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The role of religion, religiousness and religious participation in the school-to-work transition in Germany

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Abstract

It is a well-established finding that in Europe migrants are less successful in the labour market than natives. This is especially true for migrants stemming from predominantly Muslim countries. Against this background, there is a strong interest in the role religion and religiosity plays for the structural integration of migrants. We add to this research by investigating the role of religious affiliation, private religiousness and public religious participation in the school-to-work transition of adolescents in Germany. Due to social and political relevance, our main focus lies on differences between Muslims and Non-Muslims. Our results indicate that substantial barriers exist in the school-to-work transition for Muslim adolescents who were born, raised and educated in Germany. The Muslim gap is clearly more pronounced for adolescents who are active in a religious community than for those who are not. In contrast, being religious and praying frequently is not decisive for the Muslim gap.

Keywords

School-to-work transition; apprenticeship search; religion; religiousness; religious participation; inequality

1. Introduction

It is a well-established finding that persons with a migration background are less successful in the European labour market than natives. However, migrants and their descendants are not a homogeneous group.¹ Empirical studies on the impact of religious affiliation on labour market success indicate that Muslim migrants are disproportionately disadvantaged (Khattab 2016; Koenig, Maliepaard, and Güveli 2016; Koopmans 2016; Lindley 2002; Shibuya, Fong, and Shu 2020; Stichs and Müssig 2013). With respect to possible explanations for these strong disadvantages, results are not completely conclusive yet. This could be because most previous studies use heterogeneous samples, e.g. with respect to age, education or time since arrival, and disregard theoretically important explanatory factors in the analyses. A further shortcoming of previous research is that only very little is known about the role of religiousness and religious participation compared to religious affiliation (Beek and Fleischmann 2020; Koenig, Maliepaard, and Güveli 2016; Stichs and Müssig 2013). A successful integration of Muslims into the labour market is highly important from a policy perspective, since Muslims make up a considerable and continuously growing share of the immigrant population in Europe. Against this background, there is also a strong scientific interest in the role religion plays in the structural integration of migrants in

Europe. We aim to add to this field of research by investigating the role of religion, private religiousness and public religious participation in the school-to-work transition of adolescents in Germany. Due to social and political relevance, our main focus lies on differences between Muslims and Non-Muslims. We investigate the entry of adolescents into vocational education and training (VET) after lower secondary education. In Germany, more than half of all young adults attend VET. Most of them pursue dual VET, which combines paid on-the-job training in a company with schooling in a vocational school, while a minority acquires their vocational qualification in full-time vocational schools. In the dual system, companies select their apprentices while in the fully school-based VET system employers are normally not involved in the more formalised selection. A vocational qualification paves the way for a smooth school-to-work transition and about two-thirds of those successfully trained in a company are offered permanent employment from that respective company (Bundesinstitut für Berufsbildung 2013). This means that many adolescents actually make their school-to-work transition with the entry into (dual) VET. Since most migrants do not meet the educational requirements for higher education, vocational qualifications are essential to the successful integration of ethnic minorities into the German labour market (Granato and Kalter 2001; Hartmann 2016; Hunkler 2015). While migrants in general have lower chances of finding a vocational training position and less often than natives have formal vocational qualifications, these disadvantages are especially pronounced for migrants from Turkey and Arab countries (Beicht 2011; Hunkler 2016; Siegert 2011).

Previous studies on the role of religion in the labour market have largely neglected the school-to-work transition, although the labour market entry has long-lasting effects and essentially determines the later labour market career (Scherer 2004). Furthermore, focussing on the school-to-work transition after lower secondary education leads to a homogeneous sample with respect to age and educational attainment. Analysing adolescents has the additional advantage that family formation is a minor issue. Consequently, self chosen labour market abstinence owing to childcare hardly plays a role. Our analyses are based on two years of representative longitudinal data. Refined measures and a sufficient number of cases give us the rare opportunity to disentangle religious affiliation from the country of origin and to consider the frequency of prayer, level of declared religiousness and involvement in a religious community. Together with the high data quality and the specific German context, our chosen research strategy gives us the unique possibility to conduct a refined investigation of the role of religion, private religiousness and public religious participation in the school-to-work transition of adolescents. We believe our contribution to be of value for at least three reasons:

- (1) There exists little survey-based information about the role of religion in the school-to-work transition in general and in Germany in particular.
- (2) We shed light on the so far little researched question whether private religiousness and/or public religious participation increases Muslim disadvantages.
- (3) Using a homogenous group of adolescents with similar education and age together with exceptionally refined measures for labour market relevant resources reduces the risk that unobserved heterogeneity is responsible for group differences

2. The German education and vocational training system

Germany is a prime example of a country with a highly stratified education system (Müller 2005), which channels students into different tracks of secondary education at a very young age. The different school types clearly differ from each other in performance requirements, curricula, years until graduation, and common type of school-leaving qualification. The Gymnasium is the most prestigious secondary school type, and almost all students who attend the Gymnasium in lower secondary education continue general schooling in upper secondary education. In contrast, most of the students who attend the other secondary school types enter vocational training after the completion of lower secondary education. Yet, some of them continue schooling, while others enter the so-called transition system. Attending a transition programme is not an option youths strive for, but rather a ‘bridging’ strategy for those who are not qualified for upper secondary schooling and did not immediately find a vocational training place. Only a very small fraction enters the labour market without vocational qualification or becomes inactive (Beicht and Ulrich 2008).

While most adolescents pursue dual vocational training, which combines on-the-job training in a company that pays a training salary with schooling in a vocational school, a minority acquires their vocational qualification in full-time vocational schools.² In order to start a dual apprenticeship, adolescents have to apply directly to companies that offer such positions. Just like in the general labour market, the application process normally includes a written application and a personal interview. Apart from that, companies might also carry out assessment centres or qualification tests. Companies are free in their selection of applicants. Hence, applicants (and also employers) are in a competitive situation and the basic search and allocation processes are similar for the apprenticeship search in the dual VET system and the (first) job search in the labour market. Consequently, the application and selection process for a dual VET position can be regarded as a special case of the general matching process between employers and employees in the labour market (Hunkler 2016; Roth 2014; Roth 2018).

In the fully school-based VET system, in contrast, employers are normally not involved in the selection process.³ Here, it is the vocational schools that offer vocational training positions to students with a sufficient educational degree. Hence, the selection is more formalised, and the search and allocation processes resemble those of transitions within general education. Since ethnic and religious discrimination does not play a significant role in the general German education system (Diehl, Fick, and Koenig 2017; Diehl, Hunkler, and Kristen 2016), this can be expected to be the case also for the transition to fully school-based VET. Additionally, host country-specific resources, such as knowledge about the labour market or social ties to natives, should be less important for the transition to school-based VET. As a result, religion, religiousness and religious participation can be expected to play a minor role for the success of an apprenticeship search in fully school-based VET. Due to the different search and allocation processes in the two VET systems the transition to VET in Germany is of strategic value and contrasting results for dual VET with those for school-based VET can provide further insights into possible reasons for Muslim penalties at labour market entrance.

3. Potential effects of religion, religiousness and religious participation on the school-to-work transition

3.1. Religion

We concentrate our discussion on the dual VET system, since starting a dual apprenticeship is an important first step into the German labour market. Since the basic search and allocation process for a dual apprenticeship is very similar to that for a (first) job (Glauser and Becker 2016; Roth 2014), the same arguments should apply with regard to disadvantages of migrants and religious minorities. Previous empirical studies show that migrants in Europe are less successful in the labour market (entry), with migrants from Muslim countries being among the most disadvantaged (Kalter and Kogan 2006; Khattab 2016; Koopmans 2016; Tubergen, Maas, and Flap 2004). This is also true for the German labour and dual VET market (Hunkler 2016; Kalter 2006).

Since negative stereotypes and attitudes against Muslims are not a peripheral phenomenon in the Western world (Foner and Alba 2008; Helbling 2014; Khattab, Johnston, and Manley 2018; Koopmans 2015; Shibuya, Fong, and Shu 2020; Strabac and Listhaug 2008), one reason for the disadvantages of Muslims could be discrimination (see also Kogan, Fong, and Reitz 2020). Theoretically, we can distinguish between taste and statistical discrimination. Taste discrimination describes the preference of employers for specific characteristics of their employees that are not related to their productivity. In addition to that, also co-workers and clients might have ethnic or religious preferences that employers take into account in their hiring decision (Becker 1971). Negative tastes against Muslims can result, e.g. from a general dislike or a lack of trust. Apart from taste discrimination, persons from minority groups might be disadvantaged if employers have imperfect information about the productivity of applicants and therefore take clues such as ethnicity or religion into account in their evaluation. This means that the source of discrimination is not taste but beliefs about group productivity. For example, employers might assume that Muslims are less productive during the Ramadan fasting month. While statistical discrimination rather accounts for discrimination at the individual level, incorrect stereotypes about the average productivity of a group could also be a source of group disadvantages (Fang and Moro 2011; Kalter 2006).

With regard to discrimination, several correspondence testing experiments have been conducted that try to disentangle the effects of religion/religiousity and country of origin on the likelihood of being invited for a job interview. Results indicate that discrimination against ethnic minorities and Muslims exists (Adida, Laitin, and Valfort 2010; Koopmans, Veit, and Yemane 2018; Pierné 2013; Schneider and Weinmann 2015; Weichselbaumer 2016). Research also shows that Muslims more often feel discriminated in the labour market than non-Muslim migrants (Sachverständigenrat deutscher Stiftungen für Integration und Migration 2012), and employer surveys demonstrate that part of the employers hesitate or refuse to offer migrants and especially Muslims a vocational training place. Stated reasons for the readiness to discriminate are diverse and range from personal prejudices to anticipated aversion by customers, expected integration problems into the workforce, conflicts, and assumed higher dropout rates (Imdorf 2017; Scherr and Gründer 2011; Scherr, Janz, and Müller 2015).

While these findings show that discrimination against ethnic minorities and particularly Muslims exists, it remains unclear how much of the Muslim penalty found in

quantitative research based on general population surveys are due to discrimination and how much of the disadvantage can be traced back to other factors (Koopmans 2016). The most obvious and prominent competing explanation for the disadvantages is a lack of (host country-specific) resources. First of all, ethnic and religious groups differ with respect to general human capital (Kanas et al. 2012; Kogan 2011). In Germany, migrants – especially Turkish ones – perform worse at school, more often attend lower secondary school types, and attain lower educational degrees than natives (Kristen et al. 2011). Furthermore, there might exist relevant additional skill differences, which employers can detect during the application process (Hunkler 2016; National Research Council 2004). Most importantly, host country-specific language skills are an essential source of productivity in the labour market (Kalter and Kogan 2006), which might be only imprecisely measured via educational credentials. Furthermore, cognitive or ICT skills might differ between ethnic or religious groups. In addition, migrants in general and Muslims in particular tend to have a low share of natives in their social networks due to ethnic and religious homophily (Leszczensky and Pink 2015; Leszczensky and Pink 2017). In Germany, the vast majority of apprenticeships and jobs are found in companies that are run by natives and persons from the largest migrant groups are more often unemployed than natives. Therefore, we can assume that contacts to natives are more valuable for the education-to-work transition of migrants than co-ethnic contacts (Esser 2004; Kanas et al. 2012). Indeed, migrants from Turkey are particularly unsuccessful in the labour market and have little contact with natives in Germany (Lancee 2012).

While the provided resource arguments are primarily used for the explanation of ethnic penalties, they could, as indicated, also explain some of the pronounced penalties for Muslim migrants born in Germany. First, Muslim migrants on average come from less developed countries compared to non-Muslim migrants. But even after controlling for the country or region of origin, differences in the amount of labour market relevant resources might exist due to selective migration of the parents. For example, non-Muslim migrants from Muslim countries might differ from their Muslim counterparts with respect to their reasons for migration and human capital. Additionally, religious affiliation, religiousness and religious participation can affect the speed of social integration and acculturation in the host country, which might lead to lower German language skills and less contact with natives.

While previous research indicates that a significant share of the ethnic gap in labour market outcomes is due to a lack of labour market relevant resources, substantial disadvantages remain especially for migrants from Muslim countries, which in Germany are mostly migrants from Turkey (Hunkler 2016; Kalter 2006). This could be an indication that prevalent negative stereotypes against Muslim migrants translate into stronger discrimination. However, these studies only consider the country of origin but not the individual religious affiliation. It is therefore unclear whether the country of origin or the religious affiliation drives these results. Empirical analyses of quantitative survey data on the influence of individual religious affiliation on labour market success are rather scarce (Khattab 2016; Koenig, Maliepaard, and Güveli 2016; Koopmans 2016; Lindley 2002; Shibuya, Fong, and Shu 2020; Stichs and Müssig 2013). They generally point to strong disadvantages of Muslim migrants, but they are mostly based on heterogeneous samples and do not use measures that are refined enough to capture all above-mentioned, theoretically important aspects.

Our arguments so far let us expect that Muslims have lower chances of obtaining an apprenticeship in the dual VET system than Christians. Furthermore, if negative stereotypes are specifically targeted at Muslims, we should not find such disadvantages for adolescents without religious affiliation or another religion. Like in previous research on Muslim penalties using population surveys, we are not able to directly measure discrimination. However, in contrast to previous studies, we can comprehensively control for the possession of labour market relevant resources. In the present study, we therefore consider the individual ethnic and religious affiliation and concentrate on the question of how much of the Muslim penalties can be traced back to a lack of relevant resources. If this is the main reason for the lower transition rates of Muslims into dual VET, we should see a strong decrease of the initial Muslim disadvantages in finding a dual VET position after controlling for labour market relevant resources in the multivariate analyses. If this is not the case, discrimination and/or other factors probably are of greater importance. If Muslims do not face disadvantages in the fully school-based VET system, in which discrimination can be expected to be of minor importance due to the formalised selection process in which employers are not involved, this could be a further indication that discrimination is an important reason for the disadvantages.

3.2. Private religiousness and public religious participation

In general, religiosity can be understood as a multidimensional system of beliefs, orientation, practices and involvement. While various different typologies exist, many scholars distinguish private aspects of religiosity such as religious beliefs and prayer from public aspects of religiosity such as attendance of religious services or other events that integrate individuals into the religious community (Beek and Fleischmann 2020; Blasi 2011; Idler et al. 2003; Koenig, King, and Carson 2012). While being religious and praying frequently is primarily a private matter, it could still affect the probability of obtaining a firm-based apprenticeship. Previous research indicates that high religiousness can strengthen discipline, achievement motivation, work ethics and an internal locus of control while reducing deviant behaviour and absenteeism (Carol and Schulz 2018; Coursey, Kenworthy, and Jones 2013; Jeynes 2002; Jeynes 2003; Ohlendorf, Koenig, and Diehl 2017), all of which could have a positive impact on the success of an apprenticeship search. While inspired by Max Weber's classic work on the Protestant ethic, current research suggests that potential effects of religiousness may not be limited to Protestants but may also apply to other religious groups (e.g. Jeynes 2003; Ohlendorf, Koenig, and Diehl 2017). For Muslim adolescents, however, there are also at least three reasons to believe that a high religiousness is detrimental to the acquisition of a dual VET position. First, it might influence the acculturation and social integration and, consequently, the endowment with relevant resources. Secondly, high private religiousness increases the probability of employers becoming aware of individual religious affiliation. While the ethnic background of an applicant can be detected rather easily by an employer, this is not necessarily the case for the religious belonging. In Germany, however, some adolescents still list their religious affiliation in the CV, although this is not obligatory. Furthermore, employers may try to obtain information about religious affiliation in the personal interview⁴ or via social contacts and social media. Moreover, certain external signs of a person may be indicative of her religion and religiousness (Khattab, Johnston, and Manley 2018), such as a typical Christian or

Muslim first name, the physical appearance (e.g. the wearing of a headscarf), or the mentioning of extra-professional activities that are directly linked to religion (e.g. volunteer experience in a religious organisation) (see also Kogan, Fong, and Reitz 2020).⁵ We generally expect that the extent of religiousness increases the salience of religious clues. Thirdly, tendencies to discriminate against highly religious Muslims might be especially pronounced. Due to this reasoning, we not only expect that Muslim adolescents are at a general disadvantage in the dual VET system, but also that being religious and praying frequently even enhance these disadvantages. Indeed, results from Stichs and Müssig (2013) indicate that highly religious Muslim immigrant women and women wearing a headscarf are less often employed than those who do not wear a headscarf or are not very religious. Since their analyses are based on respondents aged 25–64 and include only a fragmentary set of control variables, it remains unclear whether the results are due to discrimination, self-exclusion because of traditional gender roles, or a lack of resources. The fact that Stichs and Müssig (2013) do not find significant point estimates of religiosity for males indicates that self-exclusion cannot be neglected.

Being active in a religious community can in general promote the acquisition of a dual VET position for reasons similar to religiousness. In addition, religious communities can provide social capital, such as access to mentors and role models as well as access to helpful information and support from members of the religious community (Carol and Schulz 2018; Erickson and Phillips 2012). However, for Muslim adolescents being active in a religious community could have even larger negative effects than private religiousness for two reasons. First, it is likely that public religious participation correlates more strongly with observable religious clues, such as mentioning voluntary work in the Muslim community during the application process or wearing a headscarf. Secondly, we expect that becoming involved in the religious community more strongly increases the probability of having intra-religious and intra-ethnic social networks, which are less valuable for the apprenticeship search at companies. For non-Muslims, in contrast, voluntary work in a religious community might be rewarded by employers in the same way as other voluntary activities (or even more, since voluntary religious work could be seen as an especially strong signal for reliability and positive values) and give access to valuable native social ties (Foner and Alba 2008; Koenig, Maliepaard, and Güveli 2016; Kogan, Fong, and Reitz 2020). While we cannot distinguish empirically between these two possible mechanisms, we are still able to control for the ethnic composition of adolescents' social networks. If the network mechanism is of major importance, negative consequences of being active in a religious community for Muslims and positive consequences for Non-Muslims should diminish after controlling for ethnic network composition in the analysis. To our knowledge, the study by Koenig, Maliepaard, and Güveli (2016) is the only one that addresses the generally neglected role of religious participation in labour market outcomes quantitatively for the German context. In their sample of newly arrived 18- to 60-year-old migrants, they do not find substantial effects of religious participation on being employed.

4. Data, variables and analysis strategy

For our empirical analyses, we use data from Starting Cohort 4 of the German National Educational Panel Study (NEPS) that is representative, longitudinal, and contains a high number of cases as well as refined information about the aspects of interest in our

analyses (Blossfeld, Roßbach, and von Maurice 2011).⁶ In this starting cohort, ninth-graders (mostly 15 years old) at regular schools were selected via stratified cluster sampling. In selected schools, one or two ninth-grade classrooms were chosen, and all students of these classes were sampled (Skopek, Pink, and Bela 2013). For our analyses, we use the first five panel waves (fall/winter 2010, spring/summer 2011, spring 2012, summer 2012, winter 2012/2013) as well as information from a parent interview (mostly mothers) that took place during the second half of the school year 2010/2011. Since our research focuses on differences in apprenticeship search success after lower secondary education, we do not consider students who attended the Gymnasium in wave 1, because nearly all of these students enter general upper secondary education. Additionally, we control for whether the students indicated that they have applied for an apprenticeship or not, in order to minimise biases due to self-selection.⁷

We furthermore exclude first-generation migrants to ensure that all adolescents have been socialised in Germany and attended German educational institutions. This reduces unobserved heterogeneity, minimises the probability of (expected) remigration to the country of origin and increases comparability with natives. We distinguish between six ethnic groups in our analyses: (1) natives; those with a migration background from (2) Turkey, Middle East, or Northern Africa (MENA); (3) Former Yugoslavia; (4) the Former Soviet Union (FSU) and Eastern Europe; (5) Northern, Western and Southern Europe; and (6) those with another migration background.⁸ We define adolescents as having a migration background if at least one of their parents or at least two of their grandparents were born outside of Germany.

With regard to the religious affiliation, we differentiate between (1) Christian, (2) Muslim, (3) other religion, and (4) no religion. We use two indicators to measure the private religiousness and one indicator to measure the public religious participation of our adolescents. We differentiate between (1) adolescents who feel very religious and those who feel not very religious, (2) adolescents who pray at least several times a week and those who pray less often, (3) adolescents who are active in a religious community and those who are not. All three indicators as well as the information on religious affiliation were gathered in spring/summer 2012.

We differentiate between dual VET and fully school-based VET. Since only a small fraction of students enters VET after grade 9, we use information on the transition after grade 10 to construct our two dependent variables.⁹ More precisely, we analyse the probability of attending dual VET or school-based VET in December 2012, since most VET programmes start between July and October, and adolescents who do not find a VET position until the end of a year usually have to wait until the summer of the following year.

In our multivariate analyses, we include a large number of refined variables measuring labour market relevant resources. Apart from students' highest school-leaving qualification, all these variables were collected while students attended grade 9. We use several human capital measures, such as the type of school attended in grade 9, the grades in mathematics and German from the school report card (higher grades indicate better performance), and students' highest school-leaving qualification (measured in December 2012). The competencies of students are measured on the basis of six different performance tests including three tests on host-country language skills (mathematics, sciences, information and communication technologies, vocabulary, reading speed, and reading comprehension). To control for differences in social capital, we use a variable indicating

the share of students' friends with migration background on a seven-point scale (none, almost no one, fewer than half, about half, more than half, almost all, all). In order to control for family background, we include parents' highest educational attainment,¹⁰ whether the child lives in a single-parent household, and the number of books in the household. In addition, we control for gender. Lastly, we include federal state dummies to take into account regional differences. Overall, the NEPS data allow us to control for a very comprehensive set of variables that might explain the group differences. In order to handle missing information in the data, we use the official STATA mi system (StataCorp 2013) and create 20 data sets in which missing information was multiply imputed. For this purpose, we first included all dependent and independent variables as well as panel entrance weights for the imputations and later excluded cases with missing information on the dependent variables from our analyses (MID method; von Hippel 2007). This procedure usually increases efficiency and produces the most accurate estimates. In total, we can make use of 6317 cases. All analyses are based on multiply imputed data sets. Due to the stratified cluster sampling, we use clustered standard errors that allow for intragroup correlation within schools in the regression models.

5. Empirical results

Table 1 shows descriptive information about adolescents' ethnic origin and religious affiliation. Our analysis sample consists of 4478 Christians, 489 Muslims, 89 adolescents with another religion and 1261 without a religious affiliation. We see that religious affiliation is strongly correlated with ethnic origin, but the relationship is not deterministic. About 80% of native adolescents as well as of adolescents from FSU and Europe are Christians, whereas Muslims constitute only a very small share. In contrast, about 80% of adolescents from Turkey and MENA are Muslims, 4% are Christians, 3% belong to another religion, and 13% belong to no religion. The most diverse ethnic group with respect to religious affiliation is that from Former Yugoslavia, with about half being Christians and one third being Muslims. Also, the group of migrants with another migration background is heterogenous concerning the religious background, with 11% being Muslims and 58% being Christians.

Table 2 shows the share of adolescents in VET, conditional on their religious affiliation. Overall, more than one-third of our sample made a transition to dual VET after lower secondary education, while about 10% entered school-based VET. Christian students most often pursue dual VET, followed by those with no religion.

Table 1. Distribution of religious affiliation by ethnic origin.

	Christian	Muslim	Other Religion	No Religion	N
Natives	77.1%	0.3%	1.0%	21.6%	4879
Turkey and Mena	3.9%	80.5%	2.7%	12.9%	504
Former Yugoslavia	47.7%	33.9%	1.8%	16.6%	145
FSU and Eastern Europe	84.4%	0.4%	1.5%	13.7%	446
Northern-, Western- and Southern Europe	80.3%	2.0%	2.0%	15.7%	226
Other migration background	57.9%	11.3%	12.6%	18.2%	117
N	4478	489	89	1261	6317

Source: National Educational Panel Study (NEPS): Starting Cohort 4, author's own calculations. Notes: Missing data are handled using multiple imputation (MID method).

Table 2. Share of adolescents in VET by religious affiliation

	Christian	Muslim	Other Religion	No Religion	All
Share of adolescents in dual VET	36.0%	21.1%	29.0%	34.3%	34.4%
Share of adolescents in school-based VET	9.2%	7.7%	11.3%	12.5%	9.8%

Source: National Educational Panel Study (NEPS): Starting Cohort 4, author's own calculations. Notes: Missing data are handled using multiple imputation (MID method). $N = 6317$.

another religion. In contrast, adolescents of the latter two groups are better represented in school-based VET than Christians. Generally speaking, these three groups are rather similar. In contrast, only 21% of Muslim adolescents attend dual VET, which is 13 percentage points less than the average. Furthermore, less than 8% of Muslims enter school-based VET, which is 2 percentage points less than the average. While Muslim adolescents least often pursue both dual and school-based VET, the gap is clearly more pronounced in the dual system.

Table 3 shows that religious groups differ strongly with respect to their religiousness and religious participation. Obviously, adolescents who do not belong to a religious group show the lowest values for all three indicators,¹¹ followed by Christians with about 6% being very religious, 16% praying at least several times a week, and 20% being active in the religious community. In contrast, 35% of Muslim adolescents are very religious, 40% pray at least several times a week, and 44% get involved in a religious community. Those with another religion behave rather similar to Muslims, but with somewhat lower values.

Results from linear probability models are presented in Table 4.¹² We investigate differences in the probability of being in dual VET (models 1a–1e) and being in school-based VET (models 2a–2e) between ethnic and religious groups. In models 1a–c and 2a–c, we only control for whether adolescents have applied for VET or not. Models 1d and 2d also contain the full set of resource indicators and federal state dummies, and in models 1e and 2e we additionally control for being very religious, praying at least several times a week, and being active in a religious community.

Results from model 1a show that the probability of being in dual VET is 13 percentage points lower for Muslims than for Christians, whereas the probability for those with another religion or no religion is only slightly lower than for Christians. We see from model 1b that migrants from Turkey and MENA have the lowest probability of being in dual VET, which is in line with previous findings. When taking both ethnic and religious affiliation into account, we see in model 1c that the gap for adolescents from Turkey and MENA is reduced by about 60% to 5 percentage points and is not statistically significant anymore. The disadvantage of Muslims is reduced to a much smaller extent and is still statistically and substantially significant with more than 9 percentage points.

Table 3. Share of adolescents with high private religiousness and public religious participation by religious affiliation.

	Christian	Muslim	Other Religion	No Religion
Very religious	5.6%	34.6%	27.9%	1.3%
Frequent prayer	15.6%	40.0%	34.3%	3.7%
Active in religious community	20.3%	44.2%	34.4%	2.9%

Source: National Educational Panel Study (NEPS): Starting Cohort 4, author's own calculations. Notes: Missing data are handled using multiple imputation (MID method). $N = 6317$.

Table 4. Coefficients from linear regressions of students' probability to enter VET on religious affiliation and ethnic origin.

	Probability of entering <i>dual</i> VET					Probability of entering school-based VE				
	1a	1b	1c	1d	1e	2a	2b	2c	2d	2e
<i>Religious affiliation (Ref: Christian)</i>										
Muslim	-0.126**		-0.091**	-0.113**	-0.117**	-0.013		0.017	0.011	0.013
Other Religion	-0.060		-0.039	-0.045	-0.048	0.022		0.028	0.029	0.031
No Religion	-0.025		-0.026	-0.030+	-0.026	0.032**		0.034**	0.019	0.019
<i>Ethnic Group (Ref: Natives)</i>										
Turkey and Mena		-0.122**	-0.050	-0.033	-0.036		-0.027*	-0.038	-0.037	-0.036
Former Yugoslavia		-0.030	-0.000	-0.005	-0.004		0.016	0.012	0.013	0.015
FSU and Eastern Europe		-0.070**	-0.072**	-0.050*	-0.050*		-0.012	-0.009	-0.010	-0.009
Northern, Western and Southern Europe		-0.038	-0.038	-0.030	-0.029		0.023	0.024	0.025	0.026
Other migration background		-0.110**	-0.096*	-0.107**	-0.108**		-0.004	-0.008	0.009	0.010
<i>Religiousness and religious participation</i>										
Praying at least several times a week					-0.017					-0.004
Being very religious					0.010					-0.016
Being active in a religious community					0.027+					0.009
<i>N</i>	6317	6317	6317	6317	6317	6317	6317	6317	6317	6317

Source: National Educational Panel Study (NEPS): Starting Cohort 4, author's own calculations. Notes: Significance level: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$. Missing data are handled using multiple imputation (MID method). Models 1abc and 2abc: Controlled for having applied for VET. Models 1d, e and 2d, e: Additionally controlled for federal state, male, books in household, highest qualification parents, two-parent family, grade German, grade mathematics, highest school leaving qualification, test scores in six different performance tests, ethnic composition of adolescents' network, and type of school attended in grade 9. Results for the control variables are shown in table A1 and A2 in the appendix.

Introducing the whole list of resource measures in model 1d reduces the disadvantages for those who have ancestors from abroad, and results are statistically and substantially significant only for the group of adolescents from FSU and Eastern Europe and those with another migration background. In contrast, the gaps between religious groups are hardly affected and even slightly increase. This clearly speaks for a Muslim penalty that cannot be explained by a lack of (host country-specific) resources. It also seems that being a member of non-Christian religion is not per se a disadvantage and that substantial penalties only exist for Muslims. Introducing our three indicators of religiousness and religious participation in model 1e does not change the overall picture concerning group differences. Effect sizes of the three indicators are rather small and only being active in a religious community is marginally statistically significant at the 10% level, indicating a positive correlation with the probability of entering dual VET. With respect to fully school-based VET, in contrast, we find no indication of Muslim penalties. In fact, in models 2c–2e point estimators even tend to operate in the opposite direction for all three non-Christian groups. Results suggest that migrants from Turkey and MENA less often pursue school-based VET than natives, but differences between religious and ethnic groups are generally small. After including resource indicators in model 2d, we find no statistically significant differences between ethnic and religious groups. This finding remains stable when we additionally consider religiousness and religious participation in model 2e. Point estimates for all three indicators are small and not statistically significant.

Taken together, results are clearly in line with our expectation that religion plays a fundamentally different role in entering dual VET than in entering school-based VET. Although Muslims clearly less often pursue dual VET than other religious groups even after taking into account an exceptional amount of measures for labour market relevant resources as well as religiousness and religious participation, we find no disadvantages when it comes to school-based VET. A reason for this finding could be discrimination in the dual VET system. However, it is still possible that we miss important other factors that might be responsible.

In Table 5 we examine whether the role private religiousness and public religious participation plays in being in dual or school-based VET differs between Muslims and non-Muslims.¹³ Models 1a–1c show results for the probability of entering dual VET. The two measures for religiousness (being highly religious and praying frequently) are irrelevant for both non-Muslims and Muslims. Consequently, interaction terms between private religiousness and being Muslim are small and statistically insignificant. Contrary to our expectations, these results indicate that high religiousness does not increase Muslim penalties.¹⁴

As expected, being active in a religious community shows a significant positive point estimate for non-Muslims, while for Muslims we find a negative point estimate of similar size ($0.039 - 0.081 = -0.042$) which is however (probably due to the considerably smaller number of Muslims in the sample) not statistically significant. Consequently, Muslim penalties are double the size for adolescents who are active in a religious community compared to those who are not, and the interaction term between religious community activities and being Muslim is of substantive and statistical significance. We are not able to directly test whether these results are due to the fact that the different religious communities might possess different amounts of social capital or that active participation

Table 5. Coefficients from linear regressions of students' probability to enter VET on religious affiliation, religiousness and religious participation of Muslims and Non-Muslims.

	Probability of entering dual VET			Probability of entering school-based VET		
	1a	1b	1c	2a	2b	2c
<i>Being active in a religious community</i>						
Active in religious community	0.039*			0.005		
Muslim	-0.087+			0.003		
Muslim * active in religious community	-0.081*			0.020		
<i>Being very religious</i>						
Very religious		0.009			-0.023	
Muslim		-0.098*			-0.009	
Muslim * very religious		0.009			0.030	
<i>Praying at least several times a week</i>						
Frequent prayer			-0.015			-0.007
Muslim			-0.113**			0.006
Muslim * frequent prayer			-0.004			0.035
<i>N</i>	6317	6317	6317	6317	6317	6317

Source: National Educational Panel Study (NEPS): Starting Cohort 4, author's own calculations. Notes: Significance level: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$. Missing data are handled using multiple imputation (MID method). In all models we control for having applied for VET, federal state, ethnic group, male, books in household, highest qualification parents, two-parent family, grade German, grade mathematics, highest school-leaving qualification, test scores in six different performance tests, type of school attended in grade 9, and ethnic composition of adolescents' network. Models 1a and 2a: additionally controlled for being very religious and praying at least several times a week. Models 1b and 2b: additionally controlled for praying at least several times a week and being active in a religious community. Models 1c and 2c: Additionally controlled for being very religious and being active in a religious community. Results for the control variables are shown in table A4 in the appendix.

in a Muslim or a non-Muslim religious community might be evaluated differently by the employers. However, since we controlled for ethnic network composition in our models, the signalling argument seems more plausible.¹⁵

Concerning the probability of entering school-based VET, we find no indication that Muslim penalties increase with religiousness or religious participation. Results even suggest that high religiousness and involvement in a religious community are associated with an increased probability of entering school-based VET for Muslims, but not for non-Muslims. However, none of the interactions is statistically significant. In sum, the results indicate that private religiousness has no influence on the probability of entering dual or school-based VET, whereas active religious participation increases the Muslim gap at the entry into dual VET.

6. Summary and discussion

Our research strategy together with the unique panel data gave us the possibility to comprehensively investigate the role of religion, religiousness and religious participation in the school-to-work transition in Germany. While entering VET in Germany is a German-specific case and limits the generalisability of our findings to a certain degree, the basic search and allocation processes for the apprenticeship search in the dual VET system and the (first) job search in the labour market are generally similar. Therefore, comparable results might be obtained for the school-to-work transition in other countries. This should be investigated empirically in future research.

In the first part of our analyses, we find that being Muslim is irrelevant for the transition to fully school-based VET but significantly decreases the chances of obtaining an apprenticeship position in the dual system. Therefore, we conclude that substantial barriers exist in the school-to-work transition in Germany for Muslim adolescents who were born, raised and educated in Germany. Our results furthermore reveal that the disadvantages cannot be traced back to the fact that Muslims possess less labour market relevant resources. It also seems unlikely that our results are mainly driven by self-exclusion, e.g. due to traditional gender roles, since we analysed adolescents who almost exclusively have not started a family yet.¹⁶ Moreover, we additionally controlled for whether adolescents actually applied for an apprenticeship or not, and also the non-existent Muslim penalties in the fully school-based VET system speak against a substantial distortion of our results by self-exclusion. Although the high number of explanatory variables in the analyses and the non-existent difference between Muslims and other religious groups in school-based VET limit the number of alternative explanations, with the information at hand we cannot determine whether the remaining disadvantages established in our analyses are primarily due to discrimination or not. Instead, different search strategies, lower search efforts, or a lack of important soft skills could also be responsible for our results. One could argue that differences between Muslims and non-Muslims should be small in this regard, since we control for ethnic origin and only include migrants who were socialised and educated in Germany. Nevertheless, it seems important to empirically investigate these aspects in future research.

Additional analyses reveal that neither high religiousness nor religious participation increases the gap in entering school-based VET between Muslims and Non-Muslims. For religiousness the same is true for the transition to dual VET. In contrast, active participation in a religious community increases the chances of entering dual VET for non-Muslims, while it tends to decrease those chances for Muslims. As a result, the Muslim gap is clearly more pronounced for adolescents who are active in a religious community than for those who are not. These are important findings, since the role of religiousness and religious participation in labour market integration has hardly been investigated so far, and former studies did not differentiate between these two aspects (for an exception cf. Beek and Fleischmann 2020 who find negative correlations of the socio-economic participation of second-generation Muslims with mosque attendance but not with more private aspects of religiosity). Although the results are not completely in line with our expectations, they clearly suggest that private religiousness is not decisive for the Muslim gap in the school-to-work transition, whereas active involvement in a religious community is. Based on the conducted analyses we cannot definitively answer the question why we obtain these results only for active religious participation but not for private religiousness. Our theoretical arguments and empirical results still indicate that employers might detect public religious participation more easily and/or regard it as more important than private religiousness. However, we have to keep in mind that, although using longitudinal data, the information at hand did not allow us to run analyses from which we can draw clear causal conclusions. Whether mentioning active participation in a religious community really has opposite effects for Muslims and non-Muslims should therefore be tested directly in correspondence testing experiments in the future. Additionally, more (qualitative) research is required in order to gain further knowledge about how employers actually find out about the religious affiliation

and religiousness of adolescents during the application process. Future research should also examine gender differences more closely. Although there remain open questions, our results still gave important new insights and inspiration for future research. First of all, we gained knowledge about Muslim penalties at the transition to dual VET in Germany. Although we could not directly determine the underlying mechanisms, our results clearly show that a lack of resources is not the primary reason for the disadvantages. Secondly, it is the first study to our knowledge that considers ethnicity, religious affiliation, religiousness and religious participation at the same time. It therefore sheds light on the so far neglected question whether private religiousness or public religious participation increases Muslim disadvantages in the school-to-work transition.

Notes

1. In this article, the term migrants also covers persons who did not migrate themselves but whose parents or grandparents migrated (persons with a migration background).
2. Dual and school-based VET mostly prepare for different types of occupations (Solga et al. 2014). School-based VET is more common in female dominated jobs wherefore women more often attend school-based VET than men. If training for an occupation is offered both as school-based VET and as dual VET, the former is often regarded as a subordinate alternative by the adolescents, since apprentices in dual VET obtain a training salary and have excellent chances to obtain a permanent contract from their company after completion of the apprenticeship (Granato and Ulrich 2014).
3. In part of the school-based VET programmes in the health care sector companies are actively involved in the training. In general it is however true that the role of employers is much less pronounced in the selection process compared to the dual VET system. Main results do not change substantially when we run additional analyses in which we exclude adolescents in school-based programmes in the health care sector.
4. By law, nobody is obliged to mention his religious affiliation in a job interview (unless the employer is the church): however, employers might ask nevertheless, and not everybody might be aware of his right to refuse to answer the question or even to not tell the truth.
5. In Germany, it is common to mention hobbies and voluntary work in applications for VET positions.
6. This paper uses data from the National Educational Panel Study (NEPS): Starting Cohort 4 – 9th Grade, doi:10.5157/NEPS:SC4:6.0.0. From 2008 to 2013, NEPS data were collected as part of the Framework Programme for the Promotion of Empirical Educational Research funded by the German Federal Ministry of Education and Research (BMBF). As of 2014, the NEPS survey is carried out by the Leibniz Institute for Educational Trajectories (LIfBi) at the University of Bamberg in cooperation with a nationwide network.
7. Students were asked in wave 3 and/or in wave 5 whether they have applied for an apprenticeship position. Since only a subsample was asked this question in wave 3, we additionally include information from the students at the end of grade 9 (wave 2) and at the end of grade 10 (wave 4) about whether they have searched or plan to search for an apprenticeship in the respective school year.
8. We choose this grouping in order to have sufficient cases for the analyses in the single groups and at the same time account for group differences in the share of Muslims and the migration history. While most immigrants from Turkey and MENA are Muslims whose families arrived already in the 60s and 70s of the last century, most migrants from FSU and Eastern Europe are Christians who moved to Germany after the end of the Cold War in 1991 (part of them are ethnic Germans, so-called Spätaussiedler). Migrants from Former Yugoslavia constitute a religiously heterogeneous group and their migration history differs from other Eastern European

migrants. This is because many migrants from Former Yugoslavia already moved to Germany in the 60s and 70s as guest workers or in the 90s as refugees. Due to the small number of cases, we collapsed all other European migrants into one category.

9. We derived this information from the biography data set, spell data sets and the student data set of wave 5. Since it is possible that some students found an apprenticeship after grade 9 but terminated their contract before the end of 2012, we counted the few cases that were in VET in December 2011 as having found an apprenticeship as well. The assignment to dual or school-based VET in the data is based on the self-assessment of the respondents. Given the manifold programmes within the VET system we believe that this is the most valid information to rely on. Main results do not change substantially when we run additional analyses in which we exclude adolescents in short term programmes that last less than 2 years.
10. Information was taken from the parents' questionnaire. We substituted missing information by adolescents' answers. When information was available only for one parent, we used this information.
11. Although unusual, it is still possible that persons without an official religious affiliation are active in a religious community or show a high private religiousness. For example, someone who is not baptised might still be member of a church choir, just because she likes the music, or someone might believe in a god and pray to him without being a member of a religious group.
12. We run linear probability models because they allow for an intuitive interpretation of the point estimates. Main results do not change substantially when we use logistic regressions instead.
13. We are not able to test all three interactions in one regression since estimating multiple imputation models that include all three interaction terms simultaneously was not possible due to perfect prediction. We therefore run separate multiple imputations for each of the three indicators.
14. Sensitivity analyses with varying cut points for the level of feeling religious (being at least rather religious vs being less religious) and frequency of prayer (praying at least several times a month vs less often) confirm that high religiousness does not increase Muslim penalties.
15. Results do not change substantially even when we additionally control for the share of parents' labour market contacts with migration background and parents' highest occupational status (ISEI-08).
16. Additional analyses separated by gender indicate that the gap between Christians and Muslims is even slightly less pronounced for girls than for boys, which also speaks against substantial biases for females due to traditional gender roles (results are shown in table A3 in the appendix). However, these results have to be interpreted with caution because of small cell frequencies in separate analyses for males and females. Small cell frequencies are particularly pronounced in the models including interaction terms between religiousness / religious participation and religious affiliation, which is why we do not show results separated by gender for these models.

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Appendix

Table A1. Coefficients from linear regressions of students' probability to enter dual VET on religious affiliation and ethnic origin (models 1a–1e).

	Probability of entering dual VET				
	1a	1b	1c	1d	1e
<i>Religious affiliation (Ref: Christian)</i>					
Muslim	-0.126**		-0.091**	-0.113**	-0.117**
Other Religion	-0.060		-0.039	-0.045	-0.048
No Religion	-0.025		-0.026	-0.030+	-0.026
<i>Ethnic group (Ref: Natives)</i>					
Turkey and MENA		-0.122**	-0.050	-0.033	-0.036
Former Yugoslavia		-0.030	-0.000	-0.005	-0.004
FSU and Eastern Europe		-0.070**	-0.072**	-0.050*	-0.050**
Northern. Western and Southern Europe		-0.038	-0.038	-0.030	-0.029
Other migration background		-0.110**	-0.096*	-0.107**	-0.108**
Male				0.149**	0.149**
Books in household				-0.007	-0.007+
<i>Highest qualification parents (Ref: Lower sec. degree)</i>					
Intermediate sec. degree				-0.016	-0.017
At least Abitur				-0.065**	-0.065**
Two-parent family				-0.060**	0.059**
Test score ICT				-0.017*	-0.017*
Test score sciences				0.017+	0.018+
Test score reading rate				-0.008	-0.008
Test score mathematics				0.012	0.012
Test score spelling				-0.002	-0.002
Test score reading comprehension				-0.045**	-0.045**
Grade German				-0.024**	-0.024**
Grade mathematics				0.009	0.009
<i>Highest school-leaving certificate (Ref: Lower sec. degree)</i>					
Qualified lower sec. degree				0.031	0.032
Intermediate sec. degree				0.050*	0.050*
<i>Type of school (Ref: Hauptschule)</i>					
Comprehensive school				-0.026	-0.026
Realschule				-0.045*	-0.045*
Share migrants in students' network				-0.011**	-0.011**
Praying at least several times a week					-0.017
Being very religious					0.010
Being active in a religious community					0.027+
Having applied for VET	0.440**	0.437**	0.438**	0.350**	0.350**
Constant	0.050**	0.055**	0.061**	0.103	0.103
N	6317	6317	6317	6317	6317

Source: National Educational Panel Study (NEPS): Starting Cohort 4, author's own calculations.

Notes: Significance level: + $p < .10$, * $p < .05$, ** $p < .01$. Missing data are handled using multiple imputation (MID method).

In model 1d and 1e we additionally control for federal-state dummies

Table A2. Coefficients from linear regressions of students' probability to enter *school-based* VET on religious affiliation and ethnic origin (models 2a–2e).

	Probability of entering <i>school-based</i> VET				
	2a	2b	2c	2d	2e
<i>Religious affiliation (Ref: Christian)</i>					
Muslim	-0.013		0.017	0.011	0.013
Other Religion	0.022		0.028	0.029	0.031
No Religion	0.032**		0.034**	0.019	0.019
<i>Ethnic group (Ref: Natives)</i>					
Turkey and MENA		-0.027*	-0.038	-0.037	-0.036
Former Yugoslavia		0.016	0.012	0.013	0.015
FSU and Eastern Europe		-0.012	-0.009	-0.010	-0.009
Northern, Western and Southern Europe		0.023	0.024	0.025	0.026
Other migration background		-0.004	-0.008	0.009	0.010
Male				-0.075**	-0.075**
Books in household				0.003	0.003
<i>Highest qualification parents (Ref: Lower sec. degree)</i>					
Intermediate sec. degree				0.012	0.012
At least Abitur				0.010	0.010
Two-parent family				0.001	0.001
Test score ICT				-0.001	-0.001
Test score sciences				-0.005	-0.005
Test score reading rate				-0.003	-0.003
Test score mathematics				-0.021**	-0.021**
Test score spelling				-0.002	-0.006
Test score reading comprehension				-0.005	0.005
Grade German				-0.001	0.001
Grade mathematics				-0.011*	-0.011**
<i>Highest school-leaving certificate (Ref: Lower sec. degree)</i>					
Qualified lower sec. degree				0.004	0.003
Intermediate sec. degree				0.003	0.003
<i>Type of school (Ref: Hauptschule)</i>					
Comprehensive school				-0.040**	-0.041**
Realschule				-0.006	-0.006
Share migrants in students' network				-0.004	-0.004
Praying at least several times a week					-0.004
Being very religious					-0.016
Being active in a religious community					0.009
Having applied for VET	0.039**	0.039**	0.039**	0.031**	0.031**
Constant	0.065**	0.065**	0.065**	0.154**	0.153**
N	6317	6317	6317	6317	6317

Source: National Educational Panel Study (NEPS): Starting Cohort 4, author's own calculations.

Notes: Significance level: + p < .10, *p < .05, **p < .01. Missing data are handled using multiple imputation (MID method).

In model 1d and 1e we additionally control for federal-state dummies.

Table A3. Coefficients from linear regressions of students' probability to enter VET on religious affiliation and ethnic origin (separate analyses for males and females).

	Probability of entering dual VET		Probability of entering school-based VET	
	Male	Female	Male	Female
<i>Religious affiliation (Ref: Christian)</i>				
Muslim	-0.102*	-0.080	0.008	-0.001
Other Religion	-0.096	0.048	0.054	0.001
No Religion	-0.049*	0.003	0.025+	0.008
<i>Ethnic group (Ref: Natives)</i>				
Turkey and MENA	-0.123*	0.005	-0.006	-0.041
Former Yugoslavia	-0.027	0.034	-0.001	0.021
FSU and Eastern Europe	-0.058+	-0.059*	0.025	-0.040+
NorthernWestern and Southern Europe	-0.075	0.012	0.049	0.003
Other migration background	-0.100*	-0.139**	0.004	0.032

(Continued)

	Probability of entering dual VET		Probability of entering school-based VET	
	Male	Female	Male	Female
Books in household	-0.008	-0.007	0.007	0.003
Highest qualification parents (Ref: Lower sec. degree)				
Intermediate sec. degree	0.012	-0.052*	0.025*	0.002
At least Abitur	0.060*	-0.075**	0.029*	-0.011
Two-parent family	0.052**	0.062**	-0.006	0.012
Test score ICT	-0.024*	-0.004	0.002	-0.007
Test score sciences	0.026+	-0.003	-0.006	-0.001
Test score reading rate	-0.008	-0.006	-0.005	-0.001
Test score mathematics	-0.001	0.033*	-0.017*	-0.033*
Test score spelling	0.005	-0.006	-0.007	-0.003
Test score reading comprehension	-0.051**	-0.032**	0.007	0.003
Grade German	-0.031**	-0.021+	0.011+	-0.009
Grade mathematics	0.009	0.005	-0.007	-0.014+
Highest school-leaving certificate (Ref: Lower sec. degree)				
Qualified lower sec. degree	0.055+	0.003	-0.009	0.017
Intermediate sec. degree	0.061*	0.042	0.003	0.004
Type of school (Ref: Hauptschule)				
Comprehensive school	-0.048+	-0.016	-0.010	-0.066**
Realschule	-0.052+	-0.039	0.011	-0.022
Share migrants in students' network	-0.011+	-0.004	-0.004	-0.005
Praying at least several times a week	-0.028	-0.014	-0.019	0.015
Being very religious	-0.003	0.021	-0.000	-0.038
Being active in a religious community	0.031	0.034	0.001	0.018
Having applied for VET	0.439**	0.258**	0.001	0.055**
Constant	0.176*	0.194**	0.035	0.195**
N	3332	2985	3332	2985

Source: National Educational Panel Study (NEPS): Starting Cohort 4, author's own calculations.

Notes: Significance level: + p < .10, *p < .05, **p < .01. Missing data are handled using multiple imputation (MID method).

In all models we additionally control for federal state dummies.

Table A4. Coefficients from linear regressions of students' probability to enter VET on religious affiliation, religiousness and religious participation of Muslims and Non-Muslims.

	Probability of entering dual VET			Probability of entering school-based VET		
	1a	1b	1c	2a	2b	2c
Active in religious community	0.039*			0.005		
Muslim	-0.087+			0.003		
Muslim * active in religious community	-0.081*			0.020		
Very religious		0.009			-0.023	
Muslim		-0.098*			-0.009	
Muslim* very religious		0.009			0.030	
Frequent prayer			-0.015			-0.007
Muslim			-0.113*			0.006
Muslim* frequent prayer			-0.004			0.035
<i>Ethnic group (Ref: Natives)</i>						
Turkey and MENA	-0.033	-0.051	-0.034	-0.038	-0.027	-0.044
Former Yugoslavia	0.001	-0.008	-0.003	0.012	0.019	0.012
FSU and Eastern Europe	-0.051*	-0.049*	-0.050*	-0.008	-0.010	-0.009
Northern, Western and Southern Europe	-0.031	-0.031	-0.030	0.026	0.027	0.023
Other migration background	-0.113**	-0.119**	-0.112**	0.013	0.014	0.011
Male	0.149**	0.149**	0.148**	-0.075**	-0.075**	-0.075**
Books in household	-0.007	-0.007	-0.007	0.003	0.003	0.003
Highest qualification parents (Ref: Lower sec. degree)						
Intermediate sec. degree	-0.019	-0.019	-0.020	0.011	0.013	0.011
At least Abitur	-0.069**	-0.069**	-0.069**	0.011	0.011	0.011

(Continued)

Table A4. Continued.

	Probability of entering dual VET			Probability of entering school-based VET		
	1a	1b	1c	2a	2b	2c
Two-parent family	0.058**	0.058**	0.059**	0.003	0.002	0.002
Test score ICT	-0.017*	-0.018*	-0.018*	-0.001	-0.000	-0.001
Test score sciences	0.017+	0.018+	0.018+	-0.005	-0.005	-0.005
Test score reading rate	-0.008	-0.008	-0.008	-0.003	-0.003	-0.003
Test score mathematics	0.011	0.012	0.012	-0.022**	-0.022**	-0.022**
Test score spelling	-0.002	-0.001	-0.001	-0.006	-0.006	-0.006
Test score reading comprehension	-0.045**	-0.045**	-0.045**	0.005	0.005	0.006
Grade German	-0.026**	-0.025**	-0.025**	0.000	0.000	0.001
Grade mathematics	0.010	0.009	0.010	-0.011*	-0.011*	-0.011*
<i>Highest school-leaving certificate (Ref: Lower sec. degree)</i>						
Qualified lower sec. degree	0.032	0.027	0.033	0.006	0.003	0.004
Intermediate sec. degree	0.048*	0.046*	0.046*	0.007	0.005	0.005
<i>Type of school (Ref: Hauptschule)</i>						
Comprehensive school	0-.023	-0.023	-0.023	-0.042**	-0.042**	-0.042**
Realschule	-0.041*	-0.042*	-0.041*	-0.009	-0.009	-0.008
Share migrants in students' network	-0.012**	-0.011**	-0.012**	-0.003	-0.003	-0.003
Pray at least several times a week	-0.015	-0.018	-0.003	-0.003		
Being very religious	0.013	0.010	-0.016	-0.020		
Active in a religious community	0.030+	0.027+	0.008	0.008		
Having applied for VET	0.349**	0.349**	0.350**	0.031**	0.032**	0.031**
Constant	0.095	0.100	0.093	0.161**	0.161**	0.159**
<i>N</i>	6317	6317	6317	6317	6317	6317

Source: National Educational Panel Study (NEPS): Starting Cohort 4, author's own calculations. Notes: Significance level: + p < .10, * p < .05, ** p < .01. Missing data are handled using multiple imputation (MID method). In all models we additionally control for federal state dummies