

# Occupational aspirations at the end of compulsory schooling: The interplay of parents' educational background, work values and self-Concepts in the reproduction of inequality

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**Abstract** Decisions about further schooling or vocational training are imminent at the end of lower secondary education, and they determine educational and occupational trajectories. Understanding decision processes during this transition helps to elucidate the intergenerational reproduction of inequality. The aim of this study is to untangle influences on students' occupational aspirations and how their parents' educational level shapes these aspirations. We analysed data from an online survey of 3078 students at approximately 15 years of age in the general track of lower secondary school ('Neue Mittelschule') in Vienna (Austria). Based on regression analyses and path models, we show that educational background is related to occupational aspirations. Work values, attitudes towards school and social capital shape occupational aspirations but cannot be (fully) explained by educational background. Furthermore, we find no evidence that locus of control affects the level of occupational aspirations.

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## **Berufsaspirationen am Ende der Mittelschule – Das Zusammenspiel von Bildungshintergrund, Arbeitswerten und Selbstkonzepten in der Reproduktion von Ungleichheit**

**Zusammenfassung** Am Ende der Sekundarstufe I stehen Entscheidungen über die weitere Schul- oder Berufsausbildung und bestimmen den schulischen und beruflichen Werdegang. Das Verständnis der Entscheidungsprozesse während dieses Übergangs hilft, die generationsübergreifende Reproduktion von Ungleichheit aufzuklären. Ziel dieser Studie ist es, die Einflüsse auf Berufswünsche und die Art und Weise, wie der Bildungsstand der Eltern sie prägt, zu verstehen. Wir haben Daten aus einer Online-Umfrage unter 3078 Schülern im Alter von etwa 15 Jahren in der allgemeinbildenden Schule der Neuen Mittelschule in Wien (Österreich) analysiert. Basierend auf Regressionsanalysen und Pfadmodellen zeigen wir, dass der Bildungshintergrund mit den Berufswünschen zusammenhängt. Arbeitswerte, Einstellungen zur Schule und Sozialkapital prägen Berufswünsche, können aber nicht (vollständig) durch den Bildungshintergrund erklärt werden. Darüber hinaus finden wir keine Hinweise darauf, dass die Kontrollüberzeugung das Niveau der beruflichen Ambitionen beeinflusst.

**Schlüsselwörter** Habitus · Berufsaspiration · Kontrollüberzeugung · Übergang Schule-Beruf · Soziale Mobilität · Intergenerationale Ungleichheit

### **1 Introduction**

The transition at the end of lower secondary education is a crucial phase in life, during which young people need to decide whether they will pursue further schooling or vocational training. Occupational and educational aspirations are key concepts shaping these complex transitions and underlying the potential reproduction of social inequality therein. The impact of social background on both educational and occupational aspirations is well documented. Having parents with higher socioeconomic status is associated with higher levels of aspirations (Astleithner et al. 2021; Sewell et al. 1969). Furthermore, aspirations have a strong influence on adult educational attainment and adult labour market position (Ashby and Schoon 2010; Beal and Crockett 2010; Rojewski 2005).

The theoretical framework developed by Bourdieu (1990) conceptualises the social embeddedness of aspirations and choices that reproduce social inequalities in transitions. Habitus plays a central role here. As a set of dispositions that organize perceptions and circumscribe personal and motivational structures, habitus is based on an individual's class position. It unfolds in transitions and charts future trajectories (Scandone 2018; Stahl et al. 2018; Vilhjálmssdóttir and Arnkelsson 2013). Habitus can restrain what is desirable and what seems feasible; it aligns what people want with what they believe they can achieve within their social class.

Social class also affects self-perception, including the extent to which people perceive they have control over their lives (Atkinson 2013; Manstead 2018). Research in the field of transitions highlights the importance of self-concepts such as locus of control as important determinants of occupational aspirations as well as the trajectories based on these aspirations (Bandura et al. 2001; Betz and Hackett 1986; McElvany et al. 2018; Patton and Creed 2007; Trice and Gilbert 1990). However, these mostly psychology-based studies rarely consider social background as a potentially confounding variable, even though many of these self-concepts are likely to be related to social class (Galvin et al. 2018; Manstead 2018; Wiederkehr et al. 2015). If social class shapes self-concepts, combining these concepts with the theoretical framework of habitus seems worthwhile. However, so far, only a limited number of studies have done so (e.g. Bodovski 2014; Turnbull et al. 2020).

The aim of this paper is to analyse the role of parents' educational background as an important indicator of social class in predicting occupational aspirations of adolescents at the end of the general track of lower secondary schooling ('Neue Mittelschule') in Vienna, Austria. Specifically, we ask the following questions: (1) To what extent does social class influence adolescents' occupational aspirations? (2) Is the influence of social class mediated through (class-related) work values, attitudes toward school, external and internal loci of control and social capital? We argue that habitus manifests in occupational aspirations. Habitus in turn relates to parents' formal education, (work) values, attitudes toward school, academic performance, and social capital and can be expected to mediate the reproduction of inequality through occupational aspirations. Our research contributes to a better understanding of which habitual factors might be relevant in the reproduction of social inequality.

In the next section, we develop our line of argument further and formulate hypotheses around these conceptual ideas. After a short summary on the Austrian educational system, we describe our data and analytic strategies. The results section is structured according to the hypotheses. In the final section, we discuss the results and suggest directions for further research.

## 2 Theoretical background

There are various approaches to conceptualise the formation of aspirations. An early concept was the *Wisconsin model of status attainment* (Sewell et al. 1969). This model was developed to explain social mobility and status attainment according to occupational and educational aspirations, academic performance, significant others' influence and socioeconomic status. In this model, the influence of significant others is the conduit through which social norms shape aspirations.

Another theoretical tradition guiding studies on the reproduction of social inequality is *rational choice theory* (RCT). RCT considers occupational and educational decisions as rational cost/benefit calculations in the creation of human capital (Becker 1962). In this framework, investment in human capital does not pay off for lower classes. Boudon (1974), an early proponent of RCT, distinguished between primary and secondary effects of social class on educational behaviour. The primary effects refer to class-based differences in academic performance, while the secondary

effects comprise class-based differences in choices that cannot be explained by academic performance. Differences in resources and learning opportunities underlie the primary effects. According to the Breen-Goldthorpe model, the motivation for status maintenance causes secondary effects (Breen and Goldthorpe 1997): The family's status position serves as reference point for evaluating status attainment. However, neither the Breen-Goldthorpe model nor the model of primary and secondary effects can explain how secondary effects of social class on educational decisions evolve (Stocké 2007). This lack of explanatory value is one of the main criticisms of RCT approaches (Boudon 1998).

In the field of psychology, Linda Gottfredson's seminal work on emerging aspirations roots occupational preferences in the developing self-concept, which is linked to cognitive ability and social class (Gottfredson 1981). As children grow up, their self-concepts develop in four steps from an orientation to size and power (3 to 5 years), to gender roles (6 to 8 years) and social valuation (9 to 13 years), and on to the unique internal self (beginning around age 14). In a process of circumscription, children eliminate occupations from their 'zone of acceptable alternatives' (Gottfredson 1981, p. 548) according to their respective self-concept which is in turn shaped by their social context.

While the three major theoretical approaches agree that class-based differences exist in the process of occupational decision-making, they fail to explain how norms and values of specific subcultures influence class-based reproduction of inequality. Theories on class-based socialisations and corresponding subcultures (Bourdieu and Passeron 1977; Willis 1977) address the need to identify channels through which social class background shapes life chances (c.f. Betthäuser et al. 2020). According to Bourdieu, preferences and goals are linked to a person's social class. Class-specific norms and values are incorporated in a class-specific habitus during the process of socialization. Habitus is 'a system of lasting, transposable dispositions which, integrating all past experiences, functions at every moment as a matrix of perceptions, appreciations, and actions' (Bourdieu 1977, p. 82). Habitus shapes aspirations and practices, and thus the perception of different educational and occupational goals as desirable and others as unattractive, making certain trajectories more probable than others. Consequently, habitus aligns aspirations with corresponding class-specific options: 'Habitus is this "can-be" which tends to produce practices objectively adjusted to the possibilities' (Bourdieu 2000, p. 217).

The resources to achieve goals based on a class-specific habitus also vary according to a person's position in the social structure. Different levels of economic, cultural and social capital (Bourdieu 1986) make some paths more accessible than others. In particular, cultural capital is crucial for success in the educational system (Scherger and Savage 2010). Cultural capital comprises knowledge, competencies and abilities acquired in the process of socialisation and passes from parents to children. Bourdieu (1984) showed that the educational system cannot compensate for the disadvantages experienced in lower classes. One reason for this lack of compensatory power is class-specific attitudes. The habitus of the higher classes is characterised by a 'system of dispositions towards the school, understood as a propensity to consent to the investment in time, effort and money necessary to conserve and to increase

cultural capital' (Bourdieu 1977a, p. 495 in Sullivan 2002, p. 149). Thus, students from higher social classes tend to have a better academic performance.

In turn, class-specific habitus restricts the opportunities for working-class children. A disposition towards manual labour and a neglect of the values necessary for success in the educational system make blue-collar jobs more attractive and probable for working class children (Altreiter and Flecker 2020; Willis 1977): A 'preference for physical activity and practical work, often combined with resentments towards school, making apprenticeship training in manual occupations the most attractive and often uncontested choice for the young workers' (Altreiter 2021, p. 10).

Social-psychological work also shows the importance of intergenerational transmitted work values (Mortimer and Kumka 1982). Although many different instruments can measure work values, most of them consider four types: intrinsic values (interesting job, personal growth, etc.), extrinsic values (pay, security, etc.), social/altruistic values and values related to power and prestige (Schwartz 1999). Children develop work values that correspond to their parents work-related behaviour, emotions and decisions. Therefore, children from low-status families are more strongly motivated by extrinsic values, while young people from high-status families are rather more intrinsically motivated (Cemalcilar et al. 2018; Johnson et al. 2020).

For the reproduction of social inequality, more general class-specific social relations are also important. These social relations constitute social capital as the aggregation 'of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition' (Bourdieu 1986, p. 21). The access to social capital shapes occupational interests (Scandone 2018). For instance, knowing somebody in a certain profession makes it more likely that a student will aspire to a similar occupation. Furthermore, social capital can provide the resources to successfully cope with challenges in the educational system and on the labour market (Bourdieu 1986) and can help to achieve certain goals.

All in all, social background shapes the habitus and thus the perception of possibilities and desires, resulting in class-specific aspirations. As it also entails assessments of one's own competencies, some authors suggest including self-concepts, defined as individuals' perceptions of the self, as facets of the habitus (Bodovski 2014; Turnbull et al. 2020). One of these self-concepts refers to the level of control individuals perceive that they have over their lives.

According to Stephens et al. (2014), different class contexts lead to different ways of being a person, a culture-specific self. This in turn reproduces inequality because schools or workplaces are structured according to the middle-class ways of being a self and thus exclude working-class members from participation. Similarly, Kraus et al. (2012) argue that circumstances in the lower classes foster a system of understanding in which behaviour is explained by external forces outside of individual control and influence, increased attention to others' thoughts and actions, and increased situational influences on action (Kraus et al. 2012, p. 549). In contrast, the upper classes can pursue their goals without concerns about material costs.

Thus, measures of perceived control over one's life, such as 'locus of control', are likely to correlate with social class (Gecas 1989). Locus of control influences

various outcomes such as self-esteem and job involvement or satisfaction (Galvin et al. 2018; McClun and Merrell 1998). It can be differentiated into ‘internal locus of control’, meaning that causes of life events are attributed to internal forces and own actions, and ‘external locus of control’, which refers to causes being attributed to external factors.

In sociology, Bodovski (2014) connects the concepts of control with habitus and assumes that these concepts are shaped by social class and parental practice:

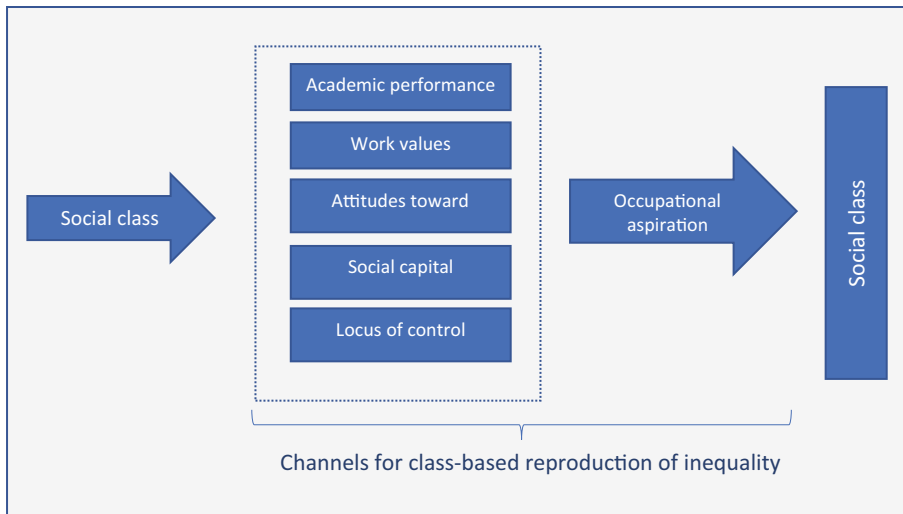
Children from higher social strata observe their parents’ effective communication with people in a position of authority (e.g. doctors, teachers, principals); they are also encouraged from a very young age to be active participants in the decision-making process. This early experience with negotiation, articulation of wishes, and exertion of will results in a strong belief that individual actions shape the course of a life (Bodovski 2014, p. 390).

She finds a positive relation between perceived level of control and social position and suggests the inclusion of these measures in the concept of habitus. In this case, these measures can be considered another piece in the complex (cultural) pattern of reproduction of social inequality and the process of status attainment.

A common theme among self-concepts such as locus of control is that they reflect ‘expectations about the likelihood of successful goal attainment’ (Mortimer 2000, p. 18). These concepts have strong effects on the positioning on the labour market, and they influence which occupations young people believe they have the capabilities for and which career they pursue for their life’s work (Bandura et al. 2001, p. 199). Thus, these concepts positively influence the status level of occupational aspirations (Betz and Hackett 1986; Gordon 1972 in Mortimer 2000; Rojewski 2005). Bethhäuser et al. (2020) find that locus of control explains about 3 to 6% of the association between parental class and individuals’ social class. In addition, von Stumm et al. (2009) conclude that locus of control has an effect on status attainment that is mediated through educational qualifications.

### 3 Hypotheses

Overall, existing research shows that self-concepts developed during socialization have a strong impact on educational and occupational aspirations and employment trajectories. However, social-psychological studies fail to consider how these concepts potentially interact with social class, although there are indications that social class affects self-concepts. Therefore, we integrate self-concepts regarding the locus of control into the Bourdieusian framework. To start, we analyse how social class (indicated by educational background) influences occupational aspirations, which is an important predictor for occupational trajectories. Furthermore, we explore the role of work values, attitudes toward school, external and internal loci of control and social capital in the reproduction of inequality. Doing so, we have to control for academic performance (c.f. Boudon 1974), migration (Kao and Tienda 1995) and gender (c.f. Feliciano and Rumbaut 2005). This exploration allows us to depict how cultural mechanisms of the reproduction of inequality—for instance, through sub-



**Fig. 1** Schematic overview of the reproduction of inequality through class-based (cultural) factors determining occupational outcomes

culture-specific work values or attitudes toward school—become relevant in the transition at the end of lower secondary school. Figure 1 gives a schematic overview on the channels we consider to be relevant in the class-based reproduction of inequality. These factors shape reproduction of inequality through occupational aspirations.

Our conceptual thinking leads to the following hypotheses with regards to occupational aspirations:

- *H1: Parents' educational level influences adolescents' occupational aspirations.*
- *H1a: This effect is partly mediated through young people's academic performance (i.e. school grades).*
- *H2: Work values influence occupational aspirations.*
- *H2a: The effect of parents' educational level on occupational aspirations is partly mediated through young people's work values.*
- *H3: Attitudes towards school influences occupational aspirations.*
- *H3a: The effect of parents' educational level on occupational aspirations is partly mediated through young people's attitudes towards school.*
- *H4: Social capital influences occupational aspirations.*
- *H4a: The effect of parents' educational level on occupational aspirations is partly mediated through young people's social capital.*
- *H5: Locus of control influences occupational aspirations.*
- *H5a: The effect of parents' educational level on occupational aspirations is partly mediated through young people's locus of control.*

## 4 The Austrian educational system and school-to-work transitions

The Austrian educational system is characterised by early tracking after four years of primary school. In lower secondary school, pupils are divided into either the general track of lower secondary school ('Neue Mittelschule') or the lower cycle of academic secondary school ('Gymnasium').<sup>1</sup> Only students with good grades are admitted to the academic track. In the school year 2017–2018, 60% of students in the fifth grade were in the general track in the whole of Austria, compared with 43% in Vienna (Statistik Austria 2021a). Especially in Vienna, students in the general track in lower secondary school include a high share of disadvantaged pupils, with about two-thirds of them having a non-German mother tongue (Statistik Austria 2018). After four years of lower secondary education, young people are at the second important juncture. The upper track of academic school and colleges for higher vocational education prepare students for university entrance but require good grades, which makes them less open for students from the general track of lower secondary education. Students who want to enter the labour market early have to continue in a one-year preparatory class ('Polytechnikum') before starting apprenticeship training to become a skilled worker. Furthermore, there is a three-year school-based track for vocational education that does not entitle a student to study at a university. Only the upper cycle of academic secondary school does not include vocational education. This means that all students, other than those who plan to enter the upper cycle of academic schools, are confronted with occupational choices. In Vienna, the majority of students in upper secondary education are in vocational education, and about 38% attend the upper track of academic secondary school in the ninth grade (Statistik Austria 2019). Furthermore, only 8% of the pupils completing the general track of lower secondary school shift to the upper cycle of the academic track (Statistik Austria 2021b). In sum, our research population is already highly selected and tends to comprise disadvantaged students who mainly enter vocational education. Therefore, most of them are confronted with pressing occupational decisions that will chart future educational and occupational trajectories. This makes our research population especially relevant for studying the reproduction of inequality.

## 5 Data, measures and methods

Our analysis is based on the study *Pathways to the Future* which is situated at the Department of Sociology at the University of Vienna (Flecker et al. 2018)<sup>2</sup>. The project focusses on young people's living conditions in relation to their social backgrounds, educational attainment and labour market chances. Furthermore, it investigates how they view their futures in Vienna and how their views change over time. The conceptualisation of the study adopted a Bourdieusian theoretical approach.

<sup>1</sup> For an overview on the Austrian educational system and research on it see Herzog-Punzenberger and Schnell (2019).

<sup>2</sup> For further details on the research design see Flecker et al. (2020) und Wöhrer et al. (2023).



This five-year panel study uses a *mixed-methods longitudinal design* consisting of qualitative interviews and self-administered online surveys. After an initial interview at the age of 14 or 15 during the last year of lower secondary education, the respondents are interviewed annually. For the purpose of this paper, we focus on the first wave of the online-panel survey. After a comprehensive pretesting phase with two rounds of cognitive pretests and a pilot study, the survey was fielded as a self-administered classroom online survey in 2018.

The population for the study is defined as all adolescents attending their final year in the *general track of lower secondary schools* in Vienna in the winter term 2017–2018. We chose a recruitment strategy through schools. The population comprises 117 schools with a total of 351 classes and about 8000 students. We contacted all schools and invited them to participate. The local educational office (*Bildungsdirektion Wien*) endorsed participation in our study with a separate letter. A multistage recruitment process began with the headteacher, followed by class teachers, guardians (for consent) and adolescents themselves. In total, 3078 young people started the survey and 2854 completed it.

The following measures were applied in our analysis.

- *Occupational aspirations*: Students were asked to name their preferred occupation if they could choose freely. These open-ended answers were coded into the ISCO-08 occupations and corresponding numeric ISEI-08 values (Ganzeboom et al. 1992) to capture differences in the status of occupational aspirations.
- *Educational background*: We used parental educational attainment as the indicator for social class. In light of the theory of Bourdieu, cultural capital is of crucial importance in the reproduction of social inequality (Scherger and Savage 2010). Because both parents' levels of educational attainment are strongly correlated, we used the respective higher formal parental education with the values: university or university of applied sciences, A-level ('Matura'), apprenticeship (vocational lower secondary education; 'Lehrabschluss'), compulsory education and no educational degree.
- *Academic performance*: Grades in the subjects maths, German and English were used to create an indicator of academic performance. There are two tracks in the general track of lower secondary school for these subjects. To get an overall measure, we combined the grades for the two tracks, resulting in a scale from 1 (best) to 7 (worst). Furthermore, we asked for *teacher recommendations*: Teachers also have an important role in the formation of aspirations as they can assess certain tracks and trajectories as suitable and others as not suitable. Therefore, students were asked to estimate if their teachers recommend further schooling for them on a scale from totally disagree (1) to totally agree (4).
- *Work values* were measured on a 4-point scale between very unimportant (1) and very important (4): (a) payment, (b) employment security, (c) manual labour, (d) to work in an office, (e) to help others, (f) time for friends and family, (g) work that offers the opportunity to learn new things, (h) work, I enjoy doing, (j) what may parents want, and (k) to earn money soon.
- *Attitudes towards school* were measured with the following items on a scale from 1 (disagree) to 4 (agree):

- With good education, I have better chances on the labour market.
- School is a waste of time. (reversed coding for analysis)
- I am interested in what I learn in school.
- *Internal (a and b) and external locus of control (c and d)* were measured on a scale from disagree (1) to agree (4) for the following items of the locus of control scale (Kovaleva et al. 2012).
  - a) I'm my own boss.
  - b) If I work hard, I will succeed.
  - c) Whether at work or in my private life, what I do is mainly determined by others.
  - d) Fate often gets in the way of my plans.
- *Social Capital*: To measure social capital, we applied a position generator (cf. Verhaeghe and Li 2015). Students were asked if they know somebody working in any of the following professions: (a) retail salesperson, (b) cleaner, (c) construction worker, (d) cook, (e) mechanic, (f) musician, (g) nurse, (h) teacher, (i) police officer, (j) scientist, (k) executive officer, (l) medical practitioner, and (m) lawyer. According to their ISEI-08 value, answers for (a) to (d) were added up to the number low-status acquaintances, while occupations from (j) to (m) were added up to the number of high-status acquaintances. The number of acquaintances with medium-level occupations (e) to (i) is not considered in our analysis.
- *Gender* (dummy-coded): Students had the possibility to choose male, female, or other. In the analysis we could only include the responses female and male due to the low number of 'other' cases (13).
- *Immigrant background*: Various results show that migration background or race/ethnicity influences aspirations (Kao and Tienda 1995; Plenty and Jonsson 2021; Rojewski 2005; Salikutluk 2016). To control for these differences, we included immigrant background in our analysis. Own place of birth and parental place of birth were used to construct a variable that captures immigrant background:
  - First-generation migrant: Respondent was not born in Austria.
  - Second-generation migrant: Respondent was born in Austria, but both parents were born in another country.
  - Second-and-a-half generation: Respondent and one parent were born in Austria, while the second parent was born in another country.
  - No migration background: Both parents and the respondent were born in Austria.

The first-wave dataset includes various levels of missingness (see Table 1). To reduce related bias, we applied multiple imputations by chained equations (Rubin 1987; Van Buuren 2018). Based on the variables we wanted to include in our model and some auxiliary variables that were related to missing data, we created a dataset with 39 variables for the imputation process. To avoid over-specification of the imputation models, only variables with correlations higher than 0.1 were used as predictors in the process of multiple imputations. This procedure led to 9.6 predictors on average, with 17 predictors for occupational aspirations. Dichotomous variables were estimated with logistic regression models, and all other variables were estimated with predictive mean matching to achieve robust imputations. For the final analysis, five datasets were created with a maximum of 20 iterations. Although our

**Table 1** Descriptive statistics on the measures applied in our analysis

Variables	Range/ Value	n	Missings in %	% of valid cases	–	Occ. Asp	
						Mean	Missing in %
<i>Gender</i>							
Male (Ref.)	0–1	1524	–	53	–	55	21
Female		1374	–	47	–	62	22
Missing		180	6	–	–	57	46
<i>Highest parental level of education</i>							
University (Ref.)	0–1	513	–	23	–	63	23
A-Level		493	–	22	–	61	22
Apprenticeship		656	–	29	–	54	19
Compulsory education		410	–	18	–	59	17
No education		163	–	7	–	62	17
Missing		843	27	–	–	55	30
<i>Immigrant Background</i>							
No migration background (Ref.)	0–1	589	–	22	–	54	23
First generation		676	–	25	–	61	21
Second generation		991	–	37	–	59	21
2.5 generation		404	–	15	–	57	20
Missing		418	14	–	–	57	31
<i>Academic performance</i>							
	–	–	–	<b>MEAN</b>	<b>SD</b>	<b>r</b>	
Math grade	1 (best)–7	2632	14	3.70	1.62	–0.29	***
German grade	1 (best)–7	2597	16	3.49	1.40	–0.23	***
English grade	1 (best)–7	2605	15	3.47	1.50	–0.29	***
Teachers suggest further education	1–4 (agree)	2267	26	2.91	1.12	0.27	***
<b>Variables</b>	<b>Range/ Value</b>	<b>n</b>	<b>Missings in %</b>	<b>MEAN</b>	<b>SD</b>	<b>Occ. Asp</b>	
							<b>r</b>
<i>Work values</i>							
Payment	1–4 (very important)	2965	4	3.53	0.63	–0.02	
Employment security	1–4 (very important)	2946	4	3.75	0.55	0.00	
Manual labour	1–4 (very important)	2933	5	2.83	0.87	–0.20	***
To work in an office	1–4 (very important)	2931	5	2.39	0.99	0.10	***
Job with technical as- pects	1–4 (very important)	2926	5	2.56	1.06	–0.05	*
To help others	1–4 (very important)	2958	4	3.30	0.81	0.05	**
Time for friends and family	1–4 (very important)	2964	4	3.57	0.63	0.00	
Work that offers the opportunity to learn new things	1–4 (very important)	2950	4	3.33	0.77	–0.01	

**Table 1** (Continued)

Work I enjoy doing	1–4 (very important)	2988	3	3.80	0.49	–0.02	
What may parents want	1–4 (very important)	2935	5	2.45	0.97	–0.01	
To earn money soon	1–4 (very important)	2887	6	3.16	0.85	–0.22	***
<i>Social capital</i>							
Number of high-status acquaintances	0–5	2999	3	0.95	1.13	0.19	***
Number of low-status acquaintances	0–4	2999	3	1.06	1.00	–0.01	
<i>Attitudes toward school</i>							
With good education, I have better chances on the labour market	1–4 (agree)	2807	9	3.72	0.57	0.09	
School is a waste of time	1–4 (agree)	2834	8	1.62	0.86	–0.16	
I am interested in what I learn in school	1–4 (agree)	2848	7	2.97	0.85	0.11	***
<i>Locus of control</i>							
I am my own boss	1–4 (agree)	2786	9	3.14	0.78	–0.04	
If I work hard, I will succeed	1–4 (agree)	2862	7	3.67	0.58	0.05	*
What I do is determined by others	1–4 (agree)	2824	8	1.68	0.82	0.04	
Fate often goes in the way of my plans	1–4 (agree)	2637	14	2.45	0.84	0.01	
<i>Occupational aspirations (ISEI)</i>	11.01–88.96	2375	23	58.02	20.10	1.00	

Descriptive results are based on the data prior to imputation ( $n=3078$ ). Missing values listed here have been imputed for the analysis

*SD* Standard Deviation, *r* Pearson correlation, *Occ. Asp* Occupational aspiration

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

data have a hierarchical structure, we did not consider multi-level approaches as intra-class correlation was very low (0.02 for the level of occupational aspirations) and multi-level imputation had made the imputation process instable.

The core of our analysis consists of linear regression models and a path analysis for the level of occupational aspirations. This approach allows us to determine the relevance of the different variables related to the concept of habitus. Based on the results of regression analysis, we selected variables for subsequent analysis within the path analysis. To facilitate the computation process and to improve readability of the results, we considered all variables as metric. Exceptions are gender, highest level of parental education, and migration background. These variables were dummy-coded. The analysis was carried out using R and the package ‘mice’ for multiple imputations as well as the combination of results (van Buuren and Groothuis-Oudshoorn

2011) and 'lavaan' (Rosseel 2012) and 'semTools' (Jorgensen et al. 2022) for path models with standardised multiple imputed data.

## 6 Results

Before we report results from our multivariate analysis, we briefly present descriptive results. Table 1 gives an overview of the distribution of the variables used in our analysis, including information on missing data and bivariate relations. In short, the descriptive analysis shows that on average, the level on occupational aspiration has an ISEI-08 value of 58.

Girls, respondents with parents with very high or low levels of educational attainment, and first- or second-generation migrants have higher occupational aspirations than the average. Better grades are associated with higher levels of occupational aspiration.

In the following, we show the relevance of certain influences deduced from the theoretical Bourdieusian ideas on occupational aspiration (see Table 2).

To depict the various influences on occupational aspirations, we compare regression models. We start with gender, educational background and migration background in Model 1 (M1). Then we include variables related to academic achievement such as grades and teachers' recommendations (M2). Subsequently, we depict models that analyse single thematic blocks with respect to occupational aspirations: work values (M3), attitudes toward school (M4), social capital (M5) and locus of control (M6).

Educational background, gender and migration clearly influence the level of occupational aspiration. The variables in Model 1 explain 6% of the variation in the level of occupational aspirations (M1, see Table 2): Lower parental educational background coincides with lower aspirations, while migration background with higher aspirations. After the inclusion of school grades and teachers' recommendations (M2), the model explains about 16% of the variation in the level of occupational aspirations, and better grades are found to increase occupational aspirations. Hence, parental educational attainment influences occupational aspirations even after controlling for school performance (Hypothesis 1).

Work values and attitudes toward school are assumed to be at the core of class-specific habitus and should have a strong influence on the status level of occupational aspirations. In our data, only some work values are related to the level of occupational aspirations (M3). The preference for manual labour and the preference for early labour market entry coincide with lower occupational aspirations, while the preferences to work in an office and to help others are positively related to the level of occupational aspirations. Surprisingly, other factors such as 'payment', 'job security' and 'time for family and friends' do not predict occupational aspirations. Therefore, occupational aspirations seem to be more informed by the interests of the young people and the perceptions of concrete activities related to a job (manual labour vs. work in an office) rather than the terms and conditions of employment (payment, etc.). Presumably, the latter are probably more difficult to assess for young adults without work experience. *(Some) work values explain 8% of variation in the*

**Table 2** Determinants of the level of occupational aspirations of general track of lower secondary education students

	M1		M2		M3		M4		M5		M6							
	Beta	SE	Beta	SE	Beta	SE	Beta	SE	Beta	SE	Beta	SE						
Intercept	55.6	(1.3)	***	60.2	(2.58)	***	70.4	(4.59)	***	51.9	(3.43)	***	55.6	(0.59)	***	51.4	(3.02)	***
Gender (Male = Ref)	7.6	(0.75)	***	5.9	(0.81)	***	-	-	-	-	-	-	-	-	-	-	-	-
Parental education (Uni- versity = Ref)	-2.7	(1.09)	*	-1.9	(1.08)	+	-	-	-	-	-	-	-	-	-	-	-	-
	-7.4	(1.49)	***	-5.1	(1.42)	**	-	-	-	-	-	-	-	-	-	-	-	-
Compulsory educa- tion	-6.0	(1.32)	***	-3.4	(1.33)	*	-	-	-	-	-	-	-	-	-	-	-	-
No education	-5.2	(1.94)	*	-2.4	(1.77)	-	-	-	-	-	-	-	-	-	-	-	-	-
First generation	4.6	(1.35)	**	4.5	(1.37)	**	-	-	-	-	-	-	-	-	-	-	-	-
Second generation	4.5	(1.36)	**	4.2	(1.4)	*	-	-	-	-	-	-	-	-	-	-	-	-
2.5 generation	2.3	(1.29)	+	2.5	(1.27)	+	-	-	-	-	-	-	-	-	-	-	-	-
Academic performance	-	-	-	-1.7	(0.38)	***	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	0.4	(0.48)	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-2.1	(0.3)	***	-	-	-	-	-	-	-	-	-	-	-	-
Teachers suggest further education	-	-	-	2.4	(0.47)	***	-	-	-	-	-	-	-	-	-	-	-	-

Table 2 (Continued)

	M1		M2		M3		M4		M5		M6	
	Beta	SE	Beta	SE	Beta	SE	Beta	SE	Beta	SE	Beta	SE
<i>Work values</i>												
Payment	-		0.8	(4.59)	-		-		-		-	
Employment security	-		0.1	(0.62)	-		-		-		-	
Manual labour	-		-3.6	(0.82) ***	-		-		-		-	
To work in an office	-		1.6	(0.51) ***	-		-		-		-	
Job with technical aspects	-		-0.4	(0.42)	-		-		-		-	
To help others	-		1.9	(0.36) **	-		-		-		-	
Time for friends and family	-		0.3	(0.62)	-		-		-		-	
Work that offers the opportunity to learn new things	-		0.2	(0.65)	-		-		-		-	
Work I enjoy doing	-		-0.2	(0.52)	-		-		-		-	
What may parents want	-		-0.4	(0.83)	-		-		-		-	
To earn money soon	-		-4.5	(0.42) ***	-		-		-		-	
With good education, I have better chances on the labour market	-		-		2.0	(0.77) *	-		-		-	
School is a waste of time	-		-		-2.9	(0.5) ***	-		-		-	
I am interested in what I learn in school	-		-		1.2	(0.46) *	-		-		-	
<i>Attitudes toward school</i>												

Table 2 (Continued)

	M1		M2		M3		M4		M5		M6	
	Beta	SE	Beta	SE	Beta	SE	Beta	SE	Beta	SE	Beta	SE
<i>Social capital</i>												
Number of high-status acquaintances	-		-		-		-		3.5	(0.36)	***	-
Number of low-status acquaintances	-		-		-		-		-0.8	(0.39)	*	-
<i>Locus of control</i>												
I am my own boss	-		-		-		-		-		-1.1	(0.52) *
If I work hard, I will succeed	-		-		-		-		-		2.1	(0.8) *
What I do is determined by others	-		-		-		-		-		0.8	(0.51)
Fate often goes in the way of my plans	-		-		-		-		-		0.5	(0.6)
$R^2$	0.06		0.16		0.08		0.02		0.04		0.01	

Unstandardized regression coefficients. Standard errors in parenthesis. Results are based on linear regression models using multiple imputed data ( $n = 3078$ )  
 \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ , \*\*\*\* $p < 0.001$



**Table 3** Path model explaining occupational aspirations of general track of lower secondary education students

	Beta	SE	
<i>Dependent: level of occupational aspirations</i>			
Gender (Male = Ref) Female	0.28	(0.04)	***
A-Level	-0.07	(0.06)	
Apprenticeship	-0.19	(0.05)	**
Compulsory education	-0.11	(0.06)	+
No education	-0.01	(0.08)	
First generation	0.10	(0.06)	
Second generation	0.17	(0.05)	**
2.5 generation	0.18	(0.06)	**
Math grade	-0.13	(0.02)	***
German grade	0.01	(0.02)	
English grade	-0.12	(0.02)	***
Teachers suggest further education	0.09	(0.02)	***
Manual labour	-0.12	(0.02)	***
To work in an office	0.04	(0.02)	*
Job with technical aspects	0.04	(0.02)	+
To help others	0.05	(0.02)	*
To earn money soon	-0.11	(0.02)	***
Number of high-status acquaintances	0.11	(0.02)	***
Number of low-status acquaintances	-0.05	(0.02)	*
<i>Dependent: Math grade</i>			
Female	-0.17	(0.04)	***
A-Level	0.05	(0.06)	
Apprenticeship	0.30	(0.06)	***
Compulsory education	0.29	(0.06)	***
No education	0.32	(0.09)	***
First generation	0.14	(0.07)	+
Second generation	0.05	(0.05)	
2.5 generation	0.04	(0.06)	
<i>Dependent: German grade</i>			
Female	-0.39	(0.04)	***
A-Level	0.06	(0.06)	
Apprenticeship	0.23	(0.06)	***
Compulsory education	0.26	(0.06)	***
No education	0.50	(0.08)	***
First generation	0.10	(0.07)	
Second generation	0.08	(0.05)	
2.5 generation	0.24	(0.06)	***

**Table 3** (Continued)

	Beta	SE	
<i>Dependent: English grade</i>			
Female	-0.26	(0.04)	***
A-Level	0.09	(0.06)	
Apprenticeship	0.31	(0.06)	***
Compulsory education	0.37	(0.06)	***
No education	0.43	(0.08)	***
First generation	-0.04	(0.07)	
Second generation	-0.04	(0.05)	
2.5 generation	0.00	(0.06)	
<i>Dependent: manual labour</i>			
Female	-0.16	(0.04)	***
A-Level	0.06	(0.06)	
Apprenticeship	0.09	(0.06)	
Compulsory education	0.06	(0.06)	
No education	0.15	(0.09)	+
First generation	-0.07	(0.07)	
Second generation	-0.15	(0.06)	**
2.5 generation	-0.06	(0.06)	
<i>Dependent: to work in an office</i>			
Female	-0.01	(0.04)	
A-Level	-0.11	(0.06)	+
Apprenticeship	-0.10	(0.06)	+
Compulsory education	-0.01	(0.06)	
No education	-0.05	(0.08)	
First generation	0.31	(0.07)	***
Second generation	0.53	(0.05)	***
2.5 generation	0.55	(0.06)	***
<i>Dependent: job with technical aspects</i>			
Female	-0.94	(0.04)	***
A-Level	0.00	(0.05)	
Apprenticeship	0.07	(0.05)	
Compulsory education	0.01	(0.06)	
No education	-0.02	(0.08)	
First generation	0.01	(0.06)	
Second generation	0.07	(0.05)	
2.5 generation	0.17	(0.05)	**

**Table 3** (Continued)

	Beta	SE	
<i>Dependent: to help others</i>			
Female	0.45	(0.04)	***
A-Level	-0.01	(0.06)	
Apprenticeship	0.03	(0.06)	
Compulsory education	0.08	(0.06)	
No education	0.10	(0.08)	
First generation	0.12	(0.07)	+
Second generation	0.26	(0.05)	***
2.5 generation	0.34	(0.06)	***
<i>Dependent: to earn money soon</i>			
Female	-0.22	(0.04)	***
A-Level	0.06	(0.06)	
Apprenticeship	0.19	(0.06)	**
Compulsory education	0.16	(0.06)	*
No education	0.19	(0.09)	*
First generation	-0.07	(0.07)	
Second generation	-0.06	(0.06)	
2.5 generation	0.07	(0.06)	
<i>Dependent: Number of high-status acquaintances</i>			
Female	0.20	(0.04)	***
A-Level	-0.30	(0.06)	***
Apprenticeship	-0.56	(0.06)	***
Compulsory education	-0.51	(0.06)	***
No education	-0.62	(0.08)	***
First generation	0.18	(0.07)	**
Second generation	0.23	(0.05)	***
2.5 generation	0.09	(0.06)	
<i>Dependent: Number of low-status acquaintances</i>			
Female	0.24	(0.04)	***
A-Level	0.16	(0.06)	**
Apprenticeship	0.37	(0.05)	***
Compulsory education	0.39	(0.06)	***
No education	0.18	(0.08)	*
First generation	0.34	(0.07)	***
Second generation	0.57	(0.05)	***
2.5 generation	0.31	(0.06)	***

**Table 3** (Continued)

	Beta	SE
<i>R<sup>2</sup> of dependent variables</i>		
Level of occupational aspirations	16%	
Math grade	3%	
German grade	6%	
English grade	4%	
Manual labour	1%	
To work in an office	5%	
Job with technical aspects	23%	
To help others	7%	
To earn money soon	2%	
Number of high-status acquaintances	6%	
Number of low-status acquaintances	9%	

Standardized regression coefficients. Standard errors in parenthesis. Results are based on linear path models using (on metric variables) standardized multiple imputed data ( $n = 3078$ )

<sup>+</sup> $p < 0.1$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

*level of occupational aspirations* and can be considered relevant in the formation of occupational aspirations (Hypothesis 2).

Attitudes towards school explain about 2% of the variation in the level of occupational aspirations (M4). This finding points to only a small *effect of attitudes towards school on occupational aspirations* (Hypothesis 3).

Following the theoretical assumptions, occupational preferences should be shaped by social capital, making certain occupational aspirations more probable than others. Our results show that more high-status acquaintances increase the level of occupational aspirations. More low-status acquaintances are associated with lower levels of occupational aspirations (M5,  $R^2 = 4\%$ ). Thus, we consider class-specific *social capital relevant in the formation of occupational aspirations* (Hypothesis 4).

According to our theoretical assumptions, the level of internal and external loci of control can be considered part of one's habitus. Therefore, locus of control should have an effect on the level of occupational aspiration. However, the correlation between the two is very weak (M6). Only measures for internal locus of control are significantly correlated with occupational aspirations. Furthermore, the two variables for internal locus of control point in different directions.<sup>3</sup> All in all, only about 0.5% of variation in the status level of occupational aspirations can be explained by external and internal loci of control. These results do not support the *relevance of locus of control in the class-specific formation of occupational aspirations* assumed (Hypothesis 5).

In a subsequent step, we built path models including the most relevant variables of our regression analysis. Measures of locus of control, attitudes toward school and some variables on work values proven to be less important in regression analysis were not included in the path models. Table 3 shows the results of the path model.

<sup>3</sup> Therefore, we did not combine the variables of internal and external loci of control to a single measure.

Higher parental education is related to better grades. Better grades (in Math and English) in turn increase the level of occupation aspirations (Hypothesis 1a). While all depicted work values except 'job with technical aspects' are significantly associated with occupational aspirations, only the statement 'to earn money soon' is significantly related to the educational background (Hypothesis 2a). Turning to social capital, higher parental education is positively correlated to the number of high-status acquaintances, while it is negatively correlated to the number of low-status acquaintances. In line with our theoretical assumptions, both the number of high-status acquaintances and that of low-status acquaintances influence occupational aspirations (Hypothesis 4a). Due to negligible relevance in the regression analysis, we did not include attitudes towards school (Hypothesis 3a) and locus of control (Hypothesis 5a) as mediators in the path models.

To sum up, only school grades, the wish for an early labour market entry and indicators for social capital have a mediating effect between educational background and educational aspirations.

## 7 Discussion and conclusion

We analysed the impact of social background on occupational aspirations of adolescents, with parents' level of formal education as a proxy for social class. The aim was to untangle the various aspects of habitus that can influence the reproduction of social inequality. Our analyses are based on data from an online survey with students in the general track of lower secondary school students in Vienna, Austria, ( $n = 3078$ ). To grasp how social capital and habitus-related attitudes and values might explain reproduction of inequality, we calculated regression and path models. The results show that parents' educational level has an influence on adolescents' level of occupational aspirations. Work values, attitudes towards school and social capital influence occupational aspirations. Occupational aspirations are lower if students value manual labour and want to enter the labour market early. According to Bourdieu's theory of habitus, preferences for manual labour are incorporated during socialisation in working class milieus. This 'lays the groundwork for a habitus that is prone to manual labour as it offers opportunities for active participation in different forms of manual work from an early age (e.g. farm work, handicraft) but is also characterised by an environment in which practical abilities are valued higher than intellectual ones' (Altreiter and Flecker 2020, p. 1109). Other work values, such as 'payment' or 'having enough time for friends and family', are not related to occupational aspirations. It seems that these terms and conditions of employment for certain jobs are less relevant in the formation of occupational aspirations. It might be that 14-year olds do not have 'realistic' assessments of the conditions in certain jobs, making task-oriented evaluations (manual labour, etc.) the most important ones. Attitudes toward school, especially the assessment of school as a waste of time, also coincide with lower occupational aspirations. Regarding social capital, we find that an increasing number of high-status acquaintances is related to having higher occupational aspirations, while the number of low-status acquaintances is related to lower occupational aspirations.

In short, academic performance, work values, attitudes towards school, and social capital can explain a relevant share of the differences regarding occupational aspirations. However, against our expectation, locus of control does not determine occupational aspirations for students in the general track of lower secondary school. Turning to the mediating effect of the variables under study, we found only weak evidence. Only academic performance, the preference for early labour market entry and social capital are related to educational background and thus can be considered as mediators in the formation of occupational aspirations.

Regarding the locus of control, our results do not support the idea of including this self-concept in habitus theory—despite other studies suggesting that self-concepts are indeed relevant aspects of the class-related habitus (Bodovski 2014; Pensiero 2011; Turnbull et al. 2020). This discrepancy in findings might be due to the different measurements of locus of control, validity problems or different populations under study. Our study is based on students in the general track of lower secondary school in Austria. The Austrian educational system has strong tracking which means that for our cohort, class-specific mechanisms of reproduction of inequality already tracked students at the age of 10 in different school types after primary school. This is a special but often neglected group with high shares of students with migration background and often lower socio-economic status. Thus, owing to the schooling system, our population has been preselected. Still, some mechanisms of the reproduction of social inequality could be found. The fact that we have found little evidence for the mediating role of work values and attitudes toward school on occupational aspirations might also be due to the pre-selected sample of Neue Mittelschule students. Another reason could be that parents' educational background was the only proxy for social class. A wider measurement of social class, including the occupational positions and life-worlds of parents, needs to be addressed in further studies of occupational aspirations. Longitudinal analysis starting in early childhood reaching into adulthood could give more insights into the interplay of habitus and locus of control in the medium to long term. Furthermore, adjusted or new measures of locus of control could improve the validity of results. Qualitative studies could further the understanding of the development of self-concepts and the potential interaction with habitus in the reproduction of social inequality.

Overall, our analysis gives some interesting insights into the formation of occupational aspirations. Habitus theory guided the identification of factors influencing class-specific decision processes regarding occupation. The relevance of parents' social position for young peoples' professional goals and paths is unbroken and continues to challenge the politics and institutions.

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