

Language and Capital in Multi-Lingual Switzerland
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Abstract

This paper uses the 1999 wave of the Swiss Household Panel study to examine the impact of first language on social, cultural, and human capital. Drawing upon previous research which has identified a “language penalty” for minority language speakers in multilingual countries, we aim to examine whether this relationship holds true in Switzerland, and more importantly, to examine the mechanism through which stratification operates. We look at language as a determinant of social and cultural capital for Switzerland as a whole, as well as by language dominant regions. We find evidence of differential investment in social and cultural capital by language group. We then examine the impact of language on human capital, which we conceptualise as earnings potential. The effects for both Switzerland as a whole and by language region suggest that first language, independent of social and cultural capital investments, still has a direct impact on human capital. The effect, however, is non-existent in the more heterogeneous region, suggesting that heterogeneity reduces barriers to the acquisition of human capital.

Language and Capital in Multi-Lingual Switzerland

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Introduction

In this paper, we examine the impact of language on social stratification in multi-lingual Switzerland. We draw upon the work of Bourdieu, who identified three forms of capital: economic, social and cultural. Possession of these forms of capital varies from person to person, and acts as the basis for social stratification. Additionally, these forms of capital are in a constant state of conversion, as each is convertible into the others. While previous research has identified language as a predictor of earnings in multilingual countries, we aim to take this analysis a step further by examining stratification in economic, social and cultural capital by language group in a multilingual society. While previous research has determined that language does result in differences in income, we aim to more clearly understand the causal mechanism behind this stratification.

This paper begins by first examining the relevant literature in this area, beginning with the literature that examines language as a basis for social stratification. We then consider the literature that conceptualises language as ethnicity, and then consider these two streams of literature together to understand why language differentials in social, cultural, and human capital may exist in multilingual society. Next, we give our rationale examining these questions using Swiss data. Results indicate that investments in social, cultural and human capital do exist in Switzerland as a whole and within language dominant regions. In particular, identification of “German” as a first language (instead of Swiss German) was positively associated participation in high culture as human capital attributes, within Switzerland as a whole as well as German dominant Switzerland. Speaking Italian, however, was associated with a disadvantage in social, cultural, and human capital in these same regions. In the French region, speaking a language other than French was also associated with numerous “capital” disadvantages. The fewest disadvantages to capital by first language were found in the more “mixed” regions where first language was more heterogeneous. The differential in capital investment is discussed in terms of barriers to minority speakers and as cultural differences in investment behaviour.

Language as a Basis for Social Stratification

Language as a basis for social stratification has been examined in multilingual societies such as Canada, the US, Belgium, and Switzerland. In Canada, the English-French language debate has sparked sociological inquiry surrounding official language knowledge, ethnic and linguistic diversity and cultural pluralism. Bilingualism has been the focus of much of this social research. Prior research indicates that a ‘language penalty’ does exist and not knowing English can be costly for Canadians. English is the language of work (Morris and Lanphier, 1977) and Anglo-conformity in the sphere of employment has been well documented. For example, Grenier’s (1997) study used Canadian census data to investigate how francophone minorities in Ontario and New Brunswick fare in terms of achieving economic success. A comparison of earnings found that the incomes of francophones living in Ontario were slightly lower than

anglophones but that the incomes of francophones living in New Brunswick fell significantly below those of their English speaking counterparts.

Similarly, American studies have shown that inability to speak English influences workers incomes, particularly among members of the Hispanic American population. Research suggests English fluency and English skill investment effect earnings and the impact is experienced unevenly among different Hispanic ethnic groups (Davila and Mora 2001), likely due to Mexican Americans acquisition of English occurring more rapidly than Puerto Rican and Cuban-Americans in the 1980s. The 'penalty' is especially costly for Hispanic men in the United States (Kossoudji, 1988). Focusing on Switzerland, Grin and Sfreddo (1998) demonstrated that italophones living outside Italian speaking communities experienced a disadvantage in earnings.

The above studies have focused almost entirely on the relationship between language and earnings and have argued that language penalties can be found in Canada, the US and Switzerland. Having surveyed much of the literature on language and stratification in Canada and the United States, Grin (1996) indicates while these relationships have been found to exist, there has been much less emphasis on developing theoretical models to explain these differences. Very little, however, has been achieved in explaining the causal mechanism through which these disadvantages occur.

Having noted this general economic critique, one popular perspective within the existing sociolinguistic literature views language as a standard form of human capital; as a "resource that can produce income" (Vogt 1993, p. 107). Here language knowledge is conceptualised as a skill or investment like education or other forms of training or work experience. Human capital theorists maintain that rational workers will invest in themselves and or in their children in order to enjoy greater economic success. The logical assumption is that workers investing in additional language knowledge will be rewarded with higher returns or rewards. As such, language is understood to be a determinant of earnings and is used to explain earnings differences.

In the social context of the workplace language is a crucial skill. Some researchers suggest that workers require a common language that facilitates the process of communication. A lack of communication may result in miscommunication and bring about discrimination (Lang 1993). Lang (1993) goes on to suggest that communication across groups and communities in the U.S. is hindered by the use of different languages. He maintains that wage differences will persist until language differences are broken down. Likewise, Grenier's (1997) Canadian research suggests that minority language maintenance negatively impacts economic status. There is, then, some indication that language can impact an individual's connection to the wider social world. Maintenance of minority languages may isolate individuals and prevent them from participation in broader social networks present in the dominant culture.

Learning a second language can be costly in terms of time or expense. Workers may however, make the investment and acquire language knowledge if the returns exceed the costs. Thus workers engage in a cost-benefit type analysis. Other factors that may need to be considered include an individual's linguistic abilities, the level of difficulty of a new language, accumulation time and language value in the labour market (Grin 1996; Vaillancourt 1996; Pendakur and Pendakur 2002a). Some empirical research has shown that returns to language skills investment may vary by gender, age, geographical location and economic sector with greater payoffs for English found in the manufacturing versus the public or service sectors given

their reliance on outside markets (Vaillancourt 1996). Grenier (1997) found that in Canada, income differences between francophone and anglophones were smaller for women than men in both Ontario and New Brunswick. Still other studies show that only those who have an excellent command of a second language will benefit from it (Vaillancourt 1996).

The human capital approach to language knowledge has been criticised for emphasising the element of cost. The concept of cost is limited in the sense that it “implies that the sole purpose of language is communication...the language-as-currency hypothesis therefore only has limited relevance and cannot serve as a sufficient criterion in say, the selection of official languages in multilingual polities” (Grin 1996:29). Moreover, if languages are nothing more than useful communication tools, we as sociologists would be hard pressed to explain why language issues have ignited and fuelled such passion and social debate (Grin 1996). And as Davila and Mora (2001) note, returns to other forms of human capital (i.e. education) have been found to differ among ethnic groups. Their research shows that workers who make similar investments in acquiring language knowledge, for example, Hispanic Americans learning English, continue to see differential returns. Therefore these authors expect that the economic returns associated with English language proficiency are likely to vary by ethnicity.

Finally, Nason-Clark and Miedema (1989) found that while English fluency among immigrant women in Fredericton, New Brunswick may have helped them in their day to day lives, it did not protect them from discrimination due to their perception as foreigners. In short, the human capital approach tends to focus on the functional and beneficial aspects of language acquisition and competence and overlooks the cultural component of language knowledge and usage.

Language as Ethnicity

A second perspective views language not only as a facet of individual productivity but as an important sociocultural symbol. This strand of the literature recognises that language extends into most if not all areas of social life and examines issues related to language usage including mother tongue, paths to language acquisition, language spoken at home and language spoken most often.

In contrast to human capital theory, this perspective also concentrates on the relationship between language and ethnicity. Here language knowledge is often identified as an ethnic attribute (Grin and Sfreddo 1998), that is, as a ‘dimension of ethnicity’ (Pendakur and Pendakur 2002a, 2002). Basically, language is conceived of as a cultural characteristic where speech and speech communities may be viewed as expressions of identity, ethnic background, ethnic ties and ethnic group membership. This approach emphasises how language knowledge cross cuts ethnicity and underscores the implications related to the value and social status of minority language knowledge in multilingual labour markets.

Lang (1993) contends that language knowledge acts as a means of identifying difference. He maintains that language differences generate transaction costs which engender wage differences and foster segregation in the workplace based on the idea that employers typically invoke language as a means of differentiating between individuals. Language differences are used to justify the assumption that employers are less able to assess the productivity of people

outside their social group, that is, people who do not speak their language. This difference he argues may translate into discrimination.

Similarly while Pendakur and Pendakur (2002a; 2002) maintain that minority language knowledge may work to one's benefit in ethnic labour market enclaves, it seems to be detrimental within mainstream labour markets where discrimination against minority groups persists. Minority language knowledge may act as "lightening rod for discrimination" or "function as a marker of difference" (Pendakur and Pendakur 2002a; 2002) whereby ethnic language workers experience differential treatment.

In fact Pendakur and Pendakur's (2002a; 2002) recent research on three of Canada's largest urban centres showed striking results with respect to the link between language, ethnicity and earnings. Their results revealed negative returns to knowing a minority language even for workers who were proficient in a majority language. These workers continued to earn less than those who only spoke a majority language. Male workers in Montreal for example who spoke English as well as one other nonofficial language earned over ten percent less than English unilinguals. Additionally, these differences become more pronounced when workers speak multiple minority languages. In some instances, men with official language knowledge who also knew two nonofficial languages earned less than those who knew only one nonofficial language. Overall these findings led Pendakur and Pendakur (2002a) to conclude that minority language knowledge is detrimental to labour market outcomes.

Ethnicity as a Basis of Stratification

While it is clear that language can stratify in terms of earnings, what is less clear is the mechanism by which this stratification occurs. Above, it has been conceptualised as a deficiency in human capital. Other literature suggests that stratification occurs due to blatant discrimination. Because our analyses focus on various aspects of stratification, the process through which language may affect the various aspects of capital must be considered. If we accept that language is an indicator of ethnicity, examination of various characteristics of ethnic groups may help explain why earnings differentials exist. Because we are interested in workers human, cultural, and social capital, examining how these characteristics vary by ethnicity may provide some insight into why differences persist in various spheres of life. Trienekens (2002), for example, found that in the Netherlands, ethnicity was a predictor of the types of leisure consumption activities. Apart from this study, however, very little attention has been given to the cultural consumption and social capital of ethnic minorities within a single country.

THEORETICAL PERSPECTIVE

Upon reviewing the previous literature, two main theoretical themes have been identified: language as "human capital" and language and ethnicity. We propose to take a slightly different trajectory that is motivated by the writings of Pierre Bourdieu. According to Bourdieu (1986), there are three "main" types of capital: economic, social, and cultural. Economic capital refers to the characteristics of individuals which are quickly and relatively easily convertible into money. This type of capital is plainly the most straightforward, and indeed closely related to the concept

of human capital outlined by Becker (1964). Job skills, job tenure and educational attainment are included in this type of capital as their transformation into money is a well-understood process.

The second type of capital is social capital, which according to Bourdieu (1986) is

the aggregate of the actual or potential resources which are linked to possession of a durable network or more or less institutionalized relationships of mutual acquaintance and recognition—or in other words, to membership in a group—which provides each of its members with backing of the collectively-owned capital, a ‘credential’ which entitles them to credit, in various senses of the word (p. 248-9).

It should be noted that Bourdieu’s definition of social capital is entirely focused on the social networks (and the capabilities of those networks) of individuals, while other well-known social capital theorists such as Putnam (2000) understand social capital as a characteristic of societies. Portes (2000) has noted that the bulk of literature on social capital can be divided into that which focuses on social capital as a facet of individuals (i.e. a micro approach) or that which focuses on social capital as a societal attribute (i.e. macro approach). We adopt a perspective that regards social capital as having aspects of both and propose that its conceptualisation be broadened to include characteristics of an individual’s social resources, as well as characteristics of an individual’s civic engagement. Ideally, one could account for the social capital present in individual communities to partially explain the diversity, but since it is often not possible to do this, we believe civic engagement is an acceptable alternative.

The third form of capital identified by Bourdieu is cultural capital. Bourdieu defined the term as having several components, and throughout his writings, the definitions and roles performed by cultural capital varied. Following a survey of his writings, Lamont and Lareau (1988) identified the key characteristics of cultural capital that were common to Bourdieu’s various essays. They propose to define cultural capital as

institutionalized, i.e. widely shared, high status cultural signals (attitudes, preferences, formal knowledge, behaviors, goods and credentials) used for social and cultural exclusion, the former referring to exclusion from jobs and resources, and the latter, to exclusion from high status groups (Lamont and Lareau 1988, p. 156).

These forms of capital do not exist in isolation from one another, but are inextricably linked to each other. Each form of capital is convertible into another form. Economic capital is at the root of all capitals such that economic reward can be derived from social and cultural capital. The example of cultural capital has demonstrated that signs of cultural knowledge are rewarded in the classroom, which are easily converted into a type of economic capital – educational attainment. Additionally, networks of colleagues can provide information about available jobs or stock tips, for example, which again are easily convertible into economic capital in the form of a higher paying job or stock payoffs. Likewise, cultural capital can be converted into social capital. Exposure to the beaux arts and participation in haute couture activities is likely to allow access to networks where cultural capital knowledge is valued, and indeed, a form of exclusion. Social capital can also be transformed into cultural capital. Access to colleagues associated with

networks such as opera societies or wine clubs, for example, can result in individuals developing the skills and tastes essential to develop a learned appreciation of these forms of leisure consumption.

The Swiss Case: Context and Rationale

The proceeding analyses assess the impact language status has on social, cultural, and human capital in Switzerland. The Swiss case is used to illustrate the implications of linguistic diversity in the labour market of a multilingual state. Our rationale here is threefold. First, Switzerland is unique in that it is a country composed of three distinct language communities or regions that recognise three official languages including German, French and Italian; four national languages including Romansh. Second, Switzerland is often applauded for its cultural pluralism. It has been described as “the most successful multilingual state in modern history” (Dunn 1970, p. 256). A state without a solid history of linguistic conflict, it has been touted as the “famous Swiss Wunder or miracle” (Prevost and Beaud 2002: 95). Third, the Swiss political-linguistic regime is based on the principle of territoriality. Each of the cantons or language regions are, according to Prevost and Beaud (2002:94), “entrusted with the powers necessary to protect the integrity and purity of their linguistic areas.” Of the twenty six Swiss cantons, 17 have a strong majority (more than 80%) declaring German as their mother tongue; strong majorities also exist in Jura and Neuchatel (with 87.8% and 80.2% respectively declaring French) as well as in Ticino (where 82.8% declare Italian) as their first language (Prevost and Beaud 2002).

The Swiss case is interesting given the historical stability of various language communities and the high level of linguistic homogeneity found in each language region (McRae 1983). However as Grin (1996) notes, recognising linguistic and cultural plurality does not necessitate an “idealistic disregard” for intergroup competitiveness when it comes to scarce resources. It has even been said that “Swiss who move from one linguistic area to another have a ‘national duty to assimilate’” (Prevost and Beaud 2002:94). Moreover, given that territory and language appear to coincide (Laczko 1994; Linder 1994; Prevost and Beaud 2002) variation in legislation, school systems and cultural background (Renaud et al. 2001) facilitates strategic comparative analysis of earning disparities associated with language across the Swiss cantons.

Data and Methods

This analysis uses data from the Swiss Household Panel Study. The Swiss Household Panel (SHP) is an annual longitudinal panel survey. Data are gathered at both the level of the household as well as at the level of the persons living in the household. The survey covers various topics, gathering information on basic sociodemographic factors including topics related to employment, leisure, social support, and many others. A representative sample of the Swiss population (5 074 households) was recruited and interviewed in the autumn of 1999 (1st wave), resulting in the collection of individual data from 7 799 persons aged 14 and older. The data analysed here are restricted to those persons aged 21 to 59 who answered the language questions in 1999 as well as the various other items that are examined here (Ns for each estimation are

provided in the tables). At the household level the net response rate was 61 per cent, which is considered good for panel studies of this nature. This analysis does not take advantage of the longitudinal nature of the data and instead employs a cross-sectional analysis of the 1999 wave.

Variables

Human capital. Respondents' human capital was measured by estimating the hourly earnings potential of the respondent. The rationale, details, and theoretical underpinnings of this technique are described in detail in Gershuny (2000, 2002a, 2002b). Briefly, this measure of economic capital is a scalar measure of social position that allows for a value to be assigned to a person's earnings potential. It is advantageous over conventional categorical measures of "social class" (e.g. the Goldthorpe scheme) because it can assign a value to those who are not in employment. Other advantages include that it is easily aggregated to the household level and that due to its scalar nature, it can illustrate intragenerational change in economically salient capital over relatively short periods of time (i.e. as opposed to generations). A Heckman regression was used to estimate an "androgynous" wage equation for males and females, where sex was added in the selection equation:

[Heckman] Logged Hourly Earnings Potential= age age2 mow* educ workex highgrad higrade2 medgrade medgrade2 highgrade*age highgrade*age2 medgrade*age medgrade*age2, select (female age age2 mow* educ workex highgrad higrade2 mdgrade medgrade2 highgrade*age highgrade*age2 medgrade*age medgrade*age2)

where:

- 1) logged hourly earnings= the log of hourly earnings reported at the survey year;
- 2) work ex= work experience was measured the year in which the respondent reported beginning work "without long interruption" subtracted from 1999.
- 3) education= highest educational attainment at the survey year;
- 4) MOW = mean wage of respondent's occupation, generated using the mean wage by two digit International Standard Occupational Classification codes ;
- 5) higrade = quantiles 9 and 10 of the MOW distribution and their squared values;
- 6) medgrade= quantiles 5, 6, 7, and 8 of MOW distribution and their squared values;
- 7) various interaction terms to account for the different income quadrature trajectories of high and medium waged by age.

Social Capital. As described above, we have two distinct components to our conceptualisation of social capital. The first focuses on the relationships that individuals have. The greater the number of contacts, the greater the social network of a person, and the greater access a person has to resources potentially available through other people. This concept is measured by two items. The first item asked measured number of friends while the second measured number of colleagues. The respondent was asked, "How many good and close friends do you have?" and "With how many work colleagues or acquaintances met during the course of leisure, political, religious or other activities, are you on good terms?"

Respondents were also asked about their membership to various organisations. They were asked if they were active or passive members of the following types of organisations: 1) local or parents' associations, 2) sports or leisure association, 3) an organisation involved in cultural activities, music, or education, 4) a syndicate or employees' association, 5) a political party, 6) an organisation concerned with protection of the environment, 7) a charitable organisation, 8) a women's organisation, or 9) a tenants' rights association. Active memberships to any groups were coded "1" and summed to create a variable that measured an individual's civic engagement.

Cultural Capital. An individual's cultural capital was assessed through their participation in high culture leisure activities. Respondents were asked about the frequency that they participated in 1) reading for leisure, 2) going to the theatre, the opera, visiting an exhibition, and 3) attending a course for leisure. Response categories were: everyday, at least once a week, at least once a month, less than once a month, and never. Dummy variables were created for reading at least once a week, taking a course at least once a month, and attending the theatre, opera, or exhibition at least once a month.

Language. First language was assessed by response to the question: "Which language do you relate to and master best?" If the respondent indicated having a second language, it was also picked up at this stage. All languages identified by respondents were recorded. For first language of personal use, codes were collapsed into "German", "Swiss German", "French", "Italian", and "other." The distinction between Swiss German and German was retained because of the significant number of respondents (N=275) indicating German as their first language. Included in the "other" category were Swiss-French dialect speakers (N=3), and Ticino dialect speakers (N=34). A dummy variable for having a second language was created where 1 indicated having a second language.

Language Regions. Dominant language by canton was determined by both by information obtained from the Swiss government website, literature, and a crosstabulation of canton by first language. Two cantons, Juru and Appenzell Inner-Rhodes were excluded from the analysis due very sample sizes. Table 1 summarises how language regions have been identified. The majority of cantons were German dominant, while Geneva, Neuchatel, and Vaud had French majorities. Ticino was the only canton where Italian was dominant. Although Fribourg, And Valais had clear French majorities of about two-thirds, substantial German proportions were found here as well—30 percent in Fribourg and 26 percent in Valais. Similarly, Grisons had a clear German majority (76 percent), but the largest Italian speaking proportion found outside of Ticino (ten percent). Four language regions were created: German dominant, French dominant, Italian, and mixed. The mixed category was created to test whether higher degrees of language heterogeneity were associated with different investments in the capitals examined here.

--Table 1 about here--

Control Variables.

Age. Age was measured by the current age of the respondent at the time of the survey.

Sex. A dummy variable for females was created.

Family Background. Family background was assessed by the respondent's father's level

of educational attainment. Where's father's educational attainment was missing, mother's was replaced. Parents' educational attainment was measured by a sixteen-category item ranging from "incomplete compulsory schooling" to "university degree." A dummy variable was created that measured high parental education, which corresponded to educational attainment that was in the top twenty percent of the distribution of educational qualifications. In this data, this corresponded to having vocational high school training with master's certificate or higher.

Marital Status. A variable measuring the respondent's marital status at the time of the survey was included in the data set. The variable was recoded slightly into the categories married, cohabiting, single, and previously married (including divorced, separated, and widowed).

Region. A dummy variable measuring if a respondent was resident in a urban centre was created.

Results

Table 2 presents descriptive statistics for the entire sample. Almost sixty percent declared Swiss German as their first language, followed by French (24%), other (7 percent), Italian (6%), and German (4%). Over half of the sample indicated that they had a second language. The mean earnings potential was just over 40 Swiss Francs per hour. Respondents reported having on average six friends and colleagues, and the mean value for civic engagement was just below one, reflecting that 45 percent of respondents indicated that they were not active members of any organisation. Over ninety percent of the sample read at least once a week, while just 18 percent attended a course at least once a month and 24 percent attended the theatre, opera, or exhibition at least once a month. Fifty seven percent of the sample was female and the average age of respondents was 40. Twenty percent had a parent with high educational attained. With regard to marital status, almost two-thirds were married.

--Table 2 about here--

The analyses begin by first examining the data by language region to identify whether any striking differences existed among language groups considered here. Table 3 presents the respondents' first language by language region. While there respondents of all the first languages considered here represented in the regions, the very small sample sizes of non-Italian speakers in Italian-dominant Ticino and non-French speakers in the French dominant and mixed regions make detailed analysis of these regions problematic, and in further analyses, simpler comparisons between dominant and non-dominant language speakers are made for these regions.

--Table 3 about here--

--Table 4 about here--

Table 4 presents the average number of friends by first language and region. German and French speakers had more friends than average in the Swiss German region, while German speakers and speakers of "other" languages had fewer than average friends in the French region. In the Italian region, non-Italians had just a mean of 4.5 friends, compared to a mean of 5.62 among Italian speakers. In the mixed area, Swiss Germans had an average of 4.82 friends, compared to the regional average of 6.21. Comparing all non-French in the French dominant and mixed areas reveals that they reported, on average, having fewer friends than French speakers.

--Table 5 about here--

Table 5 presents the average number of colleagues by first language and region. In the German region, French, Italian, and “other” speakers had far fewer colleagues, on average, than their German and Swiss German speaking counterparts. In the French region, German and “other” speakers had far fewer colleagues than the regional average, while in the mixed area, German and Swiss German, and Italian speakers had more colleagues than French speakers. In the French dominant region, non-French speakers as a whole had, on average, fewer colleagues than French speakers. In the mixed region, however, all non-French speakers reported having more colleagues than French speakers.

--Table 6 about here--

Table 6 presents average civic engagement by first language and region. In the German region, Swiss German speakers had the highest average of civic engagement, followed by the French. Italian and “other” speakers have averages that were much lower than the regional average. In the French region, Italian and others also had averages that are much lower than the regional mean. In the mixed region, Swiss German speakers had higher than average civic engagement, compared to the regional mean and the mean for French speakers. Again, Italians and other speakers in the mixed region have lower than average civic engagement. Comparing French speakers with non-French speakers in the French dominant and mixed regions reveals that the non-French in French dominant Switzerland reported lower than average civic engagement, while in the mixed region, non-French as a group reported higher than average civic engagement.

--Table 7 about here--

Tables 7, 8, and 9 examine first language, region, and cultural consumption. Table 8 illustrates the percentages of people who reported reading (for leisure) at least once a week by first language and region. In the German region, Italian speakers had a much smaller proportion (84%) who read at least once a week compared to the regional average (93%). This was also true in the French region, where only 80 percent of Italian speakers reported reading for leisure at least once a week, compared to the regional average of 90 percent. Speakers of “other” languages also had a much lower proportion of leisure readers (75 %). In the mixed region, the average numbers of German (100%) and Swiss German (95%) speakers who read at least once a week was considerably higher than the regional average (90%). Comparing respondents whose first language was not French with the French speakers in the French dominant area indicated lower proportions who read at least once a week, while in the mixed region, the reverse was true.

--Table 8 about here--

In Table 8, a larger proportion of Swiss German and German speakers reported taking a course for leisure at least once a month, compared to speakers of other languages in the German, French, and mixed regions. Conversely, Italian speakers were represented on the opposite extreme with very small proportions in each region having reported taking a course for leisure at least once a month. There was no remarkable difference between French and non-French speakers in the French and mixed regions.

With regard to attending theatre, opera, or exhibitions at least once a month (Table 9), Germans within the Swiss German dominant region were higher than average consumers of this form of leisure (34 percent compared to the regional average of 21 percent), compared to only nine percent of Italian speakers in this region. German and Swiss German speakers in French dominant areas, however, had corresponding proportions below the average in region, as did

Swiss Germans in the mixed regions. “Other” speakers in French and mixed regions also reported participation in these activities that was far less than the regional averages. With regard to all non-French in the French dominant and mixed regions, far fewer (24 and 25 percent, respectively) reported going to high culture events compared to their French speaking counterparts (32 and 31 percent respectively).

--Table 9 about here--

Table 10 presents the mean human capital for respondents by first language and language region. On initial inspection, Italians in the mixed regions appear to have significantly higher mean human capital, but it should be recalled (Table 3) that this represents only fifteen cases. Of the regional averages, German speakers had the highest mean in the German region, while Swiss Germans had average human capital significantly higher than the regional average. “Others” within the French region have human capital below the average. In the Italian region, non-Italians had higher human capital than Italian speakers, while in the mixed region, several groups had higher means than the dominant language group (French), although the small sample sizes must be considered. If we consider the non-French as a group, their average human capital in the French dominant region was considerably less, while in the mixed region, their average earnings were about two Swiss francs more than French speakers.

--Table 10 about here--

We now turn to the multivariate analyses. Because our theoretical perspective assumes a constant conversion of the capitals into one another, it is important to establish that these concepts are not so highly correlated with one another that they violate the assumptions of the multivariate techniques employed here. Table 11 presents the correlations of the various items with one another, demonstrating the multicollinearity should not be problematic in the following analyses.

--Table 11 about here--

--Table 12 about here--

Tables 12 through 14 present the results of the OLS regressions of social capital on first language and controls, first by Switzerland as a whole, and then by the language regions. In each estimation, family background (as measured through parental education) and individual human capital were entered as control variables. Theoretically, the class origin of the respondent must be taken into account when examining issues of social capital, as a multitude of previous research has identified social capital as being particularly biased towards the upper classes. As well, we add respondent’s human capital at this stage due to the constant conversion of human capital and social capital into one another. According to Bourdieu, social capital is determined by and is also a determinant of human capital. Sex was also entered as a control variable. Ideally we would examine the effects by sex separately for each estimation, but small sample sizes make this difficult. Knowledge of a second language was also entered as a control variable, as previous research (above) has suggested that multi-linguality may be associated with economic advantages. We examined if multi-linguality also contributed to social and cultural capital. Finally, whether or not a respondent lived in an urban area was entered as a control due to our belief that the extent of social and cultural capital will vary according to the population density of the area in which individuals live. In each model, the dominant language of the region was used as the reference category in the estimations.

Table 12 presents the results of number of friends on first language and controls, first for

Switzerland as whole, then by individual language regions. For Switzerland as a whole, speaking French as a first language was positively associated with number of friends, compared to Swiss German speakers. By individual regions, however, speakers of first languages other than Swiss German were no different to Swiss German speakers in the German dominant areas. As well, there was no difference between French speakers and non-French speakers in the French region, nor was there a difference between Italian and non-Italian speakers in the Italian region. In the mixed region, compared to French speakers, being a non-French speaker was negatively associated number of friends, independent of the effects of the other variables.

--Table 13 about here--

Table 13 presents the estimations of the regression of number of colleagues on first language and controls. For all of Switzerland, compared to Swiss German speakers, speaking French, Italian, and other first languages was negatively associated with the number of colleagues reported. Having a second language, however, was associated with an increase in the number of colleagues reported by respondents, independent of the effects of other variables. In the German region, speaking French or an “other” language as a mother tongue compared to Swiss German was also negatively associated with number of colleagues. In the French and mixed regions, number of colleagues did not significantly vary by having French as a first language. In Italian dominant Switzerland, compared to being an Italian speaker, being a non-Italian speaker did not affect number of colleagues.

--Table 14 about here--

Table 14 presents the results of the regression of extent of civic engagement on first language and controls. For all of Switzerland, compared to Swiss German speakers, speaking German, Italian, and “other” languages as a first language was negatively associated with civic engagement. Likewise, in the Swiss German dominant area, speaking German, Italian, or another first language was, compared to Swiss German, negatively associated with civic engagement. In French dominant Switzerland, compared to French speakers, having a different first language than French was negatively associated with civic engagement. Conversely, being a non-Italian speaker in the Italian region of Switzerland was positively associated with civic engagement, compared to having Italian as a first language.

--Table 15 about here--

Tables 15 though 17 present the results of the logistic regression of cultural capital on language and controls. We control for family background as cultural capital is theorised to operate partially through family background and class endowments. As well, we control for respondents’ human capital because, as discussed above, theory suggests that there is an ongoing conversion process between human and cultural capital. The results are presented as odds ratios. Odds ratios of greater than one indicate an increase in the odds of a predicted outcome, while odds ratios of less than one indicate a decrease in the odds of an outcome. The estimations predicting reading for leisure at least once a week are presented in Table 15. For all of Switzerland, compared to Swiss German speakers, speaking French as a first language was associated with a 40 percent decrease in the odds of reading at least once a week. Similarly, compared to Swiss German speakers, speaking Italian and “other” languages as a first language was associated with almost a fifty percent decrease in the odds of reading at least once a week. In German dominant Switzerland, speaking Italian as a first language was associated with a 58 percent decrease in the odds of reading for leisure at least once a week, compared to Swiss

German speakers. In the French dominant region, having a language other than French as a mother tongue decreased the odds of 68 percent of reading at least once a week for leisure. No language effects were found in the analysis of the Italian region. In the mixed area, however, having a first language other than French increased the odds of reading for leisure by over 250 percent.

--Table 16 about here--

Table 16 presents the results of the logistic regression of attending a course at least once a month on language and controls. For Switzerland as a whole, being having the mother tongue of French, Italian, or “other” reduced the odds of attending a course for leisure, compared to having Swiss German as the mother tongue. In the German dominant region, Italian speakers had a 52 percent decrease in the odds of taking a course, and ‘other’ language speakers had a 38 percent decrease in the odds of taking a course, compared to Swiss German speakers. The language effects were not statistically significant for the French, Italian, and mixed regions.

--Table 17 about here--

Table 17 presents the results of the logistic regression of attending high culture events at least once a month on first language and controls. In Switzerland as a whole, French and German speakers, compared to Swiss German speakers, had a increased odds of participating in high culture events. French speakers had a 162 percent increase in the odds of participating in high culture events, compared to Swiss German speakers, while the corresponding odds increase of German speakers was 146 percent. In the Swiss German dominant region, German speakers had a 149 percent increase in the odds of participation in these events, compared to Swiss German speakers, while Italian speakers had a 55 percent decrease in the odds of participating in high culture events compared to Swiss German speakers. In French dominant Switzerland, having a first language other than French was associated with a 45 percent decrease in the odds of attending a high culture event, with similar findings for non-French mother tongues in the mixed region. Interestingly, in these two regions, having a second language also increased the odds of high culture participation.

--Table 18 about here--

Table 18 presents the results of OLS regression of logged human capital on first language, social capital, cultural capital, and controls for Switzerland as a whole. A log transformation of human capital corrected for the skewed nature of the distribution. The first model included only first language and whether or not a person reported having a second language. Compared to having Swiss German as a mother tongue, reporting German as a first language was positively associated with human capital, while Italian and other first languages were negatively associated with human capital. Second language had no effect. In the second model, social capital variables were added, improving the fit of the model. Number of colleagues and civic engagement were positive and statistically significant predictors of human capital. Addition of these variables increased the size of the German language coefficient, while the effect of having Italian and other first languages was decreased, suggesting that some of the effect was mediated by social capital. Cultural capital variables were added in the third model, further improving the fit of the model. “Other” first languages dropped from statistical significance, while the effects of German and Italian as first languages (compared to Swiss German) reduced in size, suggesting that the effects on human capital were further mediated by cultural capital. In the final model, family background, age, sex, marital status, and living in an

urban area were added to the model, which greatly improved the fit of the model. The effect of having German and Italian as a first language decreased further, but remained statistically significant. Having French as a mother tongue achieved statistical significance in this final model, indicating that compared to Swiss German speakers and independent of the effects of other variables, having French as a mother tongue was positively associated with human capital. Thus, in the final model, French and German as mother tongues were significant and positive predictors of human capital, while Italian was a significant and negative predictor of human capital, independent of the effects of social and cultural capital, and controls.

--Table 19 about here--

Table 19 presents the regression of logged human capital on language, social and cultural capital and controls by language region. Due to small the small numbers of respondents in the Italian region, it was not possible to do these estimates on the Italian region. In the German region, independent of the effects of other variables, speaking German as a mother tongue positively associated with human capital (compared to Swiss German speakers), while speaking Italian as a first language had a negative impact on human capital. In the mixed region, speaking a language other than French had a negative impact on human capital, independent of the effect of other variables. In the mixed region, however, not speaking French as a first language did not have an effect on human capital. Interestingly, it was only in the mixed region where having knowledge of second language had a positive effect on human capital.

Discussion

At the beginning of this paper, we proposed to examine the mechanism by which language acted as an agent of stratification in Switzerland. While previous studies have identified an italophone wage disadvantage, and other studies have identified earnings differentials by language minorities in multilingual societies, the mechanism by which this occurs is not fully understood. We used the theoretical perspective of Bourdieu to conceptualise human, social, and cultural capital as being inextricably linked to the process of stratification. Our analyses began by looking at the impact of first language on individuals' stock of social and cultural capital, and then because social and cultural capital theorised to be converted to human capital, we examined the effect of first language on human capital, controlling for the effects of social and cultural capital, along with other factors.

We begin this section by first discussing the results for Switzerland as a country, and then by dominant language regions. For Switzerland as a whole, first language had a direct effect on social, cultural, and human capital. The summary of findings for these analyses are presented in Chart A. Of the concepts measuring social capital (number of friends, number of colleagues, and extent of civic engagement), having a French, Italian, 'Other' mother tongue had a negative effect on number of colleagues and speaking German, Italian or some "other" first language had a negative association with civic engagement, compared to Swiss German speakers. The only deviation from this pattern was the positive effect of French mother tongue on an individual's number friends. French speakers reported having, on average, more friends than their Swiss German counterparts (Table 4), and the results of the multivariate analysis revealed that independent of various factors, compared to Swiss Germans, being a French speaker was associated with about one additional friend.

With regard to cultural capital (reading at least once a week, attending a course once a

month, attending high culture events once a month), being a French, Italian, or “other” speaker was associated with a decrease in the odds of both reading for leisure and attending courses. With regard to high culture events, however, French and German speakers had significantly increased odds of attending such events, compared to Swiss German speakers. These language-based differences in social and cultural capital suggest that perhaps there is an ethnic-based difference in investment in these two forms of capital. Compared to Swiss German, other language speakers had less investment social capital, except for the positive effect of being French on having friends. Speaking French, Italian, or some other first language decreased the odds of cultural capital investment as well, except in the case of German and French participation in high culture events.

--Chart A about here--

Finally, the effects of first language on human capital were examined. It was found that the impact of first language was mediated, to some extent, by social and cultural capital for German and Italian speakers. The direct effect of language was still statistically significant in the final model, where controls for social and cultural capital, family background, and various statuses were included. Compared to Swiss Germans, being a French speaker was associated with a 0.027 increase in logged human capital. For Germans (compared to Swiss Germans), the coefficient was 0.035. For Italian speakers, however, the effect was negative ($b=-0.033$).

To summarise, compared to being a Swiss German, speaking French, Italian, or other languages was negatively associated with social capital and cultural capital in all of Switzerland, with the exception of number of friends for French speakers and high culture consumption in the case of German and French speakers. Taking these factors (and others) into account, however, still resulted in a language-based differentials in human capital.

--Chart B about here--

Turning to the analysis of language regions, a summary of results for (Swiss) German dominant Switzerland are presented in Chart B. Having French or “other” as a native tongue had a negative effect on number of colleagues, as did having an ‘other’ language as the mother tongue. Being a German speaker (as opposed to Swiss German), Italian or “other” speaker had a negative effect on civic engagement. With regard to cultural capital, being an Italian speaker (compared to Swiss German) reduced the odds of participation in all of the cultural capital items. It was only with German speakers that there was an increase in the odds of participation in high culture events. In the models predicting human capital, social and cultural capital mediated the effects of language on earning potential for all language groups (results not shown), but remained a statistically significant predictor of human for German speakers and Italian speakers, independent of the effects of social capital, cultural capital, and other variables included in the estimations.

--Chart C about here--

For the French dominant region, such detailed analyses of first languages were not possible, due to the smaller sample size. Instead, the individuals who identified their first language as French were compared with those who indicated some other language as their primary tongue. Being a non-French speaker was associated with a decrease in civic engagement and decreased the odds of reading for leisure and participation in high culture events. In the model predicting human capital, the effect of being a non-French mother tongue was mediated by social and cultural capital, but the main effect still persisted. Having a mother tongue other

than French was negatively associated with human capital ($b=-0.073$). These findings are summarised in Chart C.

--Chart D about here--

Chart D summarises the findings for the mixed region. The mixed region was analysed as a separate type of region to examine whether results would differ by this more heterogeneous region. French speakers were used as the reference category as they comprised almost 70 percent of this region. Compared to French speakers, non-French speakers had fewer friends, were more likely to read for leisure, and were less likely to participate in high culture events. The effect of not speaking French, however, had no statistically significant impact on human capital, even when estimated in a bivariate regression (results not shown). And it was only in this mixed region where having a second language increased earnings potential. These findings support the idea that heterogeneity reduces the impact of the stratification based upon language differences.

Conclusion

This paper has identified differences in social, cultural, and human capital by first language, both across Switzerland as a country, and within language dominant areas. Across Switzerland as a whole, compared to Swiss German speakers, French, Italian or another language as a mother tongue was associated with a decrease in the majority of social and cultural capital indicators, with the exception of number of friends and high culture participation. French speakers, compared to Swiss German speakers, had more friends and a greater likelihood of participating in high culture events. As well, individuals who said their first language was German and not Swiss German also had a greater likelihood of participating in high culture events. These findings indicate that across Switzerland, speakers of languages other than Swiss German may have a tendency to have less social and cultural capital than their Swiss German counterparts, except for the notable exceptions: the French and German in the case of high culture consumption and the French in the case of number of friends. Independent of cultural and social capital, however, first language still had a direct effect on human capital—positively for French and German speakers, negatively for Italian speakers. Because our human capital estimator is a measure of earnings potential based upon human capital characteristics, it can be deduced that French and German speakers have better jobs and educational backgrounds, and that Italian speakers tend to have “less” of these characteristics compared to their Swiss German speaking counterparts.

Within language regions we found that in the German dominant area, social and cultural capital disadvantages were experienced by French, Italian, and speakers of other languages, as well as speakers of non-Swiss German. The most disadvantage was associated with Italian speakers. German speakers, however, had a higher likelihood of participating in high culture events than their Swiss German speaking neighbours. In terms of human capital, German speakers did better than Swiss German speakers and Italians were again at a disadvantage in terms of human capital. Even after accounting for their lower levels of social and cultural capital, a negative association with human capital still existed for Italian speakers in the Swiss German dominant region.

The findings on German speakers are surprising, as the effect cannot be explained completely as being attributable to economic migration by a highly skilled group of workers from other German-speaking countries, as 60 percent were Swiss-born. Perhaps their use of

‘high’ German, as opposed to Swiss dialect, gives signals to gatekeepers that such traits should be rewarded. This is similar to Bourdieu’s argument about how class differentials are maintained in the educational system, however in his example, the process worked among children with greater language proficiency in the classroom. The greater participation of German speakers in haute couture activities would also support this idea.

Within the French region, a language other than French as a first language was associated with a decrease in civic engagement and a decrease in the odds of two forms of cultural capital. As well, non-French speakers also experienced a language penalty with regard to human capital. It is not possible, as with the German region, to examine in such detail the specific language groups and how they fared in French dominant Switzerland. It is only possible to say that after accounting for their decreased social and cultural capital, a direct negative effect was found for being a non-French speaker in French Switzerland.

In the mixed region (Fribourg, Grisons, Valais), having a mother tongue other than French was negatively associated with number of friends, an increase in the odds of reading for leisure, and a decrease in the odds of high culture participation. However, and most importantly, not speaking the dominant language as a mother tongue had no impact on human capital. This suggests that as heterogeneity increases, the barriers to language minorities decrease. It was also only in this area where having a second language was positively associated with human capital, suggesting that multi-linguality in diverse areas is rewarded.

This paper has attempted to add to the understanding of stratification in multilingual societies by examining the effect of language on three forms of capital. We recognise, however, that there are important limitations to our study. First and foremost, the processes are likely different for men and women. We did not analyse the data separately for men and women due to space constraints and small sample sizes. Future research must consider the gender dimension in causal mechanism between language and stratification. As well, we cannot determine much about Italian-dominant Switzerland, also due to small sample sizes. What we can tell is that Italian speakers in Switzerland as a whole and within the German dominant regions have far less social, cultural, and human capital than Swiss Germans. Finally, future research should examine the cultural importance of these forms of capital to various ethnic groups. We cannot determine why the differences exist—only that they do. The barriers that stand in the way of language minorities investing in the various forms of capital need to be more fully understood. It is clear that not having mastery of the dominant language of an area would restrict one’s ability to fully engage socially and would deter individuals from participating in cultural events. As well, barriers to educational attainment may exist for individuals whose first language is not the dominant one of the area. As well, if different language groups have different values associated with investing in these forms of capital—if we understand language to be ethnicity-- additional understanding of the process of stratification would be achieved.

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Table 1. First Languages by Canton

	German+	French	Italian	Other
German Dominant				
AG Argovia	90.03	1.06	3.63	5.29
AR Appenzell Outer-Rhodes	92.73	1.82	0.00	5.45
BE Berne	83.05	13.11	1.69	2.15
BS Basle-Town	88.56	1.99	2.99	6.47
BL Basle-Country	90.81	3.89	0.71	4.59
GL Glarus	94.74	0.00	5.26	0.00
LU Lucerne	93.73	1.00	1.75	3.51
NW Nidwalden	95.65	0.00	0.00	4.35
OW Obwalden	97.56	0.00	0.00	2.44
SG St. Gall	92.39	0.22	2.46	4.92
SH Schaffhausen	90.91	0.00	6.49	2.60
SO Solothurn	93.81	0.00	3.44	2.75
SZ Schwyz	90.35	0.88	1.75	7.02
TG Thurgovia	94.14	0.45	1.80	3.60
UR Uri	100.00	0.00	0.00	0.00
ZG Zug	85.71	0.00	2.20	12.09
ZH Zurich	89.00	2.07	3.67	5.26
French Dominant				
GE Geneva	4.18	79.11	3.13	13.58
NE Neuchâtel	4.26	85.49	2.90	7.35
VD Vaud	7.04	83.24	2.68	7.04
Italian Dominant				
TI Ticino	12.23	2.14	81.65	3.98
High Mix				
FR Fribourg	30.16	65.25	1.31	3.28
GR Grisons	77.51	0.59	7.10	14.79
VS Valais	27.11	66.67	1.83	4.40

+Swiss German and German

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Swiss German	5572	0.59		0	1
German	5572	0.04		0	1
French	5572	0.24		0	1
Italian	5572	0.06		0	1
Other	5572	0.07		0	1
Not Italian	5572	0.94		0	1
Second Language	5541	0.56	0.50	0	1
Human Capital	4405	40.54	12.33	15.53	79.80
Number Friends	5509	5.82	4.78	0	20.00
Number Colleagues	5444	6.07	7.25	0	25.00
Sum Civic Engagement	5572	0.87	1.02	0	7
Read at Least Once Per Week	5562	0.92		0	1
Course at Least Once Per Month	5548	0.18		0	1
Theatre, Opera at Least Once Per Month	5562	0.24		0	1
Female	5572	0.57		0	1
Parental Education (1=high)	5457	0.20		0	1
Married	5572	0.65			
Cohabiting	5572	0.07		0	1
Single	5572	0.17		0	1
Previously Married	5572	0.11		0	1
Age	5572	40.09	10.10	21	59

Table 3. Language Region by First Language: Distribution of Cases

	Region				Total
	German	French	Italian	Mixed	
First Language					
Swiss German	3135	25	12	114	3286
German	168	24	12	18	222
French	119	750	4	483	1356
Italian	114	25	159	15	313
Other	213	73	37	67	390
Total	3749	897	224	697	5567

Table 4. Language Region by First Language: Mean Number of Friends

First Language	Region			
	German	French	Italian	Mixed
Swiss German	5.64	6.52		4.82
German	6.21	3.92		
French	6.13	6.57		6.55
Italian	5.33	6.92	5.62	6.86
All Not Italian			4.50	
Other	5.12	5.55		5.85
All Not French		6.05		5.45
Average	5.61	6.48	5.29	6.21

Table 5. Language Region by First Language: Mean Number of Colleagues

First Language	Region			
	German	French	Italian	Mixed
Swiss German	6.79	6.00		6.19
German	6.70	2.78		6.17
French	4.24	5.53		4.73
Italian	5.17	6.00	4.14	6.29
All Not Italian			4.00	
Other	4.90	4.82		3.69
All Not French		4.90		5.44
Average	6.55	5.43	4.10	4.95

*Mean for Non-Italian is 4.0

Table 6. Language Region by First Language: Mean Civic Engagement

	Region			
	German	French	Italian	Mixed
First Language				
Swiss German	0.94	0.84		1.14
German	0.73	0.71		0.50
French	0.84	0.86		0.83
Italian	0.51	0.44	0.58	0.60
All Not Italian			0.82	
Other	0.58	0.55		0.66
All Not French		0.61		0.90
Average	0.87	0.82	0.65	0.845

Table 7. Language Region by First Language: Percent who Read for Pleasure at Least Once a Week

First Language	Region			
	German	French	Italian	Mixed
Swiss German	94%	88%		100%
German	93%	96%		95%
French	92%	92%		89%
Italian	84%	80%	89%	93%
All Not Italian			94%	
Other	91%	75%		89%
All Not French		82%		93%
Average	93%	90%	90%	90%

Table 8. Language Region by First Language: Percent Take a Course at Least Once a Month

First Language	Region			
	German	French	Italian	Mixed
Swiss German	22%	12%		23%
German	20%	17%		22%
French	14%	9%		15%
Italian	10%	0%	8%	7%
All Not Italian			12%	
Other	16%	8%		12%
All Not French		9%		18%
Average	21	9%	9%	16%

Table 9. Language Region by First Language: Percent Who Go to Theatre, Opera, Exhibitions at Least Once a Month

	Region			
	German	French	Italian	Mixed
First Language				
Swiss German	21%	24%		24%
German	34%	25%		33%
French	22%	32%		31%
Italian	9%	28%	23%	27%
All Not Italian			20%	
Other	15%	23%		24%
All Not French		24%		25%
Average	21%	31%	22%	29%

Table 10. Language Region by First Language: Mean Human Capital

First Language	Region			
	German	French	Italian	Mixed
Swiss German	40.77	43.31		40.24
German	44.92	42.89		43.72
French	39.53	41.17		39.66
Italian	36.11	38.65	38.15	46.84
Not Italian			40.16	
Other	38.20	35.27		42.29
All Not French		38.44		41.67
Average	40.63	40.75	38.77	40.23

Table 11. Correlations Between Capitals, All of Switzerland

	1	2	3	4	5	6	7
1. Human Capital	1.00						
2. Number of Friends	0.05	1.00					
3. Number of Colleagues	0.09	0.15	1.00				
4. Total Civic Engagement	0.18	0.09	0.16	1.00			
5. Read at Least Once a Week	0.14	0.03	0.02	0.05	1.00		
6. Course at Least Once a Month	0.06	0.05	0.06	0.11	0.07	1.00	
7. Theatre etc at least Once a Month	0.17	0.08	0.06	0.12	0.10	0.09	1.00

Table 12. Regression of Number of Friends on First Language and Controls

Unstandardised Coefficients					
	All	German	French	Italian	Mixed
Swiss German	(ref)	(ref)			
French	1.021**	0.533	(ref)		(ref)
First Language not French			-0.449		-1.589**
German	-0.205	-0.235			
Italian	0.249	0.216		(ref)	
First Language not Italian				-1.556	
Other First Language	-0.315	-0.271			
Second Language	0.204	0.195	-0.045	1.171	0.159
Parental Education	0.699**	0.768**	0.736	0.655	0.453
Human Capital	0.008	-0.007	0.037*	0.126**	0.032
Female	-0.666**	-0.875**	-0.065	-0.262	-0.454
Urban	0.373*	0.501*	0.680	-0.332	-0.657
Constant	5.402**	6.119**	5.060**	0.233	5.650**
Observations	4267	2951	655	145	511
Adjusted R-squared	0.02	0.01	0.01	0.07	0.02

* significant at 5%; ** significant at 1%

Table 13. Regression of Number of Colleagues on First Language and Controls

Unstandardised Coefficients					
	All	German	French	Italian	Mixed
Swiss German	(ref)	(ref)			
French	-1.377**	-2.491**	(ref)		(ref)
First Language not French			-0.616		1.050
German	-0.812	-0.480			
Italian	-1.457**	-0.950		(ref)	
First Language not Italian				-0.508	
Other First Language	-1.859**	-1.785**			
Second Language	0.542*	0.717*		2.684*	0.336
Parental Education	0.635*	1.244**	-0.608	-3.846*	-0.317
Human Capital	0.038**	0.034**	0.047*	0.027	0.049*
Female	-1.160**	-1.167**	-1.346*	-2.301*	-0.421
Urban	0.143	0.090	0.244	3.535*	-0.642
Constant	5.601**	5.598**	4.900**	2.921	3.326**
Observations	4217	2908	652	145	507
Adjusted R-squared	0.03	0.02	0.02	0.08	0.01

* significant at 5%; ** significant at 1%

Table 14. Regression of Civic Engagement on First Language and Controls

Unstandardised Coefficients					
	All	German	French	Italian	Mixed
Swiss German					
French	-0.074	-0.076			
First Language not French			-0.316**		0.173
German	-0.302**	-0.315**			
Italian	-0.340**	-0.307**			
First Language not Italian				0.417*	
Other First Language	-0.321**	-0.377**			
Second Language	0.016	0.015	0.162	-0.200	-0.181
Parental Education	0.095*	0.137**	0.010	-0.139	0.031
Human Capital	0.014**	0.013**	0.012**	0.024**	0.017**
Female	-0.047	-0.005	-0.170*	-0.115	-0.137
Urban	-0.134**	-0.136**	-0.103	-0.382	-0.145
Constant	0.451**	0.437**	0.486**	-0.030	0.358*
Observations	4303	2978	659	148	513
Adjusted R-squared	0.05	0.04	0.05	0.10	0.05

* significant at 5%; ** significant at 1%

Table 15. Logistic Regression of Cultural Capital (Reading at Least Once a Week) on Language and Controls

Odds Ratios					
	All	German	French	Italian	Mixed
Swiss German	(ref)	(ref)			
French	0.602**	1.037	(ref)		(ref)
First Language not French			0.321**		2.554*
German	0.954	0.833			
Italian	0.496**	0.424**		(ref)	
First Language not Italian				2.147	
Other First Language	0.487**	0.698			
Second Language	0.918	0.851	1.685	0.550	0.622
Parental Education	1.425*	1.611*	1.486	0.258*	1.668
Human Capital	1.054**	1.042**	1.088**	1.060	1.064**
Female	1.799**	1.729**	1.806*	0.777	3.031**
Urban	1.024	1.590*	1.057	0.458	0.551
Observations	4297	2975	658	147	512
Pseudo R-squared	0.06	0.05	0.12	0.13	0.12

* significant at 5%; ** significant at 1%

Table 16. Logistic Regression of Cultural Capital (Attending a Course at Least Once a Month) on Language and Controls

Odds Ratios					
	All	German	French	Italian	Mixed
Swiss German	(ref)	(ref)			
French	0.489**	0.645	(ref)		(ref)
First Language not French			0.730		1.069
German	0.859	0.845			
Italian	0.387**	0.474*		(ref)	
First Language not Italian				0.990	
Other First Language	0.491**	0.617*			
Second Language	1.148	1.121	1.279	7.231	0.979
Parental Education	1.210*	1.244*	1.496	0.338	1.063
Human Capital	1.013**	1.010**	1.012	0.991	1.041**
Female	1.253**	1.315**	0.839	0.536	1.463
Urban	1.074	1.171	1.274	2.233	0.594
Observations	4287	2967	655	148	512
Pseudo R-squared	0.03	0.01	0.02	0.08	0.05

* significant at 5%; ** significant at 1%

Table 17. Logistic Regression of Cultural Capital (Attending Theatre, Opera, or Exhibitions at Least Once a Month) on Language and Controls

Odds Ratios					
	All	German	French	Italian	Mixed
Swiss German	(ref)	(ref)			
French	1.623**	1.131	(ref)		(ref)
First Language not French			0.545*		0.482**
German	1.464*	1.489*			
Italian	1.099	0.445*		(ref)	
First Language not Italian				0.774	
Other First Language	0.756	0.686			
Second Language	1.111	0.998	1.467*	0.430	1.545*
Parental Education	1.598**	1.518**	1.629*	1.596	2.226**
Human Capital	1.036**	1.032**	1.039**	1.079**	1.035**
Female	1.539**	1.666**	1.253	1.866	1.363
Urban	1.798**	2.367**	1.278	0.305	1.225
Observations	4296	2975	656	147	513
Pseudo R-squared	0.06	0.06	0.06	0.12	0.07

* significant at 5%; ** significant at 1%

Table 18. Regression of Logged Human Capital on Language, Social Capital, Cultural Capital, and Controls (All Switzerland)

Unstandardised Coefficients				
	1	2	3	4
French	-0.003	0.003	0.000	0.027**
German	0.085**	0.098**	0.083**	0.035*
Italian	-0.072**	-0.052*	-0.042*	-0.033*
Other First Language	-0.073**	-0.051**	-0.034	-0.022
Second Language	0.015	0.015	0.014	0.017*
Number of Friends		0.001	0.000	0.002*
Number of Colleagues		0.002**	0.002**	0.001
Civic Engagement		0.047**	0.042**	0.016**
Read at Least Once a Week			0.127**	0.064**
Course at Least Once a Month			0.015	0.044**
Theatre etc at Least Once a Month			0.090**	0.073**
Parental Education				0.108**
Age				0.088**
Age squared				-0.001**
Cohabiting				0.052**
Single				0.023*
Previously Married				-0.020
Female				-0.165**
Urban				0.012
Constant	3.654**	3.583**	3.453**	1.560**
Observations	4353	4244	4228	4155
Adjusted R-squared	0.01	0.04	0.07	0.50

* significant at 5%; ** significant at 1%

Table 19. Regression of Logged Human Capital on Language, Social Capital, Cultural Capital, and Controls by Language Region

Unstandardised Coefficients			
	German	French	Mixed
Swiss German	(ref)		
French	0.006	(ref)	(ref)
French not First Language		-0.073**	-0.024
German	0.046*		
Italian	-0.068**		
Other First Language	-0.015		
Second Language	0.006	0.035	0.045*
Number of Friends	0.001	0.002	0.001
Number of Colleagues	0.001	0.001	0.002
Civic Engagement	0.013**	0.015	0.028**
Read at Least Once a Week	0.042**	0.089**	0.107**
Course at Least Once a Month	0.041**	0.066*	0.083**
Theatre etc Once a Month	0.061**	0.088**	0.074**
Parental Education	0.102**	0.106**	0.136**
Age	0.092**	0.072**	0.090**
Age squared	-0.001**	-0.001**	-0.001**
Cohabiting	0.054**	0.072*	0.027
Single	0.021	0.046	0.005
Previously Married	-0.012	-0.043	-0.053
Female	-0.183**	-0.143**	-0.113**
Urban	0.023*	-0.019	0.026
Constant	1.530**	1.843**	1.504**
Observations	2869	638	502
Adjusted R-squared	0.51	0.51	0.49

* significant at 5%; ** significant at 1%

Chart A. Summary of Results for Switzerland as Whole

	German	French	Italian	Other
<i>Social Capital</i>				
Friends		+		
Colleagues		-	-	-
Civic Engagement	-		-	-
<i>Cultural Capital</i>				
Reading		-	-	-
Courses		-	-	-
High Culture	+	+		
<i>Human Capital</i>	+	+	-	

(compared to Swiss German speakers)

Chart B. Summary of Results for German Dominant Region

	German	French	Italian	Other
<i>Social Capital</i>				
Friends				
Colleagues		-		-
Civic Engagement	-		-	-
<i>Cultural Capital</i>				
Reading			-	
Courses			-	-
High Culture	+		-	
<i>Human Capital</i>	+		-	

(compared to Swiss German speakers)

Chart C. Summary of Results for French Dominant Region

	French not First Language
<i>Social Capital</i>	
Friends	
Colleagues	
Civic Engagement	-
<i>Cultural Capital</i>	
Reading	-
Courses	
High Culture	-
<i>Human Capital</i>	-

(compared to French speakers)

Chart D. Summary of Results for Mixed Region

	French not First Language
<i>Social Capital</i>	
Friends	-
Colleagues	
Civic Engagement	
<i>Cultural Capital</i>	
Reading	+
Courses	
High Culture	-
<i>Human Capital</i>	

(compared to French speakers)