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1 Introduction

In modern societies, educational attainment largely determines where one ends up on the social ladder. In Germany in particular, educational qualifications are strongly linked to labor market outcomes (Shavit et al., 2007):

“It is mostly individuals’ educational success or failure prior to labor market entry that determines [...] social positioning in later life. As a consequence, the ‘early winners’ can safely enjoy lifelong returns and social status stability.” (Solga, 2015, p. 205)

While individual effort and ability certainly contribute to educational success, there is clear empirical evidence that educational attainment remains strongly linked to social background (Autorengruppe Bildungsberichterstattung, 2022; Heisig et al., 2020). There is no level playing field for children from different backgrounds: Parental economic, social, and particularly cultural capital advantages children from privileged backgrounds in school (Bourdieu, 1977), making them more likely to attain a high level of education. Following the educational expansion, horizontal stratification also becomes increasingly important: Children from privileged backgrounds not only seek access to higher education, but specifically to selective fields of study with high returns in terms of income and prestige, and they are more successful in doing so than their less privileged peers (Lucas, 2001). Winning the educational game—and reaping the associated returns on the labor market—is possible for everyone, but the playing field is tilted in favor of those with better starting conditions. Highly educated parents are familiar with the norms and culture of the educational system and transfer this knowledge to their children (Bourdieu, 1984; Thaning, 2021). The interplay of educational gatekeeping processes and the ability of highly educated parents to understand and transmit the required cultural capital to their children results in educational inequality.

However, success against the odds occurs in individual cases. This may reinforce a widespread narrative that success primarily depends on individual merit, based on the notion that anyone can make it if they simply try hard enough. Regardless of the objective truth, beliefs have real-life consequences (Thomas & Thomas, 1928). Emphasizing differences in individual merit while disregarding that social background influences this merit may legitimize educational inequality as well as societal inequality in general (Mijls, 2016; Solga, 2015).

In his book ‘The tyranny of merit,’ Michael Sandel (2021), a professor in political philosophy at Harvard, criticizes meritocratic ideology and meritocratic university admission specifically:

“Even a fair meritocracy, one without cheating or bribery or special privileges for the wealthy, induces a mistaken impression—that we have made it on our own.

The years of strenuous effort demanded of applicants to elite universities almost forces them to believe that their success is their own doing, and that if they fall short, they have no one to blame but themselves. This is a heavy burden for young people to bear. It is also corrosive of civic sensibilities. For the more we think of ourselves as self-made and self-sufficient, the harder it is to learn gratitude and humility. And without these sentiments, it is hard to care for the common good.” (Sandel, 2021, p. 14)

This may explain why inequality is on the rise, but there seems to be no growing concern about this inequality among citizens (Mijs, 2021). Despite growing inequalities, a demand for an increasingly equal redistribution of resources fails to materialize, as inequality is seen as a problem of individuals rather than one of society. Those at the top may feel like they deserve their success, underestimating the privileges that they have enjoyed, while those at the bottom may blame themselves for their failure, underestimating the structural barriers they have had to face (Destin, 2020).

Marxist theory suggests that elites create structures and ideologies to maintain their privileges and prevent disadvantaged groups from working together to change the social order (Marx & Engels, 2004 [1845/46]). Meritocratic ideology can be seen as a modern way of the elites to legitimately transmit their status to their children by preparing them to achieve the required educational merit. Given unequal educational opportunities, attributing success solely to merit leads to a misconception of inequality, legitimizes intergenerational transmission of status, and contributes to the persistence of (educational) inequality (Bills, 2019; Mijs, 2016; Solga, 2015).

Meritocratic beliefs—beliefs that success primarily depends on individual effort and abilities—do not arise in a vacuum but rather are gradually formed through socialization and experiences, particularly through educational experiences in early adulthood (Mijs, 2017). Educational experiences of success and failure vary by social background. As parental education has been found to be the strongest predictor of educational success among social background characteristics (Thaning, 2021), in this dissertation, I focus on parental education as a resource that advantages or disadvantages applicants to medical school in achieving a very good grade-point-average (GPA) and thus influences their admission chances.

I propose that inequality beliefs (i.e., meritocratic and nonmeritocratic beliefs) are shaped by these educational experiences of success and failure and that interpersonal differences in beliefs may amplify their consequences for educational inequality: People from privileged backgrounds and the winners of the educational game are more likely to end up in positions of power. If those people hold stronger meritocratic and weaker nonmeritocratic beliefs than their less privileged peers and those who experience failure in education, they are more likely to perceive inequality as legitimate and less likely to support inequality-reducing policies. Furthermore, even when experiencing fail-

ure, stronger meritocratic beliefs among those from privileged backgrounds may advantage them by increasing their persistence in goal pursuit. Understanding how inequality beliefs are formed and their consequences for educational inequality could inform policies to promote a balanced understanding of success and structural barriers among adolescents, thereby increasing support for inequality-reducing policies and paving the way for a more equal and just society.

The broader research objective of this dissertation is to explore how parental education and educational experiences shape inequality beliefs, and what consequences these beliefs have for the legitimization and reproduction of educational inequality.

I propose a theoretical framework and test it using longitudinal data on applicants to the most selective study programs in Germany: public medical schools. The medical applicant data (Finger et al., 2023) includes a total of three waves that were collected via online surveys in August and November 2018, and February 2021. Between wave 1 and wave 2, all applicants received an admission decision (i.e., they were either admitted or rejected), and wave 2 and wave 3 followed up on admitted as well as rejected applicants.

Examining changes in inequality beliefs through the real-life experience of admission to medical school enables gaining an in-depth understanding of how educational experiences—experiences that differ by parental education—shape inequality beliefs during a life stage where these beliefs are likely not yet consolidated. As admission is a crucial event for applicants' future social positioning, experiencing success or failure in it may influence their inequality beliefs not only regarding the admission procedure but also regarding societal inequalities in general.

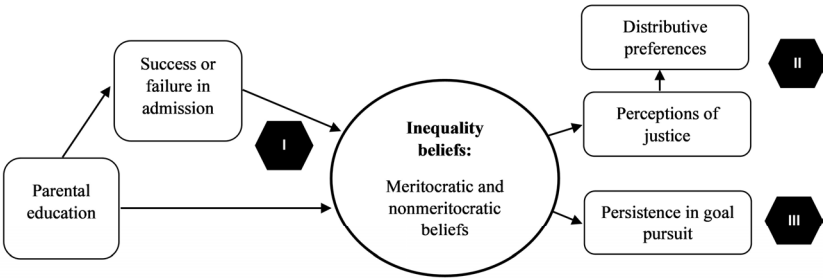
Admission to medical school in Germany is a highly selective procedure where the narrative of selection based on merit is predominant. Studying applicants' evaluation of this procedure is a good example to examine how (non)meritocratic beliefs may (de)legitimize such selection procedures, despite the tilted playing field to achieve the required merit of excellent school grades. Furthermore, applicants to medical schools are a positively selective group in terms of previous educational experiences, and for many of them, a rejection may be their first experience of failure. This dissertation examines how applicants from different social backgrounds deal with this experience of failure, and explores the role of inequality beliefs for differences in the persistence in pursuing admission to the most selective field of study—and thus for reproducing educational inequality.

Research gaps, contributions, and research questions

This dissertation makes a contribution to previous research by developing a theoretical framework for the formation of (non)meritocratic inequality beliefs

and their consequences for educational inequality by combining sociological theories of intergenerational status transmission in education (e.g., Boudon, 1974; Bourdieu, 1977; Breen & Goldthorpe, 1997) and cumulative disadvantage (DiPrete & Eirich, 2006), sociological and social psychological theories on the formation of inequality beliefs (e.g., Bénabou & Tirole, 2016; Jost & Banaji, 1994; Mijs, 2017), sociological theories of meritocracy as an inequality-legitimizing ideology (e.g., Bills, 2019; Mijs, 2016; Solga, 2015), and social psychological attributional (Weiner, 1985) and motivational theory (Heckhausen & Schulz, 1995; Heckhausen et al., 2010).

Figure 1.1: Dissertation structure and main research questions



Note. Author’s illustration.

Figure 1.1 illustrates the three main research objectives that structure the theoretical and empirical parts of this dissertation. The Roman numerals displayed in this figure will be used to number the hypotheses regarding these different research objectives.

To test this framework empirically, I use unique medical applicant data containing information on applicants’ parental education, their (re)application behavior, and application outcomes. Furthermore, it entails their inequality beliefs (i.e., meritocratic and nonmeritocratic beliefs), their perceptions of justice, and distributive preferences. All three concepts pertain to two dimensions: a domain-specific one, referring to their own admissions; and a societal one, referring to societal success and inequalities in general. Inequality beliefs are defined as beliefs about sources of inequality (i.e., beliefs that success depends on meritocratic or nonmeritocratic factors), while perceptions of justice are defined as perceptions of the admission procedure or inequality in society in general as just. Distributive preferences are preferences for the distribution of places in the program or income based on different justice principles such as equality and educational meritocracy.

The first empirical contribution of this dissertation is to gain an in-depth understanding of how parental education and educational experiences of success and failure shape inequality beliefs. Existing research on how inequality beliefs are formed has primarily focused on the relationship between individ-

uals' social position and inequality beliefs (e.g., Kluegel & Smith, 1986; Kreidl, 2000), or described changes in inequality beliefs among the successful group (Warikoo, 2016). This prompts the question concerning what role social origin plays for the formation of inequality beliefs, and how failure influences such beliefs. Experimental game studies could identify changes in winners' and losers' inequality beliefs and show that winners are more likely to attribute their success to talent and effort, while losers are more likely to attribute their losses to external factors—regardless of their initial condition in the game (Fehr & Vollmann, 2020; Molina et al., 2019). However, these game studies have been conducted in an artificial setting and are lacking the relevance of a real-life experience—their external validity remains unclear. Taking the real-life experience of success or failure in admission to medical school, I am able to longitudinally examine how such an experience changes their domain-specific inequality beliefs about their own admission and their societal inequality beliefs. The data further allows me to assess the effects of parental education on inequality beliefs and the role of parental education in the effects of experiences of success and failure on inequality beliefs: Parental education is often missing in previous studies on inequality beliefs (e.g., Bénabou & Tirole, 2016; Kluegel & Smith, 1986; Kreidl, 2000).

Hence, with research objective I (see Figure 1.1) I will address the following research questions: Do success in admission and inequality beliefs differ by parental education? How do experiences of success and failure shape inequality beliefs, and do differences in experiences explain social differences in beliefs? I will further explore whether the effects of success and failure differ depending on applicants' previous experiences.

The second contribution is to explore the complex mechanisms concerning how inequality beliefs legitimize or delegitimize inequality by influencing distributive preferences. Empirical research has explored the effects of inequality beliefs on perceptions of justice (e.g., Batruch et al., 2022; Mijs, 2021; Sachweh & Sthamer, 2019) and the preference for equal distribution (e.g., Alesina & Giuliano, 2011; García-Sánchez et al., 2020; Marquis & Rosset, 2021), but the inequality-legitimizing effect of the belief in the importance of abilities for success as well as the effect of inequality beliefs on the preference for distribution based on educational meritocracy have been understudied.

Furthermore, while existing studies assume that inequality beliefs affect distributive preferences through the perception of inequality as just (e.g., Alesina & Giuliano, 2011; Marquis & Rosset, 2021), empirically this theoretical assumption has yet to be tested, as most studies have focused on only one of these outcomes rather than combining them and investigating their relationship. Additionally, previous research suggests that people from similar backgrounds tend to have similar distributive preferences (Liebig & Sauer, 2016). I propose that social differences in distributive preferences could partly be ex-

plained by differences in inequality beliefs, resulting from differences in experiences.

With research objective II, I address the legitimizing function of inequality beliefs, and ask: How do inequality beliefs influence distributive preferences through perceptions of justice? Do social differences in inequality beliefs, and the resulting perception of justice, partly explain the association between parental education and distributive preferences?

Third, this dissertation contributes to research on the secondary effects of parental education on educational attainment. Previous research has explored the association between inequality beliefs and persistence in goal pursuit (e.g., Hu et al., 2020; Shane & Heckhausen, 2013, 2017), but has not considered how it may contribute to educational inequality. I propose that social differences in inequality beliefs may partly explain social differences in educational choices, namely differences in persistence. As the data on medical school applicants includes information on applicants' persistence in goal pursuit after failure, I am able to test this newly developed argument empirically, exploring the effects on different concepts of persistence (self-predicted persistence and actual reapplication behavior).

Thus, with research objective III I explore how (social differences in) inequality beliefs affect the persistence in goal pursuit: Are there social differences in the persistence in goal pursuit after a first rejection? Do beliefs in meritocratic admission increase applicants' persistence? Do social differences in their beliefs in meritocratic admission explain part of the effect of parental education on persistence? Furthermore, I will explore whether the effect of the belief in meritocratic admission differs by parental education.

Finally, this dissertation makes an overarching contribution by considering conceptionally different meritocratic and nonmeritocratic beliefs (e.g., hard work vs. ability belief, luck vs. social background belief) throughout its different parts. Previous studies often either include only a small selection of inequality beliefs or aggregate them into indices (e.g., Mijs, 2021; Shane & Heckhausen, 2013), even though attributional theory and previous empirical studies suggest that there may be different consequences of distinct types of inequality beliefs for the legitimization of inequality and persistence (e.g., Friedman et al., 2023; Marquis & Rosset, 2021; Smith & Skrbiš, 2017). In addition, research suggests that experiences of success or failure may affect domain-specific inequality beliefs differently than societal inequality beliefs (Shane & Heckhausen, 2017) and that people may use different criteria to assess justice and form distributive preferences depending on the situation to be evaluated (van Hootegeem et al., 2020)—a distinction that is also considered throughout this dissertation.