Does Familiarity with Vocational and Professional Education Shape Employers' Educational Preferences in Hiring Processes?

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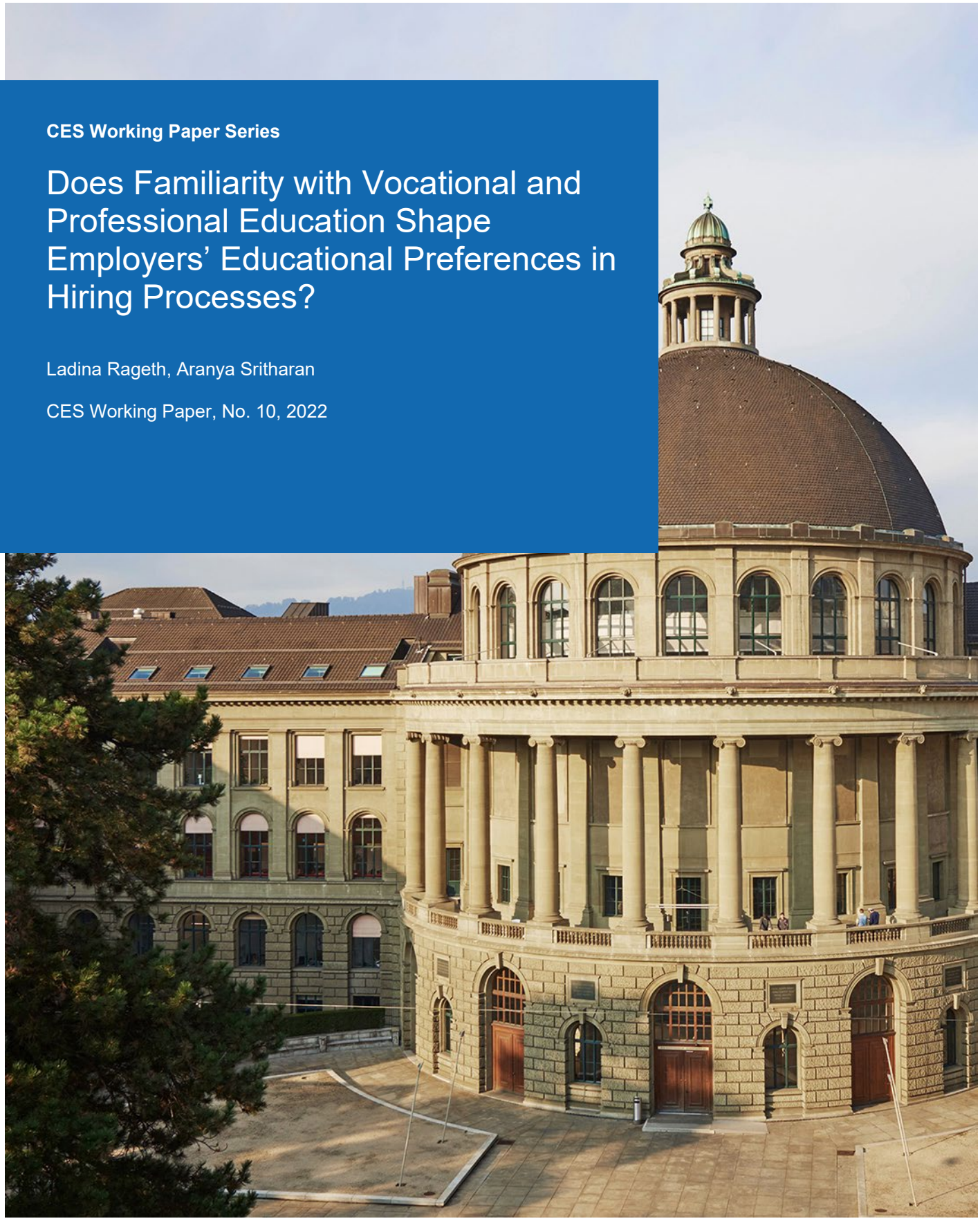

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Ladina Rageth, Aranya Sritharan

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Ladina Rageth[1] and Aranya Sritharan[1,2]

Abstract

Especially in highly diversified education systems in which employers can choose among qualified applicants with different educational degrees, education is an important signal of an applicant's unobserved characteristics. Using a factorial survey experiment among employers in Switzerland, we investigate their preferences regarding applicants' education in the first stage of a hiring process. We find that for entry-level positions, applicants with an upper-secondary vocational education and training (VET) degree have a higher probability for a job interview than those with general education. For the high-level position as sales manager, we also find that employers prefer applicants with tertiary professional education and training (PET), but not for the position as head of IT, where we observe a preference for university graduates. We contribute to the literature by providing evidence that employers who are more familiar with VET and PET in Switzerland show a stronger preference for applicants with such degrees. However, this finding only partly holds for the two IT positions, where familiarity has a weak effect on employers' preferences. We conclude that employers highly value VET and PET degrees as an alternative to general or academic degrees, but that policy makers should ensure employers' familiarity with these degrees to enhance the labour market attainments of graduates.

Keywords

Factorial survey, employer preferences, recruitment, vocational education and training, linear mixed models

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1 Introduction

As employers act as gatekeepers to jobs, understanding their preferences in hiring decisions is essential (Bills et al., 2017; McDonald, 2019). These preferences can refer to applicants' characteristics indicating their productivity, such as experience or education (Imdorf et al., 2017; Oswald-Egg & Renold, 2021), but also to other characteristics, such as age, gender or nationality (Finkelstein et al., 1995; Stoll et al., 2004). Furthermore, such preferences are not homogeneous across employers and contexts, but they depend on the social, organizational and institutional contexts within which the hiring process happens and on the employers' characteristics (Bills et al., 2017).

During the first stage of hiring processes, employers consider applicants for open positions under information asymmetry (Altonji & Pierret, 2001). Due to their limited information on applicants, employers decide relying on easily observable characteristics – such as education. As education is a good predictor of a person's productivity, Arcidiacono et al. (2010) argue that education is a reliable source of information in the hiring process. Hence, an applicant's educational background is one of the main criteria upon which employers decide to interview applicants for open positions (Bills et al., 2017; Di Stasio & van de Werfhorst, 2016). This paper therefore investigates the hiring preferences of employers regarding applicants' education and the employer characteristics that affect these preferences in the first stage of hiring processes with high information asymmetry.

Signalling theories, as coined by Spence (1973) state that individuals invest in education to signal their pre-existing abilities and productivity when entering the labour market. Especially in diversified education systems with broad options for differently skilled individuals, they invest in the type of education that best conveys their abilities (Abrassart & Wolter, 2019). Employers – who are well-informed about the aspects of the vacant position but not about all the characteristics of the applicant – choose those individuals with the best-matching educational background with the lowest associated training (Arrow, 1973). Hence, employers interpret education as a signal for an applicant's job-relevant ability.

Furthermore, Shavit and Müller (2000) state that educational degrees send different signals depending on the type of education, especially in diversified education systems without a single dominant type of education. They argue that within countries with a well-functioning vocational and professional education and training system, employers who are familiar with this type of education are more likely to prefer such degrees than general education. Korber and McDonald (2019) are the first to use quasi-experimental data to investigate employer preferences regarding applicants' education in such a diversified education system, i.e. in Switzerland. They provide evidence that employers prefer professional education and training (PET) to academic degrees at the tertiary education level, but that they do not prefer vocational education and training (VET) to general education at the upper-secondary education level.

However, Korber and McDonald (2019) do not investigate the employer characteristics that may play a role in shaping these preferences. As an extension, other studies analyse how employers' familiarity with different educational degrees influences their preferences, mainly by investigating employers who evaluate applicants with foreign degrees (Argue & Velema, 2022; Damelang et al., 2020; Lancee & Bol, 2017). Overall, these studies find that employers prefer applicants with the more familiar degrees, i.e. those with domestic educational degrees. Our paper contributes to the literature by investigating employers' preferences regarding the type of education and the factors that shape these preferences in a country with a highly diversified education system. Specifically, we examine whether employers' familiarity with VET/PET affects their educational preferences in the hiring process.

We use data from a factorial survey, which we conducted among employers in Switzerland. Each of the 2'384 respondents evaluated eight fictional applicants for two hypothetical job postings, one posting for

an entry-level position (either as ‘Administrative assistant’ or ‘IT assistant’) and one for a high-level position (either as ‘Sales manager’ or ‘Head of IT’). To consider that each respondent evaluated more than one applicant per position, we apply multilevel random effects models, nesting answers by respondents. To investigate how employers’ familiarity affects their preferences, we include a broad set of variables approximating respondents’ familiarity with VET/PET. These variables measure whether the respondents themselves completed a VET or PET, whether they work in the human resources (HR) department, whether they are born in Switzerland, whether they are from the German-speaking part of Switzerland, and whether they work within a firm for which training apprentices is highly relevant. Moreover, we combine these five variables in an index measuring the overall familiarity with VET/PET.

Our results show that employers generally prefer applicants with a VET degree for the two entry-level positions and applicants with a PET degree for the high-level position ‘Sales manager’, but not for the position ‘Head of IT’. Thus, at the tertiary level, employers’ preferences vary depending on the occupation. Following signalling theory, this result indicates that students with the skills required for high level IT positions more often sort into academic education – in contrast to the other three positions.

Furthermore, respondents with a high familiarity with VET/PET have a stronger preference for VET/PET degrees for the two commercial positions, i.e. the administrative assistant and the sales manager. For the two IT positions, we find mixed evidence. For the IT assistant, only respondents who work in HR have a significantly stronger preference for VET. For the head of IT, only those respondents who have a mixed educational background or have completed a VET/PET, who think that training apprentices is highly relevant for the firm, and who have a higher scale in our overall familiarity index show a significantly weaker preference for applicants with an academic education. Overall, these results provide evidence for policy makers in Switzerland but also in other countries that increasing employers’ familiarity with the different types of education can enhance the labour market positioning of applicants with such degrees.

We structure the remainder of this paper as follows: First, we introduce the theoretical foundations and empirical evidence on the role of education in hiring process. Second, we derive our hypotheses from this literature. Third, we provide a short overview of the Swiss education system. Fourth, we explain our analytical strategy including the data and estimation method. Fifth, we present the results of our analyses, followed by the robustness and validity tests. Sixth, we conclude with a discussion of our results as well as their limitations and policy implications.

2 Literature Review on the Role of Education in Hiring Processes

2.1 Theoretical Foundations

A handful of theories provide explanations for employers' preferences in hiring processes, especially regarding educational degrees. Human capital theory (Becker, 1994), for example, focuses on the relation between educational attainment and earnings. This theory states that post-secondary education is an advantage on the labour market, as each year of education increases an individual's productivity, which translates into higher earnings and better job prospects.

In contrast to human capital theory, signalling theories (Spence, 1973) account for the role of employers in job assignments. These theories are among the most prominent ones when explaining job assignment as a function of an individual's educational degree (Huntington-Klein, 2021). Signalling theories argue that employers act under information asymmetry, and that they rely on educational degrees in hiring processes primarily because they associate otherwise unobservable characteristics like trainability and productivity with the completion of education (Arrow, 1973; Spence, 1973). They further state that individuals already have certain abilities before starting an education and that the completion of an education enables them to signal these abilities (Huntington-Klein, 2021). Thus, before entering the labour market, applicants carefully choose the strongest 'signals', in the form of degrees, to reduce that information asymmetry. Accordingly, different educational programmes serve as a means to sort individuals alongside their different abilities (Bills, 2003).

As signalling theories assume that there is no direct link between educational contents and increased productivity, actual contents of education are of lesser relevance (Spence, 1973). However, some scholars state that educational degrees send different signals depending on the type of education, especially in diversified education systems without one single dominant type of education, i.e. general or vocational (Di Stasio et al., 2016; Shavit & Müller, 2000). The existence of different educational types and programmes implies that they are tailored for differently skilled individuals, making it easier for them to choose an education corresponding to their individual skills set and abilities (Hillmert & Jacob, 2003). Accordingly, a diversified education system also makes it easier for employers to use educational degrees as a selection criterion in recruitment (Di Stasio et al., 2016). We expand this notion of signalling theories by arguing that education in a diversified education system does not necessarily only sort high-ability from lower-ability individuals (Spence, 1973), but that individuals choose an education considering their own specific abilities and select into the type of education that best channels their skills (Abrassart & Wolter, 2019).

Many European countries know both upper-secondary VET and tertiary PET as alternatives to general and academic education (Cedefop, 2021; for a compilation of reports on different education systems see CES, 2022). Education systems with a well-established VET/PET system generally have nationally harmonised competence standards and a strong labour market orientation (Allmendinger, 1989; Andersen & Van de Werfhorst, 2010; Bolli et al., 2018). Allmendinger (1989) highlights that employers receive less ambiguous signals on an individual's job-relevant productivity from degrees in highly standardised education systems. As a consequence, within such systems, degrees are directly linked to an individual's occupational attainment in terms of wages and employment status (Bol & van de Werfhorst, 2011). Consequently, scholars argue that VET/PET has a high ability to signal an applicants' employability and productivity (Bills et al., 2017; Bol & van de Werfhorst, 2011; Di Stasio & van de Werfhorst, 2016; Korber & McDonald, 2019).

However, the signals that employers receive from different degrees also depend on how familiar they are with the respective education system (Shavit & Müller, 2000). Especially in diversified education systems, individuals – be it employers or students – may not be fully informed about all educational types and programmes and their potential labour market outcomes (Forster & van de Werfhorst, 2020). Accordingly, Konietzka and Kreyenfeld (2001) argue that properly evaluating and categorising an applicant's education is difficult if an employer is not familiar with the institutional setting of the education system in which the applicant acquired his/her degree. They state that the lack of familiarity may result in an employer paying a lower salary or not hiring the applicant at all. Consequently, we argue that employers take more informed decisions when they have a higher familiarity with the respective education system, in which applicants obtained their educational degree.

2.2 Empirical Evidence

Various studies investigate employers' preferences, often specifically related to an applicant's education, in hiring processes (e.g. Damelang et al., 2019; de Wolf & van der Velden, 2001; Fossati et al., 2020). Although there exist different methodological approaches to analyse these preferences, a large share of the literature uses factorial surveys, which are based on a quasi-experimental design that puts employers in close-to-real-life situations (McDonald, 2019). Overall, these studies indicate that employers prefer certain educational degrees or skills in the hiring process (e.g. Biesma et al., 2007; Humburg & Van der Velden, 2015; Korber & McDonald, 2019). However, the literature also finds that the role of educational degrees in hiring processes depends on what other information employers have on the applicants (Fossati et al., 2020), on the occupation and the institutional context of the education system (Di Stasio & van de Werfhorst, 2016; Humburg & Van der Velden, 2015; van Beek et al., 1997) and on respondents' familiarity with this context (Hippach-Schneider et al., 2013).

Few studies examine employers' preferences regarding different types of education (i.e. VET/PET versus general/academic educational) in hiring decisions (Hippach-Schneider et al., 2013; Korber & McDonald, 2019). By conducting a factorial survey among Swiss employers, Korber and McDonald (2019) show that employers prefer PET to university education at the tertiary education level – especially for female applicants –, but they do not find a preference for VET at the upper-secondary education level. Drawing on qualitative interviews with HR personnel in England, Germany and Switzerland, Hippach-Schneider et al. (2013) assess whether upper-secondary VET competes with university education. Their results show that some English employers are completely unfamiliar with VET and that this unfamiliarity made it challenging to properly assess applicants with a VET degree in terms of their skills and knowledge.

Other studies analyse employers' preferences for different types of skills, i.e. general versus occupation-specific skills, in hiring processes (Biesma et al., 2007; Bishop, 1998; de Wolf & van der Velden, 2001; Humburg & Van der Velden, 2015). Using an experiment in the public health sector in the Netherlands, Biesma et al. (2007) elicit employers' preferences for graduates with general skills versus those with occupation-specific skills at labour market entry and find a preference for occupation-specific skills. Bishop (1998) summarises research that compares occupation-specific versus general education from different angles. He concludes that these studies provide evidence that governments should increasingly support occupation-specific training, instead of general education, as employers prefer either experienced or vocationally trained employees. Using data from a discrete choice experiment conducted in nine European countries, Humburg and van der Welden (2015) provide evidence that employers rely on educational degrees if they signal strong occupation-specific skills, as they indicate job-readiness and low training costs, and that work experience and high interpersonal skills are equally important.

Regarding the effect of employers' familiarity with the education system on their preferences for different types of education, we find only few empirical studies that analyse employers' preferences for or against foreign degrees. Analysing data from a national survey of college graduates, Arbeit and Warren (2013)

show that applicants with foreign educational degrees have a disadvantage compared to college graduates in terms of employment opportunities and wages in the U.S. labour market. Based on factorial survey data, Damelang et al. (2019) also find that applicants with foreign educational degrees have a disadvantage in the German labour market, but that they can compensate this drawback with relevant work experience. In another study, Damelang et al. (2020) show that employers prefer domestic educational degrees to foreign degrees – even if there is a recognition mechanism of foreign degrees to reduce employers' information asymmetry – because they do not receive the relevant signals from these degrees.

Lancee and Bol (2017) analyse earnings returns of 'non-Western' degrees in Western countries. They find a significant earnings disadvantage, even after controlling for skills, and argue that foreign degrees send weaker signals to employers as they are less familiar with these degrees. Analysing foreign educated university graduates and their potential earnings in the U.S. labour market, Argue and Velema (2022) provide evidence that employers do not generally dismiss foreign degrees, but that individuals with university degrees from culturally distant countries have an earnings disadvantage.

Taken together, this literature provides evidence that employers prefer applicants with domestically acquired educational degrees, with which they are more familiar and which therefore send clearer signals to them. However, this literature cannot disentangle the effect of employers' familiarity with these degrees, and other differences in domestic and foreign educational degrees. Moreover, it does not look at the factors that determine employers' familiarity with the different degrees. Hence, our study contributes to the literature by investigating whether employers' preferences for different types of domestically acquired educational degrees depend on a broad set of respondent characteristics measuring their familiarity with these educational degrees.

3 Hypotheses

According to signalling theories, educational degrees serve as a signal of characteristics that are unobservable in the first stage of hiring processes (Spence, 1973). Scholars argue that in highly diversified and vocationally oriented education systems with nationally harmonised competence standards employers receive clearer signals from educational degrees than in weakly diversified systems with a low degree of standardisation (Allmendinger, 1989; Konietzka & Kreyenfeld, 2001; Stumpf et al., 2020). Thus, they argue that in these systems, employers defer to other signals of trainability and learning potential. We focus on the case of Switzerland, which has a highly diversified and vocationally oriented education system, on which we elaborate in detail in the following section 'The Swiss Education System'. In Switzerland, different types of education are classified at the same ISCED-level and primarily differ in the skills that they provide to their students (more vocational or professional skills versus more general or academic skills). Graduates with different educational degrees (although at the same ISCED-level) can qualify for the same job and therefore compete for the same jobs on the labour market (CSRE, 2018; Korber & McDonald, 2019).

We argue that in such a highly diversified education system, individuals choose an education not only to signal vertical differences in ability but also contingent on their individual set of skills, i.e. whether they are of practical or general nature. We hypothesise that applicants with a VET/PET degree have a strong signal of employability and productivity, which is why employers prefer such applicants to those with a general education or academic degree.

H1a: For entry-level positions, employers prefer applicants with an upper-secondary VET degree to those with a general education.

H1b: For high-level positions, employers prefer applicants with a tertiary PET degree to those with an academic education.

However, the literature shows that the signal of educational degrees in hiring processes varies conditional on employers' familiarity with the different educational degrees (Argue & Velema, 2022; Damelang et al., 2020; Stumpf et al., 2020). Albeit in Switzerland, VET/PET degrees are widespread, employers differ in how much they know about this kind of education. We argue that employers' knowledge about these degrees varies depending on their own background, i.e. VET/PET degrees send different signals to employers depending on their familiarity with such degrees. Moreover, we state that employers' familiarity with VET/PET influences their preferences for the different types of education in hiring processes. Based on this argument, our second hypothesis reads as follows:

H2: Employers who are more familiar with VET/PET exhibit stronger preferences for this type of education compared to general/academic education.

The following section provides a short overview on the Swiss education system, which provides the background for this analysis.

4 The Swiss Education System

At both the upper-secondary and tertiary education levels, the Swiss education system includes different types of education. There is a high permeability between general education and VET at the upper-secondary education level as well as academic education and PET at the tertiary education level (Hoffman & Schwartz, 2015). To illustrate the high diversification of the Swiss education system, the following sections outlines the key figures.

Each year, 38% of the upper-secondary graduates receive a general education degree, whereas 62% receive a VET degree (FSO, 2021). Upper-secondary general education programmes focus on the teaching of advanced general skills and award students with an academic baccalaureate after its completion. These programmes allow direct access to the traditional academic universities and to the universities of applied sciences (UAS) after gaining some work experience. However, graduates from upper-secondary general education show little variation in terms of their choice of tertiary education, i.e., they primarily study at traditional academic universities (FSO, 2018).

Upper-secondary VET programmes combine the teaching of occupation-specific skills with a smaller share of general education and provide practical training alongside classroom education (Forster et al., 2016). Combined school- and work-based (dual) VET is the most popular way for young adults to pursue a VET programme in Switzerland (FSO, 2021). After a successful completion of a VET programme, graduates can directly enter the labour market or enrol in tertiary education by choosing among diverse programmes: After having acquired additional work experience, VET graduates may enter the tertiary education level with a PET programme (classified at the tertiary education levels 6-8) (SERI, 2021).

Tertiary PET programmes help professionals specialise in their field and acquire a formal educational degree that is strongly geared towards labour market needs due to professional and trade associations defining the contents of these programmes (ODEC, 2022). PET programmes cover a broad variety of

occupations and provide individuals with the opportunity to acquire a formal educational degree well after labour market entry and while being employed (Oswald-Egg & Renold, 2021). The admission requirements to PET depend on the occupation, while the minimum requirements are a VET diploma and a certain amount of work experience in the related field or occupation (SERI, 2018). The Swiss education system provides a wide range of PET programmes, which are completed by either a federal examination (leading to a Federal Diploma or Advanced Federal Diploma of Higher Education) or at a college of higher education (leading to an Advanced Federal Diploma of Higher Education) (ODEC, 2022).

Alternatively, VET graduates can obtain a federal vocational baccalaureate, either parallel to the VET programme or after completing it with one year of additional schooling. A vocational baccalaureate allows them to enter a study programme at a UAS or, after passing an aptitude test, at a traditional academic university. UAS are similar to traditional academic universities, but they put a stronger focus on industry collaboration and applied research. They operate with the internationally standardised system of bachelor's and master's degrees, however, they may only offer PhDs in cooperation with traditional academic universities. Following the International Standard Classification for Education (ISCED-2011), PET, UAS and traditional academic universities are all located at the ISCED levels 6 to 8 (SERI, 2015).

5 Analytical Strategy

5.1 Using Factorial Survey Data

To test our hypotheses, we use data from a factorial survey experiment conducted among employers in Switzerland. Within this survey, employers evaluated fictional applicant profiles for hypothetical job positions. To ensure a quasi-experimental design, the applicant profiles differed in terms of multiple characteristics, and we randomly assigned these profiles among respondents. We focus on applicants' educational degrees, i.e. whether they have a VET degree or a general education degree (for entry-level positions) and whether they have PET or university degree (for high-level positions), respectively. To prevent social desirability, applicants also differed in seven other characteristics (such as gender or work experience; see Table 5 in Appendix I for an overview on all applicant profile dimensions and levels and examples of applicant profiles). We used the total universe of applicant profiles in the factorial survey and excluded only profiles that were not realistic (i.e., implausible combinations of dimensions).

Compared to purely experimental studies, factorial surveys have several advantages (Gutfleisch et al., 2021; Petzold, 2022). First, in contrast to conventional surveys, the quasi-experimental design of factorial surveys allows us to identify causal relationships between applicants' characteristics and the evaluations of the applicant profiles. Second, the controlled setting of factorial surveys with hypothetical situations renders them to be a more ethical study type than experiments. Third, factorial surveys allow scholars to consider multiple dimensions in the analysis (compared to only one or two dimensions as in experimental study designs). Fourth, by being carried out as a survey, they allow the inclusion of conventional survey questions on the respondent, which is usually not possible in pure experiments. Fifth, they observe a finer-grained outcome (e.g., probability for job interview) than correspondence tests with call-back rates would do.

Each respondent rated four applicants for an entry-level position and four applicants for a high-level position. Depending on their experience with the different occupations, they rated applicants for an entry-level position either as 'administrative assistance' or as 'IT assistant'. For the high-level positions, we asked them to choose between the positions of either 'Sales manager' or 'Head of IT' (see Appendix I for an overview on the job descriptions). Following Gutfleisch et al. (2021) and to ensure that these

survey elements are as realistic as possible, we referred to real-life job postings to create our applicant profiles and hypothetical open positions, and validated both the job descriptions and applicant profiles in a workshop with recruitment experienced professionals. When evaluating each applicant profile, the respondents answered the following question: How likely is it that your firm would invite this person for a job interview?

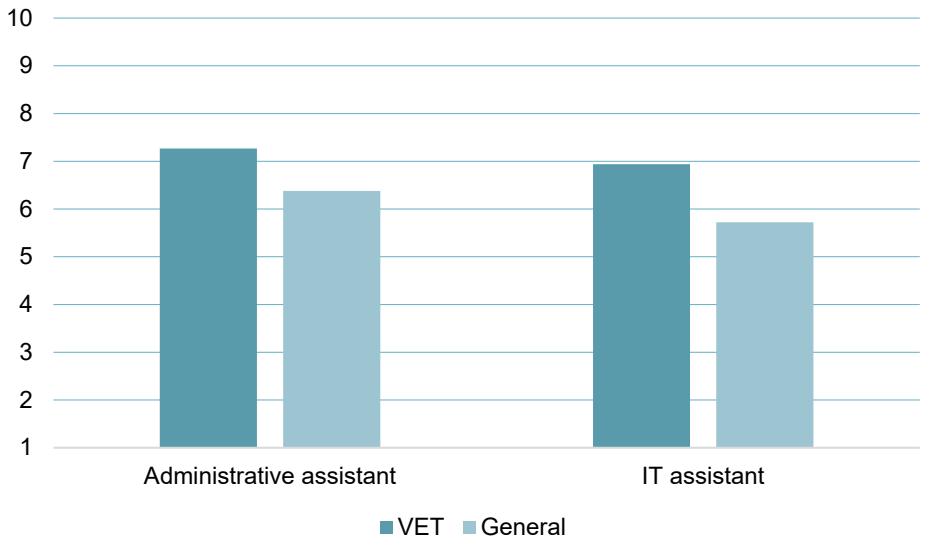
We contacted 46,000 employers in Switzerland in autumn 2020 per e-mail. All contacted employers work in firms that offer apprenticeships and are registered in the biggest apprenticeship-matching platform in Switzerland. We excluded all employers who did not have any experience in recruitment from the survey. In total, 2'384 employers answered our survey, yielding a response rate of 5%. In our analyses, we include all respondents without any missing values in the included variables, leading to sample of 1'342 employers for the position of 'Administrative assistant', 412 for 'IT assistant', 1,231 for 'Sales manager' and 505 for 'Head of IT'. In the Appendix II, Table 8 through Table 11 present the summary statistics for each sample that we use in the different estimations (see the following section on 'Estimation Method').

Our dependent variable captures the likelihood with which an employer would invite an applicant to a job interview. The variable is based on a Likert scale and ranges from 1 (=very unlikely) to 10 (=very likely). Our main explanatory variable is an applicant's educational degree. We generate the binary variable 'upper-secondary education: VET' for entry-level positions, where we assign the value 1 to those applicants who completed either an upper-secondary VET or an upper-secondary VET with a federal vocational baccalaureate[3]; we assign the value 0 to applicants with an upper-secondary general education (academic baccalaureate). For high-level positions, we compute the binary variable 'tertiary education: PET', where the value 1 includes all applicants with a tertiary PET degree, i.e. an Advanced Federal Diploma of Higher Education; and the value 0 includes applicants with a degree from either a university or a UAS.

Figure 1 and Figure 2 descriptively show the mean value of our dependent variable by position and type of education. For the two entry-level positions, we see that applicants with a VET degree have higher average probability to be invited to a job interview than those with a general education (Figure 1). For the two high-level positions, both types of education are somewhat similar in terms of respondents' evaluation, however, for the sales manager, applicants with a PET degree have a slightly higher probability for a job interview.

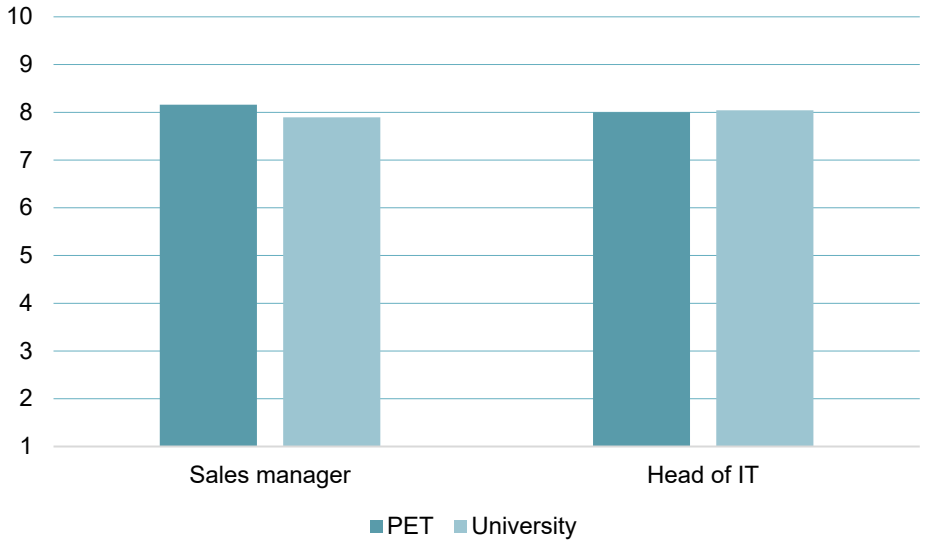
[3] We merge applicants with a VET degree and those with a VET degree and a federal vocational baccalaureate into one group, as the results do not change compared to including them separately. These estimations are available from the authors upon request.

Figure 1: Likelihood for invitation to job interview for entry-level positions



Notes: Figure based on factorial survey data; likelihood for job interview measured with the question 'How likely is it that your firm will invite this candidate to an interview?' on a scale from 1 'Very unlikely' to 10 'Very likely'; N for evaluations for 'administrative assistant'=5,315, N for 'IT assistant'= 1'626.

Figure 2: Likelihood for invitation to job interview for high-level positions



Notes: Figure based on factorial survey data; likelihood for job interview measured with the question 'How likely is it that your firm will invite this candidate to an interview?' on a scale from 1 'Very unlikely' to 10 'Very likely'; N for evaluations for 'sales manager'= 4,828, N for 'head of IT'= 1,949.

We include several categories of control variables in our estimations. Our first set of control variables covers the other applicant profile dimensions: for the entry-level positions, we control for the applicants' characteristics including gender, nationality, work experience, sector-specific work experience, and voluntary work. For the high-level positions, we include the same variables as controls, but we replace sector-specific work experience with occupation-specific work experience and additionally include applicants' upper-secondary education and whether they have completed a continuing education. Moreover, we control for three survey design variables: to what extent our hypothetical open positions match the real open positions in the firm, the order of the applicant profile within the set of four applicant profiles,

and whether a respondent received a support letter from trade and professional associations incentivising the respondent to participate in the survey.

We additionally include variables at the respondent-level, namely information on the responding person and on the firm. Respondent controls include information on age, gender, nationality, type of educational career (i.e. general, vocational, or mixed), whether the respondent works in HR, and whether they work in the German speaking part or not. Firm controls include firm size, industry of firm, region of firm and whether the firm is internationally active – i.e. whether the firm is part of a company with headquarters abroad, whether the firm is mostly owned by persons or groups of persons with foreign nationality, and whether the firm is mainly a supplier of firms abroad. However, due to the quasi-experimental design, including respondent-level control variables should not substantially change the explanatory variable's coefficient.

5.2 Measuring Employers' Familiarity with the Education System

To contribute to the literature that compares employers' preferences for different types of education in the hiring process (e.g. Korber & McDonald, 2019), we investigate whether these preferences change contingent on respondents' familiarity with VET/PET in Switzerland. The literature highlights employers' information asymmetry when hiring applicants in or from contexts with which they are not familiar, i.e. with foreign educational degrees (e.g. Konietzka & Kreyenfeld, 2001; Stumpf et al., 2020). As we investigate employers who assess domestically educated applicants, we apply other measures to proxy their familiarity with the different types of education. Based on the survey questions included in our factorial survey experiment, we can approximate familiarity with five variables that the literature shows to have an effect on individuals' knowledge or valuation of VET/PET (Abrassart et al., 2020; Busemeyer et al., 2011; Muehlemann et al., 2007; Wolter et al., 2006). Using this broad set of variables allows us to consider different aspects of familiarity. To approximate familiarity with VET/PET in Switzerland, we use the following five variables[4]:

1) whether the respondent works in the human resources (HR) department or not. We state that respondents working in HR have more experience in hiring processes and with applicants with different educational degrees; they therefore have a higher familiarity with VET/PET.
2) whether the respondent is born in Switzerland or abroad. Respondents who were born in Switzerland have most likely acquired a domestic educational degree. As in Switzerland VET/PET are common educational degrees, we argue that respondents born in Switzerland have a higher familiarity with VET/PET (Abrassart et al., 2020).
3) the respondent's educational background (general education, mixed, VET/PET). Respondents who themselves completed a VET or PET (either exclusively or before/after a general or academic education) are more familiar with these degrees compared to respondents with only a general and/or academic education (Busemeyer et al., 2011).
4) the language region of the respondent (German-speaking vs. French- and Italian-speaking parts of Switzerland). Although VET/PET graduates make up for most of the upper-secondary education graduates in all of Switzerland, it is more prevalent in the German-speaking parts than in

[4] We additionally conducted a factor analysis to test whether these variables load in one or more factors. This analysis shows that this is not the case. The results are available from the authors upon request.

the other language regions (Wolter et al., 2006). We therefore argue that respondents from German-speaking Switzerland are more familiar with VET/PET compared those from the other language regions.

5) the respondent's assessment of the relevance of training apprentices for the firm in which she/he is working (on a scale from 1 'not at all relevant' to 5 'very relevant'). If respondents work in a firm that trains apprentices and thus invests in VET, we state that they are more familiar with VET/PET (Muehlemann et al., 2007).
6) the respondent's familiarity with VET/PET measured by an index on a scale from 1 'not at all familiar' to 5 'very familiar'. We generated this index based on the previously described five variables and recoded the non-binary variables to dummies with the value 1 standing for high familiarity – i.e., when a respondent is working in HR, born in Switzerland, has a mixed educational background or only VET/PET, is from the German-speaking part of Switzerland, and thinks that training apprentices is rather or very important. We aggregated respondents with the index values 0 and 1 into one category due to the few cases in the zero-category.

In the Appendix II, Table 8 through Table 11 present the summary statistics for these variables separately for each position. The following subsection explains the estimation method that we use to test the influence of these familiarity variables on respondents' educational preferences in the hiring process.

5.3 Estimation Method

As every respondent evaluated four applicants per position, we need to account for the nested structure of the observations. We cluster the observations by respondent and apply multilevel random-effects regressions, which are the standard method to analyse data from factorial surveys (e.g. Atzmüller & Steiner, 2010). Our data follows a hierarchical two-level structure, in which the applicant profile variables are at the lower level (level 1) and the respondent-level variables are at the higher level (level 2). We estimate the regressions separately for each position, resulting in four regressions (with three specifications for each as we gradually include more control variables). The baseline regression models denote as follows:

$$Y_{ij} = \beta_0 + \beta_1 VET/PET_{ij} + \beta_2 AC_{ij} + \beta_3 VO_{ij} + \beta_4 VM_j + \beta_5 RC_j + (\mathrm{u}_j + \varepsilon_{ij}) \quad (1)$$

Where Y_{ij} assesses the likelihood of an applicant with a VET/PET degree to be invited to a job interview, with i denoting the applicant profile (level 1) and j the respondent (level 2). The random intercept β_0 for each cluster denotes the fixed intercept. VET/PET_i is the explanatory variable that captures an applicant's education, i.e., whether she/he has an upper-secondary VET degree (versus an upper-secondary general education degree) or whether she/he has a tertiary PET degree (versus a degree from a traditional academic university or UAS), respectively.

The control vector AC_i contains the other applicant profile dimensions (applicant characteristics). As survey design controls we include two vectors, whereas VO_{ij} denotes the position of the applicant profiles in the set, and VM_j controls for how far the hypothetical open positions match real open positions within the firm and whether the respondent received a support letter or not. Lastly, RC_j includes the respondent-level controls, i.e. the respondent and firm characteristics. Lastly, u_j denotes the level 2 error term, and ε_{ij} the level 1 error component, where we define their covariance to be independent.

In addition, to explore the effect of respondent characteristics on their preference for or against applicants with a VET or PET degree, we estimate models that include cross-level interaction terms. Hence, we interact an applicant's education (main explanatory variable) with five different respondent characteristics that indicate if they are familiar with the education system in Switzerland and an index that measures overall familiarity with the help of these five variables. We additionally introduce random slopes for the explanatory variable at the lower level to improve the fit of the data (Heisig & Schaeffer, 2019).[5] We estimate separate models for each position and each familiarity variable. These linear mixed models with cross-level interactions and both random intercepts and random slopes for level 1 denote as follows:

$$Y_{ij} = \gamma_{00} + \gamma_1 VET/PET_{ij} + \gamma_2 Familiarity_j + \gamma_3 VET/PET_{ij} * Familiarity_j + \gamma_4 AC_{ij} + \gamma_5 VO_{ij} + \gamma_6 VM_j + \gamma_7 RC_j + (\mathrm{u}_{0j} + \mathrm{u}_{1j} VET/PET_{ij} + \varepsilon_{ij}) \quad (2)$$

Model (2) uses the same dependent variable Y_{ij}, explanatory variable VET/PET_{ij} and the control vectors AC_i, VO_{ij}, VM_j and RC_j as in equation (1) in the fixed portion of the model. We additionally include one interaction term $VPET_{ij} * Familiarity_j$ that includes the respective respondent variable for familiarity ($Familiarity_j$). Furthermore, the inclusion of $\mathrm{u}_{1j} VET/PET_{ij}$ allows random slopes for the level 1 variable by cluster. The next section presents the results of the baseline and interaction estimations separately for each position.

6 Results

6.1 Employers' educational preferences in hiring processes

Table 1 displays the results of the multilevel random-effects regressions for the two entry-level positions with respondent-clustered standard errors in parentheses. Models 1 to 3 show the results for the position of 'Administrative assistant', models 4 to 6 refer to the position of 'IT assistant'. We test several specifications: models 1 and 4 only include the control variables for the applicant characteristics, models 2 and 5 additionally include the survey design controls, models 3 and 6 further include the respondent and firm control variables. Table 12 through Table 15 in the Appendix III report the full results of these estimations.

For the two entry-level positions, our results show that the respondents prefer upper-secondary VET to upper-secondary general education. These results are stable over all models, as effect changes are relatively small with the inclusion of additional control variables. The only exception is the inclusion of the survey design controls in the estimation for the 'IT assistant' position, which significantly reduces the effect of VET on the likelihood for a job interview. Including the respondent controls does not substantially change our main effect, confirming that our experimental survey design has a high internal validity. In the full models 3 and 6, applicants with a VET degree have a higher likelihood of 0.953 points (administrative assistant) and 0.856 (IT assistant), respectively, to be considered for a job interview compared to those with a general education. Moreover, these coefficients are significant at the 1%-level. We

[5] Likelihood-ratio tests, which we apply to compare the fit of models with random intercepts and random slopes to those with only random intercepts, confirm a better fit when including random slopes. The interactions results tables in Appendix IV display the p-value of these tests.

conclude that our results support hypothesis H1a, which states that respondents prefer VET to general education for entry-level positions.

Table 1: Baseline regression models for entry-level positions

	Administrative assistant			IT assistant		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: likelihood for invitation to job interview (1-10)						
Upper-secondary education of applicant:						
General	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
VET	0.909***	0.958***	0.953***	1.125***	0.864***	0.856***
	(0.063)	(0.087)	(0.087)	(0.114)	(0.158)	(0.156)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	No	Yes	Yes	No	Yes	Yes
Respondent controls	No	No	Yes	No	No	Yes
Constant	5.123***	4.452***	5.771***	4.386***	2.868***	3.393***
	(0.104)	(0.194)	(0.523)	(0.178)	(0.339)	(0.963)
Std. dev. random intercept	1.536***	1.519***	1.433***	1.849***	1.782***	1.628***
	(0.038)	(0.038)	(0.037)	(0.078)	(0.076)	(0.072)
Std. dev. residual	1.630***	1.630***	1.630***	1.673***	1.671***	1.671***
	(0.018)	(0.018)	(0.018)	(0.034)	(0.034)	(0.034)
N of observations	5,315	5,315	5,315	1,626	1,626	1,626
N of respondents	1,342	1,342	1,342	412	412	412
Log-likelihood	-11148.942	-11136.979	-11076.777	-3506.703	-3492.128	-3462.195

Note: Table 1 displays results of linear regressions with respondent-specific random intercept and robust standard errors clustered by respondent in parentheses. Models (1) through (3) display results for the entry-level position 'Administrative assistant', while models (4) through (6) display results for the entry-level position 'IT assistant'. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively. Applicant controls include gender, nationality, voluntary work, general work experience, sector-specific work experience. Survey design controls include position of applicant profile within set of four evaluated applicant profiles, match of hypothetical position with real positions in firm, and whether the respondent received a support letter or not. Respondent controls include respondent age, gender, language region, nationality, educational background, working in HR or not, number of years of recruitment experience, firm size, firm sector, region where firm is located, whether the firm is internationally active, and relevance of apprenticeship training for firm.

Table 2 displays the results for the high-level positions, whereas models 1 to 3 refer to respondents' evaluations of applicants for the position of 'Sales manager', and models 4 to 6 refer to the position of 'Head of IT'. Again, we gradually include additional control variables from models 1 to 3 and 4 to 6, respectively.

Compared to the two entry-level positions, respondents show more heterogeneous preferences concerning applicants' education when hiring for high-level positions, especially regarding the different positions. For the 'Sales manager' position, respondents are more likely to invite applicants with a tertiary PET degree to a job interview (by 0.236 points in the full model) compared to those with an academic degree from a traditional university or a university of applied sciences. In contrast, for the 'Head of IT' position, applicants with a PET degree have a lower probability for a job interview (-0.113 points in the full model) compared to those with a university degree. These results are stable over all models and the effects are significant at the 1%-level for the 'Sales manager' position and at the 10%-level for the 'Head of IT'. Thus, as respondents prefer PET to academic education only for the 'Sales manager' position but not for the 'Head of IT' position, our evidence only partly supports hypothesis H1b.

Table 2: Baseline regression models for high-level positions

	Sales manager			Head of IT		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: likelihood for invitation to job interview (1-10)						
Tertiary education of applicant:						
University	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
PET	0.243***	0.236***	0.236***	-0.088*	-0.110*	-0.113*
	(0.036)	(0.038)	(0.038)	(0.053)	(0.063)	(0.063)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	No	Yes	Yes	No	Yes	Yes
Respondent controls	No	No	Yes	No	No	Yes
Constant	7.092***	6.463***	6.413***	7.199***	6.779***	6.762***
	(0.100)	(0.193)	(0.656)	(0.139)	(0.322)	(0.898)
Std. dev. random intercept	1.582***	1.565***	1.522***	1.677***	1.667***	1.581***
	(0.064)	(0.061)	(0.059)	(0.106)	(0.103)	(0.095)
Std. dev. residual	1.065**	1.065**	1.065**	0.983	0.983	0.983
	(0.030)	(0.030)	(0.030)	(0.040)	(0.040)	(0.040)
N of observations	4,869	4,869	4,869	1,989	1,989	1,989
N of respondents	1,231	1,231	1,231	505	505	505
Log-likelihood	-8,613.487	-8,600.812	-8,570.756	-3,424.04	-3,420.827	-3,396.429

Note: Table 2 displays results of linear regressions with respondent-specific random intercept and robust standard errors clustered by respondent in parentheses. Models (1) through (3) display results for the high-level position 'Sales manager', while models (4) through (6) display results for the high-level position 'Head of IT'. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively. Applicant controls include upper-secondary education, continuing education, gender, voluntary work, general work experience, occupation-specific work experience. Survey design controls include position of applicant profile within set of four evaluated applicant profiles, match of hypothetical position with real positions in firm, and whether the respondent received a support letter or not. Respondent controls include respondent age, gender, language region, nationality, educational background, working in HR or not, number of years of recruitment experience, firm size, firm sector, region where firm is located, whether the firm is internationally active, and relevance of apprenticeship training for firm.

6.2 Impact of employers' familiarity with VET/PET on their preferences

As this paper examines not only overall preference patterns but also heterogeneity in respondents' preferences based on their familiarity with VET and PET in Switzerland, we specify further models that investigate this heterogeneity with cross-level interaction terms. In a first step, we focus on the two entry-level positions and interact an applicant's upper-secondary education with each of the respondent-level variables that approximate familiarity. We present the main results of these mixed linear regression models in Table 3 and Table 4, whereas Table 16 and Table 17 in Appendix IV show the detailed results.

Table 3 presents the results regarding the impact of respondents' familiarity on their hiring preferences for the two entry-level positions. Overall, we find that a higher familiarity with VET/PET has a significant positive effect on the preference for VET for the position of 'Administrative assistant', and in most cases for the position of 'IT assistant'. Consequently, respondents who are more familiar with VET/PET have stronger preferences for applicants with such degrees.

Table 3: Interaction effects for the two entry-level positions

Dependent variable: likelihood for invitation to job interview (1-10)	Administrative assistant						IT assistant					
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
Applicant education: general	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Applicant education: VET	0.746***	0.664***	0.621***	0.498**	0.172	-0.266	0.583***	1.313***	0.886***	0.486	0.545	1.061**
	(0.104)	(0.177)	(0.147)	(0.241)	(0.372)	(0.225)	(0.190)	(0.323)	(0.289)	(0.311)	(0.567)	(0.436)
VET X Respondent not working in HR	*Ref.*						*Ref.*					
VET X Respondent working in HR	0.431***						0.588**					
	(0.124)						(0.228)					
VET X Respondent born abroad		*Ref.*						*Ref.*				
VET X Respondent born in Switzerland		0.323*						-0.520				
		(0.178)						(0.327)				
VET X General education			*Ref.*						*Ref.*			
VET X Mixed education			0.448**						-0.022			
			(0.176)						(0.325)			
VET X VET/PET			0.375**						-0.052			
			(0.160)						(0.321)			
VET X Respondent from French/ Italian-speaking Switzerland				*Ref.*						*Ref.*		
VET X Respondent from German-speaking Switzerland				0.489**						0.435		
				(0.242)						(0.324)		
VET X Relevance of training apprentices for firm					0.169**						0.069	
					(0.080)						(0.123)	
VET X Not familiar at all						*Ref.*						*Ref.*
VET X Rather not familiar						0.630**						0.055
						(0.298)						(0.569)
VET X Partly familiar						1.017***						-0.583
						(0.274)						(0.513)
VET X Rather familiar						1.045***						-0.368
						(0.235)						(0.458)
VET X Very familiar						1.636***						0.263
						(0.242)						(0.480)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N of observations	5,315	5,315	5,315	5,315	5,315	5,315	1,626	1,626	1,626	1,626	1,626	1,626
N of respondents	1,342	1,342	1,342	1,342	1,342	1,342	412	412	412	412	412	412
Log-Likelihood	-11,083.215	-11,090.162	-11,087.518	-11,089.343	-11,089.153	-11,076.7	-3,450.877	-3,453.609	-3,454.931	-3,453.864	-3,454.81	-3,456.521

Notes: Table displays results of mixed linear models based on estimation (2) and (5) of the baseline models with one interaction term per model. Models furthermore include applicant controls, survey design controls, and the other familiarity variables (except in model 6 due to multicollinearity). *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

First, we see that if a respondent works in HR, his/her preference for VET (compared to general education) increases by 0.43 points compared to a respondent who does not work in the HR department. This finding is statistically significant, and applies to the two entry-level positions, whereas the interaction effect is larger for the position of 'IT assistant'.

Second, when examining the results regarding the respondents' country of birth, we find that if a respondent was born in Switzerland, the preference for VET significantly increases by 0.32 points in comparison to respondents who are born abroad for the position of 'Administrative assistant'. However, we do not observe this pattern for the position of 'IT assistant', where the interaction effect is negative and insignificant.

Third, we compare the preference for/against VET for respondents with different educational backgrounds. We find that respondents who themselves completed a VET/PET education display stronger preferences for VET for the two entry-level positions than respondents with a general education background. For the administrative assistant, respondents with a mixed educational background show the strongest preference for applicants with a VET degree (increase of 0.45 points compared to respondents with a general education background). In contrast, for the position of 'IT assistant', respondents with a mixed educational background and those with a VET/PET show a slightly weaker preference for applicants with a VET degree than respondents with a general education background, although this difference is not statistically significant.

Fourth, respondents who are from the German-speaking part of Switzerland show a higher preference for VET than those from other language regions, with a significant difference of 0.49 points for the position of 'Administrative assistant'. We find the same result for the position of 'IT assistant', whereas the interaction effect is not statistically significant.

Fifth, regarding respondents' assessment of the relevance of training apprentices for their firm, we find that the higher they asses this relevance, the stronger their preference for applicants with a VET degree, although this difference is only statistically significant for the position of 'Administrative assistant' (increase of 0.17 points) and not for the position of 'IT assistant'.

Sixth, the models including the familiarity index show that the higher the overall familiarity with VET/PET, the stronger the preference for applicants with a VET degree for the position 'administrative assistant'. There is still a remarkable change in the effect from the second-highest value to the highest value of that index, indicating that even at a high level, more familiarity increases employers' preferences for VET. The results for the position 'IT assistant' are inconsistent. We find the strongest positive effect for respondents with the highest value of the familiarity index, although this effect is not significant.

Taken together, the estimations for the position of 'Administrative assistant' show that respondents with a higher familiarity with VET/PET have a stronger preference for applicants with a VET degree. Our analyses thus provide evidence in support of hypothesis H2. For the position of 'IT assistant', we find a positive familiarity effect for three out of six variables, although these effects are only significant when comparing respondents who work in HR to those working in other departments of their firm.

For the high-level positions, the results of the effect of respondents' familiarity with VET/PET are less heterogeneous compared to the two entry-level positions, as Table 4 shows. For all familiarity variables, we find a significant positive effect for the position of 'Sales manager' and for three out of six variables for the position 'Head of IT'. Hence, familiarity with VET/PET increases respondents' preferences for PET, but this effect is again smaller for the IT position.

Table 4: Interaction effects for the two high-level positions

Dependent variable: likelihood for invitation to job interview (1-10)												
	Sales manager						IT head					
	(1)	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
Applicant education: academic	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Applicant education: PET	0.146***	0.025	-0.252***	-0.239*	0.904**	-1.130	-0.115	-0.306*	-0.350***	-0.001	-0.582**	-0.438***
	(0.049)	(0.114)	(0.088)	(0.126)	(0.432)	(0.886)	(0.077)	(0.163)	(0.105)	(0.146)	(0.289)	(0.105)
PET X Respondent not working in HR	*Ref.*						*Ref.*					
PET X Respondent working in HR	0.189***						0.016					
	(0.073)						(0.102)					
PET X Respondent born abroad		*Ref.*						*Ref.*				
PET X Respondent born in Switzerland		0.229*						0.229				
		(0.120)						(0.168)				
PET X General education			*Ref.*						*Ref.*			
PET X Mixed education			0.439***						0.277**			
			(0.109)						(0.134)			
PET X VET/PET			0.665***						0.341***			
			(0.100)						(0.132)			
PET X Respondent from French/ Italian-speaking Switzerland				*Ref.*						*Ref.*		
PET X Respondent from German-speaking Switzerland				0.511***						-0.116		
				(0.132)						(0.152)		
PET X Relevance of training apprentices for firm					0.101*						0.104*	
					(0.052)						(0.062)	
PET X Not familiar at all						*Ref.*						*Ref.*
PET X Rather not familiar						1.135						0.084
						(0.896)						(0.218)
PET X Partly familiar						0.938						0.228
						(0.891)						(0.152)
PET X Rather familiar						1.342						0.332***
						(0.888)						(0.121)
PET X Very familiar						1.643*						0.436***
						(0.888)						(0.142)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N of observations	4,869	4,869	4,869	4,869	4,869	4,869	1,981	1,981	1,981	1,981	1,981	1,981
N of respondents	1,231	1,231	1,231	1,231	1,231	1,231	505	505	505	505	505	505
Log-Likelihood	-8,568.171	-8,570.061	-8,548.327	-8,564.589	-8,564.543	-8,552.579	-3,408.683	-3,407.557	-3,405.428	-3,408.489	-3,407.409	-3,410.469

Notes: Table displays results of mixed linear models based on estimation (2) and (5) of the baseline models with one interaction term per model. Models furthermore include applicant controls, survey design controls, and the other familiarity variables (except in model 6 due to multicollinearity). *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

First, our results show that for the position of ‘Sales manager’, respondents who work in the HR department have a slightly stronger preference for applicants with a PET background compared to those who do not work in the HR (difference of 0.19 points, significant at the 1%-level). In contrast, whether a respondent works in HR or not does not matter for his/her educational preferences when hiring for the position ‘Head of IT’.

Second, for both high-level positions ‘Sales manager’ and ‘Head of IT’, respondents who were born in Switzerland show stronger preferences for applicants with a PET degree than those born abroad, although this difference is only significant for the ‘Sales manager’ position.

Third, when investigating respondents’ educational background, we see that respondents with a VET/PET exhibit the strongest preference for applicants with a PET degree for both the ‘Sales manager’ position (increase of 0.67 points) and the ‘Head of IT’ (increase of 0.34 points) compared to respondents with a general education. Also, respondents with a mixed educational background have a significantly stronger preference for applicants with a PET degree (0.44 points for ‘Sale manager’ and 0.28 points for ‘Head IT’) compared to those with a general education background.

Fourth, for the position of ‘Sales manager’, respondents who are from the French- and Italian-speaking parts of Switzerland prefer applicants with an academic degree, whereas those from the German-speaking part favour PET and this difference is significant (0.51 points). The results are different for the position of ‘Head of IT’, for which we do not find a significant difference in preferences between respondents from the different language regions.

Fifth, the relevance of training apprentices for a respondent’s firm has a significant positive effect on his/her preference for PET when hiring for high-level positions. Our results show that the higher a respondent assesses the relevance of training apprentices for his/her firm, the stronger his/her preference for applicants with a PET degree (increase of 0.10 points for the two positions).

Sixth, our models including the familiarity index provide evidence that respondents’ familiarity with VET/PET positively affects their educational preferences for such degrees: the higher the respondent’s overall familiarity with VET/PET is, the stronger is his/her preference for applicants with a PET degree. While we observe a larger positive effect of the overall familiarity for the position of ‘Sales manager’ than for the ‘Head of IT’, this difference is only significant for the highest value of the index (increase of 1.64 points). For the ‘Head of IT’, position, we find significant results for the two highest values of familiarity, i.e. respondents who are rather or very familiar with VET/PET show a stronger preference for applicants with a PET degree (increase by 0.33 and 0.44 points, respectively).

Overall, our results for the two high-level positions also reveal heterogeneity in respondents’ educational preferences depending on their familiarity with VET/PET. For the position of ‘Sales manager’, we show for all variables that we use to approximate familiarity that respondents who are more familiar with VET/PET show stronger preferences for applicants with a VET/PET degree. For the position of ‘Head of IT’, we also find a significant positive effect of familiarity for three out of six familiarity variables, but not for respondents who work in HR compared to those who do not, for respondents who are born in Switzerland compared to those born abroad, and for respondents from the German-speaking part of Switzerland compared to those from the other language regions. For the familiarity index, we find significant increase in preferences only for respondents who are rather or very familiar with VET/PET compare to those with the lowest familiarity. Hence, we find some evidence to support our hypothesis H2 for the two high-level positions.

6.3 Robustness and validity of results

This section tests whether our results are robust to alternative model specifications. Appendix V displays the results tables for these robustness tests.

To ensure that unobserved respondent characteristics do not affect our results, we additionally estimate the baseline regression models with individual fixed effects instead of random effects, which exclude the respondent-level variables. We find that including fixed effects qualitatively yields the same results like including random effects. As random-effects models are more efficient than fixed-effects models, and allow the introduction of cross-level interaction terms, we use these models as our main specifications. We report the results of the fixed-effects models in the Appendix V (see Table 21 and Table 22).

Furthermore, we test the robustness of our results by investigating the amount of time that respondents needed to evaluate each applicant profile (Sauer et al., 2014). We include time variables in our baseline estimations and find that including them has no effect on the coefficients of the explanatory variables for the positions of 'Administrative assistant', 'IT assistant' and 'Sales manager'. For the position of 'Head of IT', the coefficients get smaller in magnitude, but yield qualitatively the same results. Table 23 and Table 24 in the Appendix V summarise these results.

If survey respondents have to answer questions that follow the same mechanism multiple times, they may not show variation in their answers. Respondents' fatigue can cause such an answer pattern when they are going through the questions as quickly as possible. To assess whether such answer patterns influence our results, we additionally estimate models that only include respondents showing variation in their applicant profile evaluations. These estimations show that excluding respondents who gave the same evaluation to each of the four applicants yields qualitatively the same results. However, they reveal a slightly stronger preference for VET/PET, except for the position 'Head of IT' where we find a larger negative effect of PET. Hence, including respondents who do not vary in their evaluations across applicants downward biases our coefficients. Table 25 and Table 26 in the Appendix V display the results of these estimations.

Following Di Stasio and van de Werfhorst (2016), we additionally specify baseline regression models in which we use a ranking of applicant profiles as our dependent variable. For each respondent, we compute a ranking of their evaluated applicant profiles, leading to an ordered variable from 1 to 4. If two or more applicant profiles received the same evaluation, we would assign them the same average rank out of four. The estimations including this ranking variable also lead to qualitatively the same results: respondents prefer candidates with a VET or PET degree to those with a general or academic education, except for the position of 'Head of IT'. Table 27 and Table 28 in the Appendix V present the results of these estimations.

As we analyse quasi-experimental data, we need to investigate the internal validity of the experiment. First, as we did not randomly vary the order of the applicant profiles within the set of four applicant profiles rated by each respondent, our baseline estimations additionally include a variable controlling for the applicant profile order in the set. Second, the fact that including the respondent controls in our estimations does not affect our main coefficient confirms our quasi-experiment's internal validity. Third, in factorial surveys, we can test for internal validity by looking at the correlations between the applicant profile variables (i.e., applicant characteristics) and respondent variables. As we assigned the applicant profiles randomly to respondents, we should not find strong correlations between the applicant profile variables and the respondent variables. Table 31 and Table 32 in Appendix VI confirm that we do not find statistically significant correlations, indicating a successful randomisation of applicant profiles. Moreover, we control for these observed respondent variables by including them in our baseline estimations.

We furthermore test whether our results are robust by including only those respondents who state that the hypothetical open positions rather or highly match the real open positions in their firms. This test

considers that this group of respondents is competent in evaluating the applicant profiles compared to those who state that the profiles do not match the real open positions. These estimations qualitatively yield the same results, but indicate that our results have a slight upward bias (see Table 29 and Table 30 in Appendix V).

To check whether we have a response-bias and whether our results are generalisable to the population, we compare our responding sample to the contacted sample and to the population of training firms in Switzerland. However, we only have little information on the characteristics that we can use for such a comparison (i.e., language regions, canton and gender). Table 33 in Appendix VII shows that firms with less than ten employees are under-represented in our responding sample compared to the population, while we have relatively more firms with more than 50 employees. Moreover, respondents from the German-speaking part of Switzerland are over-represented compared to the contacted sample and the population. However, we find comparable shares for the other regions and the respondents' gender. We furthermore need to consider that this survey includes only firms that are registered in an apprenticeship-matching platform (i.e., they are offering or used to offer apprenticeships), and which display a high appreciation of VET/PET (93.3% of respondents find that apprenticeships are very important for the firm).

7 Discussion and Conclusion

To examine employers' educational preferences in the first stage of a hiring process, this paper uses quasi-experimental data from a factorial survey. We investigate whether employers differ in their evaluation of applicants with different educational degrees when applicants with two types compete for the same open position– i.e., those with an upper-secondary VET degree versus those with a general education degree and those with a tertiary PET degree versus those with a university degree. Furthermore, we contribute to the literature by investigating whether employers' familiarity with VET/PET influences these preferences.

Our results provide evidence that for entry-level positions, employers consistently prefer applicants with a VET degree to those with a general education for the positions of 'Administrative assistant' and 'IT assistant'. For the high-level positions, we find a stronger heterogeneity in preferences: for the position of 'Sales manager', employers prefer applicants with a PET degree, whereas for the position of 'Head of IT', they prefer those with a university degree. These results only partly reflect the findings of the previous literature that examines different positions and institutional contexts (e.g. Hippach-Schneider et al., 2013; Korber & McDonald, 2019). However, except for the position of 'Head of IT, these results are in line with our hypotheses that in countries with a strong VET/PET system, employers prefer applicants with such degrees. Relying on signalling theory, we argue that this effect results from the fact that individuals with the required skills to work in the IT domain predominantly select into general or academic education. Moreover, if the prevalence of PET educated applicants in IT is not high, employers may not be able to familiarise themselves with the ability and productivity of these employees. However, empirical evidence shows that employees with a tertiary PET have the skills that are required in the IT sector, even when accounting for upskilling effects due to digital transformation (Pusterla & Renold, 2020).

However, by analysing the employer characteristics that shape their educational preferences, we show that their familiarity with VET/PET plays an important role in the preference for applicants with such degrees. For the entry-level position 'Administrative assistant', we find significantly stronger preferences for applicants with a VET degree for employers with a high familiarity with VET/PET, i.e., those who are working in HR, have a VET or PET degree themselves, are working in the German-speaking part of

Switzerland, and find that training apprentices has a high relevance for their firm. For the entry-level position ‘IT assistant’, only respondents working in the HR department have a stronger preference for VET educated applicants compared to those working in other departments, but we do not find any significant effects for the other familiarity variables.

For the high-level position of ‘Sales manager’, all variables approximating familiarity with VET/PET suggest that a higher familiarity significantly increases this preference. For the high-level position ‘Head of IT’, we find that only three out of six familiarity variables – i.e., having a mixed or VET/PET educational background, thinking that training apprentices is highly relevant for the firm, and having a high familiarity index, reduces the preference for university educated applicants.

In summary, although we find that applicants with a VET degree have an advantage when competing against applicants with a general education on the labour market, this is not always the case for applicants with a PET degree applying for high-level positions. We further show that familiarity with VET/PET can increase employers’ preferences for applicants with a VET or PET degree, but these effects differ by occupation and domain. A higher familiarity with VET/PET can increase employers’ preferences for such degrees only for commercial positions, i.e. as administrative assistant or sales manager, but not necessarily for IT positions.

However, the concept of familiarity with VET/PET is complex and multifaceted and we approximate it by a broad set of variables. Hence, we emphasise that the five variables we use are approximations in this context and may have an effect on employer preferences also through other channels.

Albeit factorial surveys having many advantages compared to regular surveys and purely experimental studies, there are specific limitations that apply to this study design. While the evaluation of applicant profiles aims at mimicking a real-life scenario, experiments have time constraints that are not comparable to those in real hiring processes (McDonald, 2019). Furthermore, the fact that individuals nevertheless evaluate similar applicants differently in real life may limit the internal validity of factorial surveys. Since the survey design allows including only a limited number of applicant characteristics in the applicant profiles, fictional applicant profiles may display too little information for employers to take a sound decision. The same concerns hold for fictional job descriptions that may not reveal as much information as real job postings. We met these challenges by including recruitment experts in the design of the applicant profiles and open positions. Moreover, we only surveyed employers who are experienced in hiring new employees and are therefore familiar with such decisions. Moreover, comparing respondents’ answers to two studies, one with fictional job descriptions and one with real ones, Gutfleisch et al. (2021) find that respondents’ answering behaviour does not significantly differ between these studies. In general, studies suggest that preferences exhibited in factorial surveys investigating hiring decisions closely mirror actual labour market behaviour of employers (e.g. Hainmueller et al., 2015; Petzold & Wolbring, 2019).

Furthermore, our external validity is limited to the positions that we analyse, the context within which we carried out the survey and the sample that we included, i.e. individuals working in firms that train apprentices. Moreover, we did not include any intermediaries or hiring companies in our sample. Including only respondents with recruitment experience strongly reduced our response rate, but this sample reduction was essential for receiving reliable observations. As we include only respondents from firms that train apprentices and as VET and PET degrees are highly prevalent in Switzerland, our results may suffer from self-reference, i.e. that employers prefer applicants with upper-secondary VET as it is the standard educational pathway that young people have taken before entering the labour market. Additionally, employers from the French-/Italian-speaking parts of Switzerland, in which VET and PET degrees are less prevalent than in the German-speaking part, are underrepresented in our sample, which limits the generalisability of our results.

Our analysis provides evidence that within highly diversified education systems with a strong VET/PET system, employers highly appreciate applicants with a VET or PET degree. Nevertheless, we can conclude that employers' preference for VET/PET depends on their personal characteristics and the type of open position. As general and academic education becomes increasingly popular as a tertiary education choice in Switzerland (FSO, 2020), highlighting the value of VET and PET in the labour market can help maintain the strong positioning of this types of education in the Swiss education system. Further research should aim at confirming these results for other positions in the Swiss context, and furthermore examine whether the results also hold in countries with different education systems. Besides differences in skills, future research could also explore other factors that contribute to individuals selecting in either general education or VET/PET.

The Swiss example provides evidence that VET and PET is an alternative pathway for individuals who do not want to enter general or academic education but prefer to either directly enter the labour market after upper-secondary education or specialise and further qualify in their occupation while obtaining a tertiary education degree. The heterogeneity in preferences contingent on employers' familiarity with VET/PET indicates that providing employers with information about this type of education, its degrees, sorting mechanisms and the type of skills graduates have can help policy makers strengthen the standing of these degrees. The primary aim should be to highlight the different possible pathways into certain positions, mainly to facilitate job entry for differently educated applicants. This undertaking allows countries to allocate students to educational programmes that best fit their individual skill sets. For Switzerland, such a strategy is especially relevant in the IT sector, which faces the difficulty of worker shortage and where employers' strong preference for university degrees is diametric to the high share of individuals with a PET degree (Pusterla & Renold, 2020).

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Appendix I: Detailed Information on Applicant Profiles

Job Descriptions for Hypothetical Open Positions (English translation)

ADMINISTRATIVE ASSISTANT

Please imagine you have a vacancy for the position of '**Administrative assistant'**. This position involves administrative support in the preparation of documents for meetings, presentations and protocols, as well as support for correspondence, appointment coordination and organisation of meetings and client visits.

IT ASSISTANT

Please imagine you have a vacancy for the position of '**IT assistant'**. This position involves evaluation and co-decision-making in the selection of the IT infrastructure and IT partners in cooperation with the management and the responsible persons for applications, as well as the operation and further development of the infrastructure.

SALES MANAGER

Please imagine you have a vacancy for the position of '**Sales manager'**. This position includes the management and responsibility for sales tasks, the preparation of market analyses, the operative development and implementation of sales-relevant measures (incl. marketing measures) and the support and new acquisition of customers.

HEAD OF IT

Please imagine you have a vacancy for the position of '**Head of IT'**. This position includes the definition and implementation of the IT strategy, responsibility for the IT budget and cost controlling.

Dimensions and Levels of Applicant Profiles

Table 5: Dimensions and levels of applicant profiles

DIMENSIONS	LEVELS FOR ENTRY-LEVEL JOBS	LEVELS FOR HIGH-LEVEL JOBS
Randomised CV elements		
Upper-secondary education	- Academic baccalaureate - Federal VET diploma - Federal VET diploma with vocational baccalaureate	- Academic baccalaureate - Federal VET diploma with vocational baccalaureate

Tertiary education	*Not applicable*	- Bachelor's or Master's degree from University - Master's degree from University of Applied Sciences (FH) - Advanced Federal Diploma of Higher Education (HFP)
Continuing education	*Not applicable*	- Nothing - Master of Advanced Studies (MAS)
Gender	- Female - Male	- Female - Male
Nationality	- Swiss citizen - German or French, depending on language region - Portugal - Turkey	*Not applicable*
Social skills / social capital	- None - Volunteering: neighbourhood help	- None - Volunteering: neighbourhood help
Total work experience	- None (age: 19 years) - 1 year (age: 20 years) - 2 years (age: 21 years) - 3 years (age: 22 years) - 4 years (age: 23 years)	- 8 years (age: 32 years) - 10 years (age: 34 years) - 12 years (age: 36 years)
Occupation-specific experience	*Not applicable*	Thereof: - 4 years - 6 years - 8 years
Experience in relevant sector	- Yes (experience relevant to the sector of the open job position) - No (off-sector work experience)	*Not applicable*

Example of Applicant profile (English translation)

Figure 3: Example of applicant profile for entry-level positions

The following qualified persons are among the applicants. All of them have sent you a written application with a letter of motivation, have **above-average grades**, **obtained their degree in Switzerland**, are **available** for the date you are looking for an applicant and **live in the region** of your firm.

The curriculum vitae of [candidate 1] contains the following information:

Personal information

Age: [20]

Nationality: [German]

Education

[VET Commercial Employee]

Work experience since graduation (incl. internships, trainee programmes, etc.)

[1 year of clerical work in the sector of your firm]

Language skills

German: Native Language
French: Fluent
English: Fluent

Voluntary work

[Communal work]

How likely is it that your firm will invite this candidate to an interview?

Very unlikely Very likely

1	2	3	4	5	6	7	8	9	10

Notes: Dimensions in brackets vary at the levels shown in Table 5, other aspects of the profile are fixed.

Figure 4: Example of applicant profile for high-level positions

The following qualified persons are among the applicants. All of them have sent you a written application with a letter of motivation, have **above-average grades**, **obtained their degree in Switzerland**, are **available** for the date you are looking for an applicant and **live in the region** of your firm.

The curriculum vitae of [candidate 2] contains the following information:

Personal information

Age: [36]

Nationality: Swiss

Education

[Master's degree from University of Applied Sciences]

[Federal VET diploma with vocational baccalaureate]

Total work experience

[12 years]

Of which: [8 years] in the relevant field

Language skills

German: [Native]

French: [Fluent]

English: Fluent

Voluntary work

[None]

How likely is it that your firm will invite this candidate to an interview?

Very unlikely Very likely

1	2	3	4	5	6	7	8	9	10

Notes: Dimensions in brackets vary at the levels shown in Table 5, other aspects of the profile are fixed.

Correlation Tables of Applicant Profile Dimensions

Table 6: Pairwise correlations among applicant profile dimensions for entry-level positions

Applicant profile dimension		1	2	3	4	5	6
1	Upper-secondary education	1					
2	Gender	0.0059	1				
3	Nationality	0.0240*	0.0175	1			
4	Volunteering	0.0167	-0.0065	0.0222	1		
5	*Years of general work experience*	0.0304**	0.0124	0.0076	0.0054	1	
6	*Years of sector-specific work experience*	0.0042	-0.0047	-0.0061	-0.0002	0.1810**	1

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively. We indicate the Pearson's correlation coefficient for metric variables (in Italic), and the Cramér's V measure for categorical variables. We had to exclude profiles of applicants with the implausible combination of no work experience with sector-specific work experience.

Table 7: Pairwise correlations among applicant profile dimensions for high-level positions

Applicant profile dimension		1	2	3	4	5	6	7
1	Tertiary education	1						
2	Upper-secondary education	0.0234	1					
3	Continuing education	1.0000***	-0.0108	1				
4	Gender	0.0159	-0.0120	-0.0048	1			
5	Volunteering	0.0218	0.0019	-0.0060	-0.0055	1		
6	*Years of general work experience*	-0.0257**	-0.0054	-0.0140	-0.0069	-0.0008	1	
7	*Years of occupation-specific work experience*	0.0053	0.0013	0.0033	0.0185	0.0013	0.0096	1

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively. We indicate the Pearson's correlation coefficient for metric variables (in Italic), and the Cramér's V measure for categorical variables. Our applicant profiles did not include cases with a tertiary degree from a university of applied sciences and continuing education. Continuing education was only combined with a PET or with a bachelor's degree from a university.

Appendix II: Summary Statistics

Table 8: Summary statistics of the variables included in the estimations for the entry-level position 'Administrative assistant'

	N	Mean	Std. Dev.	Min	Max
Dependent variable					
Likelihood for invitation to job interview	1,342	6.96	2.37	1	10
Explanatory variable					
Upper-secondary education: VET or VET with federal vocational baccalaureate (versus general education)	1,342	0.66	-	0	1
Respondent-level variables approximating familiarity					
Working in HR	1,342	0.49	-	0	1
Born in Switzerland	1,342	0.91	-	0	1
Educational career	1,342				
General	1,342	16.03	-	0	1
Mixed education	1,342	32.30	-	0	1
VET/PET	1,342	51.67	-	0	1
Respondent from German-speaking part	1,342	0.94	-	0	1
Relevance of training apprentices for firm	1,342	2.62	1.20	1	4
Familiarity index	1,342				
Not familiar at all	1,342	0.53	-	0	1
Rather not familiar	1,342	3.76	-	0	1
Somewhat familiar	1,342	13.21	-	0	1
Rather familiar	1,342	47.85	-	0	1
Very familiar	1,342	34.66	-	0	1
Survey design variables					
Position of applicant profile within set of four applicant profiles	1,342	2.49	1.12	1	4
Hypothetical position matching positions in firm	1,342	2.82	1.04	1	5
Respondent received support letter or not	1,342	0.68	-	0	1
Other respondent-level variables					
Female	1,342	0.51	0.50	0	1
Age	1,342	45.94	10.45	20	70
Number of recruitment processes in last five years					
1-5	1,342	25.17	-	0	1
6-10	1,342	22.60	-	0	1
11-25	1,342	17.33	-	0	1
25+	1,342	34.90	-	0	1
Firm is internationally active	1,342	0.17	-	0	1

	N	Mean	Std. Dev.	Min	Max
Firm size					
<10 employees	1,342	0.12	-	0	1
10-49 employees	1,342	0.37	-	0	1
50-249 employees	1,342	0.33	-	0	1
250+ employees	1,342	0.18	-	0	1
Firm industry					
Agriculture, forestry and fishing	1,342	0.02	-	0	1
Mining and quarrying	1,342	0.00	-	0	1
Manufacturing/production of goods	1,342	0.19	-	0	1
Energy supply	1,342	0.02	-	0	1
Water supply; sewage and waste disposal	1,342	0.01	-	0	1
Construction/building	1,342	0.20	-	0	1
Wholesale and retail trade; repair of motorcycles	1,342	0.10	-	0	1
Transport and storage	1,342	0.02	-	0	1
Hospitality/accommodation and gastronomy	1,342	0.04	-	0	1
Information and communication	1,342	0.02	-	0	1
Provision of financial and other services	1,342	0.04	-	0	1
Real estate and housing	1,342	0.02	-	0	1
Provision of professional, scientific and technical services	1,342	0.04	-	0	1
Provision of other services	1,342	0.05	-	0	1
Public administration, defence, social security	1,342	0.15	-	0	1
Education and teaching	1,342	0.02	-	0	1
Health and social services	1,342	0.03	-	0	1
Art, entertainment and recreation	1,342	0.01	-	0	1
Other services	1,342	0.04	-	0	1
Firm region					
Région lémanique	1,342	0.04	-	0	1
Espace Mittelland	1,342	0.20	-	0	1
Northwestern Switzerland	1,342	0.15	-	0	1
Zürich	1,342	0.24	-	0	1
Eastern Switzerland	1,342	0.22	-	0	1
Central Switzerland	1,342	0.13	-	0	1
Ticino	1,342	0.01	-	0	1

Notes: Table does not include applicant control variables, for which we show the correlation tables.

Table 9: Summary statistics of the variables included in the estimations for the entry-level position 'IT assistant'

	N	Mean	Std. Dev.	Min	Max
Dependent Variable					
Likelihood for invitation to job interview	412	6.53	2.66	1	10
Explanatory Variables					
Upper-secondary education: VET or VET with federal vocational baccalaureate (versus general education)	412	0.66	-	0	1
Respondent-level variables approximating familiarity					
Working in HR	412	0.47	-	0	1
Born in Switzerland	412	0.88	-	0	1
Educational career	412				
General	412	0.21	-	0	1
Mixed education	412	0.36	-	0	1
VET/PET	412	0.42	-	0	1
Respondent from German-speaking part	412	0.86	-	0	1
Relevance of training apprentices for firm	412	4.53	0.80	1	5
Familiarity index	412				
Not familiar at all	412	0.98	-	0	1
Rather not familiar	412	8.73	-	0	1
Somewhat familiar	412	17.96	-	0	1
Rather familiar	412	46.37	-	0	1
Very familiar	412	25.95	-	0	1

	N	Mean	Std. Dev.	Min	Max
Survey design variables					
Position of applicant profile within set of four applicant profiles	412	2.50	1.12	1	4
Hypothetical position matching positions in firm	412	2.72	1.03	1	5
Respondent received support letter or not	412	0.67	-	0	1
Other respondent-level variables					
Female	412	0.33	0.47	0	1
Age	412	46.16	10.44	19	77
Number of recruitment processes in last five years					
1-5	412	16.11	-	0	1
6-10	412	38.81	-	0	1
11-25	412	25.52	-	0	1
25+	412	19.56	-	0	1
Firm is internationally active	412	0.22	-	0	1
Firm size					
<10 employees	412	0.16	-	0	1
10-49 employees	412	0.39	-	0	1
50-249 employees	412	0.26	-	0	1
250+ employees	412	0.20	-	0	1
Firm industry					
Agriculture, forestry and fishing	412	0.03	-	0	1
Mining and quarrying	412	0.00	-	0	1
Manufacturing/production of goods	412	0.18	-	0	1
Energy supply	412	0.02	-	0	1
Water supply; sewage and waste disposal	412	0.01	-	0	1
Construction/building	412	0.14	-	0	1
Wholesale and retail trade; repair of motorcycles	412	0.06	-	0	1
Transport and storage	412	0.02	-	0	1
Hospitality/accommodation and gastronomy	412	0.02	-	0	1
Information and communication	412	0.23	-	0	1
Provision of financial and other services	412	0.03	-	0	1
Real estate and housing	412	0.01	-	0	1
Provision of professional, scientific and technical services	412	0.07	-	0	1
Provision of other services	412	0.04	-	0	1
Public administration, defence, social security	412	0.07	-	0	1
Education and teaching	412	0.02	-	0	1
Health and social services	412	0.02	-	0	1
Art, entertainment and recreation	412	0.00	-	0	1
Other services	412	0.04	-	0	1
Firm region					
Région lémanique	412	0.09	-	0	1
Espace Mittelland	412	0.23	-	0	1
Northwestern Switzerland	412	0.12	-	0	1
Zürich	412	0.20	-	0	1
Eastern Switzerland	412	0.19	-	0	1
Central Switzerland	412	0.16	-	0	1
Ticino	412	0.01	-	0	1

Notes: Table does not include applicant control variables, for which we show the correlation tables.

Table 10: Summary statistics of the variables included in the estimations for the high-level position 'Sales manager'

	N	Mean	Std. Dev.	Min	Max
Dependent variable					
Likelihood for invitation to job interview	1,231	8.00	1.92	1	10
Explanatory variable					
Tertiary education: PET (versus degree from university or university of applied sciences)	1,231	0.40	-	0	1
Respondent-level variables approximating familiarity					
Working in HR	1,231	0.46	-	0	1

	N	Mean	Std. Dev.	Min	Max
Born in Switzerland	1,231	0.91	-	0	1
Educational career	1,231				
General	1,231	0.16	-	0	1
Mixed education	1,231	0.30	-	0	1
VET/PET	1,231	0.53	-	0	1
Respondent from German-speaking part	1,231	0.93	-	0	1
Relevance of training apprentices for firm	1,231	4.65	0.68	1	5
Familiarity index	1,231				
Not familiar at all	1,231	0.64	-	0	1
Rather not familiar	1,231	4.35	-	0	1
Somewhat familiar	1,231	13.78	-	0	1
Rather familiar	1,231	49.21	-	0	1
Very familiar	1,231	32.02	-	0	1
Survey design variables					
Position of applicant profile within set of four applicant profiles	1,231	2.49	1.12	1	4
Hypothetical position matching positions in firm	1,231	2.55	1.06	1	5
Respondent received support letter or not	1,231	0.67	-	0	1
Other respondent-level variables					
Female	1,231	0.48	-	0	1
Age	1,231	45.80	10.40	19	74
Number of recruitment processes in last five years					
1-5	1,231	0.26	-	0	1
6-10	1,231	0.23	-	0	1
11-25	1,231	0.18	-	0	1
25+	1,231	0.33	-	0	1
Firm is internationally active	1,231	0.18	-	0	1
Firm size					
<10 employees	1,231	0.14	-	0	1
10-49 employees	1,231	0.39	-	0	1
50-249 employees	1,231	0.30	-	0	1
250+ employees	1,231	0.17	-	0	1
Firm industry					
Agriculture, forestry and fishing	1,231	0.02	-	0	1
Mining and quarrying	1,231	0.00	-	0	1
Manufacturing/production of goods	1,231	0.22	-	0	1
Energy supply	1,231	0.01	-	0	1
Water supply; sewage and waste disposal	1,231	0.01	-	0	1
Construction/building	1,231	0.19	-	0	1
Wholesale and retail trade; repair of motor-cycles	1,231	0.12	-	0	1
Transport and storage	1,231	0.02	-	0	1
Hospitality/accommodation and gastronomy	1,231	0.04	-	0	1
Information and communication	1,231	0.02	-	0	1
Provision of financial and other services	1,231	0.03	-	0	1
Real estate and housing	1,231	0.02	-	0	1
Provision of professional, scientific and tech-nical services	1,231	0.02	-	0	1
Provision of other services	1,231	0.04	-	0	1
Public administration, defence, social secu-rity	1,231	0.16	-	0	1
Education and teaching	1,231	0.01	-	0	1
Health and social services	1,231	0.02	-	0	1
Art, entertainment and recreation	1,231	0.01	-	0	1
Other services	1,231	0.04	-	0	1
Firm region					
Région lémanique	1,231	0.05	-	0	1
Espace Mittelland	1,231	0.20	-	0	1
Northwestern Switzerland	1,231	0.14	-	0	1
Zürich	1,231	0.22	-	0	1
Eastern Switzerland	1,231	0.23	-	0	1
Central Switzerland	1,231	0.15	-	0	1

	N	Mean	Std. Dev.	Min	Max
Ticino	1,231	0.01	-	0	1

Notes: Table does not include applicant control variables, for which we show the correlation tables..

Table 11: Summary statistics of the variables included in the estimations for the high-level position 'Head of IT'

	N	Mean	Std. Dev.	Min	Max
Dependent variable					
Likelihood for invitation to job interview	505	8.02	1.95	1	10
Explanatory variable					
Tertiary education: PET (versus degree from university or university of applied sciences)	505	0.40	-	0	1
Respondent-level variables approximating familiarity					
Working in HR	505	0.53	-	0	1
Born in Switzerland	505	0.87	-	0	1
Educational career	505				
General	505	0.21	-	0	1
Mixed education	505	0.39	-	0	1
VET/PET	505	0.40	-	0	1
Respondent from German-speaking part	505	0.91	-	0	1
Relevance of training apprentices for firm	505	4.56	0.79	1	5
Familiarity index	505				
Not familiar at all	505	0.60	-	0	1
Rather not familiar	505	6.79	-	0	1
Somewhat familiar	505	16.44	-	0	1
Rather familiar	505	44.04	-	0	1
Very familiar	505	32.13	-	0	1
Survey design variables					
Position of applicant profile within set of four applicant profiles	505	2.50	1.12	1	4
Hypothetical position matching positions in firm	505	2.69	1.04	1	5
Respondent received support letter or not	505	0.68	-	0	1
Other respondent-level variables					
Female	505	0.48	-	0	1
Age	505	45.80	10.40	19	74
Number of recruitment processes in last five years			-	0	1
1-5	505	0.23	-	0	1
6-10	505	0.22	-	0	1
11-25	505	0.16	-	0	1
25+	505	0.39	-	0	1
Firm is internationally active	505	0.18	-	0	1
Firm size					
<10 employees	505	0.12	-	0	1
10-49 employees	505	0.34	-	0	1
50-249 employees	505	0.33	-	0	1
250+ employees	505	0.20	-	0	1
Firm industry					
Agriculture, forestry and fishing	505	0.03	-	0	1
Mining and quarrying	505	0.00	-	0	1
Manufacturing/production of goods	505	0.12	-	0	1
Energy supply	505	0.04	-	0	1
Water supply; sewage and waste disposal	505	0.01	-	0	1
Construction/building	505	0.15	-	0	1
Wholesale and retail trade; repair of motorcycles	505	0.03	-	0	1
Transport and storage	505	0.02	-	0	1
Hospitality/accommodation and gastronomy	505	0.02	-	0	1
Information and communication	505	0.18	-	0	1
Provision of financial and other services	505	0.05	-	0	1

	N	Mean	Std. Dev.	Min	Max
Real estate and housing	505	0.01	-	0	1
Provision of professional, scientific and technical services	505	0.10	-	0	1
Provision of other services	505	0.06	-	0	1
Public administration, defence, social security	505	0.05	-	0	1
Education and teaching	505	0.04	-	0	1
Health and social services	505	0.04	-	0	1
Art, entertainment and recreation	505	0.01	-	0	1
Other services	505	0.05	-	0	1
Firm region					
Région lémanique	505	0.05	-	0	1
Espace Mittelland	505	0.20	-	0	1
Northwestern Switzerland	505	0.15	-	0	1
Zürich	505	0.25	-	0	1
Eastern Switzerland	505	0.19	-	0	1
Central Switzerland	505	0.14	-	0	1
Ticino	505	0.01	-	0	1

Notes: Table does not include applicant control variables, for which we show the correlation tables.

Appendix III: Result Tables for Base-line Regressions

Table 12: Detailed regression results for position 'Administrative assistant'

	(1)	(2)	(3)
Dependent variable: likelihood for invitation to job interview (1-10)			
General education	*Ref.*	*Ref.*	*Ref.*
VET or VET with federal vocational baccalaureate	0.909***	0.958***	0.953***
	(0.063)	(0.087)	(0.087)
Applicant controls			
Female applicant	0.158***	0.167***	0.166***
	(0.045)	(0.048)	(0.048)
Nationality of applicant			
CH	*Ref.*	*Ref.*	*Ref.*
DE/FR	-0.415***	-0.414***	-0.414***
	(0.065)	(0.065)	(0.065)
PT	-0.315***	-0.312***	-0.314***
	(0.063)	(0.064)	(0.064)
TK	-0.392***	-0.387***	-0.388***
	(0.066)	(0.066)	(0.066)
Volunteering applicant	0.030	0.030	0.029
	(0.046)	(0.046)	(0.046)
General work experience of applicant	0.386***	0.386***	0.386***
	(0.020)	(0.020)	(0.020)
Sector-specific work experience of applicant	0.532***	0.533***	0.533***
	(0.050)	(0.050)	(0.050)
Survey design controls			
Position of applicant profile within set of four applicant profiles		-0.025	-0.023
		(0.032)	(0.032)
Hypothetical position matching positions in firm		0.208***	0.178***
		(0.047)	(0.046)
Respondent received support letter		0.160	0.086
		(0.107)	(0.103)
Respondent controls			
Age of respondent			-0.029***
			(0.005)
Female respondent			-0.002
			(0.104)
Respondent born in Switzerland			-0.053
			(0.163)
Educational career of respondent			
General education			*Ref.*
Mixed education			0.004
			(0.135)
VPET			-0.252*
			(0.132)
Number of recruitment processes in last five years			
1-5			*Ref.*
6-10			-0.096
			(0.142)
11-25			-0.072
			(0.159)
>25			-0.042
			(0.154)
Respondent from German-speaking part of CH			0.249
			(0.288)

	(1)	(2)	(3)
Respondent working in HR			0.101
			(0.120)
Relevance of apprentice training for respondent's firm			0.099
			(0.066)
Firm size			
<10 employees			*Ref.*
10-49 employees			-0.112
			(0.175)
50-249 employees			-0.307
			(0.195)
250+ employees			-0.215
			(0.213)
Firm region			
Région lémanique			*Ref.*
Espace Mittelland			0.012
			(0.328)
Northwestern Switzerland			-0.095
			(0.356)
Zurich			-0.133
			(0.350)
Eastern Switzerland			0.138
			(0.345)
Central Switzerland			-0.009
			(0.355)
Ticino			-0.452
			(0.407)
Firm industry			
Agriculture, forestry and fishing			*Ref.*
Mining and quarrying			-0.474
			(0.858)
Manufacturing/production of goods			-0.324
			(0.276)
Energy supply			-0.729*
			(0.439)
Water supply; sewage and waste disposal and pollution abatement			-0.681
			(0.443)
Construction/building			-0.531*
			(0.275)
Wholesale and retail trade; repair of motor vehicles and motorcycles			-0.056
			(0.282)
Transport and storage			-0.636
			(0.447)
Hospitality/accommodation and gastronomy			0.540
			(0.335)
Information and communication			-0.241
			(0.413)
Provision of financial and other services			0.204
			(0.329)
Real estate and housing			-0.231
			(0.405)
Provision of professional, scientific and technical services			-0.710**
			(0.361)
Provision of other services			0.127
			(0.309)
Public administration, defense, social security			-0.033
			(0.269)
Education and teaching			-0.208
			(0.493)
Health and social services			-0.305
			(0.390)
Art, entertainment and recreation			1.168***
			(0.374)

	(1)	(2)	(3)
Other services			-0.334
			(0.345)
Firm is internationally active			0.208
			(0.129)
Constant	5.123***	4.452***	5.771***
	(0.104)	(0.194)	(0.523)
Std. Dev. random intercept	1.536***	1.519***	1.433***
	(0.038)	(0.038)	(0.037)
Std. Dev. residual	1.630***	1.630***	1.630***
	(0.018)	(0.018)	(0.018)
N of observations	5,315	5,315	5,315
N of respondents	1,342	1,342	1,342
Log-likelihood	-11148.942	-11136.979	-11076.777

Notes: Results of linear regressions with respondent-specific random intercept and robust standard errors clustered by respondent in parentheses. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 13: Detailed regression results for position 'IT assistant'

	(1)	(2)	(3)
Dependent variable: likelihood for invitation to job interview (1-10)			
General education	*Ref.*	*Ref.*	*Ref.*
VET or VET with federal vocational baccalaureate	1.125***	0.864***	0.856***
	(0.114)	(0.158)	(0.156)
Applicant controls			
Female applicant	0.053	0.006	0.003
	(0.083)	(0.089)	(0.089)
Nationality of applicant			
CH	*Ref.*	*Ref.*	*Ref.*
DE/FR	-0.445***	-0.452***	-0.452***
	(0.121)	(0.120)	(0.120)
PT	-0.252**	-0.265**	-0.267**
	(0.117)	(0.116)	(0.116)
TK	-0.467***	-0.484***	-0.484***
	(0.124)	(0.123)	(0.123)
Volunteering applicant	0.154*	0.155*	0.154*
	(0.086)	(0.086)	(0.086)
General work experience of applicant	0.465***	0.465***	0.467***
	(0.037)	(0.037)	(0.037)
Sector-specific work experience of applicant	0.317***	0.315***	0.315***
	(0.086)	(0.086)	(0.086)
Survey design controls			
Position of applicant profile within set of four applicant profiles		0.132**	0.135**
		(0.059)	(0.059)
Hypothetical position matching positions in firm		0.466***	0.455***
		(0.106)	(0.102)
Respondent received support letter		0.189	0.086
		(0.208)	(0.207)
Respondent controls			
Age of respondent			-0.034***
			(0.010)
Female respondent			-0.053
			(0.216)
Respondent born in Switzerland			-0.285
			(0.304)
Educational career of respondent			
General education			*Ref.*
Mixed education			-0.021
			(0.261)
VPET			0.176
			(0.261)
Number of recruitment processes in last five years			
1-5			*Ref.*
6-10			-0.130
			(0.278)
11-25			-0.413
			(0.313)
>25			-0.421
			(0.283)
Respondent from German-speaking part of CH			0.661
			(0.425)
Respondent working in HR			-0.193
			(0.231)
Relevance of apprentice training for respondent's firm			0.110
			(0.113)
Firm size			
<10 employees			*Ref.*
10-49 employees			0.020
			(0.339)
50-249 employees			0.019

	(1)	(2)	(3)
			(0.357)
250+ employees			-0.001
			(0.421)
Firm region			
Région lémanique			*Ref.*
Espace Mittelland			0.647
			(0.527)
Northwestern Switzerland			0.741
			(0.641)
Zurich			0.526
			(0.607)
Eastern Switzerland			0.011
			(0.593)
Central Switzerland			0.100
			(0.616)
Ticino			0.051
			(0.623)
Firm industry			
Agriculture, forestry and fishing			*Ref.*
Manufacturing/production of goods			0.468
			(0.842)
Energy supply			0.139
			(1.003)
Water supply; sewage and waste disposal and pollution abatement			-1.301
			(1.183)
Construction/building			-0.032
			(0.847)
Wholesale and retail trade; repair of motor vehicles and motorcycles			0.216
			(0.906)
Transport and storage			-0.905
			(1.004)
Hospitality/accommodation and gastronomy			0.930
			(0.898)
Information and communication			0.401
			(0.823)
Provision of financial and other services			-0.605
			(1.121)
Real estate and housing			-0.087
			(1.169)
Provision of professional, scientific and technical services			0.544
			(0.857)
Provision of other services			-0.042
			(0.870)
Public administration, defense, social security			-0.225
			(0.882)
Education and teaching			1.716*
			(0.918)
Health and social services			0.585
			(1.095)
Art, entertainment and recreation			2.041*
			(1.169)
Other services			0.077
			(0.896)
Firm is internationally active			-0.018
			(0.236)
Constant	4.386***	2.868***	3.393***
	(0.178)	(0.339)	(0.963)
Std. Dev. random intercept	1.849***	1.782***	1.628***
	(0.078)	(0.076)	(0.072)
Std. Dev. residual	1.673***	1.671***	1.671***
	(0.034)	(0.034)	(0.034)
N of observations	1,626	1,626	1,626
N of respondents	412	412	412
Log-likelihood	-3506.703	-3492.128	-3462.195

Notes: Results of linear regressions with respondent-specific random intercept and robust standard errors clustered by respondent in parentheses. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 14: Detailed regression results for position 'Sales manager'

	(1)	(2)	(3)
Dependent variable: likelihood for invitation to job interview (1-10)			
University	*Ref.*	*Ref.*	*Ref.*
PET	0.243***	0.236***	0.236***
	(0.036)	(0.038)	(0.038)
Applicant controls			
Upper-secondary VET of applicant	0.194***	0.147*	0.145*
	(0.035)	(0.082)	(0.082)
Continuing education of applicant	0.118***	0.103***	0.102**
	(0.031)	(0.040)	(0.040)
Female applicant	0.089***	0.089***	0.089***
	(0.032)	(0.032)	(0.032)
Volunteering applicant	0.062**	0.063**	0.063**
	(0.028)	(0.028)	(0.028)
General work experience of applicant	0.061***	0.061***	0.061***
	(0.019)	(0.019)	(0.019)
Occupation-specific work experience of applicant	0.135***	0.135***	0.136***
	(0.019)	(0.019)	(0.019)
Survey design controls			
Position of applicant profile within set of four applicant profiles		0.024	0.025
		(0.037)	(0.037)
Hypothetical position matching positions in firm		0.209***	0.225***
		(0.050)	(0.051)
Respondent received support letter		0.172	0.124
		(0.106)	(0.106)
Respondent controls			
Age of respondent			-0.017***
			(0.005)
Female respondent			0.220**
			(0.107)
Respondent born in Switzerland			-0.113
			(0.170)
Educational career of respondent			
General education			*Ref.*
Mixed education			-0.158
			(0.139)
VPET			-0.253**
			(0.128)
Number of recruitment processes in last five years			
1-5			*Ref.*
6-10			0.043
			(0.151)
11-25			0.109
			(0.151)
>25			0.029
			(0.158)
Respondent from German-speaking part of CH			0.840**
			(0.408)
Respondent working in HR			-0.043
			(0.119)
Relevance of apprentice training for respondent's firm			0.098
			(0.080)
Firm size			
<10 employees			*Ref.*
10-49 employees			0.012
			(0.185)
50-249 employees			0.038
			(0.201)
250+ employees			-0.091
			(0.221)
Region of firm in Switzerland			
Région lémanique			*Ref.*
Espace Mittelland			-0.235
			(0.474)

	(1)	(2)	(3)
Northwestern Switzerland			-0.187
			(0.501)
Zurich			-0.324
			(0.497)
Eastern Switzerland			-0.270
			(0.493)
Central Switzerland			-0.218
			(0.501)
Ticino			0.219
			(0.436)
Industry of firm			
Agriculture, forestry and fishing			0.000
			(.)
Mining and quarrying			-0.555
			(0.704)
Manufacturing/production of goods			-0.245
			(0.393)
Energy supply			0.036
			(0.487)
Water supply; sewage and waste disposal and pollution abatement			-0.757
			(0.517)
Construction/building			-0.062
			(0.391)
Wholesale and retail trade; repair of motor vehicles and motorcycles			-0.150
			(0.391)
Transport and storage			0.086
			(0.470)
Hospitality/accommodation and gastronomy			0.240
			(0.429)
Information and communication			-0.013
			(0.425)
Provision of financial and other services			0.471
			(0.435)
Real estate and housing			0.130
			(0.429)
Provision of professional, scientific and technical services			0.220
			(0.511)
Provision of other services			-0.142
			(0.440)
Public administration, defense, social security			-0.058
			(0.385)
Education and teaching			0.009
			(0.819)
Health and social services			0.085
			(0.417)
Art, entertainment and recreation			1.022**
			(0.455)
Other services			0.072
			(0.443)
Firm is internationally active			0.129
			(0.120)
Constant	7.092***	6.463***	6.413***
	(0.100)	(0.193)	(0.656)
Std. Dev. random intercept	1.582***	1.565***	1.522***
	(0.064)	(0.061)	(0.059)
Std. Dev. residual	1.065**	1.065**	1.065**
	(0.030)	(0.030)	(0.030)
N of observations	4,869	4,869	4,869
N of respondents	1,231	1,231	1,231
Log-likelihood	-8,613.487	-8,600.812	-8,570.756

Notes: Results of linear regressions with respondent-specific random intercept and robust standard errors clustered by respondent in parentheses. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 15: Detailed regression results for position 'Head of IT

	(1)	(2)	(3)
Dependent variable: likelihood for invitation to job interview (1-10)			
University	*Ref.*	*Ref.*	*Ref.*
PET	-0.088*	-0.110*	-0.113*
	(0.053)	(0.063)	(0.063)
Applicant controls			
Upper-secondary VET of applicant	0.287***	0.160	0.155
	(0.052)	(0.142)	(0.142)
Continuing education of applicant	0.243***	0.207***	0.204***
	(0.045)	(0.060)	(0.060)
Female applicant	0.031	0.031	0.032
	(0.047)	(0.047)	(0.047)
Volunteering applicant	0.036	0.037	0.037
	(0.044)	(0.044)	(0.044)
General work experience of applicant	0.033	0.034	0.034
	(0.027)	(0.027)	(0.027)
Occupation-specific work experience of applicant	0.113***	0.113***	0.112***
	(0.028)	(0.028)	(0.028)
Survey design controls			
Position of applicant profile within set of four applicant profiles		0.062	0.065
		(0.064)	(0.064)
Hypothetical position matching positions in firm		0.171*	0.150*
		(0.089)	(0.089)
Respondent received support letter		0.026	-0.047
		(0.176)	(0.171)
Respondent controls			
Age of respondent			-0.006
			(0.008)
Female respondent			0.190
			(0.160)
Respondent born in Switzerland			-0.297
			(0.247)
Educational career of respondent			
General education			*Ref.*
Mixed education			0.137
			(0.205)
VPET			0.047
			(0.218)
Number of recruitment processes in last five years			
1-5			*Ref.*
6-10			0.147
			(0.252)
11-25			0.098
			(0.270)
>25			0.234
			(0.279)
Respondent from German-speaking part of CH			-0.193
			(0.312)
Respondent working in HR			-0.284
			(0.203)
Relevance of apprentice training for respondent's firm			-0.031
			(0.100)
Firm size			
<10 employees			*Ref.*
10-49 employees			0.465
			(0.346)
50-249 employees			0.348
			(0.355)
250+ employees			0.129
			(0.367)
Firm region			
Région lémanique			*Ref.*
Espace Mittelland			0.844**

	(1)	(2)	(3)
			(0.395)
Northwestern Switzerland			0.472
			(0.486)
Zurich			0.764*
			(0.430)
Eastern Switzerland			0.889**
			(0.434)
Central Switzerland			0.765*
			(0.432)
Ticino			-0.464
			(0.786)
Firm industry			
Agriculture, forestry and fishing			*Ref.*
Manufacturing/production of goods			-0.106
			(0.688)
Energy supply			-0.264
			(0.750)
Water supply; sewage and waste disposal and pollution abatement			0.661
			(0.970)
Construction/building			-0.068
			(0.685)
Wholesale and retail trade; repair of motor vehicles and motorcycles			-0.028
			(0.800)
Transport and storage			-1.897
			(1.275)
Hospitality/accommodation and gastronomy			0.719
			(0.697)
Information and communication			0.110
			(0.651)
Provision of financial and other services			-0.352
			(0.731)
Real estate and housing			-0.232
			(1.295)
Provision of professional, scientific and technical services			-0.553
			(0.677)
Provision of other services			-0.009
			(0.679)
Public administration, defense, social security			-0.207
			(0.705)
Education and teaching			0.222
			(0.712)
Health and social services			-0.111
			(0.754)
Art, entertainment and recreation			0.851
			(0.740)
Other services			-0.599
			(0.763)
Firm is internationally active			-0.240
			(0.211)
Constant	7.199***	6.779***	6.762***
	(0.139)	(0.322)	(0.898)
Std. Dev. random intercept	1.677***	1.667***	1.581***
	(0.106)	(0.103)	(0.095)
Std. Dev. residual	0.983	0.983	0.983
	(0.040)	(0.040)	(0.040)
N of observations	1,989	1,989	1,989
N of respondents	505	505	505
Log-likelihood	-3,424.04	-3,420.827	-3,396.429

Notes: Results of linear regressions with respondent-specific random intercept and robust standard errors clustered by respondent in parentheses. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Appendix IV: Result Tables of Interaction Regressions

Table 16: Detailed regression results including interactions for entry-level position of 'Administrative assistant'

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: likelihood for invitation to job interview (1-10)						
General	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
VET	0.746***	0.664***	0.621***	0.498**	0.172	-0.266
	(0.104)	(0.177)	(0.147)	(0.241)	(0.372)	(0.225)
Not working in HR	Ref.	Ref.	Ref.	Ref.	Ref.	
Working in HR	-0.158	0.050	0.051	0.050	0.050	
	(0.133)	(0.100)	(0.100)	(0.100)	(0.100)	
VET X Working in HR	0.431***					
	(0.124)					
Respondent born abroad	Ref.	Ref.	Ref.	Ref.	Ref.	
Respondent born in Switzerland	-0.155	-0.320	-0.160	-0.158	-0.160	
	(0.177)	(0.226)	(0.178)	(0.177)	(0.178)	
VET X Respondent born in Switzerland		0.323*				
		(0.178)				
Educational career respondent						
General education	Ref.	Ref.	Ref.	Ref.	Ref.	
Mixed education	-0.015	-0.018	-0.234	-0.016	-0.016	
	(0.145)	(0.146)	(0.191)	(0.146)	(0.146)	
VET/PET	-0.236*	-0.239*	-0.419**	-0.237*	-0.236*	
	(0.138)	(0.138)	(0.177)	(0.138)	(0.138)	
VET X Mixed education			0.448**			
			(0.176)			
VET X VET/PET			0.375**			
			(0.160)			
Respondent from French-/Italian-speaking Switzerland	Ref.	Ref.	Ref.	Ref.	Ref.	
Respondent from German-speaking Switzerland	0.194	0.750**	0.193	-0.051	0.194	
	(0.188)	(0.298)	(0.188)	(0.245)	(0.188)	

	(1)	(2)	(3)	(4)	(5)	(6)
VET X Respondent from German-speaking Switzerland				0.489**		
				(0.242)		
How important do you think apprentice training is for your firm?	0.037	0.037	0.039	0.038	-0.044	
	(0.066)	(0.066)	(0.066)	(0.066)	(0.083)	
VET X How important do you think apprentice training is for your firm?					0.169**	
					(0.080)	
Familiarity index						
Not familiar at all						Ref.
Rather not familiar						-0.399
						(0.459)
Partly familiar						-0.438
						(0.394)
Rather familiar						-0.477
						(0.368)
Very familiar						-0.774**
						(0.373)
VET X Not familiar at all						Ref.
VET X Rather not familiar						0.630**
						(0.298)
VET X Partly familiar						1.017***
						(0.274)
VET X Rather familiar						1.045***
						(0.235)
VET X Very familiar						1.636***
						(0.242)
Applicant controls						
Female applicant	0.149***	0.153***	0.154***	0.154***	0.152***	0.151***
	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)
Nationality of applicant						
CH	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
DE/FR	-0.414***	-0.418***	-0.419***	-0.413***	-0.416***	-0.413***
	(0.063)	(0.063)	(0.063)	(0.063)	(0.063)	(0.063)
PT	-0.307***	-0.308***	-0.307***	-0.308***	-0.311***	-0.303***
	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)
TK	-0.388***	-0.389***	-0.387***	-0.386***	-0.388***	-0.383***

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.064)	(0.064)	(0.064)	(0.065)	(0.064)	(0.064)
Volunteering applicant	0.042	0.040	0.041	0.038	0.041	0.040
	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.044)
Duration of work experience of applicant	0.381***	0.380***	0.380***	0.381***	0.381***	0.381***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Sector-specific experience of applicant	0.534***	0.534***	0.535***	0.531***	0.532***	0.534***
	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)
Survey design controls						
Position of applicant profile within set of four applicant profiles	-0.026	-0.027	-0.027	-0.027	-0.026	-0.027
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
Hypothetical position matching positions in firm	0.200***	0.201***	0.201***	0.201***	0.201***	0.212***
	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)
Respondent received support letter	0.131	0.132	0.132	0.131	0.131	0.140
	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)
Constant	4.510***	4.563***	4.570***	4.635***	4.789***	5.050***
	(0.405)	(0.422)	(0.412)	(0.429)	(0.465)	(0.395)
Std. Dev. random slope	0.982	0.994	0.989	0.992	0.992	0.973
	(0.087)	(0.087)	(0.087)	(0.087)	(0.086)	(0.087)
Std. Dev. random intercept	1.537***	1.538***	1.537***	1.538***	1.538***	1.542***
	(0.048)	(0.049)	(0.048)	(0.049)	(0.049)	(0.048)
Std. Dev. residual	1.505***	1.506***	1.506***	1.506***	1.506***	1.503***
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Likelihood-ratio test						
Chi^2	78.34	80.53	78.59	80.12	80.13	75.58
p	0.000	0.000	0.000	0.000	0.000	0.000
N of observations	5,315	5,315	5,315	5,315	5,315	5,315
N of respondents	1,342	1,342	1,342	1,342	1,342	1,342
Log-likelihood	-11,083.215	-11,090.162	-11,087.518	-11,089.343	-11,089.153	-11,076.7

Notes: Results of mixed linear models for the entry-level position 'Administrative assistant' with cross-level interaction terms, each model including one interaction term. Models furthermore include applicant controls, survey design controls and the other familiarity variables (except in model 6 due to multicollinearity). Likelihood-ratio tests compare models with only a random intercept to those with a random intercept and random slope. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 17: Detailed regression results including interactions for entry-level position of 'IT assistant'

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: likelihood for invitation to job interview (1-10)						
General	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
VET	0.583***	1.313***	0.886***	0.486	0.545	1.061**
	(0.190)	(0.323)	(0.289)	(0.311)	(0.567)	(0.436)
Not working in HR	Ref.	Ref.	Ref.	Ref.	Ref.	
Working in HR	-0.680***	-0.444**	-0.444**	-0.442**	-0.444**	
	(0.239)	(0.197)	(0.198)	(0.197)	(0.198)	
VET X Working in HR	0.588**					
	(0.228)					
Respondent born abroad	Ref.	Ref.	Ref.	Ref.	Ref.	
Respondent born in Switzerland	-0.287	-0.068	-0.284	-0.284	-0.283	
	(0.311)	(0.380)	(0.312)	(0.312)	(0.312)	
VET X Respondent born in Switzerland		-0.520				
		(0.327)				
Educational career respondent						
General education	Ref.	Ref.	Ref.	Ref.	Ref.	
Mixed education	-0.020	-0.016	-0.007	-0.016	-0.015	
	(0.275)	(0.276)	(0.337)	(0.276)	(0.276)	
VET/PET	0.121	0.126	0.148	0.125	0.127	
	(0.259)	(0.260)	(0.322)	(0.260)	(0.260)	
VET X Mixed education			-0.022			
			(0.325)			
VET X VET/PET			-0.052			
			(0.321)			
Respondent from French-/Italian-speaking Switzerland	Ref.	Ref.	Ref.	Ref.	Ref.	
Respondent from German-speaking Switzerland	0.758**	0.750**	0.752**	0.573	0.752**	
	(0.297)	(0.298)	(0.297)	(0.349)	(0.297)	
VET X Respondent from German-speaking Switzerland				0.435		
				(0.324)		
How important do you think apprentice training is for your firm?	0.028	0.026	0.028	0.028	-0.000	
	(0.114)	(0.114)	(0.114)	(0.114)	(0.140)	
VET X How important do you think apprentice training is for your firm?					0.069	

	(1)	(2)	(3)	(4)	(5)	(6)
					(0.123)	
Familiarity index						
Not familiar at all						Ref.
Rather not familiar						-1.008
						(0.947)
Partly familiar						-0.915
						(0.929)
Rather familiar						-0.918
						(0.892)
Very familiar						-1.182
						(0.899)
VET X Not familiar at all						Ref.
VET X Rather not familiar						0.055
						(0.569)
VET X Partly familiar						-0.583
						(0.513)
VET X Rather familiar						-0.368
						(0.458)
VET X Very familiar						0.263
						(0.480)
Applicant controls						
Female applicant	0.002	-0.001	-0.002	0.004	-0.002	0.005
	(0.085)	(0.085)	(0.085)	(0.085)	(0.085)	(0.085)
Nationality of applicant						
CH	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
DE/FR	-0.507***	-0.513***	-0.504***	-0.504***	-0.503***	-0.502***
	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)	(0.112)
PT	-0.320***	-0.335***	-0.326***	-0.324***	-0.325***	-0.327***
	(0.113)	(0.113)	(0.113)	(0.113)	(0.113)	(0.114)
TK	-0.538***	-0.539***	-0.537***	-0.530***	-0.537***	-0.533***
	(0.117)	(0.117)	(0.118)	(0.118)	(0.118)	(0.118)
Volunteering applicant	0.144*	0.140*	0.142*	0.146*	0.141*	0.145*
	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)
Duration of work experience of applicant	0.446***	0.448***	0.448***	0.449***	0.448***	0.447***
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Sector-specific experience of applicant	0.343***	0.347***	0.347***	0.346***	0.345***	0.345***

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.084)	(0.084)	(0.084)	(0.084)	(0.084)	(0.084)
Survey design controls						
Position of applicant profile within set of four applicant profiles	0.134**	0.136**	0.135**	0.134**	0.135**	0.134**
	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)
Hypothetical position matching positions in firm	0.465***	0.466***	0.467***	0.467***	0.467***	0.470***
	(0.103)	(0.103)	(0.103)	(0.103)	(0.103)	(0.105)
Respondent received support letter						
Constant	2.728***	2.429***	2.597***	2.753***	2.733***	3.898***
	(0.671)	(0.692)	(0.681)	(0.682)	(0.751)	(0.929)
Std. Dev. random slope	1.282**	1.300**	1.306***	1.298**	1.305**	1.286**
	(0.134)	(0.133)	(0.135)	(0.134)	(0.135)	(0.134)
Std. Dev. random intercept	1.711***	1.713***	1.713***	1.712***	1.713***	1.750***
	(0.080)	(0.080)	(0.081)	(0.081)	(0.081)	(0.081)
Std. Dev. residual	1.486***	1.485***	1.486***	1.486***	1.486***	1.483***
	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)
Likelihood-ratio test						
Chi^2	56.10	58.30	58.91	57.85	58.75	56.33
p	0.000	0.000	0.000	0.000	0.000	0.000
N of observations	1,626	1,626	1,626	1,626	1,626	1,626
N of respondents	412	412	412	412	412	412
Log-likelihood	-3,450.877	-3,453.609	-3,454.931	-3,453.864	-3,454.81	-3,456.521

Notes: Results of mixed linear models for the entry-level position 'IT assistant' with cross-level interaction term, each model including one interaction term. Models furthermore include applicant controls, survey design controls and the other familiarity variables (except for model 6 due to multicollinearity). Likelihood-ratio tests compare models with only a random intercept to those with a random intercept and random slope. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 18: Detailed regression results including interactions for high-level position of 'Sales manager'

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: likelihood for invitation to job interview (1-10)						
General	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
PET	0.146***	0.025	-0.252***	-0.239*	0.904**	-1.130
	(0.049)	(0.114)	(0.088)	(0.126)	(0.432)	(0.886)
Not working in HR	Ref.	Ref.	Ref.	Ref.	Ref.	
Working in HR	0.021	0.077	0.079	0.077	0.081	
	(0.099)	(0.093)	(0.093)	(0.093)	(0.094)	
PET X Working in HR	0.189***					

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.073)					
Respondent born abroad						
Respondent born in Switzerland	-0.226	-0.294*	-0.224	-0.225	-0.196	
	(0.164)	(0.171)	(0.164)	(0.164)	(0.165)	
PET X Respondent born in Switzerland		0.229*				
		(0.120)				
Educational career respondent						
General education	Ref.	Ref.	Ref.	Ref.	Ref.	
Mixed education	-0.149	-0.149	-0.283*	-0.148	-0.164	
	(0.137)	(0.137)	(0.145)	(0.138)	(0.138)	
VET/PET	-0.286**	-0.287**	-0.489***	-0.285**	-0.297**	
	(0.126)	(0.126)	(0.132)	(0.127)	(0.127)	
PET X Mixed education			0.439***			
			(0.109)			
PET X VET/PET			0.665***			
			(0.100)			
Respondent from French-/Italian-speaking Switzerland	Ref.	Ref.	Ref.	Ref.	Ref.	
Respondent from German-speaking Switzerland	0.597***	0.598***	0.606***	0.451*	0.602***	
	(0.230)	(0.230)	(0.230)	(0.235)	(0.230)	
PET X Respondent from German-speaking Switzerland				0.511***		
				(0.132)		
How important do you think apprentice training is for your firm?	0.073	0.073	0.074	0.073	0.043	
	(0.078)	(0.078)	(0.078)	(0.078)	(0.081)	
PET X How important do you think apprentice training is for your firm?					0.101*	
					(0.052)	
Familiarity index						
Not familiar at all						Ref.
Rather not familiar						-0.730
						(0.570)
Partly familiar						-0.422
						(0.546)
Rather familiar						-0.699
						(0.532)
Very familiar						-0.640

	(1)	(2)	(3)	(4)	(5)	(6)
						(0.533)
PET X Not familiar at all						Ref.
PET X Rather not familiar						1.135
						(0.896)
PET X Partly familiar						0.938
						(0.891)
PET X Rather familiar						1.342
						(0.888)
PET X Very familiar						1.643*
						(0.888)
Applicant controls						
Upper-secondary VET of applicant	0.148*	0.146*	0.151*	0.150*	0.158*	0.160*
	(0.083)	(0.082)	(0.082)	(0.082)	(0.083)	(0.082)
Completed continuing education	0.106***	0.107***	0.108***	0.107***	0.111***	0.107***
	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)
Female applicant	0.083***	0.088***	0.085***	0.086***	0.088***	0.080***
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
Social skills of applicant	0.069**	0.067**	0.072***	0.066**	0.071**	0.068**
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
Occupation-specific experience of applicant	0.061***	0.061***	0.060***	0.059***	0.061***	0.063***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Overall duration of work experience of applicant	0.134***	0.135***	0.134***	0.135***	0.136***	0.134***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Survey design controls						
Position of applicant profile within set of four applicant profiles	0.023	0.023	0.022	0.021	0.018	0.020
	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)
Hypothetical position matching positions in firm	0.198***	0.198***	0.198***	0.198***	0.197***	0.203***
	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)
Respondent received support letter	0.136	0.136	0.138	0.137	0.132	0.171
	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)	(0.106)
Constant	6.168***	6.202***	6.272***	6.275***	5.236***	7.264***
	(0.444)	(0.445)	(0.445)	(0.448)	(0.908)	(0.544)
Std. Dev. random slope	0.607***	0.611***	0.574***	0.603***	0.607***	0.569***
	(0.084)	(0.083)	(0.085)	(0.084)	(0.084)	(0.085)
Std. Dev. random intercept	1.560***	1.560***	1.561***	1.562***	1.558***	1.572***
	(0.061)	(0.061)	(0.061)	(0.061)	(0.060)	(0.061)
Std. Dev. residual	1.006	1.006	1.005	1.005	1.005	1.005
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)

	(1)	(2)	(3)	(4)	(5)	(6)
Likelihood-ratio test						
Chi^2	38.65	39.67	32.36	38.01	39.63	31.43
p	0.000	0.000	0.000	0.000	0.000	0.000
N of observations	4,869	4,869	4,869	4,869	4,869	4,869
N of respondents	1,231	1,231	1,231	1,231	1,231	1,231
Log-likelihood	-8,568.171	-8,570.061	-8,548.327	-8,564.589	-8,564.543	-8,552.579

Notes: Results of mixed linear models for the high-level position 'Sales manager' with cross-level interaction terms, each model including one interaction term. Models furthermore include applicant controls, survey design controls and the other familiarity variables (except for model 6 due to multicollinearity). Likelihood-ratio tests compare models with only a random intercept to those with a random intercept and random slope. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 19: Detailed regression results including interactions for high-level position of 'Head of IT'

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: likelihood for invitation to job interview (1-10)						
General	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
PET	-0.115	-0.306*	-0.350***	-0.001	-0.582**	-0.438***
	(0.077)	(0.163)	(0.105)	(0.146)	(0.289)	(0.105)
Not working in HR	Ref.	Ref.	Ref.	Ref.	Ref.	
Working in HR	-0.196	-0.191	-0.191	-0.191	-0.189	
	(0.159)	(0.156)	(0.156)	(0.156)	(0.156)	
PET X Working in HR	0.016					
	(0.102)					
Respondent born abroad						
Respondent born in Switzerland	-0.349	-0.420*	-0.349	-0.349	-0.348	
	(0.225)	(0.238)	(0.225)	(0.225)	(0.225)	
PET X Respondent born in Switzerland		0.229				
		(0.168)				
Educational career respondent						
General education	Ref.	Ref.	Ref.	Ref.	Ref.	
Mixed education	0.127	0.127	0.045	0.127	0.128	
	(0.192)	(0.192)	(0.196)	(0.192)	(0.192)	
VET/PET	0.065	0.066	-0.036	0.065	0.066	
	(0.207)	(0.207)	(0.210)	(0.207)	(0.206)	
PET X Mixed education			0.277**			

	(1)	(2)	(3)	(4)	(5)	(6)
			(0.134)			
PET X VET/PET			0.341***			
			(0.132)			
Respondent from French-/Italian-speaking Switzerland	Ref.	Ref.	Ref.	Ref.	Ref.	
Respondent from German-speaking Switzerland	0.533*	0.533*	0.531*	0.568*	0.532*	
	(0.304)	(0.304)	(0.303)	(0.308)	(0.304)	
PET X Respondent from German-speaking Switzerland				-0.116		
				(0.152)		
How important do you think apprentice training is for your firm?	-0.029	-0.028	-0.028	-0.029	-0.059	
	(0.107)	(0.107)	(0.107)	(0.107)	(0.110)	
PET X How important do you think apprentice training is for your firm?					0.104*	
					(0.062)	
Familiarity index						
Not familiar at all						Ref.
Rather not familiar						0.580
						(1.091)
Partly familiar						0.593
						(1.057)
Rather familiar						0.450
						(1.050)
Very familiar						0.400
						(1.049)
PET X Not familiar at all						Ref.
PET X Rather not familiar						0.084
						(0.218)
PET X Partly familiar						0.228
						(0.152)
PET X Rather familiar						0.332***
						(0.121)
PET X Very familiar						0.436***
						(0.142)
Applicant controls						
Upper-secondary VET of applicant	0.179	0.177	0.179	0.176	0.170	0.177
	(0.138)	(0.139)	(0.138)	(0.138)	(0.138)	(0.140)
Completed continuing education	0.207***	0.205***	0.207***	0.206***	0.206***	0.206***

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)	(0.061)
Female applicant	0.028	0.027	0.030	0.029	0.031	0.027
	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)	(0.046)
Social skills of applicant	0.042	0.041	0.041	0.041	0.043	0.042
	(0.044)	(0.044)	(0.044)	(0.045)	(0.044)	(0.044)
Occupation-specific experience of applicant	0.031	0.032	0.029	0.031	0.030	0.028
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
Overall duration of work experience of applicant	0.116***	0.116***	0.118***	0.116***	0.117***	0.117***
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
Survey design controls						
Position of applicant profile within set of four applicant profiles	0.058	0.059	0.056	0.059	0.062	0.060
	(0.063)	(0.063)	(0.062)	(0.062)	(0.062)	(0.063)
Hypothetical position matching positions in firm	0.187**	0.187**	0.187**	0.187**	0.187**	0.168*
	(0.088)	(0.088)	(0.088)	(0.088)	(0.088)	(0.089)
Respondent received support letter	0.005	0.004	0.003	0.005	0.004	0.010
	(0.178)	(0.178)	(0.178)	(0.178)	(0.178)	(0.178)
Constant	6.887***	6.941***	6.956***	6.850***	7.014***	6.495***
	(0.627)	(0.628)	(0.630)	(0.627)	(0.637)	(1.041)
Std. Dev. random slope	0.557***	0.552***	0.542***	0.555***	0.551***	0.545***
	(0.107)	(0.107)	(0.111)	(0.106)	(0.108)	(0.110)
Std. Dev. random intercept	1.645***	1.645***	1.645***	1.645***	1.644***	1.658***
	(0.103)	(0.103)	(0.103)	(0.103)	(0.103)	(0.104)
Std. Dev. residual	0.933	0.933	0.933	0.933	0.933	0.934
	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)
Likelihood-ratio test						
Chi^2	16.73	16.23	15.14	16.58	16.15	15.76
p	0.000	0.000	0.000	0.000	0.000	0.000
N of observations	1,981	1,981	1,981	1,981	1,981	1,981
N of respondents	505	505	505	505	505	505
Log-likelihood	-3,408.683	-3,407.557	-3,405.428	-3,408.489	-3,407.409	-3,410.469

Notes: Results of mixed linear models for the high-level position 'Head of IT' with cross-level interaction terms, each model including one interaction term. Models furthermore include applicant controls, survey design controls and the other familiarity variables (except for model 6 due to multicollinearity). Likelihood-ratio tests compare models with only a random intercept to those with a random intercept and random slope. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Appendix V: Robustness Tests

Table 20: Summary statistics of variables for robustness tests

	N	Mean	Std. Dev.	Min	Max
Administrative assistant					
Time to evaluate applicant profile 1 (in minutes)	1,342	1.37	1.29	0.19	14.29[1]
Time to evaluate applicant profile 2 (in minutes)	1,342	0.69	0.76	0.09	12.05
Time to evaluate applicant profile 3 (in minutes)	1,342	0.56	0.53	0.07	7.78
Time to evaluate applicant profile 4 (in minutes)	1,342	0.49	0.50	0.09	8.96
Ranking of applicant profiles	1,342	2.49	0.95	1	4
Likelihood of job interview (excluding cases with no variation)	1,342	6.8	2.36	1	10
Likelihood of job interview (excluding cases where hypothetical open position does not match real position in firm)	1,342	7.14	2.28	1	10
IT assistant					
Time to evaluate applicant profile 1 (in minutes)	412	1.25	1.17	0.09	15.52
Time to evaluate applicant profile 2 (in minutes)	412	0.65	0.64	0.06	8.45
Time to evaluate applicant profile 3 (in minutes)	412	0.51	0.42	0.06	4.89
Time to evaluate applicant profile 4 (in minutes)	412	0.47	0.83	0.01	16.02
Ranking of applicant profiles	412	2.49	0.96	1	4
Likelihood of job interview (excluding cases with no variation)	412	6.43	2.59	1	10
Likelihood of job interview (excluding cases where hypothetical open position does not match real position in firm)	412	6.87	2.46	1	10
Sales manager					
Time to evaluate applicant profile 1 (in minutes)	1,231	0.96	1.15	0.08	11.69
Time to evaluate applicant profile 2 (in minutes)	1,231	0.54	0.71	0.06	11.91
Time to evaluate applicant profile 3 (in minutes)	1,231	0.46	0.42	0.06	6.81
Time to evaluate applicant profile 4 (in minutes)	1,231	0.43	0.50	0.02	10.97
Ranking of applicant profiles	1,231	2.49	0.84	1	4
Likelihood of job interview (excluding cases with no variation)	1,231	7.83	1.82	1	10
Likelihood of job interview (excluding cases where hypothetical open position does not match real position in firm)	1,231	8.19	1.67	1	10
Head of IT					
Time to evaluate applicant profile 1 (in minutes)	505	0.90	1.11	0.10	9.92
Time to evaluate applicant profile 2 (in minutes)	505	0.57	0.97	0.07	11.24
Time to evaluate applicant profile 3 (in minutes)	505	0.47	0.58	0.07	8.33
Time to evaluate applicant profile 4 (in minutes)	505	0.40	0.36	0.06	4.02
Ranking of applicant profiles	505	2.48	0.82	1	4
Likelihood of job interview (excluding cases with no variation)	505	7.83	1.8	1	10
Likelihood of job interview (excluding cases where hypothetical open position does not match real position in firm)	505	8.18	1.65	1	10

Notes: [1]We excluded cases where the respondent needed more than 15 minutes.

Results of Fixed-Effects Models for Entry-Level Positions

Table 21: Results of baseline regression models for entry-level positions with fixed effects

	Administrative assistant		IT assistant	
	(1)	(2)	(4)	(5)
Dependent variable: likelihood for invitation to job interview (1-10)				
General	*Ref.*	*Ref.*	*Ref.*	*Ref.*
VET	0.918***	0.989***	1.130***	0.869***
	(0.063)	(0.088)	(0.114)	(0.158)
Applicant controls				
Female applicant	0.160***	0.173***	0.054	0.009
	(0.045)	(0.048)	(0.084)	(0.090)
Nationality				
CH	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)
DE/FR	-0.414***	-0.411***	-0.438***	-0.445***
	(0.065)	(0.065)	(0.121)	(0.120)
PT	-0.312***	-0.306***	-0.247**	-0.259**
	(0.063)	(0.064)	(0.117)	(0.117)
TK	-0.391***	-0.383***	-0.453***	-0.471***
	(0.066)	(0.067)	(0.124)	(0.123)
Volunteering applicant	0.033	0.034	0.153*	0.154*
	(0.046)	(0.046)	(0.086)	(0.086)
Duration of work experience of applicant	0.390***	0.390***	0.469***	0.468***
	(0.020)	(0.020)	(0.038)	(0.038)
Sector-specific experience of applicant	0.534***	0.536***	0.319***	0.317***
	(0.051)	(0.051)	(0.087)	(0.087)
Survey design controls				
Position of applicant profile within set of four applicant profiles		-0.036		0.130**
		(0.032)		(0.060)
Constant	5.096***	5.127***	4.363***	4.243***
	(0.089)	(0.090)	(0.178)	(0.189)
N of observations	5,315	5,315	1,626	1,626
N of respondents	1,342	1,342	412	412
Log-likelihood	-9364.128	-9363.491	-2907.095	-2904.597

Notes: Table displays results of fixed-effects regression models with robust standard errors in parentheses. Models (1) and (2) display results for the entry-level position 'Administrative assistant', while models (3) and (4) display results for 'IT assistant'. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 22*:* Results of baseline regression models for high-level positions with fixed effects

	Sales manager		Head of IT	
	(1)	(2)	(4)	(5)
Dependent variable: likelihood for invitation to job interview (1-10)				
University	*Ref.*	*Ref.*	*Ref.*	*Ref.*
PET	0.243***	0.237***	-0.090*	-0.110*
	(0.036)	(0.03)	(0.053)	(0.063)
Applicant controls				
Upper-secondary education of applicant	0.196***	0.155*	0.287***	0.173
	(0.035)	(0.083)	(0.052)	(0.143)
Completed continuing education	0.118***	0.105***	0.243***	0.211***
	(0.031)	(0.040)	(0.045)	(0.061)
Gender of applicant	0.089***	0.089***	0.032	0.032
	(0.032)	(0.032)	(0.047)	(0.047)
Social skills of applicant	0.062**	0.063**	0.034	0.035
	(0.028)	(0.028)	(0.044)	(0.044)
Duration of work experience of	0.060***	0.060***	0.034	0.034

	Sales manager		Head of IT	
	(1)	(2)	(4)	(5)
applicant	(0.019)	(0.019)	(0.027)	(0.027)
Occupation-specific experience	0.134***	0.134***	0.117***	0.117***
of applicant	(0.019)	(0.019)	(0.028)	(0.028)
Survey design controls				
Position of applicant profile within set of four applicant profiles		0.021 (0.037)		0.056 (0.064)
Constant	7.093*** (0.083)	7.110*** (0.090)	7.190*** (0.118)	7.240*** (0.137)
N of observations	4,869	4,869	1,989	1,989
N of respondents	1,231	1,231	505	505
Log-likelihood	-6503.865	-6503.700	-2496.033	-2495.449

Notes: Table displays results of fixed-effects regression models with robust standard errors in parentheses. Models (1) and (2) display results for the high-level position 'Sales manager', while models (3) and (4) display results for 'Head of IT'. *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Including Variables Controlling for Responding Time

Table 23: Results of baseline regression models for entry-level positions including time variables

	Administrative assistant			IT assistant		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: likelihood for invitation to job interview (1-10)						
Applicant upper-secondary education:						
General	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
VET	0.916***	0.970***	0.964***	1.122***	0.860***	0.852***
	(0.063)	(0.088)	(0.088)	(0.114)	(0.159)	(0.157)
Time to evaluate applicant profile 1	0.039	0.028	0.044	-0.043	-0.084	-0.071
	(0.039)	(0.039)	(0.038)	(0.070)	(0.070)	(0.067)
Time to evaluate applicant profile 2	-0.098	-0.106	-0.097	-0.055	0.069	0.037
	(0.078)	(0.074)	(0.068)	(0.210)	(0.201)	(0.220)
Time to evaluate applicant profile 3	0.078	0.055	0.102	0.333	0.275	0.232
	(0.090)	(0.091)	(0.074)	(0.266)	(0.229)	(0.239)
Time to evaluate applicant profile 4	0.078	0.096	0.112	0.027	0.020	0.058
	(0.094)	(0.091)	(0.091)	(0.052)	(0.046)	(0.063)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	No	Yes	Yes	No	Yes	Yes
Respondent controls	No	No	Yes	No	No	Yes
Constant	5.078***	4.436***	5.695***	4.325***	2.802***	3.275***
	(0.124)	(0.201)	(0.531)	(0.248)	(0.421)	(1.078)
Std. Dev. Random intercept	1.519***	1.503***	1.415***	1.840***	1.775***	1.622***
	(0.044)	(0.043)	(0.043)	(0.081)	(0.079)	(0.071)
Std. Dev. residual	1.633***	1.633***	1.633***	1.677***	1.674***	1.674***
	(0.030)	(0.030)	(0.030)	(0.053)	(0.053)	(0.053)
N of observations	5,239	5,239	5,239	1,614	1,614	1,614
N of respondents	1,323	1,323	1,323	409	409	409
Log-Likelihood	-10,985.78	-10,974.05	-10,913.63	-3,481.768	-3,467.587	-3,438.105

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 24: Results of baseline regression models for high-level positions including time variables

	Sales manager			Head of IT		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: likelihood for invitation to job interview (1-10)						
Applicant tertiary education:						
University	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
PET	0.251***	0.241***	0.241***	-0.067	-0.087	-0.091
	(0.037)	(0.040)	(0.040)	(0.054)	(0.064)	(0.064)
Time to evaluate applicant profile 1	0.100***	0.085***	0.083***	0.067	0.056	0.033
	(0.027)	(0.026)	(0.027)	(0.062)	(0.061)	(0.062)
Time to evaluate applicant profile 2	0.112**	0.113**	0.116***	0.048	0.055	0.041
	(0.050)	(0.048)	(0.045)	(0.074)	(0.074)	(0.077)
Time to evaluate applicant profile 3	0.035	0.001	0.062	0.018	0.024	0.042
	(0.111)	(0.108)	(0.113)	(0.142)	(0.138)	(0.143)
Time to evaluate applicant profile 4	0.055	0.053	0.031	0.050	0.034	0.137
	(0.099)	(0.095)	(0.096)	(0.267)	(0.280)	(0.274)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	No	Yes	Yes	No	Yes	Yes
Respondent controls	No	No	Yes	No	No	Yes
Constant	7.080***	6.456***	6.677***	7.414***	6.926***	6.799***
	(0.106)	(0.201)	(0.653)	(0.155)	(0.329)	(0.935)
Std. Dev. Random intercept	1.565***	1.549***	1.509***	1.619***	1.612***	1.511***
	(0.065)	(0.062)	(0.060)	(0.109)	(0.107)	(0.099)
Std. Dev. residual	1.068**	1.068**	1.068**	0.991	0.991	0.991
	(0.030)	(0.030)	(0.030)	(0.042)	(0.042)	(0.042)
N of observations	4,617	4,617	4,617	1,889	1,889	1,889
N of respondents	1,167	1,167	1,167	480	480	480
Log-Likelihood	-8,166.681	-8,155.688	-8,128.645	-3,249.043	-3,246.747	-3,218.735

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Excluding Cases without Variation in Evaluations

Table 25: Results of baseline regression models for entry-level positions excluding cases with no variation in dependent variable over all evaluated applicant profiles

	Administrative assistant			IT assistant		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: likelihood for invitation to job interview (1-10)						
Applicant upper-secondary education:						
General	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
VET	1.038***	1.066***	1.066***	1.273***	0.970***	0.956***
	(0.070)	(0.098)	(0.098)	(0.126)	(0.173)	(0.172)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	No	Yes	Yes	No	Yes	Yes
Respondent controls	No	No	Yes	No	No	Yes

	Administrative assistant			IT assistant		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	4.734***	3.958***	5.411***	4.122***	2.991***	3.649***
	(0.109)	(0.194)	(0.540)	(0.208)	(0.388)	(1.043)
Std. Dev. random intercept	1.355***	1.329***	1.253***	1.623***	1.584***	1.404***
	(0.043)	(0.042)	(0.043)	(0.074)	(0.075)	(0.068)
Std. Dev. residual	1.716***	1.715***	1.715***	1.741***	1.737***	1.737***
	(0.031)	(0.031)	(0.031)	(0.056)	(0.056)	(0.056)
N of observations	4,604	4,604	4,604	1,433	1,433	1,433
N of respondents	1,160	1,160	1,160	363	363	363
Log-Likelihood	-9739.816	-9723.653	-9675.906	-3097.523	-3088.349	-3056.047

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 26: Results of baseline regression models for high-level positions excluding cases with no variation in dependent variable over all evaluated applicant profiles

	Sales manager			Head of IT		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: likelihood for invitation to job interview (1-10)						
Applicant tertiary education:						
University	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
PET	0.324***	0.315***	0.313***	-0.117	-0.158*	-0.159*
	(0.048)	(0.051)	(0.051)	(0.076)	(0.092)	(0.091)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	No	Yes	Yes	No	Yes	Yes
Respondent controls	No	No	Yes	No	No	Yes
Constant	6.889***	6.512***	6.762***	7.063***	6.959***	8.047***
	(0.097)	(0.182)	(0.603)	(0.143)	(0.329)	(0.873)
Std. Dev. Random intercept	1.306***	1.300***	1.243***	1.346***	1.344***	1.216**
	(0.061)	(0.060)	(0.057)	(0.111)	(0.111)	(0.095)
Std. Dev. residual	1.229***	1.229***	1.229***	1.170***	1.169***	1.169***
	(0.033)	(0.033)	(0.033)	(0.046)	(0.046)	(0.046)
N of observations	3,588	3,588	3,588	1,366	1,366	1,366
N of respondents	906	906	906	345	345	345
Log-Likelihood	-6600.243	-6596.719	-6563.898	-2467.968	-2467.048	-2438.699

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Ranking of Applicant Profiles as Dependent Variable

Table 27: Results of baseline regression models for entry-level positions with ranking of applicant profiles as dependent variable

	Administrative assistant			IT assistant		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: ranking of applicant profiles by respondent (1-4)						
Applicant upper-secondary education:						
General	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*

	Administrative assistant			IT assistant		
	(1)	(2)	(3)	(4)	(5)	(6)
VET	0.421***	0.349***	0.353***	0.546***	0.345***	0.353***
	(0.031)	(0.042)	(0.043)	(0.056)	(0.074)	(0.075)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	No	Yes	Yes	No	Yes	Yes
Respondent controls	No	No	Yes	No	No	Yes
Constant	1.454***	1.423***	1.425***	1.286***	1.176***	1.104***
	(0.046)	(0.050)	(0.068)	(0.085)	(0.095)	(0.115)
Std. Dev. Random intercept	0.000***	0.000	0.000***	0.000	0.000***	0.000***
	(0.000)	(2.393)	(0.000)	(4.384)	(0.000)	(0.000)
Std. Dev. residual	0.829***	0.829***	0.828***	0.817***	0.814***	0.813***
	(0.007)	(0.009)	(0.007)	(0.017)	(0.015)	(0.015)
N of observations	5,315	5,315	5,315	1,626	1,626	1,626
N of respondents	1,342	1,342	1,342	412	412	412
Log-Likelihood	-6545.007	-6542.197	-6539.984	-1978.840	-1972.676	-1970.054

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 28: Results of baseline regression models for high-level positions with ranking of applicant profiles as dependent variable

	Sales manager			Head of IT		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: ranking of applicant profiles by respondent (1-4)						
Applicant tertiary education:						
University	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
PET	0.185***	0.162***	0.162***	-0.086*	-0.115**	-0.115**
	(0.030)	(0.031)	(0.031)	(0.045)	(0.050)	(0.050)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	No	Yes	Yes	No	Yes	Yes
Respondent controls	No	No	Yes	No	No	Yes
Constant	1.832***	1.722***	1.710***	1.917***	1.795***	1.824***
	(0.054)	(0.066)	(0.071)	(0.082)	(0.104)	(0.113)
Std. Dev. Random intercept	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Std. Dev. residual	0.818***	0.818***	0.818***	0.799***	0.799***	0.798***
	(0.008)	(0.008)	(0.008)	(0.013)	(0.013)	(0.013)
N of observations	4,869	4,869	4,869	1,989	1,989	1,989
N of respondents	1,231	1,231	1,231	505	505	505
Log-Likelihood	-5,932.485	-5,928.46	-5,927.862	-2,376.73	-2,374.811	-2,373.583

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Excluding Cases Where Open Position Does Not Match Real Positions in Firm

Table 29: Results of baseline regression models for entry-level positions with cases excluded where open position does not match real position in firm

	Administrative assistant			IT assistant		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: ranking of applicant profiles by respondent (1-4)						
Applicant upper-secondary education:						
General	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
VET	0.879***	0.926***	0.915***	1.086***	1.007***	1.006***
	(0.059)	(0.104)	(0.104)	(0.113)	(0.202)	(0.202)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	No	Yes	Yes	No	Yes	Yes
Respondent controls	No	No	Yes	No	No	Yes
Constant	5.187***	4.547***	5.393***	4.701***	4.039***	4.926***
	(0.111)	(0.353)	(0.756)	(0.217)	(0.718)	(1.422)
Std. Dev. Random intercept	1.420***	1.416***	1.343***	1.586***	1.582***	1.389***
	(0.046)	(0.045)	(0.044)	(0.090)	(0.090)	(0.085)
Std. Dev. residual	1.599***	1.599***	1.599***	1.644***	1.643***	1.644***
	(0.022)	(0.022)	(0.022)	(0.042)	(0.042)	(0.042)
N of observations	3,433	3,433	3,433	1,004	1,004	1,004
N of respondents	868	868	868	254	254	254
Log-Likelihood	-7,096.81	-7,094.612	-7,060.456	-2,119.365	-2,118.722	-2,093.696

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Table 30: Results of baseline regression models for high-level positions with cases excluded where open position does not match real position in firm

	Sales manager			Head of IT		
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: ranking of applicant profiles by respondent (1-4)						
Applicant tertiary education:						
University	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
PET	0.244***	0.239***	0.239***	-0.089	-0.083	-0.089
	(0.043)	(0.046)	(0.046)	(0.058)	(0.064)	(0.064)
Applicant controls	Yes	Yes	Yes	Yes	Yes	Yes
Survey design controls	No	Yes	Yes	No	Yes	Yes
Respondent controls	No	No	Yes	No	No	Yes
Constant	7.310***	6.747***	6.366***	7.605***	7.983***	7.805***
	(0.100)	(0.352)	(0.806)	(0.137)	(0.516)	(0.900)
Std. Dev. Random intercept	1.290***	1.287***	1.236***	1.338***	1.336***	1.187***
	(0.041)	(0.041)	(0.040)	(0.061)	(0.061)	(0.056)
Std. Dev. residual	1.038**	1.038**	1.038**	0.941***	0.941***	0.941***
	(0.017)	(0.017)	(0.017)	(0.022)	(0.022)	(0.022)
N of observations	2,619	2,619	2,619	1,219	1,219	1,219
N of respondents	662	662	662	308	308	308

	Sales manager			Head of IT		
	(1)	(2)	(3)	(4)	(5)	(6)
Log-Likelihood	-4,463.424	-4,462.027	-4,439.355	-1,993.645	-1,993.347	-1,961.287

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively.

Appendix VI: Internal Validity

Correlation table of applicant profile variables with respondent variables: entry-level positions

Table 31: Pairwise correlations of applicant profile variables (level 1) and respondent-level variables (level 2) for entry-level positions

Variables	Upper-secondary education	Gender	Nationality	*Years of general work experience*	*Years of sector-specific work experience*	Volunteering
Respondent born in CH	0.0166	-0.0017	0.0006	-0.0123	-0.0031	0.0005
Age of respondent	0.0398	-0.0049	-0.0011	0.0023	0.0123	-0.0011
Educational career respondent	0.0077	0.0010	0.0034	0.0013	-0.0038	0.0019
Female respondent	0.0156	0.0004	0.0033	0.0067	0.0171	-0.0007
Respondent working in HR	0.0118	-0.0003	0.0025	0.0100	0.0108	0.0003
Respondent from German-speaking CH	0.0080	0.0010	0.0029	-0.0077	-0.0001	-0.0005
Number of recruitment processes in last 5 years	0.0114	0.0028	0.0012	0.0039	0.0109	0.0008
Relevance apprentice training for firm	0.0083	0.0029	0.0025	0.0060	0.0067	0.0028
Firm size	0.0133	0.0025	0.0010	-0.0008	0.0129	0.0023
Region of firm in Switzerland	0.0140	0.0033	0.0036	-0.0090	0.0005	0.0012
Industry of firm	0.0262	0.0079	0.0061	-0.0039	0.0170	0.0040
Firm is active internationally	0.0029	0.0008	0.0029	0.0026	-0.0042	-0.0003

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively. We indicate the Pearson's correlation coefficient for metric variables (in Italic), and the Cramér's V measure for categorical variables.

Correlations table of applicant profile variables and respondent variables: high-level positions

Table 32: Pairwise correlations of applicant profile variables (level 1) and respondent-level variables (level 2) for high-level positions

Variables	Tertiary education	Upper-secondary education	Continuing education	Gender	*Years of general work experience*	*Years of occupation-specific work experience*	Volunteering
Respondent born in CH	0.0256	-0.0006	-0.0104	0.0019	0.0084	-0.0014	0.0005
Age of respondent	0.0120	-0.0001	0.0052	0.0013	0.0005	-0.0044	0.0003
Educational career respondent	0.0212	0.0038	0.0125	0.0035	0.0046	0.0106	0.0003
Female respondent	0.0274	-0.0016	0.0109	-0.0007	-0.0033	-0.0102	-0.0014
Respondent working in HR	0.0242	-0.0030	-0.0120	-0.0001	0.0007	-0.0068	0.0008
Number of recruitment processes in last 5 years	0.0150	0.0040	0.0094	0.0032	-0.0015	-0.0114	0.0012
Respondent from German-speaking CH	0.0083	-0.0013	-0.0029	-0.0001	0.0066	-0.0002	0.0001
Relevance apprentice training for firm	0.0143	0.0035	0.0116	0.0023	0.0014	-0.0015	0.0021
Firm size	0.0196	0.0059	0.0163	0.0022	0.0050	-0.0118	0.0020
Region of firm in Switzerland	0.0136	0.0026	0.0199	0.0018	-0.0020	-0.0059	0.0009
Industry of firm	0.0819	0.0046	0.0660	0.0044	-0.0011	-0.0020	0.0018
Firm is active internationally	0.0162	-0.0030	-0.0095	0.0003	-0.0076	-0.0041	0.0002

Notes: *, **, *** denote significance at the 10%, 5%, and 1%-level, respectively. We indicate the Pearson's correlation coefficient for metric variables (in Italic), and the Cramér's V measure for categorical variables.

Appendix VII: External Validity

Comparison of Sample Characteristics to Population Characteristics

Table 33: Comparison of shares in population and sample characteristics

	Population of firms that train apprentices (N=191'973)	Contacted sample (N=49,906)	Responding sample (N=2,384)
Gender of respondent			
Female	*No information*	50.15%	48.41%
Male	*No information*	38.66%	39.68%
No indication	*No information*	11.19%	11.91%
Total		100.00%	100.00%
Firm size			
<10	25.62%	*No information*	12.75%
10-49	35.64%	*No information*	32.97%
50-250	25.56%	*No information*	30.33%
250+	13.18%	*No information*	17.70%
No indication	0.00%	*No information*	6.25%
Total	100.00%		100.00%
Language region of respondent			
German-speaking regions	*No information*	76.14%	85.99%
French-/Italian-speaking regions	*No information*	17.05%	6.8%
No indication	*No information*	6.81%	7.21%
Total		100.00%	100.00%
Region of firm in Switzerland			
Région lémanique	14.03%	11.07%	5.45%
Espace Mittelland	23.5%	19.42%	20.22%
North-western Switzerland	13.55%	12.11%	14.01%
Zürich	17.89%	17.79%	22.99%
Eastern Switzerland	16.66%	17.18%	21.6%
Central Switzerland	12.32%	14.05%	14.39%
Ticino	3.24%	3.08%	0.8%
No indication	0.00%	5.3%	0.55%
Total	100.00%	100.00%	100.00%

Notes: Data on the population of firms that train apprentices stems from the Swiss Federal Statistical Office (FSO, 2019a, 2019b).

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