Social Capital of Non-Traditional Students at a German University. Do Traditional and Non-Traditional Students Access Different Social Resources?

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Abstract

Social capital is of particular value for the acquisition of education. Not only does it prevent scholars from dropping out but it improves the educational achievement. The paper focuses on access to social resources by traditional and non-traditional students at a German university and asks if there are group differences considering this important precondition of academic achievement. We assess students' access to social capital with an abbreviated and adjusted version of van der Gaag and Snijders' (2005) Resource Generator. We compare the access to social capital among traditional and non-traditional students and take a closer look at the effects of social origin on the availability and structure of social capital.

Non-traditional students are a group of students which did not attain a general qualification for university entrance, but instead were accepted for university studies by completing an entrance examination. Before commencing tertiary studies, they often completed an apprenticeship and worked for some years. Because of their different educational careers and living conditions, we expect that non-traditional and traditional students access social capital in different parts of their social networks. Our results indicate that the different educational backgrounds of students impact their access to social capital. However multivariate analyses illustrate that most differences in social capital access can be put down to diverging group compositions. Core determinants of the social capital access are socio-economic background and vocational education: Students from higher socio-economic backgrounds and those who completed vocational education have access to more social capital than their fellow students.

Keywords: Higher education, Social capital, Social resources, Non-traditional students, Germany

1. Introduction

Social capital is subject of much attention in sociology. It seems to be important for a well-functioning society and for the personal success of individuals. Here we understand social capital as social resources (like help or information) an individual can access in his/her social network. These resources are helpful in various ways: Research has shown that individuals are more successful in getting a high status job if they activate weak ties (Burt, 1992; Granovetter, 1973; Lin, 1999) but also if they activate strong ties to gather information about a job or to acquire help to solve problems (Häuberer & Šafr, 2012; Völker & Flap, 1999). But even earlier in the life course, social capital is of particular value – especially in education. Coleman (1988) indicated that the family's social network (presence of both parents, low number of siblings) and the embedded social capital (mother's expectation about educational achievement of the child) prevent children from dropping out of high school. Israel, Beaulieu, and Hartless (2001) extended this study, showing that social capital inside the family (e.g. discussions about school achievement) and the embeddedness in community networks (e.g. membership in community and religious organizations) help students to improve their educational achievement. Alike are the results of Dufur, Parcel, and Troutman (2013) who point out that academic achievement is influenced by family and school social capital. Regarding entrance to university, the family also plays a crucial role. For example, family discussions about expectations regarding entering university (as a social resource) increase the probability of enrolling at college

(Perna & Titus, 2005). However, the social resources in the family network are not the only influencing factors that shape the perception of higher education. Attitudes towards higher education are impacted by the whole network composed of family and friends. Thus there is no unidirectional effect of parents on their offspring's educational pathways. As Heath, Fuller, and Johnston (2010) have shown, children are also able to convince their parents about the value of higher education if they attend university. Besides shaping the attitudes towards higher education, access to social capital also enhances the educational achievement of university students (Etcheverry, Clifton, & Roberts, 2001; Martin, 2009). Accordingly, social capital is a crucial factor in predicting educational success. Knowing about these advantages of social capital for study entrance and educational achievement, we ask where exactly traditional and non-traditional students access their social capital. If both groups of students have similar social capital compositions they should have similar chances to show the same performance at university. Thereby, the paper adds great value to the state of the art research as the social capital of non-traditional students had not been researched before.

As different faculties do attract different kinds of students we concentrate on one department in order to attain a single consistent institutional frame. The study focuses on students with different university entrance qualifications and compares the social resources of traditional and non-traditional students. In the department under research, non-traditional students are eligible to enter university after passing an entrance exam and usually have work experience including a completed apprenticeship. Thus, we have two groups in a similar social situation, but with different experiences and coming from contrasting contexts in which they created their networks. To date it is not known how the social networks and social capital affect the study success of non-traditional students. So far, we only know that non-traditional students achieve worse grades at university exams than traditional students (for an overview see Freitag, 2012, pp. 33 ff.). This might be caused – among other factors like socio-economic background – by their different access to social capital.

The paper is structured as follows: First, we elaborate possible sources of social capital. Second, we define and compare traditional and non-traditional students and derive hypotheses about the social capital composition of the respective groups. The third section introduces methodology, while the fourth shows the results which are then discussed.

2. Social Capital and its Origin

Social capital has been conceptualized very differently (Burt, 1992; Coleman, 1988; Lin, 2001; Putnam, 2000), but here we refer to Bourdieu's notion of social capital as "actual or potential resources linked to a membership in a group" (Bourdieu, 1986, p. 248). Thus we understand social capital as the sum of concrete social resources an actor can access. Such resources can include assistance, lending of a tool one needs or simply a friendly word to raise somebody's spirits (Note 1). These resources help individuals to perform purposive actions (Lin, 2001).

As suggested by Bourdieu, social capital emerges in social groups or in social networks. Accordingly, interaction with other individuals increases the access to social capital (Häuberer, 2011, p. 150). Social network embeddedness and meeting opportunities – and thereby potential and actual access to social capital – vary across the life course (McDonald & Mair, 2010; Mollenhorst, Völker, & Flap, 2014). Thus, we will have a closer look at the social network compositions and social capital access of students: Throughout a life course, individuals gather together in different foci (Feld, 1981). Life course transitions, such as the commencement of studies, entering the labor market or starting a family indicate the entry into new foci and thus come with great changes in a person's network and potential social capital access. With changing foci, the opportunities for maintaining relationships or for establishing new relationships change, and therefore impact the configuration of an individual's networks (Mollenhorst et al., 2014). Kalmijn (2003) showed that the number of friends decreases when entering a relationship and marrying, whereas friendship networks of spouses increasingly overlap with the duration of their relationship. The study of Wellman, Yuk-Lin Renita, Tindall, and Nazer (1997) even indicated that networks change significantly over short time periods up to a decade. Relationships with friends and family members appear to be more stable. And even if access to social resources tends to stay stable over time, the contacts providing specific resources change. Preferred places for meeting new supporting contacts are school and work amongst others (Mollenhorst et al., 2014).

Additionally, culture and gender roles influence the composition of an individuals' social networks (Kane, 2011). Individuals with high education tend to have larger networks than individuals with low education (Behtoui, 2007; Lin, Fu, & Hsung, 2001). Accordingly, well-educated respondents seem to have better access to concrete social resources than less educated ones (Häuberer, 2014). They tend to have bigger kin and non-kin networks (McPherson, Smith-Lovin, & Brashears, 2006). Concerning gender differences, research findings are not so straight forward. Lin (2001) has shown that women - even though they maintain smaller and more cohesive networks than men - are able

to access similar amounts of social capital as men. Other studies indicated that women tend to have bigger networks than men (McPherson et al., 2006). Häuberer's (2014) analyses of Eurobarometer data even indicate that women access more social resources than men. Women primarily access resources that are connected to social support while men seem to access social resources that are useful in competitive environments. Furthermore, women have closer relations to kin and friends than men (Kalmijn, 2003; McPherson et al., 2006).

Age also influences social capital access, since social contacts accumulate with increasing age and individuals hold different occupations during their lives. Thus, older people have more diverse networks than young individuals which allow potential access to different social resources. However there is a drop off among the elderly (McDonald & Mair, 2010). The relations within the networks of individuals also change with age. Old people maintain strong relations to their family members, while young people tend to have many weak ties concentrated mostly in their friendship networks (van Tilburg, 1998). Regarding definite social resource access, younger individuals seem to have advantages in accessing them when compared to older respondents (Häuberer, 2014). Concerning ethnic background, Moren Cross and Lin (2008) indicate a disadvantage for non-white Americans to have contacts in their network with prestigious positions. Thus, one can expect that non-white Americans have less potential access to social resources like contacts to media or ability to employ people.

In summary, the reviewed studies indicate unequal access to social capital, while its accessibility varies throughout the life course depending on contact opportunities as well as the socio-economic characteristics of an individual such as sex, age, education, social origin and migration background. This paper probes the effects on social capital access of the accumulation of the above mentioned characteristics. To this end, we compare two different groups of students.

3. Traditional and Non-Traditional Students in Germany

The opening of higher education is not only a key matter of European (European Commission, 2008) but also of German (Bundesministerium für Bildung und Forschung, 2008; Kultusministerkonferenz, 2009) educational policy. This policy aims to improve the educational level in society as a whole and thereby addresses economic and social issues by increasing the permeability of the educational systems. On the one hand it is the goal to eliminate a potential shortage of skilled workers, on the other hand social inequality shall be reduced by giving a second chance to people that suffered from social discrimination in their previous educational career (Kultusministerkonferenz, 2008, p. 1). For these purposes, German higher education institutions were opened to vocationally qualified persons without a scholastic qualification for university entrance, so-called non-traditional students (Kultusministerkonferenz, 2009). Still, in 2013 only 12,130 non-traditional students were enrolled. That is a share of 2.4% of all freshmen in Germany (own calculation on the basis of data of the Federal Bureau of Statistics). Simply put, the vast majority of students enters university on the traditional way. The acquisition of the general qualification for university entrance (Abitur) takes 12 to 13 school years, respectively 11 to 12 school years for the university of applied sciences entrance qualification (Fachhochschulreife) (Kultusministerkonferenz, 2014). Whilst 57.3% of all school-leavers in 2012 gained a qualification for university entrance (Abitur or Fachhochschulreife) (Autorengruppe Bildungsberichterstattung, 2014), they are pretty much among themselves in institutions of higher education.

Though the discourse about non-traditional students in Germany tends to focus on vocationally qualified students, there is no uniform definition of this group in national or international research. Sometimes students are labeled as "non-traditional" when they have entered university from alternative paths (Teichler & Wolter, 2004, pp. 70 f.), when they belong to minorities (Schuetze & Slowey, 2002, p. 313) or when they are older than 25 years (Cross, 1987). It has become popular to identify this group through their educational career, citing the fact that they did not come straight into university, identifying their entry routes, considering the lack of general qualification for university entrance, and their mode of study, taking into account part-time students (Schuetze & Slowey, 2002, p. 315; Teichler & Wolter, 2004, p. 72). This definition is also ambiguous, as it refers to criteria which occurred after entering higher education. Other authors identify non-traditional students as people who gain "access to higher education through the validation of prior learning and work experience – with or without a higher education entrance examination" (Orr, Schnitzer, & Frackmann, 2008, p. 41). This last approach is closely related to ours. We define non-traditional students (hereafter also denoted as non-traditionals, in short, NTS; traditional students are denoted as TS) as individuals who do not possess a general qualification for university entrance (Abitur) but have gained access to university by passing an entrance exam. This definition enables us to draw a sharp distinction, since it refers only to criteria which occurred before studying.

Due to the diversity in definitions in national and international research, because of the varying educational systems, and because of the small rate of NTS amongst the student population, little is known about non-traditionals. Yet, the

case of non-traditionals in Germany is an especially interesting case as higher education was opened here nationwide only recently. Research has shown that non-traditionals in Germany seem to be seeking either professional promotion or the development of their personality by undertaking university studies (for an overview see Brändle, 2014). However comparative studies show that there are only small differences between non-traditional and traditional students in terms of their reasons for studying. Due to their different routes to university, non-traditionals are older than traditional students and are more likely to have completed vocational education (Note 2) (Brändle, 2014).

Slightly more is known about the socio-economic background of non-traditionals. Several studies (Brändle, 2014; Diller, Festner, Freiling, & Huber, 2011; Isserstedt, 1994; Scholz & Wolter, 1986; Wolter & Reibstein, 1991) have shown that non-traditionals come more often from working-class families than traditional students. That is, non-traditionals have less educated socio-economic backgrounds than traditional students, as their parents often possess the lowest school-leaving qualification and have blue-collar jobs. In contrast, traditional students in Germany are conventionally socialized in families with high social status (36%), while about half of the students come from upper and middle socio-economic background (23%, 26%) (Isserstedt, Middendorff, Kandulla, Borchert, & Leszczensky, 2010, pp. 128 ff.). Only a share of 16% of all traditional students comes from families with low socio-economic backgrounds. In a long-term perspective, the quota of traditional students with high socio-economic backgrounds more than doubled between 1982 and 2009, while the rate of students with low socio-economic backgrounds declined by one third. In this context, it is worth noting that students with low socio-economic background tend to choose universities of applied sciences while students with high socio-economic background study more often at general universities. Likewise, the preferences for different fields of study vary according to socio-economic background – students with high socio-economic background are more likely to study medicine and health science (Isserstedt et al., 2010, pp. 134 ff.; Middendorff, Apolinarksi, Poskowsky, Kandulla, & Netz, 2013, pp. 97 ff.). In a nutshell, the opening of higher education institutions seems to attract demographic groups that were previously underrepresented at university and offer a second chance at higher education.

Regarding the social capital of traditional and non-traditional students, knowledge exists neither about its amount nor about its structure, though some conclusions can nevertheless be drawn: We know that social capital access varies with contact opportunities (Mollenhorst et al., 2014). Because of their vocational education and employment experience prior to university studies in addition to their higher age, non-traditionals had and still have more chances of developing a work-related network outside their families. Thus, we expect that non-traditional students access social capital predominantly in friendship and acquaintance networks. As traditional students start their studies directly after school (notwithstanding civilian service or the like), they have no opportunities to develop such work-related networks. However, traditional students are likely to have higher socio-economic backgrounds, and we thus suppose that traditional students access more social capital in their family network than non-traditionals. Briefly, we expect traditional students to be strongly embedded in family networks and non-traditional students to be embedded in friendship and acquaintance networks. Accordingly, we consider that both groups access their social capital in different parts of their network.

As discussed in the previous section, social capital access varies according to socio-demographic criteria. In sum, we expect differences in social capital access among traditional and non-traditional students because of their differing socializations and the different compositions of the groups. We examine three hypotheses:

H1: Traditional students access more social capital in their family network than non-traditional students.

H2: Non-traditional students have more social capital in their friendship network than traditional students.

H3: Non-traditional students access more social capital in their acquaintance network than traditional students.

Subsequently, we control the findings for socio-demographic factors and determine whether disparities in the amounts of social resources are due to a composition effect of the groups. According to our assumptions, the effect of university admission should disappear in these multivariate models. We will focus four dimensions of social resources which were previously found by van der Gaag and Snijders (2005). In line with this, we distinguish prestige and education related social capital, political and financial skills social capital, personal skills social capital and personal support social capital. An individual can access all these resources if needed. Prestige and education related social capital can be granted by persons with higher education or which have a high status in society. Such resources may for example be knowledge of literature or the possibility to employ people. Political and financial skills social capital is a source of knowledge about legal regulations that for instance helps an individual to handle university regulations. Personal skills are widespread like knowledge of a foreign language or computer skills. Being able to access this type of social capital may be helpful when writing a paper on a computer or in a foreign language.

Finally, personal support social capital is an auxiliary resource in everyday life, such as knowing someone who is able to give advice with personal problem or to motivate during test phase.

As our study is explorative in nature, we do not have assumptions about the distribution of these different dimensions of social capital. We know from van der Gaag and Snijders (2005), that social capital is relatively similarly distributed across the society. However, some differences in the distribution can be named: Higher educated individuals have more prestige and education related social capital than less educated individuals. Individuals with a high prestigious job have more personal support social capital than individuals with less prestigious jobs. And homemakers have less prestige and education related social capital as well as political and financial skills social capital than employed individuals.

4. Methodology

4.1 Data

The research project "Passages from Employment to Studies (PETS)" focuses on students at a German university. In particular, we analyze students' paths to university and the course of studies they take. We differentiate between non-traditional students – those without general qualification for university entrance – and traditional students, who have a general qualification for university entrance. Though little is known about the differences and similarities between these two groups, there is a rich treasure trove of experience with non-traditional students at the Department of Socioeconomics of the University of Hamburg. Established in 1948 as the "Academy for Public Enterprise" (Akademie für Gemeinwirtschaft), the academy always pursued the goal of paving a way to achieve university studies for individuals without a general qualification for university entrance and increasing the quota of students from the working class (Borries-Pusback, 2002, pp. 361 ff.). As non-traditional students do not possess a general qualification for university entrance, they must pass an entrance examination. This exam aims to assess the ability to study the socio-economic subfields of business administration, law, sociology and macroeconomics (Universität Hamburg, 2006). The examination can be taken by individuals who have completed vocational education, have been working for at least four years or pursued an equivalent activity for the same amount of time. Individuals with entrance qualifications for universities of applied sciences are also eligible. Around 80% of the candidates pass the test and are admitted to studies (Brändle & Ordemann, 2014). According to the statute of the department, up to 40% of the university places are reserved for people who passed the exam (Universität Hamburg, 2008). In recent years this quota was not reached and remained at around one quarter. Nevertheless, this quota is still far higher than the average rate of first-year students without general qualification for university entrance across Germany, which was 2.4% in 2013 (own calculation on the basis of data from the Federal Bureau of Statistics) (Note 3). In this way, the student body of the Department of Socioeconomics is an ideal basis on which to undertake a comparative study of traditional and non-traditional students.

For our analyses we use data of a standardized inquiry, in which we ask students about their reasons for studying, perceived problems and study goals. As a full population survey, we began the inquiry during the winter semester (WS) 2012/13, with a 16 page paper-and-pencil questionnaire. Since then, 1,108 first-year students from five semesters (WS 2012/13, SS (summer semester) 2013, WS 2013/14, SS 2014 and WS 2014/15) filled out the questionnaire, which equals a response rate of 64% of all freshmen of this period. 839 (75.7%) of the students have a general qualification for university entrance. Respectively, 263 (23.7%) respondents are non-traditionals. Six students did not report their university entrance.

4.2 Variables

Most studies use the Position Generator as an indicator of potential social capital access. A drawback of this method is the assumption that knowing people in high prestige occupations will also mean access to the resources linked to the occupation, which might not be true. Thus, we apply an abbreviated and adjusted version of van der Gaag and Snijders' (2005) Resource Generator, previously tested in different contexts (Häuberer, 2011). We asked the respondents the following questions (ordered according to the social capital dimensions):

Please specify how many of your 1) family members, 2) friends, and 3) acquaintances and colleagues feature the named characteristic:

Prestige and education related social capital:

a) can employ people?

b) earn more than €10,000 per month?

Political and financial skills social capital:

c) know a lot about legal regulations (e.g. work in town hall)?

d) are active in a political party?

Personal skills social capital:

e) read a professional journal?

f) would lend you a car?

Personal support social capital:

g) can advise you in personal problems?

h) can help you finding a job?

This modification of the Resource Generator includes two items each to assess the original four types of social capital identified by van der Gaag and Snijders (2005): prestige and education related social capital (items a and b), political and financial skills social capital (items c and d), personal skills social capital (items e and f) and personal support social capital (items g and h). In asking for specific numbers of network members, we are able to explain considerably more than with a dichotomous scale and can focus on the social capital of students in detail. For the analyses we initially calculated the sum of the four types of social capital, separated according to family, friends, and acquaintances and colleagues. Some students stated for a few items that "all" friends could help them. This information is then replaced by the maximum number of friends they reported. Sometimes we found the statement "partly", which we substitute by the individual's mean. Other respondents ticked the fields. For these we compensate the information with the mean of the sample. Missing values are omitted.

Independent variables constitute sex, age, social and migration background, as well as vocational education and path to study entrance in our analyses.

Socio-economic background was conceptualized as a combination of the parents' occupational status and graduate degree, as in the 19th Social Survey – one of the biggest and most encompassing surveys amongst German students. Thus four groups – low, medium, upper and high socio-economic background – are differentiated (Isserstedt et al., 2010, pp. 563 ff.). Migration background was operationalized according to the native countries of the respondents and their parents. Students with migration background were either not born in Germany or have parents that were born abroad. Study entrance was indicated by entering studies either through an entrance examination or by possession of a general qualification for university entrance. Vocational education is addressed by asking the respondents whether they have completed vocational education, that is to say, whether they typically received professional training for three years, though the duration of the apprenticeship may be shortened or prolonged under certain conditions. (Note 4)

Generally, the nominal and ordinal variables are included as dummy variables in the model. Age is centered around the mean, so the effects of being older or younger than the average can be observed.

4.3 Analyses

In order to test our hypotheses and determine whether the differences between traditional and non-traditional students are explained by composition effects, we use descriptive statistics as well as log-linear regression models. The comparison of social capital of non-traditional and traditional students is executed with a t-test. Thus we are able to identify whether social capital differs significantly between the two groups. This examination of social capital is especially useful since it has a wide range and is reshaped for use in the log-linear regression models.

Taking into account the non-normal distribution, including statistical outliers of social capital, an evaluation of the natural logarithm of social capital in log-linear models is more appropriate than analyzing the initial level with OLS-regression (Verbeek, 2008). The variables were transformed by the following formula for the multivariate analyses: $SC_{transformed} = \ln(SC_{reported}+1)$. This is done to prevent the generation of missing values as ln(0) is undefined. The coefficients in these models represent a percent change in social capital for a unit change in the independent variable. (Note 5) The models will show the effects of the university entrance qualifications and the students' socio-economic background on social capital. These effects are reported under the control of age, sex, migration background and vocational education. Hence, we can show whether socio-demographic factors influence social capital or whether the different routes to university constitute a primary factor of social capital.

5. Results

5.1 Descriptive Results

There is a description of the sample in Table 1. In our sample, the majority of traditional students are female (58.9%) with an average age of 22.5 years. 35.9% have a migration background, while 26.8% of the traditional students completed vocational education. The respective rate for the 263 non-traditional students is unsurprisingly much higher at 75.4%. The sample includes among non-traditional students 48.9% respondents with a migration background. The mean age in this group is 26.8 years. In contrast to the traditional students, the non-traditionals are predominantly male (55.4%). All in all, non-traditionals tend to be male, somewhat older and vocationally qualified, whilst traditional students are more often younger women, without vocational education.

A comparison of socio-economic background also shows some differences between the two groups. Students with low socio-economic backgrounds are rare among the traditional students (15.5%) and are more frequent amongst the non-traditionals (25.3%). Furthermore, about one third of the non-traditionals have medium level socio-economic backgrounds; another quarter has upper socio-economic backgrounds. The share of students with upper socio-economic backgrounds among the traditional students is 27.1%, while 22.7% have a medium level socio-economic background. Furthermore, 34.7% of the traditional students and 19.4% of the non-traditional students possess high socio-economic backgrounds.

Table 1. Description of the Sample

	traditional students (TS)	non-traditional students (NTS)	total
N	839	263	1102
female	58.9%	44.6%	55.5%
age (mean)	22.5 years	26.8 years	23.5 years
social background			
low	15.5%	25.3%	17.8%
medium	22.7%	30.0%	24.4%
upper	27.1%	25.3%	26.7%
high	34.7%	19.4%	31.1%
migration background	35.9%	48.9%	39.0%
share of students with vocational education	26.8%	75.4%	38.3%

Description: PETS, N adjusted to students that reported their way of university entrance.

Figure 1 shows students' social resources according to the type of capital. Most students access personal skills social resources. The traditional students have on average around 5.8 friends (NTS: 7.2) that read a professional journal and/or would lend them a car. This provides a hint on an academic milieu. The least accessed of all resources are related to political and financial skills. Non-traditionals have around 1.1 family members (TS: 1) that know a lot about legal regulations and/or are active in a political party.

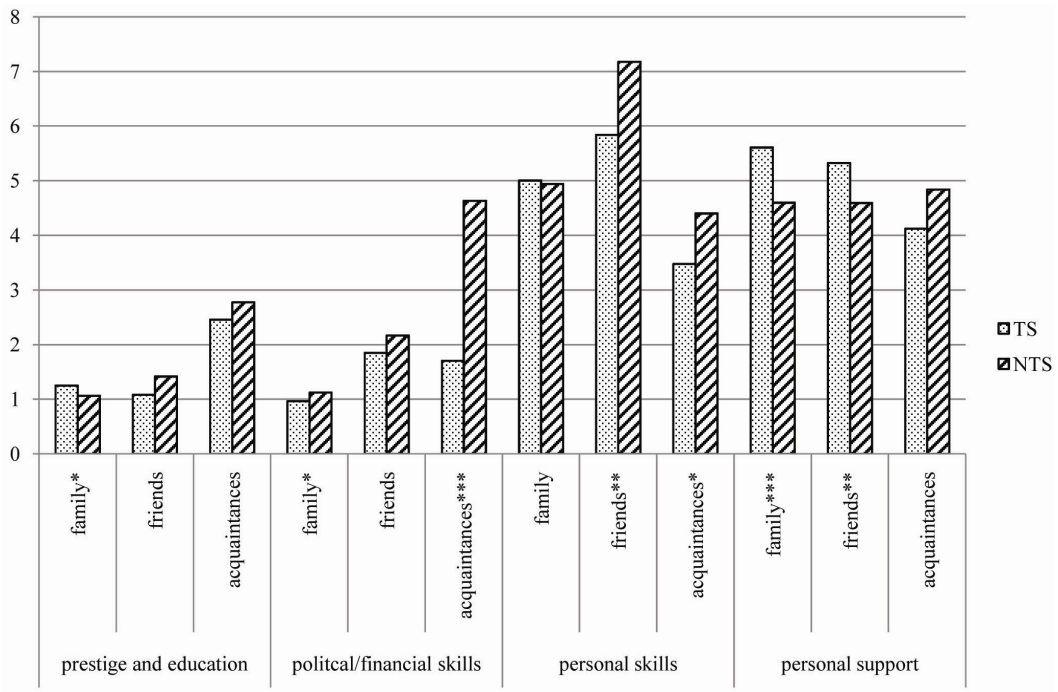

Figure 1. Social Resources of Students

Description: PETS, mean number of contacts providing resource in question, t-test (one-sided): *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Figure 1 also illustrates the fact that there are differences in social capital access between traditional and non-traditional students. As expected, non-traditional students access on average more social capital of all types (except personal support social capital). Regarding social capital accessed by family the results are not so clear. Traditional students only access significantly more of personal support social capital and of prestige and education related social capital from their family than non-traditionals. Regarding personal skills social capital there is no significant difference. On the other hand, non-traditional students access significantly more political/financial skills social capital than traditional students. Accordingly, hypothesis H1 is only partially supported. Looking at significant differences, hypothesis H3 is also only partly supported. Although non-traditionals access more political/financial skills and personal skills social capital through acquaintances, there are no other significant differences in the acquaintances network. Regarding the friends network, non-traditionals have significantly more personal skills social capital and tend to have more prestige related and political/financial skill social capital than traditional students. Yet, non-traditionals have significantly fewer friends than traditional students giving them personal support. So hypothesis H2 cannot be rejected. In sum, our results indicate that non-traditionals seem to access more social capital through friends and acquaintances than traditional students, whereas traditional students access more social capital in their families. In the next section, we test whether these differences can be explained by socio-demographic criteria and whether they are therefore a result of the groups' composition.

5.2 Multivariate Results

Table 2 shows the multivariate results which test for composition effects. Generally, we are unable to find a clear pattern which explains the amount of social capital gained by family, friends and acquaintances. In line with our expectations, university entrance qualifications do not explain social capital access. We only find three significant differences in social capital access by traditional and non-traditional students. Non-traditional students access more political and financial skills social capital in all of their networks than traditional students. This result neatly shows that most of the differences we found through descriptive analyses disappear when we control for socio-demographic characteristics. Hence the groups' differences are due to their diverging compositions.

Table 2. Log-Linear Regression Models: Determinants of Social Capital Access

family, N=908	prestige and education related SC	political and financial skills SC	personal skills SC	personal support SC
non-traditional	0.072	**0.133**	0.059	0.028
female	0.047	**-0.091**	0.022	0.014
age	**-0.017**	-0.009	**-0.023**	**-0.035**
socio-economic background (ref. low)				
medium	**0.164**	**0.135**	**0.132**	**0.121**
upper	**0.319**	**0.147**	**0.296**	**0.216**
high	**0.526**	**0.359**	**0.407**	**0.257**
migration background	0.036	0.038	**-0.136**	-0.074
vocational education	-0.037	0.017	**0.112**	0.000
constant	**0.614**	**0.617**	**1.738**	**2.350**
$r^2_{adjusted}$	0.110	0.063	0.099	0.111

friends, N=885	prestige and education related SC	political and financial skills SC	personal skills SC	personal support SC
non-traditional	0.033	**0.161**	0.060	-0.013
female	**-0.087**	**-0.191**	**-0.185**	0.028
age	**0.024**	0.008	0.008	-0.009
socio-economic background (ref. low)				
medium	-0.039	0.048	-0.010	0.033
upper	0.055	0.041	0.045	**0.117**
high	0.024	**0.198**	0.139	**0.125**
migration background	**0.182**	0.040	**-0.147**	**-0.096**
vocational education	**0.109**	0.006	**0.224**	0.003
constant	**-0.302**	**0.630**	**1.408**	**1.783**
$r^2_{adjusted}$	0.081	0.044	0.062	0.028

acquaintances, N=820	prestige and education related SC	political and financial skills SC	personal skills SC	personal support SC
non-traditional	0.002	**0.266**	0.028	-0.013
female	**-0.120**	-0.102	-0.102	0.080
age	-0.006	-0.007	0.007	-0.006
socio-economic background (ref. low)				
medium	0.108	0.162	0.086	0.068
upper	0.118	0.072	0.079	0.110
high	**0.195**	**0.268**	0.193	0.163
migration background	-0.010	-0.041	-0.122	-0.080
vocational education	**0.277**	**0.184**	**0.290**	**0.317**
constant	**0.663**	**0.547**	**0.575**	**0.764**
$r^2_{adjusted}$	0.034	0.054	0.047	0.031

Description: PETS, unstandardized coefficients, bold values indicate significant results at $p<0.05$.

Looking at the socio-economic background, we find that respondents with high socio-economic status have significantly more social capital than individuals with lower status. This holds especially true for the family network. With increasing socio-economic background of the family, the range of access to social resources increases which makes them a source of resources for their members. This effect of socio-economic background is smaller when we consider social capital accessed through friends and acquaintances: Respondents with high socio-economic background have significantly more political and financial skills social capital and personal support social capital in their friends network than students from low socio-economic background. In addition they have more prestige and education related social capital and political and financial skills social capital in their acquaintances network. Furthermore students with upper socio-economic background have more personal support capital in their friends network. In sum, these results indicate that individuals of higher status are rich of family related social capital, but they also have more social capital in their other social networks. In short, the social position strongly influences the availability of social capital.

Apart from this, older students have less social capital in the family network than their younger fellow students. One explanation for this is the increasing independence from social resources connected to the core family while growing older. Beyond that the amount of social capital tends to grow with age in the friends network while there is no clear age effect for the acquaintances network. Furthermore, the findings concerning the influence of vocational education show beneficial effects in terms of the social capital in the acquaintance network. Vocational education significantly increases the access to all types of social capital through acquaintances. Completed vocational education, moreover, affects the amount of personal skills and prestige and education related social capital positively in the friends network. Additionally, students who completed vocational education have more personal skills social capital in their family network. In saying this, vocationally qualified individuals seem to have more social capital than students without vocational education. This confirms the finding of Mollenhorst et al. (2014) that social capital access depends on the opportunity to maintain or create relationships.

Regarding sex, women have significantly less of all types of social capital in the friends network – except personal support social capital. Besides they have less political and financial skills social capital acquired through the family and less prestige and education related social capital in their acquaintances network. Women seem to access less social capital of these kinds than men. Turning to personal support social capital, there is no significant effect of sex, though women tend to have more social capital in all their networks, which is in line with various previous findings. Prestige related social capital is mainly accessed by men (Lin, 2001), while women rather access personal support social capital (Häuberer, 2014).

Migration background is especially important for the social capital in the friends network. Students with migration background have less personal skills social capital and personal support social capital but have more prestige and education related social capital. The structure of social capital is similar in their family and the acquaintances network, with the exception of prestige and education related social capital as well as political and financial skills social capital in the acquaintances network. This may be due to higher rates of self-employed people in the group of migrants (Kontos, 2003).

In sum, our results clearly show that the differences between traditional and non-traditional students are primarily the result of the groups' compositions. Since traditional students tend to be older and have a lower socio-economic background, they access less social capital in their families than traditional students, who tend to be younger and to come from higher socio-economic backgrounds. Non-traditionals more often completed vocational education, and our results clearly show that vocational education is associated with higher chances of social capital access in the acquaintance network.

6. Discussion and Conclusion

This article investigated the sources of social capital among university students at a German university. To this end, we analyzed data from the PETS study which compared regular students with non-traditional students who do not possess a general qualification for university entrance. Our study shows that differences in social resource access of non-traditional and traditional students are caused by the composition of the groups. Socio-demographic characteristics like age, sex and socio-economic background have a stronger impact on social capital access than the university entrance qualification. Additionally, the social capital in the network of acquaintances is strongly influenced by the completion of vocational education. An apprenticeship is a path to a richer social network, as it enables people to establish relationships to colleagues and other trainees. Respondents without vocational education lack this dimension of social capital as they only attended schools which provide general education.

Therefore our findings are generally consistent with previous research on social capital. Nevertheless it should be

stated that the multivariate models only explain a small amount of variance. The highest adjusted r^2 is 0.111 for personal support social capital in the family network, such that possession of a high amount of social capital seems not only to depend on social status, but also on other unobserved determinants, one of which could be personality traits. As these have not been investigated in this study, there is a need for further research. Studies may yet show how the 'Big Five' (John, Naumann, & Soto, 2008) affect the attainment of social capital and compare these effects to socio-demographic factors. Furthermore our data is designed to compare traditional and non-traditional students within a single discipline. As the student body and thus the students' orientations vary according to the disciplines and universities they are involved with, studies considering these effects could help to assess the social capital of students in general. Likewise, the connection of social capital to university achievement should be examined in future research.

Our results do not allow us to evaluate the effect of social capital on academic performance as of yet, but provide insights for social network research as well as for higher education research. First, the results support Mollenhorst et al.'s (2014) assumption that social capital access depends on the opportunities to establish relationships. Second, our results allow the conclusion that traditional and non-traditional students have similar preconditions to successfully finishing their studies. We know from several studies (Coleman, 1988; Etcheverry et al., 2001; Martin, 2009) that social capital advances study outcomes, and since our two groups of students do not differ in their social capital access we can expect them to perform similarly. If this is the case is an open topic for future research. After merging our survey data with data of the students' university performance, which will be done in a few years, we will be able to provide findings addressing this issue.

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Notes

Note 1. We concentrate on access to social resources regardless if they are achieved by an influential contact (as discussed by Lin, 2001) or not, because during studies mostly social resources like help or assistance to raise motivation that are not prestige related are needed.

Note 2. In Germany vocational education is accessible with every school-leaving qualification. In 2012 24% of school-leavers with university entrance diploma started vocational education (Autorengruppe Bildungsberichterstattung, 2014, pp. 107 ff.). In winter semester 2011/12 the share of students with completed vocational education was 11% at German universities (Scheller, Isleib, & Sommer, 2013, p. 38).

Note 3. According to other definitions of the group this share goes up to 3.1% (Dahm & Kerst, 2013).

Note 4. For more information about the German vocational education system see for example (Hoeckel & Schwartz, 2010).

Note 5. This rule of thumb is only appropriate for small coefficients. The exact percent change is $(\exp^{(b)}-1)\cdot 100$.