Article

The Muslim Employment Gap, Human Capital, and Ethno-Religious Penalties: Evidence from Switzerland

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Abstract
In Europe, Muslims are more likely to be unemployed than non-Muslims. Many studies try to explain this employment gap by human capital and contextual factors on the one hand, and by ethno-religious penalties (discrimination due to religious affiliation, religiosity, or migration factors) on the other. In these studies, it is normally assumed that human capital mediates the effect of Muslim affiliation, and that controlling for human capital will therefore reduce the odds for Muslims of being unemployed. We replicate the well-known study by Connor and Koenig (2015) along these lines, using the most recent and representative Swiss data from 2014 (N = 16,487). Our key result is that that the effect of Muslim affiliation on unemployment is not mediated, but actually moderated by human capital. We find a powerful interaction in that Muslims both with a very low and a very high level of education are disproportionally often unemployed. This is important because it means that raising the human capital of Muslims will not automatically lessen, but may instead actually widen, the employment gap. We discuss possible theoretical mechanisms that might explain this finding.

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1. Introduction

Many recent studies have provided evidence that Muslims face difficulties in entering and succeeding in the labor market in European countries. This has been shown in specific national contexts (Adida, Laitin, & Vafort, 2010; Cheung, 2014; Khattab, 2009; Khattab & Modood, 2015; Kohler, 2012; Lindley, 2002) and in cross-national perspectives (Connor & Koenig, 2013, 2015; Heath, Rothon, & Kilpi, 2008; Tubergen, Maas, & Flap, 2004).

Several studies try to explain this employment gap by human capital and contextual factors on the one hand, and to ethno-religious penalties (discrimination, prejudice) on the other. In these studies, it is normally as-sumed that human capital mediates the effect of Muslim affiliation, and that controlling for human capital will reduce the odds for Muslims of being unemployed. The central idea is that Muslims in Western European countries show higher unemployment partly because of a lack of human capital. Controlling for human capital and other individual and contextual factors should, it is thought, reduce the odds of unemployment for Muslims—and any differences that remain must be accounted for by other mechanisms, such as migratory factors and factors of religiosity; in short, "ethno-religious penalties". Ethno-religious penalties can be defined as barriers or obstacles that an individual meets when trying to reach a position; these barriers or obstacles are

created or come into effect because of the ethnic or religious background of the individual (cf., Heath & Martin, 2013).

In this study, we engage with this literature by asking exactly the same questions for a country in which extensive research on the Muslim employment gap has not yet been carried out: Switzerland. To gain a focus, we replicate the methodology of the well-known study by Connor and Koenig (2015). Specifically, we also test the implicit assumption made by Connor and Koenig (2015) that human capital mediates the influence of Muslim affiliation on unemployment.

Our key question in this article is therefore: how great is the Muslim employment gap in Switzerland, and to what extent can it be attributed to human capital, migratory factors, religiosity, and a hostile societal context?

Our most central result is that the "mediation-assumption" made by the literature does not hold for the Swiss data. In our data, the effect of Muslim/non-Muslim affiliation on unemployment is not linearly mediated by human capital variables. In fact, we find a powerful *interaction* in that Muslims both with a very low and a very high level of education are disproportionally often unemployed. This is important because it means that raising the human capital of Muslims will not automatically lessen, but may instead actually widen, the employment gap. We discuss possible theoretical mechanisms that might explain this finding.

We use the most recent and representative data on Switzerland from the 2014 Language, Religion and Culture Survey provided by the Federal Office of Statistics (Flaugergues, 2016; Mayer, 2011) with N = 16,487. This is a high-quality data set that includes good measures for our different mechanisms.

Switzerland, with its multicultural and federalist history, is an interesting country to investigate with regard to the Muslim employment gap for two reasons. First, Muslims are the largest non-Christian religious minority, and the question of the presence of Muslims is one of the most salient themes in public discourse. Switzerland has experienced a growing religious diversity for the past sixty years; it has changed from being an almost exclusively Christian society (mainly Catholics and Protestants) to a pluralist society, including more than 20% "no religious affiliation" and an increasing number of minority religions, among which Muslims are the largest with more than 5% in 2014 (Baumann & Stolz, 2009; Flaugergues, 2016). Second, the Swiss population in different cantons has voted on specific issues related to migration and religion, allowing us to construct a measure of the degree of out-group hostility in the cantons and to test its effect on the Muslim employment gap. Switzerland is a so-called "direct democracy", where people are called to vote on substantive issues on the national, cantonal, and local level at numerous times throughout the year. These direct democratic instruments can, depending on how these minorities are perceived as out-groups and their proportion in the region of residence, lead to

structural discrimination against them (Green, Fasel, & Sarrasin, 2010; Vatter & Danaci, 2010).

We see a twofold contribution of our article. On the one hand, we investigate the Muslim employment gap in Switzerland, a country where this question has not yet been extensively studied. On the other, we challenge former research by showing that, for the Swiss case, a central assumption of many studies—namely, the mediating effect of human capital—does not hold. If our finding carries over to other contexts, it may mean that conclusions concerning the Muslim gap must be revised in many countries.

The plan of our article is standard. We present the state of the art in Section 2, and the theoretical framework in Section 3. Section 4 is concerned with the method used, Section 5 presents the results, and Section 6 concludes.

2. State of the Art

Heath et al. (2008) provide an overview of recent studies on the educational and labor market outcomes for second-generation minorities in ten Western European countries. What strikes the reader is the consistency of one result that arises from all the studies: Muslims are, regardless of ethnicity, always the most penalized group. This consistent Muslim penalty has been addressed from both national and cross-national perspectives.

A prominent example of a national study is Heath and Martin (2013), who also tackle the difficult "identification problem" (i.e., disentangling ethnicity from religious belonging) in Great Britain. Their results show a "consistent pattern for Muslim men and women to in which they experience greater labour market penalties than other members of their co-ethnic groups who belong to other (or no) religions" (Heath & Martin, 2013, p. 1024). The Swiss case has not yet received much attention in the sociological literature on ethno-religious penalties, with the exception of Kohler (2012), who points to a double discrimination for Muslim immigrants in Switzerland (being immigrant and being Muslim) that persists for the second generation. Two other works have provided evidence of discrimination in Switzerland against Turks and ex-Yugoslavs (Fibbi, Kaya, & Piguet, 2003), and against immigrants in general (Golder & Straubhaar, 1999), but without specifying the effect of religious belonging.

The most prominent example of a cross-national study is the research by Connor and Koenig (2015). Their paper aims to determine whether first- and second-generation Muslims in 17 Western European countries (including Switzerland) face barriers when entering the labour market. They use ESS data, pooled across countries and survey rounds (2002–2012). In their mediation analysis, they estimate logistic regression models predicting employment. Their null model enters Muslim/non-Muslim religious affiliation (and controls). They then estimate different models, with "variable sets, which capture potential individual-level mechanisms un-

derlying employment penalties. In this way, explained variance for the Muslim gap can be determined as each variable set is introduced" (Connor & Koenig, 2015, p. 194). They present an overall model as well as a model for the first and second generation. Their results show a significant employment gap (6% unemployment for non-Muslims, against 18% for Muslims). According to their models, 13% of this gap can be explained by variables capturing human capital; 1% by variables of religiosity; and 21% by variables measuring migration factors (Connor & Koenig, 2015, p. 196). Even after controlling for human capital factors, migratory variables and socio-demographic characteristics, some variance between Muslims and non-Muslims remains unexplained, which they use as a proxy for possible ethno-religious discrimination processes.

An important claim of this study is that the different variables representing the mechanisms are "mediating" variables. This means that Muslim/non-Muslim religious affiliation acts on unemployment "through" the intermediate variables specified by the mechanisms. It is the methodology of this study that we take as a model to analyse the Swiss case.

3. Theoretical Framework and Hypotheses

3.1. Symbolic Boundaries and Social Closure

A first explanation for the Muslim employment gap focuses on symbolic boundaries and social closure. According to this explanation, a majoritarian non-Muslim society may engage in social closure and either consciously or unconsciously exclude Muslims from employment positions. Such social closure is often found concerning religious boundaries or attributes that are highly salient or "bright" in the respective society (Alba, 2005; Lamont & Molnár, 2002). In Switzerland, religion can be seen as a bright symbolic boundary since Islam is officially distinguished from a presumed "autochthonous culture": a ban on building minarets is inscribed in the Constitution (Mayer, 2011; Rayner & Voutat, 2014), and the state regulates the religious market, privileging the Catholic and Reformed Churches. Several studies have highlighted how being a Muslim in Switzerland constitutes a marker of "otherness", especially in media discourses (Behloul, 2009; Lindemann & Stolz, 2014). Fibbi et al. (2003) have empirically tested the exclusion of second-generation individuals from majority Muslim countries in Switzerland. Through a thorough testing method (consisting of sending fictitious resumes and analysing the rate of invitation to a job interview), they demonstrate that Albanians from ex-Yugoslavia and Turks in German-speaking Switzerland are respectively 59% and 30% less likely to be called back than Swiss people without a migratory background (Fibbi et al., 2003).

Of course, just because we find a Muslim employment gap, we cannot immediately conclude that social closure and discrimination are in operation, as the employment disparities could be explained by other mechanisms. In the following, we therefore present a series of alternative explanations that might each account at least in part for the employment differences between Muslims and the non-Muslim population.

3.2. Human Capital

Being a Muslim might lead to higher unemployment because of a lack of human capital. As Connor and Koenig (2015, p. 192) suggest, "[m]ost Muslim immigrants entering Europe have come from a lower socio-economic class background compared to the European population as a whole and sometimes to the other immigrant groups". This explanation can apply to the Swiss case too, since the majority of Muslims have a migratory background. Furthermore, this fact leads to a situation in which the second generation of Muslim immigrants grows up in households with lower socio-economic status and less human capital than the surrounding society. The link between human capital and unemployment that underlies this argument is well established in the literature. We define "human capital" as the educational, linguistic, and social resources of an individual (cf., Bourdieu, 1986). This theory suggests that factors such as educational level, job training, language abilities, parental socio-economic characteristics, and the density of social networks should explain most of the variation of professional performance between individuals, be it in terms of access to the labour market, earnings, or occupational achievement (Becker, 1964, 1994). The relationship finds empirical support in recent studies. For example, the Organization for Economic Co-operation and Development (OECD) published a report showing that:

> In all OECD countries [including Switzerland], people with high qualifications have the highest employment rates, and in most countries, they also have the lowest risk of being unemployed. At the same time, people with the lowest educational qualifications are at greater risk of being unemployed or out of the labour market. (Valle, Normandeau, & González, 2015)

Note that the human capital account could at least in principle explain all or part of the Muslim employment gap without recourse to any discrimination or "ethno-religious penalties". This is not the case for the following mechanisms, however.

3.3. Religiosity

Higher Muslim unemployment could also be caused by a religiosity mechanism. On this account, employers would discriminate not so much against Muslims as such, but only or particularly highly religious Muslims. Employers might think that highly religious Muslims could have an excessive cultural distance from general society, which could be harmful to their organization either in its inter-

nal functioning or in the interaction of the organization with the public, clients, or markets. Well-known examples are schools and stores that refrain from employing veiled women (for a literature review of experiments, see Weichselbaumer, 2016). Highly religious Muslims may also be stereotyped as "fanatics" or even associated with Islamic terrorism (Ettinger & Imhof, 2011; Gianni, Giugni, & Michel, 2015). Highly religious individuals could presumably be singled out by dress, appearance (e.g., veil, beard) or information otherwise obtained (e.g., in job interviews). It is empirically difficult to distinguish such social closure on the basis of religiosity on the one hand, and ethnicity on the other, but the distinction can and should be made at least analytically.

3.4. Migration Background

Another complex of factors affecting Muslim affiliation and higher unemployment are those of migration. Muslims in Switzerland are overwhelmingly either first- or second-generation immigrants (Flaugergues, 2016), and migration background is a well-known factor influencing unemployment in Switzerland (Fibbi et al., 2003; Golder & Straubhaar, 1999; Kohler, 2012). Just like religion, this factor can be seen as a bright boundary in Switzerland, partly because of the strict nationality law in Switzerland, which is based on the idea of jus sanguinis (Castles & Miller, 2003). In the light of such bright boundaries, migrants, and especially those working in manual labour, may have more difficulty gaining employment when competing with individuals without such a background. As a disruptive life event, migration can also indirectly affect unemployment probability by influencing human capital: through migration, individuals lose their social networks, are confronted in many cases with a new language, and may see their educational qualifications not recognized in the receiving country (Cheung, 2014).

Compared to the first generation of immigrants, the second generation can expect to see their situation improve because of the human capital (education, linguistic abilities, and social networks) that they have acquired in the country (Cheung, 2014, pp. 143–144). Other than this human capital hypothesis, we could expect that employers do not see individuals of the second generation as "culturally distant" because of their socialization in the autochthonous context. In terms of origins (nationality at birth), we can intuitively expect that non-European origins are perceived as culturally more distant than European origins. Consequently, employers could favour Europeans at the expense of non-Europeans. Also, acquiring Swiss nationality may be seen as an indicator of "integration" and may help when competing for employment.

3.5. Hostile Context

Finally, a xenophobic context would supposedly impact on the unemployment chances of individuals from different cultural and religious backgrounds. Studies using questionnaires have demonstrated that xenophobia and/or Islamophobia is present in Switzerland (for an in-depth theoretical discussion of these concepts and results, see Gianni et al., 2015; Helbling, 2008; Stolz, 2005). The most recent study points to the fact that non-Swiss Muslims feel discriminated amongst, with 21% of Turks, 31% of North Africans, and 15% of ex-Yugoslavians in the sample having had a feeling that they were discriminated against on the basis of their religion in the past 12 months (Gianni et al., 2015). Hostility towards immigrants and Muslims is reflected in the political context of Switzerland, where the campaigns and results of elections are useful indicators: support for the "anti-minaret" and "anti-mass-immigration" initiatives, in 2009 and 2014 respectively, by a majority of Swiss citizens are two of its clearest expressions. Both initiatives focused strongly (or, with the first initiative, exclusively) on the alleged threat that Muslims posed to Switzerland, Swiss democracy, and Swiss culture. Interestingly, supporters of the 2014 initiative linked mass migration with the existence of a (supposedly) ever-growing Muslim population. Here, the borders between Islamophobia and xenophobia are blurred. Cantons differed very markedly in their support or rejection of these initiatives. For example, the support given to the anti-minaret initiative by the rural canton of Thurgau was 67.7%, while the figure for the canton of Geneva was 40.3%. We capitalize on this important inter-cantonal variation and use the results of these elections to measure the degree of hostility towards Muslims/immigrants in each canton.

3.6. Accounting for the Muslim Employment Gap and Ethno-Religious Penalties

Our strategy will first be to ascertain whether there is in fact a Muslim employment gap in Switzerland. If there is, we will investigate how much of this gap can be "accounted for" when controlling for human capital, religiosity, migration background, and hostility of context. Any significant remaining differences that cannot be explained by human capital can be seen as forms of "ethnoreligious penalties" and can be further unpacked with the other factors.

4. Methodology

4.1. Sample and Population

To analyse mechanisms accounting for Muslim/non-Muslim unemployment disparities, we use the most recent and representative data currently available for Switzerland: the 2014 Language, Religion and Culture Survey. Gathered by the Federal Statistical Office (FSO), this dataset used telephone-based interviews and, in a second stage, written questionnaires in all cantons of Switzerland. The response rate was 46.6%. It is a sample of 16,487 permanent residents aged 15 and above. As our study focuses on the labour market, we selected only

work-active individuals: permanent residents aged 16 (age when employment begins) to 64 (age of retirement), excluding also those individuals not able to work and those working full-time in the household. Since we analyse differences between Muslims and non-Muslims, we also excluded people who had not answered the question on their religious affiliation. We use weights provided by the FSO to calibrate socio-demographic variables.

We end up with a sample of 11,012 individuals, composed of 694 Muslims and 10,318 non-Muslims (namely, all other religious affiliations and those without a religious affiliation). In other words, our sample is made up of 6.3% of Muslims in the active population, which is slightly more than the 5% of the Muslim population in the general resident population (Flaugergues, 2016). Because some variables lack data, the logistic regressions are run with a slightly lower N = 10,916 (Muslims n = 682; non-Muslims n = 10,234). Fortunately, only 12 Muslims had to be excluded for the reason of missing data.

We define as "Muslim" any individual who identifies himself or herself with Islam or with any specific denomination considered Islamic by the FSO, such as Sunnism, Shiism, Alevism, and Sufism (Flaugergues, 2016). Non-Muslims are therefore all individuals who identify themselves with other religions or who say that they have no religious affiliation or are atheist/agnostic. Individuals who did not answer the question were excluded from our sample.

4.2. Variables and Operationalization

Our dependent variable is unemployment, translated into a binary variable "employed/unemployed", where employed is the reference modality. The definition of "unemployed" in our data is based on the definition provided by the International Labor Office (OIL), according to which an unemployed individual is a person who is available to work but currently not working and who has been looking for a job for the last four weeks (Walter et al., 2016). Muslim affiliation was measured by self-identification.

As in the methodology used by Connor and Koenig (2015), the different mechanisms accounting for unemployment differences between Muslims and non-Muslims are captured by sets of mediating variables:

Human capital was measured by three variables. Education is a four-step variable distinguishing between completed compulsory schooling, non-compulsory schooling (apprenticeship, post-16 education), higher professional education, and university education (including the *Hochschulen*, HEP, HES). A dichotomous variable measures whether the interviewer detected no linguistic difficulties or some (small or significant) linguistic difficulties in the respondent's answers. Another dichotomous variable captures whether the respondent engages in some or no voluntary activity (i.e., indicator of social network as part of human capital) (Nakhaie & Kazemipur, 2013).

Religiosity was measured by an additive scale composed of frequency of attendance at religious services and frequency of prayer (Cronbach's $\alpha = .661$). This measure represents a theoretical and methodological challenge, like any research dealing with religiosity (Cutting & Walsh, 2007). Tests have been made to make sure biases are not introduced for Muslim women (not compelled to attend religious services) and are discussed in the analyses.

Migration background was captured with three variables. A three-step variable distinguishes autochthonous individuals from first-generation and second-generation immigrants. According to the definitions of the FSO, autochthonous individuals are Swiss-born with at least one parent born in Switzerland, and naturalized individuals with both parents born in Switzerland (Flaugergues, 2016). We define second generation as individuals born in Switzerland or those who arrived before the age of 12 (attended primary school in Switzerland); and first generation as non-Swiss, foreign-born individuals or those who arrived after the age of 11. A dichotomous variable distinguishes between individuals of European and non-European origin. We define "European" in geographical terms (Europe as a continent) based on the classification of the FSO, and not in political terms (part of the European Union). Our data did not allow for a more precise inclusion of ethnicity/nationality in the models because of collinearity problems, i.e., a too strong overlap between variables of ethnicity and religion. A dichotomous variable distinguishes between individuals of Swiss nationality (be this by birth or "naturalization") and non-Swiss nationality.

Hostility of cantonal context was measured by adding two variables: the percentage of support in a canton for the anti-minaret referendum of 2009, and for the mass-immigration referendum of 2012. The two variables are strongly correlated (Cronbach's $\alpha = .960$).

We also controlled for individual level variables of age (a continuous variable), sex (female/male), and marital status (married/not married), as well as for two additional contextual factors: the rate of unemployment in the canton and a dichotomous variable distinguishing between individuals living in an urban or rural area.

4.3. Analytical Strategy

Following the analytical strategy of Connor and Koenig (2015), we explain the Muslim employment gap with a series of logistic regressions predicting employment.[1] A first model only enters the Muslim/non-Muslim variable (including controls) and represents the baseline model. Every one of the following models introduces one set of mediating variables representing a specific mechanism. Comparing the baseline model with every one of the following models concerning the size of the effect of Muslim affiliation on unemployment gives us a measure of how much of the gap can be explained by the respective mechanism.

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[1] We did not use multi-level modelling (with cantons as higher level) because of insufficient numbers of Muslims in several cantons.

We checked for the multicollinearity assumption and did not include some variables in the models or re-work them: we do not control for linguistic region as this variable is highly correlated with the percentage of unemployment.

We present seven models: model 1 only includes the religious-affiliation variable and controls; model 2 enters human capital variables; model 3 tests religiosity; model 4 concerns migration variables; model 5 tests hostility of cantonal context; model 6 is a full model without inter-actions; finally, model 7 adds an educational interaction. For each model, we indicate the odd's ratios $\exp(\beta)$ and their degree of significance ($p < .05$). We also indicate a measure for the difference of β-coefficient of the Muslim affiliation of the respective model to that of the baseline model—this is interpreted as the percentage of the Muslim employment gap that can be accounted for by the mediating variables of the specified mechanism.

5. Findings

5.1. Descriptive Results

As the descriptive statistics show below (Table 1), Muslims (8.9%) are more likely to be unemployed than non-Muslims (3.5%). This represents a significant employment gap between Muslims and non-Muslims in Switzerland.

Other differences can be found between the two groups (Table 1). Muslims are more likely than non-Muslims to be male and young, and they mostly live in urban areas; Muslims are significantly less likely to have entered post-school education and they are five times more likely to have linguistic difficulties than non-Muslims. It is a very new immigrant population since the majority are from the first generation (born elsewhere and arrived after the age of 11). Most have European origins, while a third have Swiss nationality in 2014. Interestingly, and quite contrary to public expectations, they do not differ in terms of intensity of religiosity. Regarding perception of discrimination, while 8% of non-Muslims say that they have felt discriminated against during the last 12 months, 16% of the Muslim respondents mention such feelings. This variable is not taken into account in the explicative analysis of unemployment, but it gives us a hint at the situation of Muslims in Switzerland.

These findings replicate what other scholars have found about Muslims in Switzerland (Gianni et al., 2015; Gianni, Purdie, Lathion, & Jenny, 2010). The question is, however, whether these differences also help to explain the Muslim employment gap. To answer this question, we now present the results of the logistic regressions predicting unemployment.

5.2. Explanatory Results

The results of mediating models in Table 2 present the logged odds ($\exp(\beta)$) and their significance levels. All models control for age, gender, marital status, unemployment in the canton, and urban area. Our first model only introduces the dichotomous variable Muslim/non-Muslim affiliation (together with the controls) and acts as a baseline model. It shows that, for the Swiss case, Muslims are 2.434 times more likely to be unemployed. This represents the "baseline Muslim employment gap".

Table 1. Variable means and percentages by group.

	Muslims	Non-Muslims
Unemployed	**0.089***	**0.035***
Women	0.379*	0.478*
Age	34*	41*
Married	0.622*	0.495*
% of unemployment in canton	0.032	0.031
Lives in a city	0.591*	0.467*
Compulsory schooling	0.328*	0.127*
Non-compulsory schooling	0.544*	0.476*
Post-school education	0.128*	0.397*
At least one voluntary commitment	0.419*	0.534*
Minor or significant linguistic difficulties	0.331*	0.079*
Religiosity (1 to 7 scale)	2.56	2.66
— Autochthonous	0.052*	0.639*
— 1st generation (arrived after 11)	0.598*	0.265*
— 2nd generation (arrived before 12 or born in Switzerland)	0.350*	0.096*
European origin (nationality at birth)	0.788*	0.947*
Swiss passport	0.377*	0.730*
% of support in canton for anti-minaret campaign	0.567	0.573
% of support in canton for anti-mass-migration campaign	0.493*	0.501*
Felt discriminated against during the last 12 months	0.186*	0.079*

Notes: Sample limited to individuals in the labour force; * Cramer V of $p < 0.05$.

Table 2. Logistic regression with exp(β) coefficients predicting unemployment.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Symbolic boundaries:							
Muslim affiliation							
Muslim (ref: non-Muslim)	2.434***	1.734***	2.336***	1.652*	2.448***	1.373*	3.756**
Human capital							
• Compulsory schooling (ref: HE/university)		1.838***				1.683**	1.615**
• Non-compulsory schooling (ref: HE/university)		1.641***				1.680***	1.938***
• Professional education (ref: HE/university)		0.696				0.746	0.840
• Linguistic difficulties (ref: none)		1.951***				1.486 **	1.535**
• Voluntary commitment (ref: no commitment)		0.771*				0.775*	0.774*
Religiosity							
Religiosity			1.143**			1.112**	1.112**
Migratory background							
• First generation (ref: autochthonous)				1.654**		1.530**	1.535*
• Second generation (ref: autochthonous)				1.674**		1.588**	1.635**
• Citizenship (ref: non-Swiss)				0.865		.947	.928
• Non-European origin (ref: European origin)				1.981***		0.550**	0.568***
Hostile context							
Hostility of canton					1.017*	1.018*	1.018*
Human Capital Interaction							
• Compulsory schooling X Muslim							0.550
• Non-compulsory schooling X Muslim							0.207***
• Professional education X Muslim							0.000
Constant	0.025***	0.011***	0.019***	0.029***	0.121***	0.006***	0.004***
Muslim/non-Muslim difference explained variance[1]	—	38.0%	4.7%	43.6	− 0.6%	64.4%	—

Notes: Total N = 10,916 (Muslims n = 682; non-Muslims n = 10,234). Models control also for age, gender, marital status, unemployment in the canton and urban area. * = $p < 0.05$: ** = $p < 0.01$; *** = $p < 0.001$. (1) Calculated as (β(Baseline model) − β(this model)/(β(Baseline model) for the Muslim affiliation coefficient.

In Model 2, we enter our mediating human capital variables of education, linguistic difficulties, and voluntary commitment. Doing so reduces the exp(β) coefficient: Muslims are in this model only 1.734 more likely to be unemployed than non-Muslims. Another way of saying this is that we can account for 38% of the employment gap by introducing human capital variables. It is interesting to see that both linguistic difficulties and lack of formal education are about more or less equally important in explaining some of the employment gap (although we will show in later models that the link to formal education is actually a complex one).

Model 3 shows that religiosity has only very little explanatory power. We can account only for 4.7% of the

unemployment differences. This result is very much in line with previous findings by Connor and Koenig (2015, p. 196). Our religiosity measure included frequency of attendance at religious services, and, since mosque attendance is not compulsory for women, one might suspect that our results may be biased. To check for this possibility, we ran our model separately for men and women. The results are very similar for both groups, with an exp(β) coefficient for religiosity of 1.161** and of 1.130** respectively. We conclude that there does not seem to be bias caused by our religiosity measure.

In Model 4, migratory variables are introduced, accounting for 43.6% of the employment gap. Three points seem to be important here. First, there is no significant

difference in the mediating effect of the generation variable. This is surprising since one could have expected that members of the group of second-generation immigrants might have more resources leading to less unemployment. Second, and surprisingly, citizenship has no significant mediating effect. Third, a very strong mediating effect can be found in the European/non-European distinction. Non-Europeans face higher employment barriers. Clearly, non-European origin is an important disadvantage on the Swiss labour market and it raises the question of intersectionality between origins and religious affiliation in the experience of discrimination.[2] We can note, however, that, even when we control for their European or non-European origin, Muslims still remain 1.652 times more likely to be unemployed than non-Muslims, which points to specific religious discrimination.

Model 5 enters hostility of cantonal context. The effect is barely significant and controlling for this variable does not reduce the odds of Muslim unemployment but increases it slightly. The effect is very small and should be interpreted with care.

Model 6 includes all sets of variables (except interactions) and shows that their mediating influence accounts for 64.4% of the unemployment differences given by the baseline model.

Model 7 introduces an interaction between education and Muslim affiliation. This interaction is strong and highly significant. Introducing an interaction (or "moderating effect") means that we cannot interpret the coefficients in the same way as we did in the previous models. Muslim affiliation no longer has a common overall effect on unemployment, but different effects depending on educational achievement. Thus, Muslims with a university degree (the reference in the education group) are 3.756 times more likely to be unemployed than non-Muslims in general. Compared to this group, Muslims who have had post-compulsory schooling are unemployed significantly less often.

The effect can be seen in Figure 1. We see that both Muslims with compulsory education and Muslims with university education have a significantly higher probability of being unemployed than Muslims with non-compulsory education and professional education (although, because of small N, the latter effect does not turn out to be significant). Formal education clearly diminishes the probability of being unemployed when going from compulsory to non-compulsory and professional education—but it then raises the unemployment probability again when going to university education. This is an interesting finding, since the literature expects education to lower the probabilities of unemployment.

We can only speculate as to possible reasons for this finding. Individuals with a university degree often have an education that is less clearly geared to a profession
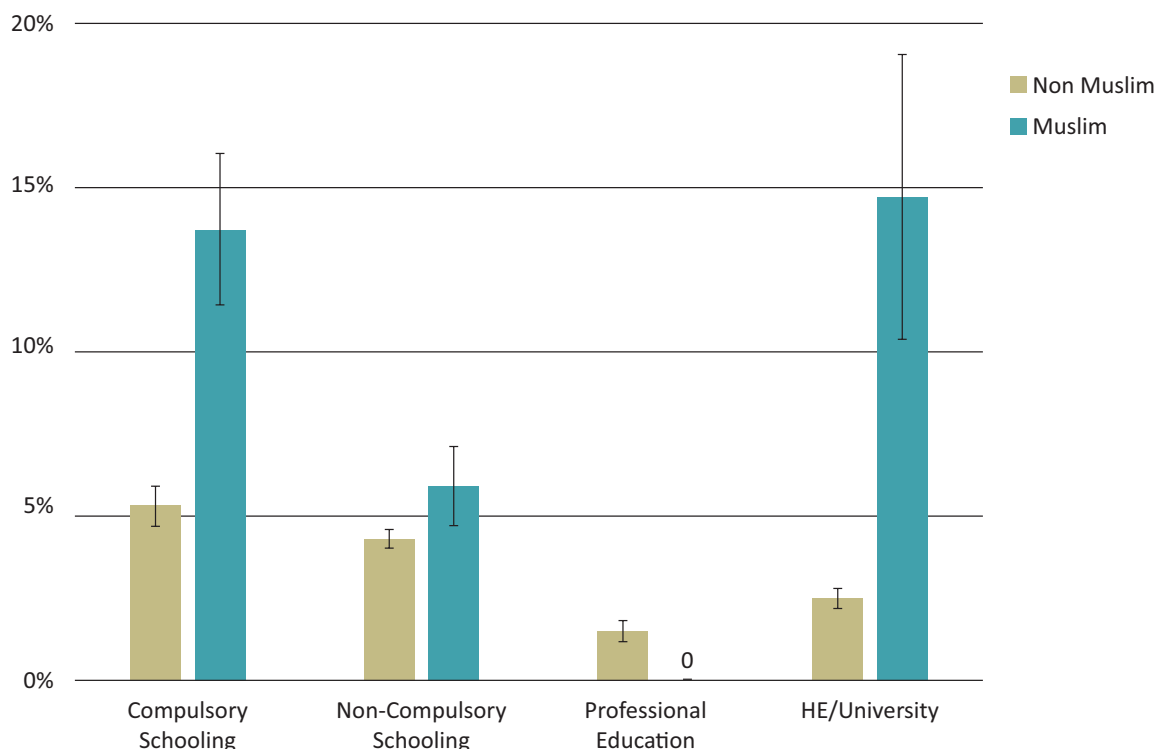

Figure 1. Probability of being unemployed for Muslims compared to non-Muslims for different levels of education.

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[2] According to intersectional approaches, one cannot use analytical categories such as gender, race, and class independently, in the sense that they produce overlapping structures of inequalities (Browne & Misra, 2003). The same can be said about religious affiliation and ethnicity: they work as "'simultaneous and linked' social identities" (Wilde & Glassman, 2016), and it is not always possible to distinguish discrimination mechanisms based on one or the other.

than individuals who have a qualification from a post-school training institution; they may also lack social networks, which are useful to access the labour market after university. In such a situation, the ethno-religious penalty may become important when competing with non-Muslim individuals for highly attractive jobs.

We must remember, however, that, for the majority of Muslims in Switzerland, formal education works in the expected direction. Most Muslims in Switzerland have either compulsory (32.8%) or non-compulsory (54.4%) education, and, for them, the well-known education-leads-to-employment mechanism works. It is only for a smaller group of Muslims (12.8%) with university or professional education that the reverse mechanism seems to operate.

6. Conclusions

In this article, we have investigated whether (1) a Muslim employment gap exists in Switzerland, and (2) to what extent this gap may be attributed to human capital, migratory factors, religiosity, and a hostile societal context.

A number of results confirm what former research in other countries or cross-country research has shown: namely, that there is indeed a significant Muslim employment gap in Switzerland. Without controls, Muslims have a probability of being unemployed of 8.9%, while non-Muslims only have a probability of 3.5%. In terms of odds and controlling for socio-demographic variables (without education), Muslims are 2.4 times more likely to be unemployed than non-Muslims. Other findings that confirm previous research are that human capital factors and migration factors are indeed important and explain much of the variance of the employment gap; and that religiosity is only a very minor factor and does not explain much of the employment gap. We find, like much of the literature, that the second generation of Muslims do not fare significantly better in terms of employment than the first generation.

Three findings are surprising and contribute to the state of the art in a novel way.

First, we find that citizenship does not explain any variance of the employment gap. Swiss citizenship is difficult to obtain; the criteria are strict and obtaining Swiss citizenship means for immigrants an important investment in terms of time, energy, and money. Facilitating naturalization is often proposed as a means of integrating immigrants further. It is therefore remarkable that we do not find any significant effect arising from citizenship. One explanation might be that citizenship is so difficult to obtain that it cannot be a good indicator of integration.

Second, we have used an original measure: the hostility to migrants and Muslims in a cantonal context. We find a statistically significant effect, but only a small effect that does not reduce the Muslim affiliation coefficient, but rather increases it. Substantively, this can be explained by the fact that we find unemployed Muslims more often in cantons with less out-group hostility.

The reason is simply that in the very rural cantons with the highest levels of anti-Muslim and anti-immigrant attitudes, there are hardly any Muslims.

Our most important new finding is clearly that the effect of Muslim affiliation on unemployment is not mediated, but actually moderated by human capital. We find a powerful interaction in that Muslims with both a very low and a very high level of education are disproportionally often unemployed.

The finding is important because it means that raising the human capital of Muslims will not automatically lessen, but may actually widen, the employment gap. It seems worthwhile exploring this phenomenon further, be it with additional quantitative or qualitative methods. It would also be very interesting to see whether the finding can be generalized to other contexts. If it holds and is found to be a generalizable phenomenon, then we will have to think differently about the relationship of human capital and Muslim employment opportunities.

Conflict of Interests

The authors declare no conflict of interests.

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