows that the results are in line with what has been previously discussed.

Fourth, analyses are replicated operationalizing SES with parental education, through a dichotomous variable that takes values 1 when the father has achieved tertiary education and value 0 otherwise. 34.2% of the children have tertiary educated fathers. For lower educated individuals, holding strong meritocratic beliefs still increases the likelihood of having a precarious work situation, and at the same time, reduces the likelihood of being fully working (see Table 8). These effects, however, are weaker than in the main analyses with parental occupation. Moreover, there is a loss of significance of the interaction effect for high-SES individuals. The main explanation for this differential effect of parental education and occupation might be that, whereas the parental education variable distinguishes between those with and without tertiary education, parental occupation differentiates between those in service class occupations and the rest. Thus, having a service occupation guarantees a certain level of resources (i.e., it establishes a higher baseline level), which might not be true for all those individuals who have some sort of tertiary degree.

Fifth, it is difficult to tell how stable meritocratic beliefs are throughout the life course since they are only measured at one point in time. In this sense, there is a possibility of beliefs being adjusted in terms of the previous academic performance of the individuals, which would generate reverse causality issues in these analyses. For instance, if poor academic results in early adolescence affect the meritocratic beliefs at the age of 17, and low socioeconomic background students tend to have lower performance in general, this could be an important source of endogeneity for the results. One way of addressing this within the possibilities of this data is by looking at the relationship that exists between these meritocratic beliefs in the late teenage period and the previous educational performance. As shown in Table 9 (Appendix 2), grades of the students at ages 9 and 10 do not seem to predict meritocratic beliefs at age 17.

It is usually the case that the first labor market experiences have worse working conditions as compared to later-in-life jobs. If this was especially likely to occur among certain groups, i.e., low or high-SES individuals, the results presented here could be the partially affected by these dynamics. I rerun the main analyses stratifying the sample between those younger and older than 28.7 years old (the average age in the whole sample). The results (Table 10) seem to be mainly driven by older groups, although there are not important differences across groups.

Finally, Table 11 in the Appendix shows the baseline effects of meritocratic beliefs and parental SES on labor market outcomes, without including family fixed effects and with a logistic model specification to account for the dichotomous nature of the dependent variable. The estimates without the fixed effects specifications are larger than the main results from the siblings' fixed effects presented in Tables 1 and 2. This suggests that the models without the fixed effects specification might be overestimating the effect of meritocratic beliefs and parental SES on labor market outcomes, due to existent confounders such as parental rearing strategies or school-related factors. All those potential family invariant confounders are accounted for with the siblings' fixed effects specification, which is one of the main advantages of this design.

Discussion and Conclusions

Hard work is usually identified as one of the main drivers for success. This is especially the case for lower SES individuals, who seem slightly more likely to hold stronger meritocratic beliefs, compared to high-SES ones. Even if these differences are far from being significant, these results go in line with Darnon's (2018) idea of the *irony of meritocratic beliefs*: those with lower socioeconomic status endorse meritocratic conceptions of society to a larger extent. This might be because those from higher SES are more aware of the existent structural barriers, and then, develop more critical explanations of success. Moreover, the German highly tracked system has also been pointed out as responsible for the increasing polarization between the internal attributions young individuals have and the external constraints they face (Hillmert & Jacob, 2010; Mijs, 2016).

More importantly than the levels of meritocratic beliefs held by each group is the fact that these beliefs seem to have heterogeneous impacts on the long-term socioeconomic status of the individuals. The most consistent result of this study is that all else equal, among lower SES individuals, holding strong meritocratic beliefs during the late teenage period increases the chances of having a precarious work situation later-in-life and decreases the chances of being fully working. These results are robust despite the implementation of different methodological specifications. This, however, is not the case for high-SES individuals.

The explanation for these results is that when the hurdles faced by the individuals during their formative years clash with their meritocratic beliefs, the frustration generated and their lowered self-efficacy will eventually impact their decisions and performance. These results, however, are not suggesting that meritocratic beliefs could be themselves responsible for the worse labor market situation of low-SES individuals, but just pointing out that relative to other low-SES individuals with weaker beliefs in meritocracy, *strong believers* have more chances to face labor market difficulties in their early adulthood period.

These results must be interpreted in line with all the recent contributions from psychology that reveal the self-debilitating effect that meritocratic beliefs could have on individuals from lower social backgrounds (Madeira et al., 2019; Sagioglou et al., 2019). This means that not only personality traits like self-esteem or life satisfaction are affected by this long-term damaging effect of meritocratic beliefs, but also socioeconomic outcomes.

The main contribution of this paper is addressing the damaging effect that endorsing meritocratic beliefs during the teenage period have on the later-in-life labor market status of low-SES individuals. By using a longitudinal approach, together with sibling fixed effects, this paper aims to account for potential endogeneity and reverse causality problems present in previous studies. Yet, these results should be interpreted with caution. Future designs should try to disentangle which elements of the early life of the children (performance, personality...) affect both the formation of meritocratic beliefs as

well as later-in-life outcomes. These could compromise the directionality of the relationship tested in this study. Another daunting aspect for the causal interpretation of these results is that siblings from low-status families with strong meritocratic beliefs might be more focused on finding better paid or highly rewarded jobs than their siblings, which would imply they are not employed at the moment of the observation, but they might get a better position in the long run, when they are already out of this sample.

A second drawback of this analysis comes from the fact that the mechanisms that this paper suggests in the theoretical section are not tested empirically, except for accounting for locus of control and self-efficacy in some of the models. The reason for this is that this information is not available in the data in a consistent way (i.e., there are no measures available for children's frustration). Future research should try to disentangle the specific mechanisms driving the relationship between meritocratic beliefs and socioeconomic outcomes and how they play out for individuals from high and low socioeconomic backgrounds.

A third limitation is that the conceptualization of meritocratic beliefs presented here is unidimensional. Even if it is the most common operationalization in the literature (Alesina et al., 2018; Mijs, 2019), some scholars have noted the differential effects of descriptive and prescriptive meritocratic beliefs (Madeira et al., 2019). Also, richer data could facilitate distinguishing between agency and societal meritocratic beliefs; being the first strictly related to the individuals holding those beliefs and the former to their general conception of how society should work (Shane & Heckhausen, 2017). It is important to understand these results within the German context, with high rates of precarious work and part-time job. Further studies should explore this association in other contexts with different labor market settings. Finally, future research should explore the possibility of subjective social status playing a different role than objective SES in this whole puzzle.

Overall, this study provides new insights into the unexplored dark side of meritocratic beliefs across the life course. This opens a new avenue to explore how individuals' understandings of how the path toward success occurs may leave an impact on their lives, especially when the actual barriers they find in their way are hard to overcome.

Appendix 1

See Table 3.

Appendix 2

See Tables 4, 5, 6, 7, 8, 9, 10 and 11.

Table 3 Descriptive statistics

Variable	Mean/proportion	Sd	Type	Range	Original variable
Fully working	37,9% fully working, 62,1% non-fully working	–	Dichotomous	0, 1	pglfs
Precarious working situation	72,9% in a precarious situation, 27% in a non-precarious working situation	–	Dichotomous	0, 1	pgemplst
Meritocratic beliefs (cont.)	5.81	1.21	Continuous	1–7	j10354_v2
Fathers' occupation	38,4% Service Occupations, 61,6% Non-Service Occupations	–	Dichotomous	0, 1	fegp88
Self-efficacy	5.26	1.22	Continuous	1–7	j10375
Locus of control	65% present a strong locus of control, 35% present low locus of control values	–	Dichotomous	0, 1	j10353_v1, j10353_v2
Educational expectations	72.11	21.95	Continuous	1–100	j10221
Age (cont.)	28.47	5.91	Continuous	20–40	j10233
Age (categ.)	Less than 22: 19,5% Between 22 and 26: 24,9% More than 26: 55,48%	–	Categorical	0, 1, 2	j10233
Female	49,9% female, 50,1% male	–	Dichotomous	0, 1	sex
Maths	4.02	1.03	Continuous	1–6	j10156
German	4.09	0.84	Continuous	1–6	j10152
Cognitive ability	52.19	8.34	Continuous	8–60	sumindex
Meritocratic beliefs (dichot.)	70,2% hold strong meritocratic beliefs, 29,8% do not hold strong meritocratic beliefs	–	Dichotomous	0, 1	j10354_v1 (value 1 if 1 in this original variable), j10354_v2 (value 1 if higher than the average value of meritocratic beliefs)
Parental occupation (dominance model)	50,3% Service Occupations, 49,7% Non-Service Occupations	–	Dichotomous	0, 1	fegp88, megp88
Parental education	34,1% Tertiary Education, 65,8% Non-Tertiary Education	–	Dichotomous	0, 1	fsedu (categories 4 and 5 of the original variable are classified as Tertiary Education)

Table 5 Models with ability controls including cognitive ability

	Dependent variables	
	Precarious working situation	Fully working status
Meritocratic beliefs (ref. category: low SES)	0.059** (0.019)	−0.061** (0.021)
Meritocratic beliefs × High SES	−0.07* (0.029)	0.074* (0.034)
Cognitive ability	0.001 (0.002)	−0.003 (0.002)
Controls	Yes	Yes
<i>N</i>	1651	1655

Siblings Fixed-Effects. Standard Errors (in parentheses) are clustered at the family level. ***=0.001, **=0.01, *=0.05, †=0.10. Age (continuous and categorical), gender, locus of control, and self-efficacy are included as control variables in these models

Table 6 Models with a dichotomous operationalization of meritocratic beliefs

	Dependent variable:	
	Precarious work situation	Fully working status
Dichotomous Meritocratic Beliefs (ref. category: Low SES)	0.127*** (0.029)	−0.118*** (0.031)
Dichotomous Meritocratic Beliefs × High SES	−0.114** (0.040)	0.093* (0.046)
Controls	Yes	Yes
<i>N</i>	4542	4551

Siblings Fixed-Effects. Standard Errors (in parentheses) are clustered at the family level. ***=0.001, **=0.01, *=0.05, †=0.10. Age (continuous and categorical), gender, locus of control, and self-efficacy are included as control variables in these models

Table 7 Models with a parents-dominance specification

	Dependent variable	
	Precarious Work Situation	Fully Working Status
Meritocratic beliefs (ref. category: Low SES—Dominance)	0.044** (0.015)	−0.051** (0.016)
Meritocratic beliefs × High SES (Dominance)	−0.042*(0.02)	0.044* (0.022)
Controls	Yes	Yes
<i>N</i>	2883	2890

Siblings Fixed-Effects. Standard Errors (in parentheses) are clustered at the family level. ***=0.001, **=0.01, *=0.05, †=0.10. Age (continuous and categorical), gender, locus of control, and self-efficacy are included as control variables in these models

Table 4 Models with ability controls including grades

	Dependent variables	
	Precarious working situation	Fully working status
Meritocratic Beliefs (ref. category: Low SES)	0.051*** (0.014)	-0.047*** (0.0143)
Meritocratic beliefs × High SES	-0.055 [†] (0.024)	0.045 [†] (0.026)
Maths	0.022 (0.013)	-0.028 [†] (0.015)
German	0.029 [†] (0.016)	-0.021 (0.019)
Controls	Yes	Yes
<i>N</i>	2621	2625

Siblings Fixed-Effects. Standard Errors (in parentheses) are clustered at the family level. ***=0.001, **=0.01, *=0.05, [†]=0.10. Age (continuous and categorical), gender, locus of control, and self-efficacy are included as control variables in these models

Table 8 Models with parental education

	Dependent variable	
	Precarious work situation	Fully working status
Meritocratic beliefs (ref. category: low Parental Education)	0.0209 [†] (0.012)	-0.026* (0.012)
Meritocratic beliefs × High parental education	-0.067 (0.018)	0.007 (0.021)
Controls	Yes	Yes
<i>N</i>	3285	3293

Siblings Fixed-Effects. Standard Errors (in parentheses) are clustered at the family level. ***=0.001, **=0.01, *=0.05, [†]=0.10. Age (continuous and categorical), gender, locus of control, and self-efficacy are included as control variables in these models

Table 9 Effect of previous ability on meritocratic beliefs

	Dependent variable: meritocratic beliefs at age 17
German grades at Age 9	0.117 (0.082)
Maths grades at Age 9	0.071 (0.079)
Constant	5.210*** (0.1762)
<i>N</i>	515
<i>R</i> ²	0.014

Siblings Fixed-Effects. Standard Errors (in parentheses) are clustered at the family level. ***=0.001, **=0.01, *=0.05, [†]=0.10. Age (continuous and categorical), gender, locus of control, and self-efficacy are included as control variables in these models

Table 10 Models stratified by age

	Age below the average		Age above the average	
	Precarious working situation	Fully working status	Precarious working situation	Fully working status
Meritocratic Beliefs (ref. category: Low SES)	0.03* (0.014)	-0.031* (0.15)	0.12** (0.03)	-0.079* (0.03)
Meritocratic Beliefs x High SES	-0.059 [†] (0.021)	0.062 [†] (0.025)	-0.21*** (0.04)	0.15*** (0.05)
Controls	Yes	Yes	Yes	Yes
N	3486	3493	1603	1296

Siblings Fixed-Effects. Standard Errors (in parentheses) are clustered at the family level. *** = 0.001, ** = 0.01, * = 0.05, [†] = 0.10. Age (continuous and categorical), gender, locus of control, and self-efficacy are included as control variables in these models

Table 11 Logistic regression models

	Dependent variable:	
	Precarious work situation (1)	Fully working status (2)
Intercept	2.65*** (0.61)	− 1.61** (0.55)
Meritocratic	0.17*** (0.03)	− 0.18** (0.03)
High SES (ref. cat: low SES)	1.68* (0.82)	− 1.73** (0.66)
Meritocratic beliefs × High SES	− 0.18* (0.075)	0.21** (0.063)
Controls	Yes	Yes
Fixed effects	No	No
N	3203	3210
Pseudo R^2	0.037	0.015

Baseline effects

Logistic Regression models. Standard errors in parentheses. ***=0.001, **=0.01, *=0.05, †=0.10. Age (continuous and categorical), gender, locus of control and self-efficacy are included as control variables in these models

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Declarations

Conflict of interest The author declares that there are not conflict of interest.

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