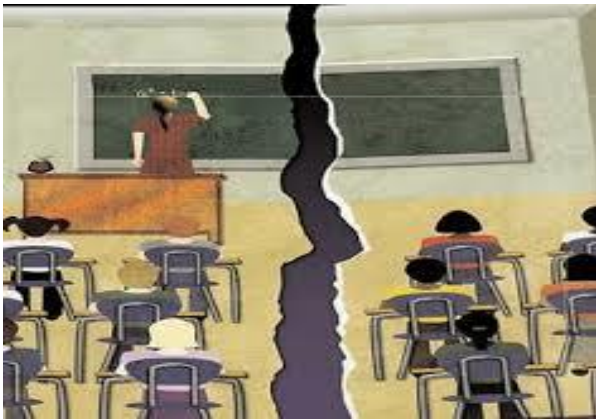




Social capital at school

Investigating the Differences in Access to and Effects of Friends' Social Capital on Grades between Pupils of Dutch Origin and Immigrant Pupils



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Abstract: This study deals with the differences between pupils of Dutch origin and second generation immigrants in both the access to and effects of social capital on grades. It is examined whether friends' social capital mediates the effect of immigrant status on grades and whether immigrant status moderates the effect of friends' social capital on grades. Using two waves of the "Networks and actor attributes in early adolescence [2003/2004]" data set, there can be concluded that immigrant pupils receive lower grades than pupils of Dutch origin. However, no evidence can be found that this is due to differences in access to social capital. Immigrant pupils were found to benefit more from some resources of friends' social capital than pupils of Dutch origin. However, for other resources the effect was found to be more negative for immigrant pupils than for pupils of Dutch origin.

Key words: social capital, adolescents, school achievement, friends, immigrants

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1. Introduction

“You are the sum total of the people you meet and interact with in the world. Whether it’s your family, peers, or co-workers, the opportunities you have and the things that you learn all come through doors that other people open for you.”

(Tanner Colby, 2012, www.goodreads.com)

The effects of social capital have long been investigated (e.g. Coleman, 1988; Lin, 2000; Portes, 2000). While the term ‘social capital’ originated as early as the 1920s (Dika & Singh, 2002), the concept only became popular after the contributions of Pierre Bourdieu and James Coleman (Dika & Singh, 2002; Portes, 2000). Results of prior studies have shown that social capital has economic benefits (Knack & Keefer, 1997); that social capital is a predictor of career success (Seibert, Kraimer & Liden, 2001); and that neighborhood social capital is positively related to individual health (Mohnen, Groenewegen, Völker & Flap, 2011). However, the literature on friends’ social capital and its relationship to educational outcomes is limited.

Although small in numbers, some important research has been done on the effect of friends’ social capital on educational outcomes (Cherng, McCrory Calarco & Kao 2013; Cook, Deng & Morgano 2007; Crosnoe, Cavanagh, Elder JR, 2003; Dika & Singh, 2002; Flashman, 2012). These studies have predominantly examined the effect of parents as providers of social capital for their children (Dika & Singh, 2002). Even though parental social capital has been found to affect adolescents’ school outcomes during adolescence peer contacts tend to become more important than family members for sharing information and expressing feelings (Cherng et. al, 2013; Cook, et. al, 2007; Mounts & Steinberg, 1995). At the same time adolescents spend more time with their friends than with family members (Mounts & Steinberg, 1995). Previous studies show that both friends doing well at school (Cook et. al, 2007; Crosnoe et. al, 2003), and friends’ parents being high educated (Cherng et. al, 2013) have a positive effect on educational outcomes. Thus, both resources friends possess and resources friends receive from their parents, especially mothers, are important forms of social capital for adolescents (Cherng et. al, 2013). However, people can differ in both the access they have to social capital and the way they can benefit from it. These differences in social capital might lead to different educational outcomes for different groups. In this study, self-reported grades are used as a measure of educational outcomes.

For adolescents who can receive less support from their parents, friends’ social capital might be more important than for adolescents who can receive more support from their parents. One

group of parents who are less likely to be able to give support concerning school matters are immigrants (Steinberg, Dornbusch, & Brown, 1992). These parents might not be able to give support because they have less information about the schooling system, are low educated themselves, or do not speak the Dutch language very well.

Hence, first, if immigrant pupils do have friends with good resources these might be more valuable than for pupils of Dutch origin. While theoretically it seems plausible that children of immigrants might benefit more from friends' social capital than children from parents with a Dutch origin, this difference has never been investigated. Thus, the first contribution of this study to previous research is investigating whether the effect of friends' social capital is more beneficial with respect to grades for immigrant pupils than for pupils of Dutch origin.

Second, immigrant pupils might have less access to social capital than pupils of Dutch origin as well. In their literature review on the second generation immigrants in western Europe, Heath, Rethon & Kilpi (2008) report that minorities whose parents came from less-developed non-European origins do substantially worse in school than their respective majority groups. Moreover, prior research indicates that social capital is unevenly divided among different ethnic groups in the United States (Flashman, 2012; Shin, Daly & Vera, 2010). This might be the case in the Netherlands as well. Pupils with a non-western national background might have fewer academic oriented friends or less knowledge about the educational system.

Although it is known that part of the achievement gap between pupils of Dutch origin and immigrant pupils can be explained by differences in socioeconomic background (Marks, 2006; Schnepf, 2007), this is not the complete explanation (Schnepf, 2007). In this study the focus will be on a different explanation of social capital (i.e. characteristics of friends) on grades in the Netherlands and the differences between adolescents with a Dutch origin and their peers with non-western immigrant backgrounds from the four major groups in the Netherlands; Turks, Moroccans, Surinamese, and Dutch Antilleans. It is interesting to know, for example for policy makers, whether pupils of Dutch origin receive higher grades than immigrant pupils because they have more access to the specific form of social capital that has a positive effect on grades. Hence, the second contribution of this paper to previous research is investigating whether their different access to friends' social capital can account for the lower grades immigrant pupils receive in comparison to pupils of Dutch origin.

Thus, in this study the differences in the access to and effect of social capital on grades between pupils of Dutch origin and pupils of the four major immigrant groups will be examined. Therefore, two research questions are posed: *(1) To what extent can the poorer grades in secondary*

school of immigrant pupils as compared to pupils of Dutch origin be explained by access to friends' social capital? And (2) To what extent do ethnic minorities benefit more from their friends' social capital with respect to educational track and grades than ethnic majority pupils? To answer these questions, several hypotheses will be derived from social capital theory and theories of friendship preferences and opportunities and will then be tested. The outcomes of the analyses will be presented in the result section. Lastly, conclusions will be drawn and implications for future research will be given.

In this study longitudinal data will be used from a dataset containing information on friendships in schools in The Netherlands. Having access to more than one wave is special, since, according to Cherng and colleagues (2013), most studies of adolescent friendships use cross sectional data and thus consider only correlations. So, the third contribution is the usage longitudinal data to investigate the effect of social capital of friends on grades.

2. Background Information on Non-Western Immigrants in the Netherlands

Before starting with the theory section, it is important to give some background information about immigrants in the Netherlands. Immigrants in the Netherlands are classified as members of an 'ethnic minority' according to the country of birth of their parents. Someone is considered an immigrant if at least one of the parents was born in a foreign country. Since this is the standard definition in the Netherlands, which is also used by Statistics Netherlands (Centraal Bureau voor de Statistiek), it will also be applied in this study. When referred to immigrants, these people can be both first and second generation. There are likely to be much second generation immigrants in the data (children of guest workers). However, since the migration process is still ongoing, there are likely to be first generation immigrants in the data as well.

Since the 1960s male immigrants from the Mediterranean countries (Spain, Italy, Greece) were recruited for low-skilled manual work in the Netherlands for the so-called guest worker project. Later, also Turks and Moroccans were brought into the country. After the oil crisis of 1973 the Spaniards and Italians migrated back to their countries of origin. The Turks and Moroccans stayed (Ultee, Arts & Flap, 2009). They generally had a low level of education. Besides that, their language and culture were very different from the Dutch one (Driessen, 2010). Today, first and second generation combined, they are the two largest non-western immigrant groups in the Netherlands.

The third and fourth largest non-western immigrant groups in the Netherlands are the Surinamese and the Dutch Antilleans. From the 1970s onwards many Surinamese and Antilleans migrated voluntarily to the Netherlands. Since both countries are former Dutch colonies, most of them speak the Dutch language well at arrival. Moreover, Surinamese and Dutch Antillean immigrants and their children are on average higher educated and more often employed than Turkish and Moroccan immigrants and their children (Sociaal en Cultureel Planbureau, 2008).

However, in the Netherlands there is a persisting achievement gap between natives and non-western immigrants with respect to educational outcomes (Dronkers, 2010). Non-Western immigrants are underrepresented in the higher tracks in secondary school (CBS Statline, 2014; Gijssberts & Herwijer, 2009; SCP, 2008). For the second generation immigrants Van de Werfhorst & Van Tubergen (2007) found that their lower social background and the lower tracks followed at secondary education, leads to overrepresentation in lower tertiary education. Moreover, only 7 percent of Turkish and Moroccan pupils went to university, in comparison to 17 percent of native Dutch pupils.

There are also other non-western immigrants living in the Netherlands. They come from various countries like Iran, Uganda and Pakistan (CBS Statline, 2014) and they come here for various reasons (e.g. economic, political, or religious disadvantage in their country of origin). However, they are too small in their numbers to take them into account in this study. Then there is a large group of western immigrants living in the Netherlands. Especially from Belgium, Germany and France people migrate to the Netherlands. However, these pupils are less disadvantaged at school than the four major non-western immigrant groups (CBS Statline, 2014).

3. Theory

3.1 Social Capital: a Definition

Different authors have defined the term social capital in different ways. In this study social capital is seen as the total of resources a respondent has access to through his friends. Social capital exists of three different elements, which have been mentioned by various researchers working on social capital theory (e. g. Flap, 2003; Lin, 2001). Flap (2003; p.36) explains these elements as the number of others prepared or obliged to help ego when called upon to do so, the extent to which they are ready to help, and what is at the other end of the tie, respectively. In this study the assumption is made that friends are willing and ready to help when necessary. Thus, pupils with more -friends -with more resources (i.e. ability to help) have more social capital.

3.2 The ethnic achievement gap in the Netherlands

Pupils with lower educated parents and parents with limited language control fare worse at school than other pupils, because these parents are less able to support their children concerning school matters. In the Netherlands, non-western immigrants are generally low educated. Furthermore, their language skills are expected to be worse in comparison to natives. Hence, when taking these two important predictors of the ethnic achievement gap, SES and language skills (Schnepf, 2007), into account immigrant pupils are expected to be disadvantaged in educational achievement over pupils of Dutch origin. Their socioeconomic background is expected to be lower than that of their native counterparts. Moreover, due to language barriers our immigrant respondents' parents are expected to lack familiarity or information about the education system in the Netherlands. Therefore, for them, it is hard to support their children concerning school matters. Therefore, the general expectation is that: *immigrant pupils have lower grades than pupils of Dutch origin(H1).*

3.3 Social Capital and School

Social capital was defined as the total of resources a respondent has access to through his friends. Then, how could these resources help pupils in the grades they receive at school? First, when people have more friends they are likely to have more opportunities to get help at different subjects. For example, the math skills of a friend or the high SES of the parents of these friends, may be ego's social resources. Second, it is not only important to have many friends, but also to have friends with good resources. Such ties are more useful if ego needs help. For example, a friend who definitely exceeds the knowledge required for a test is more useful than a friend who only slightly better understands the curriculum than ego does. Hence, friends with more resources are expected to give ego better access to resources than friends with less resources. Thus, the hypothesis is that: *The more friends with more resources an adolescent has, the higher his/her average grade will be (H2).*

3.4 Inequality in Social Capital

For adolescents who receive much support from their parents, social capital of friends is just a duplication of resources they already possess. For groups who receive less support from their parents, in for example help with their homework, social capital of friends leads to new resources. Inequality in these resources might explain the worse grades of immigrant pupils in comparison to pupils of Dutch origin. Two things that can cause inequality in social capital are preferences and opportunities. First, in the United States, one explanation for racial disparities in achievement is that Black, White, and Latino adolescents are exposed to different peers and make different friends. Friendships are mostly ethnically homophilous (i.e. friends are of the same ethnicity). So, if friends influence grades, the lower overall levels of schooling among minorities' friends disadvantages minority populations compared to Whites (Flashman, 2012). When this ethnic homophilous thesis of

oppositional culture theory is applied to the Dutch situation, Turkish, Moroccan, Surinamese and Antillean pupils are expected to have preferences for pupils in their own group. This also applies to pupils of Dutch origin. However, since pupils of Dutch origin are overrepresented in higher tracks and immigrant pupils overrepresented in lower tracks immigrant pupils are disadvantaged over pupils of Dutch origin.

Second, as Peter Blau observed, “you cannot marry an Eskimo when no Eskimo is around”. The relative size of any group impacts the extent to which preferences can be realized (Blau, 1977). The Netherlands has a tracked secondary education system. These different tracks provide access to different levels of tertiary education. Even within a single school these tracks are sometimes located at different places, which potentially limits the contact between pupils in different tracks. Because they are in lower tracks immigrant pupils potentially have different opportunities to be friends with high-achievers than pupils of Dutch origin. Namely, immigrant pupils are overrepresented in lower educational tracks (CBS Statline, 2014). For that reason they have fewer opportunities to select high achieving friends (i.e. friends in higher tracks). Since pupils of Dutch origin are overrepresented in higher tracks, they have more opportunities to select high achieving friends. Therefore, immigrant pupils are expected to have less access to high achieving friends than pupils of Dutch origin.

Thus, pupils of Dutch origin do not only have different preferences, they also have more opportunities to have high educated friends than immigrant pupils. These academically oriented friends might not be more willing to help, but they are certainly more able to help when necessary. Therefore, the hypothesis is that *Pupils of Dutch origin receive higher grades than immigrant pupils because they have more access to high achieving friends (H3)*.

3.5 Benefits of Social Capital

Once it is known who possesses more social capital, it is interesting to know who benefits most from it. In other words: which pupils benefit the most from their social networks in school. In this article the line of reasoning is that when resources at home are limited, resources from friends at school become more valuable. As stated in the before, social capital might be more important for certain people, for instance immigrants. Similar reasoning is used by Crosnoe and colleagues(2003). According to them academically oriented friendships are more protective for African American youths than for whites because white parents are generally more knowledgeable about the educational system and more comfortable interacting with school personnel. Furthermore, African American parents might be less comfortable interacting with school personnel because of poor language control. Moreover, this poor language control leads to the expectation that African American parents are less able to help with homework and other school related things such as

learning for tests. Hence, white parents are expected to be more able to advise their children than parents of African American origin. Therefore, academically oriented friends may not complement benefits received at home for whites, while for African American students these friends may be the prime source of instrumental benefits.

This reasoning might also be applicable to the Netherlands. It might be harder for immigrant parents to understand the Dutch educational system and to communicate with teachers (Schnepf, 2007; Völker, Pinkster & Flap, 2008) than for parents of Dutch origin. In this research the line of reasoning is that non-western immigrant parents are not very usable ties while parents of Dutch origin are. Therefore, usable ties at school are more valuable for immigrant pupils than for pupils of Dutch origin, because immigrant pupils are expected to receive less resources from their parents. Since the higher the usability of ties the more social capital they provide, the hypothesis is that: *Non-western immigrant pupils benefit more from friends with more resources than pupils of Dutch origin (H4).*

4. Data

4.1 Method

In order to test the hypotheses, the Networks and Actor Attributes in Early Adolescence [2003/04] data was used, which contains information on pupils' social networks and grades at secondary school. First, the top 10% smallest and top 10% largest schools were excluded from the data set. Second, schools were randomly selected from this sample containing all Dutch secondary schools. Third, some schools were informed about the study and asked to participate. From the schools that were willing to participate, public schools and those with different kind of denominations and schools from different areas were selected. In total 126 classes in 14 schools participated. The longitudinal data were collected at four time points with a three month interval in the academic year 2003/2004. This was done by self-registered standardized questionnaires among pupils in first grade of secondary school. The number of pupils participating in the study differed slightly between waves from 2862 in the second wave to 2996 in the first wave. The response rates were 97,8% for the first wave, 92,4% for the second wave, 93,7% for the third wave, and 95,5% for the fourth wave.

In this study only wave two and four will be used. Wave two is most suitably compared to wave one because of the moment of measurement. The questionnaires of wave one were filled out in the first few weeks after the beginning of the new academic year in August/September. At this point of the year the pupils do not usually receive grades yet. Since respondents' mean grade is the dependent variable in this study, the first wave could not be used. Furthermore, in the beginning of

the year the pupils, who came from different primary schools to form a new group, found themselves in the norming and storming phase (Geerts & Van Kralingen, 2012). In these phases everybody is trying to find a place in the group. The second survey took place in the beginning of the second term. By then, the pupils were in the forming and mainly performing phase, where norms and relationships were settled. Hence, this is a more suitable time of measurement. In order to maintain the largest possible time interval, the fourth wave is used as the second point of measurement. That is important in this study because the effect of friends' social capital on pupils' grades is investigated. Since friends are not expected to have an effect on grades within a short period of time a longer time interval is preferable.

In wave two 2862 pupils filled in the questionnaire. 2186 of these pupils are of Dutch origin, and 324 of them belongs to one of the four major immigrant groups. Of all these pupils 50.7% is male and 49.3% is female, however among Moroccan pupils the majority were male and among Antilleans the majority were female (see Table 1). Furthermore, table 1 shows some differences between immigrant pupils and pupils of Dutch origin. First, immigrant pupils are overrepresented in lower track advices and underrepresented in higher track advices. Second, in line with hypothesis 1, in both waves pupils of Dutch origin have higher mean grades than immigrant pupils. However, an ANOVA test showed that for wave 2 ($p = .31$) the differences in grades between pupils of Dutch origin and immigrant pupils were not significant. For wave 4 ($p = .011$) the differences in grades were significant. Third, immigrant pupils have lower educated friends (i.e. friends' track advice is lower for immigrant pupils). The ANOVA test showed that Dutch pupils differed significantly from immigrant pupils concerning the track advices of their friends ($p < 0.01$). Lastly, immigrants' friends receive lower grades (i.e. friends' mean grade is lower for immigrant pupils). However, these differences were not significant ($p = .98$). Hence, the direction of these descriptive statistics are partially in line with expectations.

Table 1. Descriptive statistics by ethnic group.

Respondents (N=2538)	Dutch (N=2202)	Turkish (N=90)	Moroccan (N=70)	Surinamese (N=122)	Antillean (N=54)
	Mean / % (s.e.)	Mean / % (s.e.)	Mean / % (s.e.)	Mean / % (s.e.)	Mean / % (s.e.)
Male	50.6	54.4	62.1	48.3	38.5
Average age	12.07 (.45)	12.24 (.56)	12.28 (.51)	12.19 (.56)	12.18 (.63)
Father employed	87.1	62.2	55.7	74.6	70.4

Family intact	80.4	80	72.9	58.2	61.1
One native parent	0.7	3.3	15.7	27.9	38.9
Track					
LWOO	2.0	1.4	3.2	4.6	9.1
LWOO/VMBO-BK	2.1	4.3	3.2	3.7	2.3
VMBO-BK	1.8	4.3	6.3	8.3	13.6
VMBO-BK/T	3.4	14.5	1.6	3.7	6.8
VMBO-T	10.8	15.9	9.5	27.8	15.9
VMBO-T/HAVO	23.2	31.9	33.3	26.7	15.9
HAVO	11.3	8.7	14.3	4.6	6.8
HAVO/VWO	29.6	15.9	25.4	13.0	20.5
VWO	15.9	2.9	3.2	7.4	9.1
Average grade wave2	7.2	7.0	6.9	6.9	7.1
	(.90)	(1.0)	(.81)	(1.0)	(.89)
Average grade wave4	7.1	6.8	6.9	6.9	6.9
	(.87)	(.89)	(1.0)	(.95)	(1.0)
Social capital through friends' track advice	26.9	17.1	22.0	20.8	17.2
	(24.1)	(18.3)	(19.5)	(18.6)	(17.2)
Social capital through friends' grade	24.1	18.3	22.1	21.9	20.9
	(16.2)	(16.4)	(19.0)	(17.8)	(17.1)

Note: percentages may not add up to 100% because of rounding

Note: the numbers for friends' track advice and friends' mean grade are the sum of friends' resources. Therefore they are higher than might be expected.

4.2 Measures

To be able to draw conclusions about the direction of the effect of friends' social capital on grades the dependent variable was measured in wave 4 whereas the independent variables were measured in wave 2.

4.2.1. Dependent variable

Average grade in wave 4. Grades are a common measure for educational outcomes. The Networks and Actor Attributes in Early Adolescence [2003/04] data contain five questions in which specific grades were asked for Dutch, mathematics, biology, gymnastics, and manual skills. On Dutch, mathematics and biology the average grade of respondents was calculated. The grades for gymnastics and manual skills were not taken into account, since it is difficult to receive help from friends if respondents find these subjects hard.

4.2.2. Independent variables

Social capital through friends' grade. In the questionnaire respondents could list up to twelve friends in class. Most of these friends participated in the questionnaire as well since they are in the same class. For those who have been referred to as friends by the respondent, an average grade based on Dutch, mathematics, and biology was calculated. Then, the sum of grades for all friends of respondent was taken as a measure¹ to take into account that respondents with more friends are likely to have more resources than respondents with few friends because social capital was defined as the total of resources a respondent has access to through his friends.

Social capital through friends' average advice. In the questionnaire respondents could also fill in the school advice they received after primary school. The Netherlands has a tracked secondary education system and after primary school pupils in the Netherlands have to choose a level of schooling. Their score in a standardized test at the end of primary school as well as the track advice a teacher gives play an important role in the choice for such a track. The sum of track advices for all friends of respondent were taken as a measure² to take into account that respondents with more friends are likely to have more resources than respondents with few friends because social capital was defined as the total of resources a respondent has access to through his friends.

Immigrant status. Following Statistics Netherlands, immigrant pupils are classified by the country of origin of their parents. Thus, the pupils classified here as Moroccans have at least one parent who was born in Morocco. This means that the student was assigned the national origin of the nonnative parent in case one of the parents was native-born Dutch and the other not native-born Dutch. Furthermore, when pupils had two nonnative parents the national origin of the mother was assigned to the pupils since the mother is the main caregiver (Popenoe, 1996). When for one of the parents national origin was unknown (i.e. missing) the national origin of the other parent was assigned to the pupil. The focus of the study is only on four larger non-western immigrant groups (Turks, Moroccans, Surinamese and Antilleans), which makes it impossible to generalize the results to other immigrant groups. It would have been preferable to separate these four groups to be able to account for differences between these groups. Unfortunately, the groups are too small to run separate analyses for all four immigrant groups. Since Turks and Moroccans have fairly similar backgrounds it is not uncommon in the Netherlands to take them together as one group. This also applies to Surinamese and Antilleans. That would allow comparing between these groups as well. However, an UNIANOVA test showed that there was not enough power to look at Surinamese and Antilleans together ($1-\beta =$

¹ However, when the grades of a listed friend were missing, they were assigned the mean grade of other friends of respondent.

² However, when the track advice of a listed friend was missing, he was assigned the mean grade of other friends of respondent.

.606), but there was enough power to look at Turks and Moroccans together ($1 - \beta = .930$). The lack of power for Surinamese and Antilleans is likely due to the fact that the number of immigrant pupils in the dataset is relatively low. Hence, a dummy is created (immigrant = 1) instead of looking at the separate immigrant groups.

4.2.3. Control variables

Sex of the respondent. A dummy variable was constructed (female = 1) to account for possible differences in grades between boys and girls.

Employment of the father. A dummy variable was constructed (father worked 1 hour or more = 1, father did not work = 0). Whether parents have work or not might influence the resources a pupil has access to. Next to friends parents are important providers of social capital. Working parents have more resources themselves via their colleagues than unemployed parents. These resources could be useful for their children as well. Moreover, this is a way of taking into account the expectation that pupils of Dutch origin receive more resources via their parents than immigrant pupils.

One native parent. A dummy variable was constructed (adolescent has one native parent and one nonnative parent = 1, adolescent has parents from the same origin = 0). In this study, these people are seen as immigrants. However, they are expected to be less disadvantaged than pupils of Dutch origin. Not taking this into account could result in finding a too negative effect of being an immigrant.

Intact family. A dummy was constructed (respondent lives with both parents = 1, respondent does not live with both parents = 0). Divorce of the parents is expected to affect the amount of resources a pupil has (Lin, 1999). Children of divorced parent often live with one parent the majority of time. One parent can give less resources than two. Furthermore, a divorce can have an impact on the other social relations a pupil has. Moreover, children of divorced parents fare worse at school. For all four major non-western immigrant groups, especially Antilleans, the chance of divorce is higher than for natives (De Valk, Liefbroer, Esveldt & Henkens, 2001). Hence, if this variable would not have been taken into account as a control, a too negative effect of being an immigrant would have been found.

School advice. Dummy variables were computed for every track listed in the data set. It is important to take this into account because pupils of Dutch origin are overrepresented in higher tracks whereas immigrant pupils are overrepresented in lower tracks. Grades in high tracks might on average be lower than in low tracks. This variable accounts for the possible differences in grades within the different tracks.

Average grade in wave 2. This variable was constructed in the exact same way as the dependent variable. However, in this case grades from wave 2 were used to calculate the average. It is

important to take this into account because it can shed a light on the selection vs. influence discussion (De Klepper, Sleebos, Van de Bunt & Agneessens, 2010). Selection means that people with high grades select other with high grades as their friends. Influence means that a friendship with a certain person causes the high grades of ego. In adding this variable as a control it is possible to see whether grades change over time (influence) or not (selection).

5. Results

As stated before, all independent variables were measured in wave 2 whereas the dependent variable was measured in wave 4. Thus, it is possible to state with more certainty whether the effect of friends' social capital on grades is indeed in the expected direction. To do so, an ordinary least squares regression was performed in four separate steps. This regression analysis tested whether immigrant pupils indeed, as indicated in table 1, receive significantly lower grades than pupils of Dutch origin. Unstandardized coefficients were reported. First, in model 1 the effect of immigrant status on grades was tested. Second, in model 2 the expected mediators, i.e. friends' social capital, were added. These mediators were then tested using a Sobel test. Third, in model 3 respondent's average grade in wave 2 was added as a control to check whether friends influence respondents' grades, or alternatively friends select each other for having equally high grades. Lastly, in model 4 the interaction terms between friends' social capital and grades were added.

Model 1 of table 2 shows that immigrant status has a negative significant effect on grades ($B = -.105$, $p = 0.060$). The average grade of immigrant pupils is on average .105 points lower than the average grade of natives. Hypothesis 1 is hereby supported. In Model 2 of table 2 the effect of friends' social capital on grades was tested. Social capital through friends' average track advice ($B = -.020$, $p < 0.001$) has a negative significant effect on respondents' grades and social capital through friends' average grade ($B = .024$, $p < 0.001$) has a positive significant effect on respondents' grades. This indicates that every unit increase in social capital through friends' track advice leads to a .020 points decrease in respondents' grades and every unit increase in social capital through friends' mean grade leads to a .024 points increase in respondents' grades. This means that, according to the model, more social capital through friends' average track advice leads to worse grades while more social capital through friends' mean grade does lead to better grades. Therefore, hypothesis 2 is partially supported. Furthermore, the suspected mediators were added. This model shows that the effect of immigrant status on grades becomes slightly larger ($B = -.111$, $p = 0.061$), indicating that the average grade of immigrant pupils is on average .111 points lower than the average grade of pupils of Dutch origin. However, the negative effect of immigrant status on grades was expected to disappear or become smaller because immigrant pupils' lower amount of social capital was expected

to account for their lower grades. The fact that the expected mediators did not turn insignificant indicates that social capital through friends' average track advice and social capital through friends' average grade are indeed mediators. However, this mediation does not work as expected. First, the separate steps of the analysis were tested. The regression analyses showed that immigrant status has neither a significant effect on social capital through friends' track advice ($B = -1.08, p = 0.203$) nor on social capital through friends' mean grade ($B = -.839, p = 0.230$). This indicates that immigrants do not have more or less social capital of friends. However, as well social capital through friends' track advice ($B = -.020, p < 0.001$) as social capital through friends' mean grade ($B = .024, p < 0.001$) has a significant effect on grades. This means that friends' social capital through friends' track advice leads to lower grades and social capital through friends' mean grade leads to higher grades. Second, in order to test the significance of the mediation, Sobel tests were performed³. These tests show that as well social capital through friends' average track advice (p (one-sided) = 0.052) as social capital through friends' average grade (p (one-sided) = 0.12) are not mediating the effect of immigrant status on grades. This indicates that immigrant pupils do not have more or less social capital that affects their grades than pupils of Dutch origin. Hypothesis 3 is hereby refuted.

In model 3 of table 2 respondents' average grade in wave 2 was added to find out whether the effect of friends on respondents' average grade in wave 4 is due to influence or selection. Both social capital through friends' track advice ($B = -.011, p = 0.003$) and social capital through friends' mean grade ($B = .014, p = 0.003$) still had a significant effect after adding respondents' average grade in wave 2. However, both effects became smaller indicating that students with higher grades pick friends with higher grades as well as the fact that certain friends have a positive influence on respondents' grades. Hence, both selection and influence of friends must be partially responsible for the grades of respondents.

Model 4 of table 2 shows the moderation of immigrant status on the effect of friends' social capital on grades. The significant effect of the interaction between immigrant status and friends' track advice ($B = -.014, p = 0.005$) indicates that the effect of friends' track advice on grades is more negative for immigrant pupils than for pupils of Dutch origin. This means that, contrary to expectations, immigrant pupils do not benefit more but less from social capital through friends' track advice than pupils of Dutch origin. Furthermore, the effect of the interaction between immigrant status and friends' mean grade is significant as well ($B = .012, p = 0.006$). However, this effect

³ Note that performing a Sobel test in SPSS Statistics is very circuitous. Therefore, the p-values were calculated with an online Sobel test calculator. All control variables were taken into account.

indicates that the effect of mean grade is more positive for immigrant pupils than for pupils of Dutch origin. This means, in line with expectations, that immigrant pupils benefit more from social capital through friends mean grade than pupils of Dutch origin. Since only social capital through friends' mean grade was significant in the expected direction hypothesis 4 is hereby partially supported.

Concerning the control variables, several things stand out. First, in every model girls receive significantly higher grades than boys as do children from intact families compared to children from not intact families. This indicates that given the fact that ego is a girl from an intact family social capital through friends' track advice has a negative effect on ego's grades and social capital through friends' mean grade has a positive effect. These effect are different for immigrants than for pupils of Dutch origin. Second, having one native parent does not account for a significant difference in grades compared to having parents from the same origin. The same applies to having an employed father in comparison to having an unemployed father. Third, besides the two highest tracks (HAVO/VWO and VWO), which were significant in all models, the effects of track differ between models.

When looking at the explained variance one can see that in the first and second model this is quite low. Only 9.3% of the variance can be explained in model 1 and after adding the variables which measure friends' social capital this improves slightly to 12.2% of the variance. However, in model 3 and 4, after adding the measure for average grade in wave 2, the explained variance rises to 34.6% and 34.9% respectively. This is much higher, but it is still quite low given the fact that grades in wave 2 are taken into account to explain grades in wave 4. Grades in wave 2 were expected to raise the explained variance more drastically.

Table 2. Effect of friends' social capital on average grade

	Model 1	Model 2	Model 3	Model 4
	B (SE)	B (SE)	B (SE)	B (SE)
	R² = .093	R² = .122	R² = .346	R² = .349
Independent variable				
Immigrant status (<i>ref. = Dutch origin</i>)	-.105* (.060)	-.111* (.061)	-.018 (.058)	.035 (.100)
Control variables				
Female (<i>ref. = male</i>)	.191*** (.036)	.175*** (.035)	.112** (.033)	.112** (.033)
Employed father (<i>ref. = unemployed father</i>)	.086 (.052)	.064 (.054)	.072 (.064)	.079 (.064)

Intact family	.262***	.282***	.222***	.222***
<i>(ref. = no intact family)</i>	(.048)	(.048)	(.045)	(.045)
One native parent	-.061	-.021	-.023	.017
<i>(ref. = parents have same origin)</i>	(.108)	(.109)	(.104)	(.105)
Track <i>(ref. = VMBO-T)</i>				
LWOO	.562***	.514**	.211	.200
	(.133)	(.149)	(.144)	(.144)
LWOO / VMBO-BK	.274*	.167	-.105	-.084
	(.129)	(.130)	(.132)	(.132)
VMBO-BK	.103	-.019	-.094	-.105
	(.124)	(.126)	(.126)	(.126)
VMBO-BKT	.435***	.374**	.068	.068
	(.109)	(.109)	(.102)	(.102)
VMBO-T/HAVO	-.022	.046	-.014	-.008
	(.059)	(.060)	(.057)	(.057)
HAVO	-.049	.106	.032	.034
	(.071)	(.074)	(.069)	(.069)
HAVO/VWO	.145*	.358***	.175*	.173**
	(.057)	(.064)	(.061)	(.061)
VWO	.606***	.852***	.477***	.465***
	(.066)	(.073)	(.071)	(.071)
Mediators				
Social capital friends' track advice		-.020***	-.011***	-.009**
		(.003)	(.003)	(.003)
Social capital friends' mean grade		.024***	.014***	.011**
		(.003)	(.003)	(.003)
Control variable				
Average grade wave 2			.491***	.492***
			(.019)	(.019)
Moderators				
migrant * friends' track advice				-.014**
				(.005)
migrant * friends' mean grade				.012*
				(.006)

Note: * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

(one-sided test for independent variables, two-sided test for controls)

6. Conclusion and Discussion

In this study the general view was upheld that friends' social capital at school positively influences pupils' grades. More specifically, based on social capital theory, the expectation was that the more friends with good resources a respondent has, the higher his average grade will be. Moreover, based on theories on friendship preferences and opportunities, it was expected that immigrant pupils receive less social capital through friends than pupils of Dutch origin. One of the aims of this study was to make an innovative contribution to the literature by examining whether the effect of friends' social capital is more beneficial with respect to grades for immigrant pupils than for pupils of Dutch origin. The second aim of this study was to investigate whether their different access to friends' social capital can account for the lower grades immigrant pupils receive in comparison to pupils of Dutch origin. Earlier studies in the United States found that friends' social capital positively influences educational outcomes (Cherng et. al, 2013; Cook et. al, 2007; Crosnoe et. al, 2003), but that social capital is unevenly divided among different ethnic groups (Flashman, 2012, Shin et. al, 2010). It is important to know whether social capital is unevenly divided among different ethnic groups in the Netherlands as well because this might explain differences in grades between pupils of Dutch origin and immigrant pupils. Therefore, longitudinal data, containing information on friendships, were used to elucidate the possible differences in the effect of friends' social capital on average grade. To do so, two research questions were constructed; (1) *To what extent can the poorer grades in secondary school of immigrant pupils as compared to pupils of Dutch origin be explained by access to friends' social capital?* And (2) *To what extent do ethnic minorities benefit more from their friends' social capital with respect to educational track and grades than ethnic majority pupils?* Concerning the first question there can be concluded that the lower grades of immigrant pupils can not be explained by access to friends' social capital. Second, the idea that immigrant pupils benefit more from the effect of friends' social capital on grades than pupils of Dutch origin can only be partially supported.

To start with the main effects the following can be concluded. In line with expectations immigrant pupils were found to receive lower grades than pupils of Dutch origin. However, opposite to what was found in earlier research (Cherng et. al, 2013; Cook et. al, 2007; Crosnoe et. al, 2003), and thus against expectations, only some resources lead to better grades. The average grade turns out to be lower when a respondent has more friends with high track advices. Nevertheless, these figures do not necessarily contradict the utilized framework because social capital through friends' average grade leads, in line with expectations, to a higher average grade for the respondent. When

controlled for average grade in wave two, to find out whether the negative effect of friends on respondents' average grade in wave 4 is due to influence or selection, it was found that both are important. This is in line with the results of De Klepper and colleagues (2010).

Besides a mediation effect also a moderation effect was expected. Immigrant pupils were expected to benefit more from friends' social capital than their counterparts of Dutch origin. Again, surprising results were found. Contrary to expectations it was found that immigrant pupils do not benefit more from social capital through friends' track advice than pupils of Dutch origin. There was even a negative significant effect, indicating that immigrant pupils even suffer more from social capital through friends' track advice than pupils of Dutch origin. On the other hand, for social capital through friends' mean grade a positive significant effect was found. This indicates that immigrant pupils benefit more from social capital through friends' mean grade than pupils of Dutch origin. Therefore a partial support was found for the second research question.

Overall, this study contains some important contributions to the literature in the field of social capital in relation to educational outcomes. Most importantly, the differences between pupils of Dutch origin and non-western immigrant pupils were taken into account for the first time. However, this study has some flaws as well. First, as also noticed by Dika & Singh (2002), the conceptualization of social capital is narrow and restricted by the variables available in the data set. As indicated by Cherng et. al, (2013), college educated mothers could be important sources of friends' social capital as well. Thus, future research needs to take this into account when constructing variables that measure friends' social capital, for example, by constructing a scale with several factors. If one has a more reliable measure of friends' social capital, such as a scale of several items measuring aspects friends' social capital, the outcomes of the analyses become more reliable as well. Second, this data set contains self-reported grades. However, in his literature review on the reliability, validity, and utility of self-assessment, Ross (2006) shows among other things that self-assessment contributes to higher achievement. Furthermore, in a meta-analysis on self-reported grades, Kuncel, Credé, and Thomas (2005) report that self-reported grades are less construct valid than many scholars believe. These two studies prove that self-reported grades should be used with caution. If possible, it is better to use grades reported by teachers or downloaded from the digital system, containing student information, schools often possess. On top of that, only three useful grades were reported in the questionnaires. The variables containing grades would be much more reliable if more grades were taken into account. In this study missing values therefore have more influence than desirable. Third, due to the low number of immigrant pupils in the data set it was not possible to account for differences between immigrant groups. It would have been possible to take Turks and Moroccans together, but for Surinamese and Antilleans there were too little cases. For that

reason the four major immigrant groups were taken together. Since Surinamese and Antilleans are more similar to people of Dutch origin than Turks and Moroccans, differences were expected between these groups. Hence, now, effects of immigrant status could be insignificant because of variation within the variable measuring immigrant status. Surinamese and Antilleans are expected to be less disadvantaged over pupils of Dutch origin than Turks and Moroccans. Oversampling of immigrants would enable analyzing the differences between the groups as well. Furthermore, that might also solve the problem of the low explanatory power of the model, since a more equal division of cases between groups account for more accurate models. Lastly, as said before, information on the parents is limited in the data set used for this study. No information of socioeconomic background is available. However, track advice was taken into account. Previous studies indicate that when track advice is taken into account socioeconomic background is not important anymore (Dustman, 2010; Herweijer & Van den Brink, 2011).

To conclude, a considerable amount of questions in the field of social capital with regard to educational outcomes remain unanswered. This study tried to contribute to the body of literature by taking immigrant pupils into account. Furthermore, a bridge was created between research on access to social capital and research on effects of social capital. However, enough research remains to be done. Future research should search for more reliable measures of social capital. Furthermore research should be conducted with an oversampling of immigrants in the data. Moreover, a closer look should be taken at the importance of aspects of selecting friends (i.e. preferences and opportunities) for educational outcomes. It is too soon to propose well-argued policy implications, but this and future contributions to the field could guide policy makers in their decision making with regard to educational policies. This research cleared the way to elaborate on the topic of immigrants in the field of social capital and educational outcomes. It made clear that immigrants are likely to benefit differently from friends' social capital than pupils of Dutch origin. This is an important first step to this field of research.

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