

Article

## Why Do High-Performing School Leavers Aspire to Occupations Atypical of Their Qualification?

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### Abstract

In Germany, the dual system of vocational education and training is an attractive alternative to tertiary programmes for school leavers with a higher education entrance certificate (HEEC). Most adolescents with this qualification opt for training occupations where the majority of apprentices hold an HEEC (e.g., bank clerk). This decision seems sensible considering that such training occupations are difficult for people with lower school-leaving certificates to access and promise better career outcomes. Nevertheless, some adolescents with an HEEC enter occupations that are not typical of their school-leaving qualification. This article examines under which circumstances adolescents with an HEEC aspire to training occupations atypical of their level of education and thus accept lower career outcomes. Following the rational choice paradigm, we expect differences in perceived benefit and probability of success between school leavers with an HEEC opting for HEEC occupations as opposed to non-HEEC occupations. Using data from the 2018 DZHW Panel Study of German School Leavers With an HEEC, our logistic regression models show that the individuals' self-assessed strengths and their occupational goals explain why they aspire to training occupations atypical of their qualification. Contrary to our assumption, adolescents from academic families are not less likely to aspire to non-HEEC occupations.

### Keywords

higher education entrance certificate; occupational aspiration; school leavers; segmentation; vocational education and training

### Issue

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### 1. Introduction

Due to the tracked school system in Germany, adolescents' occupational choice is highly structured by their school-leaving certificates. Privileged are those who attain a higher education entrance certificate (HEEC) as they are eligible to enrol at universities, unlike school leavers with an intermediate or a lower school-leaving certificate. Nevertheless, some school leavers with an HEEC instead start an apprenticeship in the dual sys-

tem of vocational education and training (VET) (15% as of 2018; see BIBB, 2021, p. 220). Previous research problematized this choice because dual VET is considered to offer poorer outcomes than university education (e.g., income) and because dual VET mostly attracts high-performing school leavers from non-academic families reproducing social inequality (e.g., Becker & Hecken, 2009; Müller & Pollak, 2008).

However, what has been overlooked so far when analysing the occupational choice of adolescents with

an HEEC is the occupational heterogeneity within dual VET (cf. Protsch & Solga, 2016), making it almost impossible to contrast dual VET and university education per se. For example, some dual VET occupations (e.g., insurance broker) lead to higher earnings than some university studies (e.g., liberal arts; Glocker & Storck, 2012). Most adolescents with an HEEC choose occupations within dual VET that are attractive alternatives to university education because they offer excellent prospects. These are mostly demanding occupations that in other countries are part of higher tertiary education (Protsch & Solga, 2016, p. 6). Such occupations are called HEEC occupations because most apprentices hold an HEEC. Nevertheless, there are also adolescents with an HEEC who start training in occupations that are not typical of their level of school-leaving qualification (BIBB, 2021, p. 120).

Thus, instead of merely asking why adolescents with an HEEC prefer dual VET to university education (e.g., Becker & Hecken, 2009; Schnitzler, 2019) the research question should be extended by asking why some aspire to non-HEEC occupations and thereby forgo the advantages of HEEC occupations. While an extensive body of empirical research on occupational choice considers the adolescents' school education (e.g., Basler & Kriesi, 2019; Malin & Jacob, 2019; Schels & Abraham, 2021), to our knowledge, no study has analysed the occupational aspirations of adolescents with an HEEC whilst taking the hierarchical occupational segmentation of dual VET into account. However, the number of adolescents with an HEEC in dual VET is increasing not only in general but also in non-HEEC occupations (BIBB, 2021, pp. 119–120).

The aim of our article is to investigate why high-performing school leavers would aspire to non-HEEC occupations within dual VET. Our research question refers to previous research that revealed the strong and stable vertical segmentation of dual VET occupations by apprentices' school education (Baethge, 2010; Hall, 2021; Protsch, 2014; Protsch & Solga, 2016; Uhly, 2010). The occupationally segmented VET system is linked to social inequality (Ebner et al., 2020; Protsch & Solga, 2016) because, in contrast to non-HEEC occupations, most HEEC occupations offer better work and learning conditions and more favourable employment and earnings prospects once training has been completed (Protsch, 2014; Protsch & Solga, 2016; Troltsch & Walden, 2012). Additionally, HEEC occupations appear more prestigious because the level of school education within a training occupation defines its social prestige (cf. Eberhard et al., 2009). Although HEEC occupations are open to all adolescents in principle, those with lower school-leaving qualifications have considerably less chance of gaining access to them since companies prefer to recruit adolescents with an HEEC (Protsch, 2014; Protsch & Solga, 2016). Our article contributes to the literature relating to adolescents' occupational aspirations and the segmentation of dual VET.

We use the rational choice paradigm as a conceptual framework to investigate the aspects in respect of

which adolescents with an HEEC opting for non-HEEC occupations differ from those interested in HEEC occupations. To analyse the role of individual preferences and occupational goals we complement the sociological rational choice framework (e.g., Breen & Goldthorpe, 1997) with psychological expectancy-value theory (EVT; Eccles, 2011; Eccles & Wigfield, 2002). Our analyses are based on a representative national German survey of adolescents who will shortly leave school with an HEEC (the Panel Study of School Leavers With an HEEC 2018; see Woisch et al., 2019), which was conducted by the German Centre for Higher Education Research and Science Studies (DZHW).

## 2. The German Education System

The German general school system is characterised by early ability tracking. After primary school, students are sorted into different school tracks equipping them with different opportunities for subsequent fully qualifying programmes. Students leaving school after 12 or 13 years with an HEEC can either enrol at university or start training within the dual system of VET or in the school-based VET sector. Adolescents with an intermediate or a lower school-leaving certificate, who have attended school for nine or ten years, only have VET options. After general school, they still have the opportunity to attain an HEEC at partly qualifying vocational schools.

Dual VET is the largest fully qualifying sector in Germany. Training takes place both in a company and at a part-time vocational school. On average, training takes about three years and apprentices receive a training allowance. In principle, no school-leaving certificate is required to start an apprenticeship. Nevertheless, companies offering training are free to decide which applicants they take on, and they use adolescents' school-leaving certificates to assess their trainability. This results in better chances for applicants with higher school-leaving qualifications to obtain a training place (e.g., Holtmann et al., 2017; Protsch, 2014). There are more than 320 training occupations, and school-leaving certificates exert an influence both in terms of which of these occupations adolescents are able to access and in respect of the occupations to which they aspire (e.g., Hirschi & Vondracek, 2009; Schels & Abraham, 2021). Accordingly, there is a stable vertical occupational segmentation between high-performing and low-performing school leavers within dual VET (Protsch, 2014; Protsch & Solga, 2016). In the literature, various operationalisations of occupational segments by school education differentiate occupations typical of adolescents with an HEEC, which is rather small despite being the highest segment, from occupations typical of school leavers with the lowest certificate (lowest segment), while the other occupations are differentiated in different middle segments (Hall, 2021, p. 227).

Typical HEEC occupations are almost exclusively high-skilled service training professions (e.g., bank clerk, tax

clerk) or IT occupations. The middle segments, where apprentices with an intermediate school-leaving certificate are in the majority, comprise retail occupations, industry and commerce occupations (e.g., industrial mechanic, office manager). The lowest segment encompasses many craft trades and low-skilled hospitality occupations (e.g., hairdresser, bricklayer) (Autorengruppe Bildungsberichterstattung, 2020; Protsch & Solga, 2016).

The school-based VET system offers different training occupations such as social and nursing professions and trains mostly women and people with an intermediate school-leaving certificate. Training positions are offered by schools and not by companies. This results in a different logic of access. For this reason, this article only considers adolescents who aim to pursue training in the dual VET system.

### 3. Theoretical Framework, Literature, and Hypotheses

We focus on differences in the realistic occupational aspirations (cf. Haller, 1968) of adolescents who will leave school with an HEEC. Following extended rational choice approaches, deciding for or against a non-HEEC occupation can be modelled as an individually rational weighing of occupational alternatives. During this process, adolescents evaluate the benefit, probability of success, and cost of the alternatives (Breen & Goldthorpe, 1997; Erikson & Jonsson, 1996; Esser, 1999). Correspondingly, and in reference to previous research on occupational and educational aspirations (e.g., Dräger & Wicht, 2021; Glauser & Becker, 2016), differences in subjectively perceived benefit and probability of success should explain why adolescents with an HEEC opt for non-HEEC occupations. We also draw upon EVT (Eccles, 2011; Eccles & Wigfield, 2002), addressing additionally individual differences in the evaluation of benefit and probability of success based on individual characteristics (e.g., goals) and contextual factors (e.g., parents).

We merely implicitly consider the cost aspect because the database does not contain any information on the anticipated costs of occupational choice within dual VET. However, we assume that adolescents with an HEEC who aspire to enter non-HEEC occupations will incur opportunity costs. Even though they have invested two or three additional years in their education, they forgo the benefits of HEEC occupations.

#### 3.1. Parents and Social Origin

Rational choice approaches postulate that the occupational aspirations of adolescents vary with their social background. Calculations of cost, benefit and probability of success turn out differently depending on the social class of the parental home (Boudon, 1974). Additionally, young people are eager to at least attain the social class position of their parents. Accordingly, aspirations are aligned to the parents' social status (Breen & Goldthorpe, 1997). Deciding not to enter university thus constitutes

downward mobility for adolescents from an academic family background (Breen & Goldthorpe, 1997). Due to their lower degree of social prestige, non-HEEC occupations are even less adequate in terms of social status (cf. Eberhard et al., 2009) implying an additional loss in social status. Therefore, we assume that adolescents whose parents have an academic background are less likely to aspire to non-HEEC occupations (H1).

EVT proposes that parental attitudes and expectations shape adolescents' occupational aspirations (Eccles, 2011). For Germany, research showed that adolescents anticipate whether their parents would approve of their occupational choice for dual VET occupations, and this affects their aspirations. The parental influence was strong even if adolescents' occupational interests, occupational knowledge and self-confidence were controlled for (Granato et al., 2016; Matthes, 2019). Furthermore, Mischler and Ulrich (2018) demonstrated for the craft trades (mostly non-HEEC occupations) that adolescents will be less likely to aspire to a non-HEEC occupation if their parents have high aspirations and wish their child to obtain an HEEC. We, therefore, assume that adolescents who perceive their parents' aspirations to be higher are less likely to aspire to non-HEEC occupations (H2).

#### 3.2. Benefit

According to EVT, the attractiveness of an occupation is determined by the potential adolescents ascribe to an occupation for facilitating their goals and by the interest and enjoyment in performing the activities related to an occupation. The development of these aspects is influenced, amongst other things, by people's "ability self-concepts" (Eccles & Wigfield, 2002). Eccles and Wigfield (2002) explain that positive experiences when succeeding at tasks lead to a positive relationship of competence beliefs and interests in the respective field. Empirical research accordingly demonstrates the influences of ability self-concepts on interest development (Tracey, 2002). Further research underlines reciprocal influences between interests and (self-assessed) strengths (Denissen et al., 2007; Isaacs et al., 1997). In line with psychological theory on occupational choice which emphasises people's desire to achieve a fit between the characteristics and requirements of an occupational area and their interests as well as their strengths (Holland, 1997), self-assessed strengths have a strong predictive power within the context of occupational choice when used instead of interests (Isaacs et al., 1997; Prediger, 1987). In line with this reasoning, we view the opportunity to fit one's strengths to an occupational option as a component of this option's benefit. Although abilities are also relevant for the expected probability of success of an occupational option, we refer to the research outlined above and draw upon a self-assessment of various strengths in lieu of the respondents' interests, which are not contained in our database.

We assume that self-assessed strengths are accompanied by occupational aspirations in areas that match these strengths. Because non-HEEC occupations are more frequently industrial, technical or craft trade occupations (cf. Autorengruppe Bildungsberichterstattung, 2020) or involve manual tasks (Friedrich, 2021), we assume that adolescents who assess their own strengths in craft trades and technical areas as being higher are more likely to aspire to non-HEEC occupations (H3a). In contrast, HEEC occupations are associated with higher cognitive requirements (Meyer & Sacchi, 2020; Stalder, 2011). They include a greater number of, for example, qualified commercial occupations and media occupations (cf. Autorengruppe Bildungsberichterstattung, 2020). We, therefore, assume that adolescents are less likely to aspire to non-HEEC occupations if they assess their own strengths in the economic sciences and in foreign languages to be higher (H3b).

Adolescents also evaluate occupational alternatives in terms of how useful these are for the achievement of their personal goals (Eccles, 2011). Goals have been shown to predict, for example, interest in STEM occupations above and beyond STEM-related self-efficacy (Diekman et al., 2010). Diekman et al. (2010) distinguish goals that relate to power, status and income (agentic goals) from communal goals that are oriented not merely towards working with people but more specifically towards supporting others and serving humanity. HEEC occupations are well suited to the realisation of agentic goals because they lead to high returns (BIBB, 2019, pp. 301–307; Protsch, 2014). As agentic and communal goals form two distinct factors (Diekman et al., 2010) people with high communal goals might expect to encounter a job environment and colleagues not matching their own values when entering HEEC occupations. Bearing in mind that adolescents strive to match their values to the occupational environment when developing occupational aspirations (Holland, 1997) entering an occupation that predominantly attracts people with agentic goals might be unattractive for adolescents with communal goals, and this is why they opt for alternative occupations.

We, therefore, assume that adolescents with high agentic goals are less likely to aspire to non-HEEC occupations (H4a) and that adolescents with high communal goals are more likely to aspire to non-HEEC occupations (H4b).

### 3.3. Probability of Success

To assess the probability of success of occupational alternatives, adolescents consider both their chances of getting an apprenticeship and of meeting the occupational requirements during VET. School-leaving qualifications and school marks are key indicators for both aspects (Erikson & Jonsson, 1996; Esser, 1999; Hirschi, 2011; Kay et al., 2017, p. 2171). Research demonstrates that adolescents adjust their occupational aspirations following

their school performance (e.g., Basler & Kriesi, 2019; Hirschi, 2010; Hirschi & Vondracek, 2009). For occupational aspirations within dual VET, longitudinal data shows that students downgrade their aspirations to less prestigious and thus more accessible training occupations if their school marks are poor, and opt for more prestigious occupations if their marks improve (Heckhausen & Tomasik, 2002; Tomasik et al., 2009). The influence of school marks is apparent even if the adolescents' social origin and actual abilities are controlled for (Wicht & Ludwig-Mayerhofer, 2014).

The occupational segmentation according to school-leaving qualifications suggests different cognitive requirement levels for different occupations, attributing higher requirement levels to HEEC occupations (Protsch, 2014; Stalder, 2011). Adolescents evaluate whether they will be able to meet these requirements in a specific occupation. If they do not believe that they are capable of performing the tasks, they turn to more achievable alternatives irrespective of their interest in the prior one (e.g., Eccles, 2011).

Access to dual VET is market-driven and competitive. Irrespective of school performance, social origin or other factors adolescents' chances of finding an apprenticeship are determined by the ratio between training places offered and the number of adolescents seeking training places (e.g., Beicht & Walden, 2016; Granato et al., 2015; Kleinert & Jacob, 2013). Research indicates that adolescents link the chances of realising their occupational aspirations to the regional opportunity structure and adjust their aspirations accordingly (e.g., Flohr et al., 2020; Glauser & Becker, 2016). For example, Hirschi (2010) and Hirschi and Vondracek (2009) showed that the more training places were offered in a region in a certain training occupation the more likely it was that students aspired to that occupation. Jaik and Wolter (2019) found that students are more likely to revise their initial occupational plan if occupations are characterised by a shortage in training places offered.

We, therefore, arrive at the following assumptions:

- Adolescents with poorer school marks are more likely to aspire to non-HEEC occupations (H5).
- The lower adolescents perceive their chances of successfully completing training, the more likely it will be that they will aspire to the less demanding non-HEEC occupations (H6).
- The likelihood that adolescents will aspire to non-HEEC occupations will be higher if they live in regions where the training market situation in HEEC occupations is tight (H7).

## 4. Data, Operationalisation, and Model Design

We use data from a survey conducted by the DZHW of adolescents aspiring to complete an HEEC in 2018, which we enriched with data on the training market. The survey took place six months prior to school leaving

via a randomly chosen disproportionate cluster sample. Participants comprised 38,228 students out of 78,633 contacted at 1,104 schools of various types throughout Germany (Woisch et al., 2019). The disproportionality of the sample was adjusted to the statistical population via a design weight with regard to the school type and federal state in which the HEEC will be acquired.

Because we focus on differences in occupational aspirations in the dual VET system, we exclude students who do not wish to enter dual VET, who have already completed VET or are currently doing so. Additionally, no analyses can be conducted for students from Berlin or Hessen since data privacy regulations in these federal states prohibit the collection of parental information. This reduces the sample to 3,955 cases.

Our dependent variable is based on the occupational aspirations of the respondents, which we classified as either non-HEEC occupations (=1) or HEEC occupations (=0). We used the vocational training statistics of the Federal Statistical Office provided by BIBB (cf. BIBB, 2021) to classify the respondents' aspirations. The vocational training statistics deliver yearly information on the apprentices' highest school-leaving qualification for every newly concluded training contract in each single occupation in the dual VET system in Germany. Within the vocational training statistics as of 31 December 2017, we define occupations in which apprentices with an HEEC account for 60% or less of newly concluded contracts as non-HEEC occupations and occupations with an HEEC proportion of more than 60% as HEEC occupations. This threshold refers back to earlier work (cf. Protsch & Solga, 2016) and is stricter than the approach adopted, for example, by Hall (2021), who used a 50% threshold. We then used this classification of training occupations (non-HEEC vs. HEEC) to classify the occupational aspirations of the sample as non-HEEC occupations or HEEC occupations. In our dataset, students' occupational aspirations are measured as occupational types (5-digit code according to the 2010 German Classification of Occupations). Thus, single occupations are summarised in occupational types. If 5-digit codes comprise more than one distinguishable single occupation, we calculate the average share of apprentices with an HEEC over the entire 5-digit category and classify this type into HEEC occupations and non-HEEC occupations accordingly. Forty-two persons named occupational types that could not be easily classified as either HEEC occupations or non-HEEC occupations. Thus, we excluded them from the analysis, reducing the sample to 3,913 cases.

In order to add information about the tightness of the training market faced by the adolescents, we used official data about training supply and demand for 2017 for HEEC occupations and non-HEEC occupations. Since the training market situation varies considerably by region, we used the students' school postcode to differentiate the market situation by training market regions according to the Federal Employment Agency. Depending on the adolescents' aspirations we calculated a regional company-

based extended supply-demand ratio (SDR) according to BIBB (2021) for each respondent. Thus, the SDR displays the training market situation the adolescents were facing when aspiring to an HEEC occupation as opposed to a non-HEEC occupation in a certain region. Differences in SDR state how many fewer places were available to adolescents in the region for every 100 potential applicants in HEEC occupations as compared to non-HEEC occupations. Table 1 displays all independent variables.

HEEC occupations and non-HEEC occupations differ not only with regard to educational background but also in respect of gender distribution. While HEEC occupations more often have a balanced gender ratio, non-HEEC occupations are more segmented by gender (Hall, 2021). Research findings on gender differences in the evaluation of both benefit and probability of success and consequently in occupational aspirations (e.g., Beicht & Walden, 2015; Breen & Goldthorpe, 1997; Eccles, 2011) could be suggestive of diverging effects of the different influence factors on occupational aspirations and thus on our dependent variable. In order not to overlook any effects due to potential gender-related differences, we estimate separate models for girls and boys.

Since our sample comprises students from both general schools and vocational schools and given the fact that adolescents' former educational experiences, as well as their aspirations, vary according to the school type (cf. Wicht & Ludwig-Mayerhofer, 2014), we control for school type in all models. Additionally, we control for migration background because research indicates that the aspirations of young migrants differ from those of adolescents without a migration background (Beicht & Walden, 2019). Persons with missing values on the independent variables ( $n = 727$ ) are excluded from the analyses. Thus, our analysis sample consists of 3,186 cases.

We estimate binary logistic regressions in order to examine influential factors of occupational aspirations. We add the predictors step by step and present average marginal effects (Mood, 2010). Average marginal effects show the change in the likelihood of aspiring to non-HEEC occupations if the predictor is increased by one unit. Because the data results from a clustered sample, we cluster standard errors at school level. The different federal states in which students attend school are controlled for in the models but not displayed in the tables.

## 5. Results

Fifty-five percent of the respondents aspire to non-HEEC occupations, girls (48%) less often than boys (64%). These adolescents aspire to 115 different occupational types. Some of these occupations are characterised by a low share of newly concluded training contracts with adolescents with an HEEC (e.g., dental assistant, industrial mechanic), while others have a relatively high share of apprentices with an HEEC (e.g., clerk in public administration, IT specialist in systems integration). Girls and



**Table 1.** Operationalisation of the independent variables.

Variable	Operationalisation
<i>Social origin and parents</i>	
Academic family background	1 = at least one parent has a tertiary degree 0 = neither parent has a tertiary degree
Parental expectation (as perceived by respondent)	1 = <i>very unimportant</i> to 5 = <i>very important</i>
<i>Benefit</i>	
Self-assessed strengths in — craft trades area — technical area — foreign languages area — economic sciences area	1 = <i>weak</i> to 5 = <i>strong</i>
Agentic goals — high income — good career opportunities	1 = <i>very unimportant</i> to 5 = <i>very important</i> , collated as a dichotomous variable due to low variance: ( <i>very important</i> (4/5 = 1) and ( <i>very unimportant</i> (1/3 = 0)
Communal goals — support others — act selflessly	
<i>Probability of success</i>	
Current average school mark	1.0 ( <i>very good</i> ) to 5.0 ( <i>not sufficient</i> )
Self-assessed chance to successfully complete VET	1 = <i>very low</i> to 5 = <i>very high</i>
Training market situation	1 = training market situation was worse for HEEC occupations than for non-HEEC occupations (top quartile of the distribution) 0 = lower three quartiles of the distribution
<i>Control variables</i>	
Migration background	1 = adolescent holds foreign citizenship or she/he/at least one parent was born abroad 0 = no migration background
Type of school	1 = vocational school, 0 = general school

Note: For the question wording see Table A1 in the Supplementary File.

boys differ substantially in their aspirations. The most popular non-HEEC occupations for girls are office manager (19%) and clerk in public administration (13%), for boys IT specialist in systems integration (11%) (the only IT occupation classified as non-HEEC), mechatronics fitter (9%), and industrial mechanic (7%). For the respondents opting for HEEC occupations, the picture is less diverse. In total, the adolescents in this group aspire to 33 occupational HEEC types; 51% of girls and 64% of boys aspire to only two different occupations (industrial clerk, bank clerk). The distributions of the dependent and independent variables are displayed in Table A2 in the Supplementary File. Table 2 presents the results of the logistic regressions separately by gender.

First, we regress socio-demographic characteristics, school type and parental expectation on aspirations (M1 in Table 2). Contrary to H1, adolescents whose

parents have academic qualifications are not less likely to aspire to non-HEEC occupations. The contrary is even true for girls. They are more likely to aspire to non-HEEC occupations if their parents hold a tertiary degree. However, the effect becomes smaller if the girls' self-assessed strengths are accounted for. Regarding H2, parental expectations only play a minor role for girls. As assumed, they are less interested in non-HEEC occupations if they expect their parents' aspirations to be higher. However, the effect disappears completely in the further model steps. The results could be an indication that parents want their children to attain an HEEC because they want all possibilities to be open to them after school. But once the child has attained an HEEC, they leave the occupational choice up to the child. And once the child has decided against university education, a high social origin no longer steers them towards prestigious occupations

**Table 2.** Determinants of aspiration for non-HEEC occupations.

	boys				girls				
	M1	M2	M3	M4	M1	M2	M3	M4	
Migration background	-0.04 (0.16)	-0.04 (0.19)	-0.04 (0.20)	-0.04 (0.19)	0.09* (0.15)	0.09* (0.16)	0.09* (0.17)	0.08* (0.17)	
Vocational school	-0.03 (0.18)	0.03 (0.18)	0.04 (0.18)	0.04 (0.18)	0.03 (0.16)	0.07* (0.15)	0.07* (0.16)	0.07* (0.15)	
Academic family background	0.02 (0.13)	-0.01 (0.15)	-0.02 (0.16)	-0.02 (0.16)	0.08* (0.13)	0.06* (0.14)	0.06+ (0.14)	0.06* (0.15)	
Parental expectation	-0.01 (0.06)	0.01 (0.07)	0.02 (0.07)	0.02 (0.07)	-0.03* (0.05)	-0.01 (0.06)	-0.01 (0.06)	-0.01 (0.06)	
<b>Strengths</b>									
Craft trades		0.09*** (0.08)	0.09*** (0.08)	0.09*** (0.08)		0.03+ (0.07)	0.02 (0.07)	0.02 (0.07)	
Technical		0.06*** (0.08)	0.06*** (0.08)	0.06*** (0.09)		0.04* (0.07)	0.04** (0.07)	0.04** (0.07)	
Foreign languages		-0.01 (0.06)	-0.01 (0.06)	-0.01 (0.06)		-0.03** (0.05)	-0.03** (0.05)	-0.03** (0.05)	
Economic sciences		-0.09*** (0.07)	-0.08*** (0.07)	-0.07*** (0.07)		-0.12*** (0.06)	-0.11*** (0.06)	-0.11*** (0.06)	
<b>Goals</b>									
High income			-0.07* (0.19)	-0.07* (0.19)			-0.07* (0.14)	-0.07* (0.14)	
Good career opportunities			-0.12** (0.23)	-0.12** (0.23)			-0.10* (0.18)	-0.10* (0.18)	
Support others			0.00 (0.15)	0.00 (0.15)			0.01 (0.13)	0.01 (0.13)	
Act selflessly			-0.02 (0.14)	-0.02 (0.14)			0.02 (0.13)	0.02 (0.14)	
Current average marks				0.03 (0.17)				0.05+ (0.13)	
Chance of VET success				0.01 (0.12)				-0.01 (0.10)	
Training market situation				-0.00 (0.22)				0.06+ (0.16)	
Pseudo-R <sup>2</sup>	0.02	0.20	0.21	0.21	0.02	0.10	0.11	0.11	
n		1,596				1,590			

Source: Own calculations based on the Panel Study of School Leavers With an HEEC 2018. Notes: \*\*\* < 0.1%, \*\* < 1%, \* < 5%, + < 10%; weighted, clustered standard errors in brackets; controls for the different federal states were included in all models but are not reported here.

with high outcomes. Regarding the control variables, girls with a migration background and girls from vocational schools are more likely to aspire to non-HEEC occupations, whereas we find no effect for boys.

Step two (M2) shows that self-assessed strengths are of major importance in predicting occupational aspiration. In line with H3a, adolescents aspiring to non-HEEC occupations reported higher strength in technical areas

and craft trades. However, for girls, the effect for the craft trades area disappears in later model steps. Furthermore, as expected, the higher adolescents assess their strength in the economic sciences, the less likely they are to aspire to non-HEEC occupations whereas, contrary to our assumption, self-assessed strength in foreign languages is negatively related to aspiring to non-HEEC occupations only for girls but not for boys (H3b). The gender

differences regarding the role of strength in the area of craft trades and foreign languages tie in with the idea that girls and boys differ in their preferences and thus in their aspirations (Eccles, 2011).

The results of the third step (M3) suggest that striving for high income and good career opportunities reduces the probability of aspiring to non-HEEC occupations, as expected (H4a). Compared to these agentic goals and contrary to our assumption, there seems to be no relationship between communal goals (supporting others and acting selflessly) and adolescents' aspirations (H4b).

Contradicting H5, poorer marks do not fundamentally increase the probability of adolescents aspiring to non-HEEC occupations (M4). However, we find some evidence for girls. They are more likely to aspire to non-HEEC occupations if their average marks are poorer. The results could be an indication for boys being generally more optimistic when interpreting their school marks than girls (Lörz et al., 2011). Contrary to H6, we find that adolescents' lower assessment of their ability to complete training successfully is not associated with a higher probability of aspiring to non-HEEC occupations. When interpreting the results, one should bear in mind that anticipated chances of success and occupational aspirations were measured at the same time. This might have resulted in a causality problem if respondents used their realistic aspiration as a reference point for evaluating their chance of success.

Furthermore, the results regarding the chances on the training market only speak mildly in favour of H7. Only girls are more likely to aspire to non-HEEC occupations when the training market conditions at the location of their school are worse for HEEC occupations than for non-HEEC occupations. Any interpretation of the results should accord due consideration to the fact that a more differentiated operationalisation of the training market situation considering the home address of the adolescents instead of the schools' location could have produced different results. However, further analyses reveal that the training market situation is significantly related to our dependent variable for both genders when the market situation is considered as the sole explanatory variable. Apparently, the full set of model variables already explains this relationship.

We conducted different robustness checks. We estimated a model without parental variables (academic family and migration background) in order to exclude any influence on our results by the federal states of Hessen and Berlin, for which parental information is not available. The results remain stable, regardless of whether these two federal states are included or not. If, as explained above, adolescents seek to match their strengths and interests to the training occupation they aspire to, this process requires a certain degree of awareness of one's interests (Hirschi, 2011). If high uncertainty regarding one's interests exists, other factors could be relevant to the decision. However, further analyses that account for the degree of uncertainty of interests

largely support the presented results. Additionally, we re-estimated the different model specifications ( $m = 20$ ) after imputing missing values using multiple imputation by chained equations. This did not result in any substantial changes compared to the procedure using listwise deletion. Analyses not displayed here are available on request from the authors.

## 6. Conclusion

The specific occupations in which young people undergo training define their training and employment conditions, with HEEC occupations on average offering the best prospects (Protsch & Solga, 2016). It thus seems paradoxical that adolescents with an HEEC should aspire to non-HEEC occupations, which yield lower returns, despite having better chances of accessing HEEC occupations than applicants with lower school-leaving qualifications. We sought to understand this choice by considering the rational choice paradigm and EVT and by analysing the data of the DZHW Panel Study of German School Leavers With an HEEC.

Our results indicate that non-HEEC occupations are the preferred route for high-performing school leavers who see their strength in technical areas and, in the case of boys, additionally in the craft trades. Thus, matching an occupation's characteristics with one's preferences is a main driver in occupational choice (cf. Eccles & Wigfield, 2002). This seems rational because choosing an occupation that does not meet one's interests and strengths leads to dropout intentions (Volodina et al., 2015). Such an interest-driven aspiration seems to put the costs of entering non-HEEC occupations into perspective. Our data suggest that adolescents are well aware of these costs. Bearing in mind that most non-HEEC occupations offer less than HEEC occupations (Protsch & Solga, 2016), adolescents are less likely to strive for non-HEEC occupations if receiving a high income and having good career opportunities are important goals to them.

In our sample, adolescents from academic families seem to place no emphasis on status maintenance (Breen & Goldthorpe, 1997). The reason could be that they have already experienced downward mobility because they decided against university education, and the avoidance of further downward mobility is no longer relevant. Alternatively, the results could question the role of status maintenance, thus indicating that the motive of finding pleasure in occupational tasks might diminish adolescents' fear of downward mobility. This might be particularly the case for adolescents from privileged families because they have the resources to focus on intrinsic values and can therefore neglect the outcome of their occupational choice (cf. Johnson & Mortimer, 2011). Additional research is required to enlarge our understanding of the relative importance of intrinsic values such as interest and the motive of status maintenance in occupational decision-making. In this vein, the role of gender should be taken into account



given the fact that our female respondents are more likely to strive for non-HEEC occupations if they come from academic families. In general, our results indicate that a closer look at gender-specific effects could be rewarding in terms of disentangling the complexity of occupational choice of high-performing school leavers opting for dual VET.

Furthermore, aspiring to a non-HEEC occupation does not necessarily reflect a compromise made by adolescents with an HEEC in the face of limited opportunities (tight training market, poor marks), particularly not for boys. However, one has to bear in mind that adolescents with an HEEC are privileged in terms of opportunities precisely because they hold an HEEC. For adolescents with lower school-leaving certificates, adjusting occupational aspirations to opportunities plays an important role because educational attainment structures adolescents' opportunities (e.g., Heckhausen & Tomasik, 2002; Hirschi & Vondracek, 2009). Consequently, a future object of investigation should be to discover if the interest of adolescents with an HEEC in non-HEEC occupations leads to a (further) displacement of adolescents with lower school-leaving qualifications in non-HEEC occupations (cf. Beicht & Walden, 2018; Troltsch & Walden, 2012). However, the choice of non-HEEC occupations by adolescents with an HEEC could also be beneficial since it could decrease occupational segmentation according to school-leaving qualifications. This may be associated with an assimilation of educational returns between various occupational segments. It would, for example, be conceivable that training conditions in the lower occupational segments improve because adolescents with an HEEC have higher expectations of their employers (Eberhard & Ulrich, 2017). Additionally, the social prestige of non-HEEC occupations could rise, reflecting an increase in the school qualifications of apprentices (Eberhard et al., 2009). On the whole, the situation for adolescents with school-leaving certificates other than an HEEC will, however, only improve if, at the same time, HEEC occupations become more accessible to them.

Notwithstanding, our data does not permit any statements concerning the adaptation of aspirations nor the realised occupational choice after leaving school. Since it is possible that adolescents will readjust their aspirations, further investigations focusing on the transition to training are of interest. Additionally, choosing a dual VET occupation is linked to the choice of employer. We think it is probable that adolescents with an HEEC opt for a non-HEEC occupation because they find a company particularly attractive (cf. Mohr & Weis, 2019), even though it only offers non-HEEC occupations. Unfortunately, our database does not include the significance of the company in the occupational choice. Therefore, this aspect has to be left for future research. In future studies, it would furthermore be important not to differentiate solely between HEEC occupations and non-HEEC occupations. The latter encompass highly different occupations, which were divided into further segments in other

studies (e.g., Hall, 2021; Uhly, 2010). In our survey, the usual distinction between occupations typical of apprentices with an intermediate school-leaving certificate and occupations typical of those with a lower school-leaving degree was not possible since hardly anyone within our sample aspired to the latter. Instead, we find that many adolescents aspired to non-HEEC occupations with relatively high shares of apprentices with an HEEC. These occupations (e.g., technical drawer, clerk in public administration) still offer good prospects. Thus, it would be of major interest to explore which high-performing school leavers aspire to occupations of the lowest segment, because such aspirations come with much higher costs than aspiring to non-HEEC occupations of middle segments (cf. Protsch & Solga, 2016). Qualitative research is needed to enlarge our understanding of atypical choices in this regard.

Our study contributes to a better understanding of occupational choice of high-performing school leavers opting for dual VET. Through the analysis of aspirations atypical of the adolescents' school education, we addressed the heterogeneity within the dual VET system and encourage the view that dual VET should be seen as more than just one system below university education. Clearly, the findings demonstrate the importance adolescents attach to a fit of their strengths and interests to occupational areas. However, discovering this fit requires self-knowledge and knowledge about the world of work (Hirschi, 2011). Previous research shows that especially students preparing for an HEEC complain about insufficient vocational preparation at school (cf. Eberhard et al., 2018). A more pronounced counselling which also considers atypical occupations within dual VET could encourage atypical but interest-driven choices (cf. Mischler & Ulrich, 2018). Policy should promote interest-driven occupational choice even if this means that high-performing school leavers decide against university education and opt for non-HEEC occupations. In the end, a greater mix of adolescents with different school qualifications within occupations of dual VET could lead to a more equal society.

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### Conflict of Interests

The authors declare no conflict of interests.

## Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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