Social mobility and network diversity

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Cover image: Armando *'De Ladder'*

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Introduction

In the history of sociology the field of inequalities has always been one of the major topics. Extensive research has been devoted to gaining more insight in the causes and underlying mechanisms that result in inequalities. Especially the field of inter- and intra-generational mobility has been studied in length. Despite continuous efforts only relative insight has been achieved in the mechanisms underlying mobility. Amongst sociologists this is commonly known as the 'black box' of mobility (Erikson & Goldthorpe, 2002). Most studies focus on traditional factors such as education or one's origin as predictor for mobility processes and the eventual destination. However, little attention has been paid to less conventional factors that may influence this process.

Weber distinguished three forms of resources that can be used to attain status within society. These were human capital, financial capital and cultural capital. Bourdieu was one of the first to hint that social resources were also a form of capital (Ultee et al, 2003). Research by Granovetter (1973) and Lin et al (1981) provides evidence that suggest that social networks, and in particular network diversity are a form of social capital which in turn can be utilized for status attainment and social mobility. Therefore the primary aim of this study will be to gain more insight in the role that one's social network and in particular network diversity plays achieving both inter- and intra-generational mobility.

The main research question in this study will aim to explain the mechanisms between society opening up and increased social mobility through increased social network diversity, formulated as follows:

"To what extend can increased diversity in social networks be used to explain increased social mobility?"

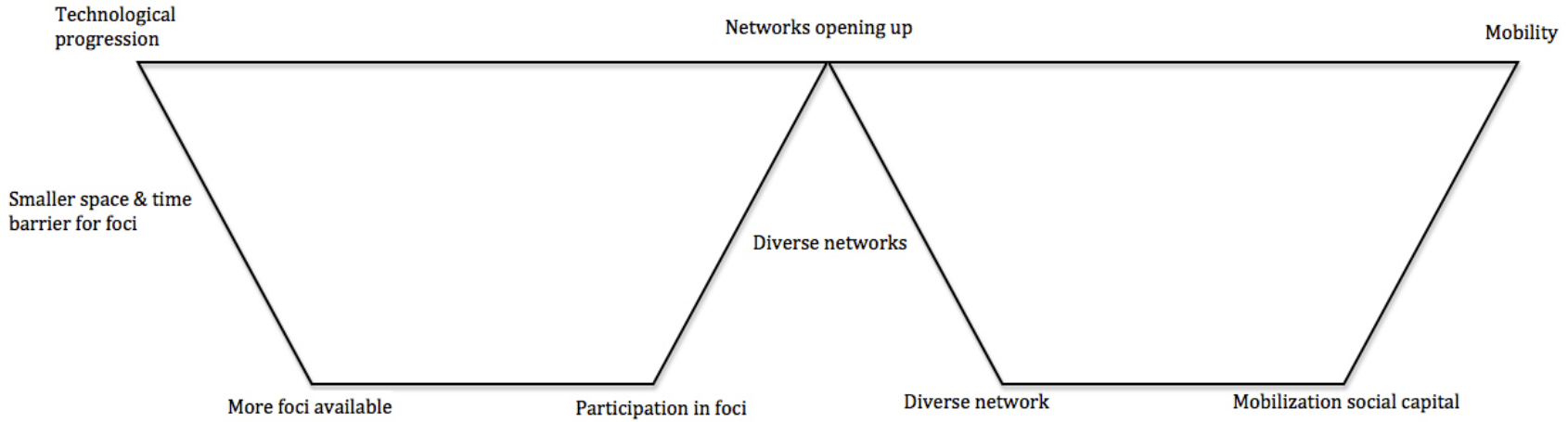
In order to answer our research question we formulate two hypotheses:

1. Network diversity is positively related to intergenerational occupational mobility
2. Network diversity is positively related to intra-generational occupational mobility

The figure below shows an overview of the perceived mechanisms behind our research question. Our hypotheses are present in the second part of the Coleman fleet figure and test the different relations between the meso and micro level. In this study we will attempt to fit this model building upon former research and adding our own empirical research. Step by step we will clarify the links between the different phenomena. The model shows society opening up in our mind this can partially be ascribed to the influence of social networks.

This model functions as the backbone of our theoretical framework. The starting point will be an explanation of the emergence of social relations and networks as found within the social network literature, since this is a crucial mechanism that lies at the basis for social network theory. The next step will be to show how technological advancement has affected these processes resulting in networks opening up. We now stand at the second part of our model where the strength of weak ties proposition of Granovetter (1973) and the study of Lin et al (1981) serve to explain how open networks lead to diverse networks that are in turn mobilized as social capital. Consequently a bridge is made between open networks and the mobilization of social capital. Through a review of empirical studies regarding inter- and intra-generational mobility we attempt to gain more insight in the processes revolving around social mobility. The final step that remains is identifying the role that network diversity plays in relation to social mobility, which will be the primary aim of this study.

Figure 1. Research model



Theoretical framework

The structure of the model as shown in figure 1 will serve as the pathway for our theoretical framework. We will begin with an explanation in regard to the emergence of social relations, which is crucial in regard to the first part of our model.

Focus theory

In 1981 Feld introduced the "Focus Theory". This theory revolves around the idea of foci or activities that regulate social life and can be used to explain why people interact and form social relations. He defines these so called foci as "*[…] any social, psychological, legal, or physical entity around which joint activities of individuals are organized. (e.g., workplaces, voluntary organizations, hangouts, families, etc.).*" (Feld, 1981; 1016).

There are certain activities that shape and organize one's life. These activities will allow for social contact with others. Feld reasons that when people have shared foci the chance increases for contact and the emergence of a relation. The more foci actors share the higher the chance that contact will result in a social relationship.

Feld describes constraint, size and compatibility as characteristics that shape foci. He points out that there are varying types of foci in regard to the constraints they place on actors. Constraining foci are activities that place more constraints on actors in the sense that they will have less time or possibilities to be active in other foci. An example of a highly constraining focus could be family. The general idea is that sharing a constraining focus will result in closer ties because of the intensity of the interactions within it. Another aspect of constraints is that the lower the constraints the more accessible foci tend to become.

The size of a focus is intuitively related to the amount of people that share that specific focus. Larger foci tend to be less constraining because it is hard to regulate the activities of a large number of people intensively.

A focus is compatible when it is possible to be in the specific foci while also being able to engage in other foci. The more compatible foci are mostly less constraining as a result. The characteristic of compatibility revolves around the idea that certain foci are more compatible. This means that participation in one of these foci increases the possibility of participation in other linked foci. An example would be students who next to studying participate in other foci with fellow students such as student guilds since these foci are linked and compatible.

Especially the characteristics of compatibility and constraint are important for this thesis. We assume that over the last decades Dutch society, or in particular the foci that shape the social society of the Dutch have become less constraining and more compatible. It's easier to engage in, and combine multiple foci, therefore allowing people to expand their social network.

Open society

Now that we have addressed the emergence of social relations and networks we can proceed to the next step in our model, namely the influence of technological advancement on these networks. This will serve to justify the assumption - networks have become more accessible and less constraining due to new technologies - made in the first part of our model shown in figure 1.

More recent research has attempted to gain more insight in the underlying mechanisms on the influence of modern day information communication technologies (ICT's) on social networks and network diversity in particular (Hampton, 2011). The author argues that the upcoming of technology has dramatically changed social relations within today's society. For example the means of transport by car, train, or plain make it much easier to maintain contact with other people. Traditional relations and foci have become less spatially bounded as a result of these technological advancements.

Hampton stresses that more attention should be paid to the influence of more recent technological developments such as cellphones, blogging and social networking sites. The most important findings of this study revolve around the direct and indirect effect of

these so called ICT's on social network diversity. A positive relation is found between the use of ICT's and network diversity, Hampton ascribes a part of this effect to the relation between the use of ICT's and participation in traditional foci. Due to these ICT's it has become increasingly more easy to engage and participate in new and traditional foci. When taking these findings into account it is reasonable to assume that the boundaries of traditional foci have become more transparent resulting in more accessible and less constraining foci.

Supply vs. Demand

The assumptions of the first part of our model have been justified, however in order to gain more insight in the structure of social networks themselves we make a sidestep before continuing with the second part of our model.

Within social networks theories we distinct theories that focus on either supply or demand. What is meant by these characteristics is that some theories focus on the preferences of individuals in forming relationships whilst others focus on the supply of people one can form relations with within the boundaries of the context. Focus theory for example focuses on the supply of others one can form relationships with within the foci that person is engaged. In our thesis we focus on the supply side approach, reasoning that Dutch society opening up has led to foci as described by Feld (1981) to become less constraining and more compatible. The effect of this process is that the supply of alters one can relate to increases, people have more opportunities and possibilities to meet alternative others which in turn would result in a more diverse network.

These are however not the only approaches towards networks theories. Mollenhorst, Flap and Völker (2008) adapted the so-called choice constraint approach to network theories in their research regarding Dutch society. This approach is a combination of both supply and demand meaning that individual preferences are important but are hindered by limitations and contextual boundaries. For example one cannot choose his own family or colleagues, but within the boundaries of these contexts people will search for similar others. When following this line of thought Dutch society opening up and the

supply of others to relate with greatly increasing would actually lead to more homogeneous instead of diverse social networks.

At first glance this seems problematic for it undermines our assumption that Dutch society opening up leads to more diverse networks. This perceived problem disappears however when we take into mind that the study performed by Mollenhorst et al (2008) focused on strong ties whilst our thesis does not differentiate between strong or weak ties. The reason for this lies with the proposition made by Granovetter (1973) which we will now address.

Strength of weak ties

Continuing with the second part of our model shown in figure 1, we will now address the link between diverse networks and the mobilisation of social capital. This will be done using the proposition of Granovetter (1973) and the study of Lin et al (1981).

An important fundament of social network theory is provided by Granovetter's strength of weak ties proposition (1973). Granovetter states that it is not necessarily the strength of a relationship that specifies its reciprocity, but that a tie, strong or weak, provides social capital.

Granovetter's theory of weak ties being more crucial for social mobility then strong ties has it's foundations within the so called Balance theory. The core aspects of this theory are somewhat less relevant for this thesis since they function on a very psychological and individual level. More interesting is the idea that networks formed of strong ties tend to cluster and become closed, meaning that very little new innovation, information and people enter the network. For the basic principle is that a strong tie between A and B and between A and C, results in a tie between B and C, therefore forming triads. Networks formed of weaker ties are much more loosely structured consequently allowing for more innovation, new information flows and people to enter. The diversity of these networks in return has a positive effect on one's social mobility when measured via occupational mobility. (Granovetter, 1973)

From this principle that strong ties tend to form triads Granovetter logically concludes that bridges between networks must always be weak ties. A strong tie could, theoretically, only be a strong tie when neither one of the parties has any other strong ties. Put into practice this would be very unlikely, thus concluding that bridges must be weak ties. (Granovetter, 1973; 1364)

In attaining a job, Granovetter argues, these weak ties are crucial. Although strong ties are more likely to pass on job information, because your friends and family simply care more, the 'bridging' weak ties provide a greater deal of new information. Hence, when wanting to be socially mobile one will address his weak ties in higher social status networks. (Granovetter, 1973; 1371-1373).

It is important to take into account that weaker ties have proven to be very useful in finding a job and thus being mobile in society. Based on the findings of Granovetter it is plausible that ties that provide high status jobs, and therefore social mobility, are most likely to be weak ties. Strong tied networks emerge on shared values and similarity (Mollenhorst et al, 2008). Because it is therefore logical that A's network consists mainly of people from A's social class, A can only be socially mobile when addressing his weak ties. In this study however, we do not distinguish between strong and weak ties since our focus lies on network diversity which includes both strong and weak ties.

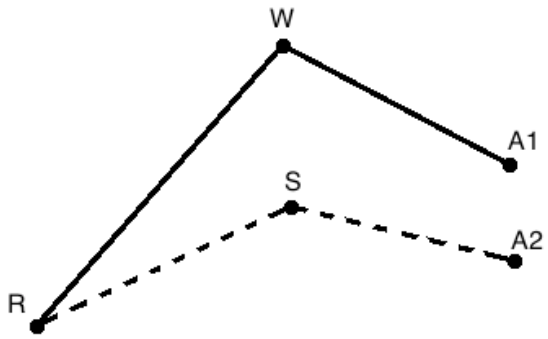
Attaining a job through social networks

In order to be able to make the claim that jobs can be attained via social networks, and not only via formal ways like newspaper vacancies sections, we need to look at empirical research proving this point.

Granovetter himself studied job attainment through ties, but more extensive research has been done by Lin, Ensel and Vaugh (1981). Their hypotheses are largely based on Granovetter's Strength of Weak Ties hypothesis and the homophiliy principle. The latter states that social interactions more often occur between similar people. Not only do people meet similar alters more often, as stated in focus theory, but on a more psychological level they find it more convenient to interact with alters who have

attributes similar to their own. However, to be mobile in job status, Lin hypothesizes, one must address higher contacts in order to attain a higher job. Not only do weak ties provide information outside of one's own network, but assuming that influence and information increase at higher levels of the hierarchical job structure, higher (weak tied) contacts are more plausible to find you a better job. Lin, Ensel and Vaugh's hypothesis is shown in figure 2.

Figure 2. R's job attainment (A1/2) through strong (S) and weak (W) ties



Source: Lin et al, 1981; 396

They show a significant association with the SES of social resources one evokes and the attained occupation. His findings confirm his theory, thereby providing a foundation for the importance of a diverse network in attaining higher social status.

These studies offer support for the notion that having a diverse social network provides social capital which in turn is utilized for status attainment and occupational mobility. This justifies the assumption concerning the micro level relation of the second part of our model as shown in figure 1. The following step will be to gain more insight in social mobility in general and more specifically the developments in Dutch society.

Structural and circular mobility

In order to get a correct perspective on mobility it's important to understand the difference between absolute and relative mobility. There are two kinds of mobility. There is structural mobility, which is a consequence of changes within the occupational structure. For example, through automatization of industrial processes less human labor is required relative to management functions. Therefore more occupations within a higher status segment become available. This process is called structural mobility. This form of mobility is deceptive, for it does not give any information about society opening up. People are somewhat 'forced' into higher positions. (Ultee et al, 2003; 530)

Circular mobility, on the other hand, describes what is left of mobility when structural mobility is neutralized. This is the mobility that relates to the effects of society actually opening up. Circular and structural mobility accumulated form absolute mobility. Relative mobility consists of circular mobility only. (Ultee et al, 2003; 530). Circular mobility can be defined as mobility changes that are a result of changes outside the profession structure in a country. For example the changes in a country's economic, political, cultural or social aspects. (Ganzeboom 1983)

Later on, we will see that in our analysis it is hard to deduct circular mobility. Therefore it is important to keep this in mind while working with our data, because we have no way to exclude structural mobility. To avoid this from being problematic we will now look at empirical studies on mobility that provide evidence for the assumption that circular mobility is present within Dutch society.

Empirical research on mobility

When studying social mobility in general in Dutch society one quickly stumbles upon Ganzeboom, De Graaf and Luijkx as leading authors. In extensive empirical research they have shown a complete image of mobility in Holland from 1954 till 1993. The most remarkable is that their findings can be used to support the notion that Dutch society has actually become more open. This directly relates to, and justifies the macro effect in our research model.

The first study was completed in 1983 and focused on two measuring moments, 1954 and 1977. They used data collected by Tulder (1962) and drew a comparison with data provided by the Central Bureau of Statistics (CBS). Their intention was to show intergenerational mobility within Dutch society. They found that structural mobility has significantly increased in 1977 in comparison to 1954 and the same was true for circular mobility, which was in fact even more significant. These results mean that mobility did not only increase because of changes in the occupational structure but also because of processes not directly related to the occupations themselves. The general conclusion of the authors is therefore that Dutch society has actually moved towards a more open society. Why Dutch society has moved to a more open society is not addressed, however they do hint towards technological, economical, political and cultural changes for explanations (Ganzeboom & De Graaf, 1984; 88).

In their 1989 study Ganzeboom and De Graaf examined mobility with another measurement, namely education. They argue that intergenerational occupational mobility is too limited to explain why Dutch society has become more open over the last decades. Educational mobility is a much better predictor for several reasons. The authors feel that an actor's educational level is a better predictor for one's social life and therefore his position in society than one's profession. (Ganzeboom & De Graaf, 1989a; 264). Secondly, occupational mobility flows mostly via educational mobility. In other words occupational mobility is an indirect way of measuring social mobility, whereas education is the biggest predictor for the achieved occupation and therefore social mobility (Ganzeboom & De Graaf, 1989a; 264). Another advantage is that women can also be taken into account. This was not possible before because women were only little represented on labor market. Not every woman has a job but every woman has a certain level of education (Ganzeboom & De Graaf, 1989a; 265). The authors conclude that Dutch society has a general trend towards more openness during the 20th century when measured via relative educational mobility. This in turn links particularly well tot previous research regarding intergenerational occupation mobility (Ganzeboom, 1983 & Ganzeboom, 1987). Which make sense because of the assumption that education is the most direct predictor of the achieved occupation and social mobility.

Although education has proven to be a very useful explanatory variable, we have to disagree on certain steps in their argumentation. The authors argue that looking at education instead of occupation the view on one's cultural, political and economical sense, and therefore one's social life, becomes clearer. Secondly they state that occupational mobility flows via educational mobility. Although this may be true, this isn't, in our minds, the side of mobility worth investigating. We believe that obtained occupations are not always a direct result of education, but are also influenced by social networks (Granovetter, 1973). As a result we believe that social mobility is influenced not only by education and occupation but also via networks and in particular network diversity.

The third study by Ganzeboom worth mentioning was done in 1995 together with Luijkx. This study covered almost all the data and measurements used in previous studies. The largest difference between this research and the study from 1983 is that instead of only having two tables measuring 1954 and 1977 they had 19 tables measuring from 1954 till 1993. This study combines the previous two (the 1983 and 1987) studies adopting a class system approach covering data from 1954 till 1993. Therefore this study gives a complete overview of empirical research on intergenerational mobility in Dutch society. They conclude:

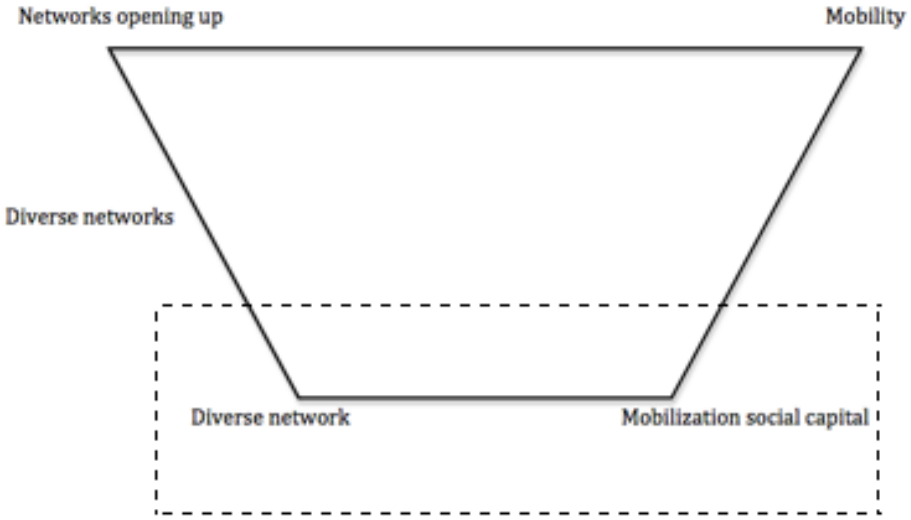
"When the openness of Dutch society is measured via intergenerational mobility it has straightforwardly increased in both the absolute as the relative sense." (Ganzeboom & Luijkx, 1995; 27)

These data therefore empower and expand their previous findings from 1983 and 1987. This implies that we can safely assume Dutch society has become more open over the years. Now that we have justified the assumptions of both the first and the second part of our model including perceived social mobility on the macro level, the opportunity rises for us to find out in what way network diversity influences social mobility on the individual level. In order to do this we will move on to constructing specific hypotheses deducted from our model and theoretical framework.

Hypotheses

When looking at our model as shown in figure 1, we have provided theoretical and empirical arguments that support the assumptions made in the first and much of the second part of the scheme. What remains is the relation between diverse networks and mobility on the individual level as shown in figure 3. In order to fit this part of the model one major assumption is required, namely that the experienced mobility on the individual level related to network diversity is the result of the mobilization of social capital.

Figure 3. Place of the hypotheses in the research model



In order to properly assess this relation we have constructed two distinct hypotheses. Whilst these constructing hypotheses we have adopted the approach to social mobility as used by Ganzeboom & Luijkx (1995). Inter- and intra-generational occupational mobility are commonly used, and appear valid measures of mobility in general. As a result one hypothesis will focus on the relation between network diversity and intergenerational occupational mobility whilst the other will focus on the relation between network diversity and intra-generational mobility.

Hypothesis 1: Network diversity is positively related to intergenerational occupational mobility.

We will measure intergenerational occupational mobility because it shows to what degree one can differentiate from his socio-economical background. We believe that measuring one's occupational prestige is a valid way to determine one's socio-economical status. By comparing this occupational prestige with the prestige of the father the effect of the respondent's socio-economical background becomes visible. Thereby manifesting the experienced mobility.

Hypothesis 2: Network diversity is positively related to intra-generational occupational mobility.

Intra-generational occupational mobility focuses on the mobility within a generation. It is measured by analysing the difference between one's occupational prestige and the prestige of the respondents previous occupation in relation to network diversity, whilst controlling for various variables.

Occupational network diversity is in essence social capital. According to Hampton (2011) and Lin & Erickson (2008) it's the wideness and diversity of networks that makes social capital, not only the higher prestige occupations. "*Occupations vary in prestige, and people in high prestige occupations tend to have special resources tied to income, education, and authority. However, even people in lower prestige occupations have special skills and can offer unique opportunities. The more people someone knows in different occupations, particularly a range of occupations, the more likely he or she is to have access to a range of information and resources – social capital."* (Hampton, 2011; 1037).

A problem that arises is that of reverse causality. This is the situation where the dependent variable might influence the independent variable. In our study one could assume that experiencing high mobility results in participating in more foci, thus meeting more people and attaining a more diverse network. If reverse causality were to be true, having had a large number of previous employers would mean participation in

more foci which would mean an increased possibility of expanding one's network diversity. Instead of the other way around where having a diverse network increases the possibility of experiencing occupational mobility.

In an attempt to control for reverse causality we analyzed correlations between network diversity and number of previous employers. No correlations were found, therefore we assume that the causal direction is as hypothesized in the theoretical model. We have included the variable number of previous employers in our analysis to minimize the issue of reverse causality. It is however impossible to completely exclude the problem of reverse causality in this study for this would require longitudinal data.

Methods

Data

In this study we make use of a dataset from a joint project of the universities from Utrecht, Groningen and Amsterdam; the Survey of the Social Networks of the Dutch (SSND). This data was collected between 1999 and 2000 and contains 1007 respondents in the age of 18 to 65, representing the Dutch labour population. The data contain a large number of variables concerning social networks, occupational history and status and individual characteristics. For the selection of respondents forty municipalities were selected in which the researchers randomly selected four neighbourhoods using zip-code identification. Within these neighbourhoods twenty-five addresses were randomly chosen and contacted. The potential respondents were contacted after receiving a letter for a face-to-face interview of about two hours. The total response rate in this design was 40 percent. The data shows a little bias when compared to national figures. There's a small overrepresentation of men, married people and slightly higher educated people in the SSND data. This dataset is the first of a longitudinal project. The second wave started in 2008, but up to now the data remain unavailable.

Operationalization

The three core concepts of our analysis; intergenerational mobility, intra-generational mobility and network diversity are relatively well provided by the SSND data. Concerning intra-generational mobility the data is somewhat lacking, the dataset provides information about current and previous occupation whereas information about the respondents entire career path would be desirable.

Network diversity is measured using a position generator. This method is a way to collect information on an ego-centered network. The respondents were asked if they know someone in a particular occupation, for instance 'Is there a professional cook in your network?'. They were asked to indicate if they knew someone in 30 different occupations listed in table 1. These occupations were valued on a prestige scale designed for the Netherlands by Sixma and Ultee (1983) known as the U&S-92 scale.

This provides insight in the diversity and SES of one's network. Our measure of network diversity consists of the cumulative number of the known occupations within the position generator.

Table 1. List of position generator occupations

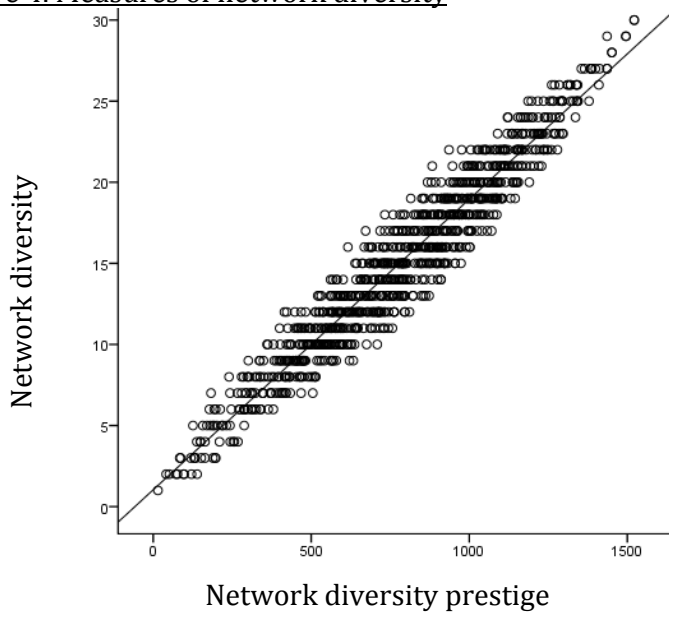
Occupation	Prestige on U&S_94 scale
Doctor	84
Cook	39
Professional engineer	76
High official	64
Construction worker	15
Director/Principal	67
Manager	67
Teacher	62
Real estate agent	64
Union leader	66
Lawyer	86
Mechanician/Technician	63
Bookkeeper	52
Scientist/Researcher	65
Policy maker	82
Musician/Artist/Writer	45
Automation expert	68
Police officer	54
Secretary	52
Insurance agent	52
Foreman	27
Nurse	44
Farmer	36
Truck driver	26
Postman	26
Engine driver	44
Salesperson	22
Unskilled worker	15
Cleaning person	20
Barber	39

Source: SSND Dataset, 2000

Measuring network diversity solely through the diversity of the included occupations is a clean and efficient way, however some information regarding the occupations is passed by. The amount of resources provided by occupations is not equally distributed amongst the occupations. A way to measure this variance is via prestige scores. When following Lin's theory regarding attainment of higher prestige jobs (1981) one can stress the importance of total prestige within networks. Higher prestige occupations provide more social resources for job attainment. As a second measure for network diversity we constructed a variable of cumulative prestige scores on known occupations

within the position generator. Figure 4 shows that both our measures of network diversity are highly correlated, thusly we assume that network diversity prestige is an appropriate measure of network diversity. It is important to note however, that the measure focuses primarily on social resources that flow from occupations whilst also providing information about network diversity.[1]

Figure 4. Measures of network diversity



Source: SSND Dataset, 2000

To measure mobility we have to adjust some variables. SSND provides information on the father's occupation and the career path of the respondent. Again, these occupations are valued using the U&S-92 scale. Subtracting father's occupational prestige from the respondent's current job prestige creates a variable of intergenerational mobility. These variables both have a range from -60 (extreme downwards mobility) to 59 (extreme upwards mobility). Intra-generational mobility is measured through a comparison of the prestige of one's current – and previous occupation. This is done subtracting previous – from current occupational prestige leaving a score of experienced prestige mobility.

In order to find the clean relation between network diversity and social mobility controlling for certain external factors is required. In our analysis we will control for

[1] The cumulative prestige scores variable is used as a secondary measure for network diversity in order to improve the validity of our first network diversity measure.

age, sex, years of education and the number of employers throughout the respondents career. These are the more traditional mechanisms underlying mobility processes (Ganzeboom & Luijkx, 1995, Erikson & Goldthorpe, 2002, Bowles & Gintis, 2002). All variables are recoded into continuous or dichotomous variables in order to fit them in a regression analysis.

Table 2. Descriptive statistics dependent -, independent – and control variables

Variables	N	Mimimum	Maximum	Mean	Std. Dev.
DEPENDENT					
Intergenerational mobility	943	-60	59	3.70	20.38
Intra-generational mobility	699	-42	60	1.46	15.22
INDEPENDENT					
Network diversity	1007	0	30	15	5.63
Network diversity prestige	1004	15	1522	781.67	300.48
CONTROL					
Age	1007	18	65	45.19	11.16
Male	1007	0	1	0.58	0.49
Years of education	1007	6	18	13.52	3.22
Number of employers R has been working for	979	1	30	3.84	3.25
Fathers occupational prestige	967	15	86	46.88	17.59
Total valid N (listwise)	663				

Source: SSND dataset, 2000

Table 2 provides an overview of some descriptive statistics of all variables included within our analysis. The mean score of 0.58 on the male variable shows that there is a slight overrepresentation of males in our sample. The table also shows that absolute mobility has increased by 3.7 points on the prestige scale U&S-92. The wide distribution on both intergenerational mobility and network diversity is of critical importance for this research. The wide distribution of these variables allows investigating the expectation that they may be related.

The variable concerning intra-generational mobility shows a relatively large amount of missings in comparison to the other variables. Besides the 'normal' item non-respons and some unemployed in the data, there is another unknown source for this excessive amount of missing values. One could argue that these missings are people who did not experience mobility at all; they would still be in their first job or would all be at the start of their career. However due to the uncertainty in regard to the causes of these missing scores it's best to choose the high road and exclude them from the analysis.

Results

In this section the formulated hypotheses will be analysed via ordinary least squares regression analysis. The first test concerns hypothesis one where the relation between network diversity and intergenerational mobility is examined. The final regression model is shown in table 3.

Table 3. Regression analysis Intergenerational Mobility (N=927)[2]

	Beta		Standard Error	Standardized Beta
(Constant)	-28,415	***	4,36	
Network Diversity	,327	**	,116	,09
Age	,255	***	,06	,136
Male	6,485	***	1,323	,156
Years of Education	,981	***	,206	,153
Number of Employers R has been working for	-,426	*	,204	-,067

*=p<.05 **=p<.01 ***=p<.001 R^2=0.084

Source: SSND Dataset, 2000

The model explains 8.4 percent of the complete variance on intergenerational mobility. In regard to hypothesis 1 table 3 shows that network diversity is positively related to intergenerational mobility. This means that knowing a range of more diverse occupations results in higher perceived intergenerational mobility. As expected when controlling for age a significant relation was found. This makes sense since during one's lifetime career advancement takes place. The same goes for years of education for this allows one to enter the labour market at a higher entry point and therefore attaining higher prestige occupations in comparison to father's occupation. It is commonly known that males have an advantage on the labour market (Kuhn, 1987). It is therefore no surprise that the variable male has a significant positive effect on perceived intergenerational mobility. On the other hand the number of employers the respondent has been working for shows a significant negative relationship with intergenerational mobility. This might be a consequence of people changing jobs more often in lower prestige occupations. Concerning the problem of reverse causality no relation was found between one's number of previous employers and one's social network diversity. This means that empirical evidence on the line of thought where being mobile in society will

[2] We did not control for father's occupational prestige since this variable is used to construct the independent variable.

increase the chance of meeting more diverse alters and thusly increasing the diversity in networks is not found, therefore there is no reason to assume that reverse causality compromises our findings.

The results of the second model are shown in table 4, it concerns hypothesis two where the regression analysis focuses on the relation between network diversity and intra-generational occupational mobility as measured via a comparison between current –and previous occupation.

Table 4. Regression analysis Intra-generational Mobility (N=691)

	Beta		Standard Error	Standardized Beta
(Constant)	15,55		4,039	
Network Diversity	,076		,107	,027
Age	-,205	***	,057	-,136
Years of Education	-,422	*	,187	-,086
Number of employers R has been working for	-,066		,181	-,014
*=p<.05 **=p<.01 ***=p<.001				R^2=0.026

Source: SSND Dataset, 2000

Concerning the influence of network diversity on occupational intra-generational mobility no significant effect has been found. This means that within this study no empirical evidence supports the idea that network diversity as measured knowing people amongst a range of occupations is positively related to more experienced intra-generational mobility measured via prestige score differences in current and previous occupation. Hypothesis two can therefore be rejected.

It should be noted that a comparison between previous and current occupation is somewhat meagre when attempting to assess mobility along one's career path. An analysis with a more suitable dependent variable might yield different results. The variable age has remained strongly related to experienced intra-generational mobility however, in comparison to intergenerational mobility the effect has become negative. It is probable that the effect of age stabilizes over one's career whilst most mobility will be experienced in the first years of the career. This change is also found when controlling for years of education. The negative effect is thought to be associated with the argument that people who enjoy more years of education enter the labour market at a higher entry point consequently experiencing less mobility between occupations.

As shown in table 4 the control variable sex has been left out of the regression analysis. Since this model focuses on the influences of network diversity and other mechanisms on one's career path it does not seem likely that sex will have an effect, and indeed no effect is found. The variable father's occupational prestige was also found not to be of influence and was therefore not included. Controlling for previous number of employers was included as an extra controlling measure in regard to reverse causality.

Table 5 shows another approach towards the effect of network diversity on both inter and intra-generational mobility. Network diversity has been given shape through accumulated prestige scores on the range of thirty occupations. Strong correlations were found between this measure of network diversity prestige and the primary network diversity measure. The benefit of this measure is that accumulated prestige scores give more insight in the social capital provided by one's network next to its diversity, however within this study it serves primarily as a support for our network diversity measure.

Table 5 combines the results of network diversity measured via prestige scores. The first half concerns intergenerational mobility the second half intra-generational mobility. The results regarding inter and intra-generational mobility differ only little from the results found in table 3 and 4. Both measures for diversity provide almost identical findings whilst measuring different items, therefore it is justified to assume that both measures of network diversity are valid. The only difference in regard to intergenerational mobility is that network diversity measured via prestige scores has a somewhat smaller positive effect on intergenerational mobility, however this effect is still significant. The results on intra-generational mobility differ even less.

Table 5. Regression analysis inter- and intra-generational mobility by network diversity prestige

	Intergenerational mobility		(N=924)		Intra-generational mobility		(N=691)	
	Beta		Standard Error	Standardized Beta	Beta		Standard Error	Standardized Beta
(Constant)	-26,804	***	4,275		15,61		3,892	
Network diversity prestige	,005	*	,002	,084	,002		,002	,039
Age	,244	***	,061	,130	-,207	***	,057	-,138
Male	6,581	***	1,325	,158				
Years of Education	,924	***	,213	,144	-,454	*	,191	-,092
Number of employers R has been working for	-,425	*	,204	-,067	-,066		,181	-,014
*=p<.05 **=p<.01 ***=p<.001				R^2=0.082				R^2=0.026

Source: SSND Dataset, 2000

Conclusion & Discussion

The results of this analysis give a mixed picture. On one hand it supports the notion of the positive and substantive total contribution that network diversity has on intergenerational mobility, whilst, on the other hand, the effect of network diversity in regard to intra-generational mobility lacks support.

In order to answer the main research question of this study: "*To what extend can increased diversity in social networks be used to explain increased social mobility?*" two distinct hypotheses have been formulated. The first aimed at gaining more insight in the relation between social network diversity and intergenerational mobility, the second at the relationship between social network diversity and intra-generational mobility.

Concerning the first hypothesis a significantly positive relation was found between the diversity of alters in distinct occupations and the experienced intergenerational mobility. This means that having a diverse network helps in attaining higher prestige jobs in comparison to one's father. Although the effect of network diversity is significant, it is not so strong in comparison to the other variables controlled for. In our analysis we controlled for age, sex, education and number of previous employers, the latter in attempt to deal with the problem of reverse causality. These variables have all proven to be strong predictors in regard to social mobility both in our analysis and previous research. In regard to the results of our analysis hypothesis one is accepted.

Concerning the second hypothesis no significant relation has been found between social network diversity and intra-generational mobility. The other variables that were controlled for also give mixed results. The variable age remains an important predictor for intra-generational mobility however, opposed to the positive effect it has in regard to intergenerational mobility the relation is negative. Meaning that less occupational mobility is experienced with greater age. This effect could probably be ascribed to the stabilization of one's career over time.

The education variable is also negatively related with intra-generational mobility, this effect can probably be ascribed to the line of thought that people with more years of

education enter the labour market at higher entry point and will therefore experience less occupational mobility along their career path. Both variables number of previous employers and father's occupational prestige haven't proven to be significantly related to experienced intra-generational occupational mobility. In regard to the results of our analysis hypothesis two is declined. We presume that there is an effect, though due to the limitations of our independent variable for intra-generational mobility the concept is not sufficiently measured.

Taking these findings into account it is of crucial importance to relate them to the research model that served as the backbone of this study. The first part of this model was constructed and theorized using social network literature. The second part, however, is theorized mainly by Granovetter and Lin but left room for this study to test the influence of network diversity on social mobility. Our findings can therefore only be used to either support or criticize their theories. As noted above the relation between network diversity and intergenerational mobility stands firm, whilst the relation in regard to intra-generational mobility is yet to be found.

It is reasonable to assume that most ties within a diverse network are weak ties, since people are limited in their capacity of maintaining strong relations since these require more investments. This is in line with Granovetters' proposition in the sense that weak ties are important in the acquisition and mobilization of social resources, whilst not denying the social resources that flow from strong ties.

In respect to the theory presented by Lin et al our finding offer both support and some criticism. Our results could be interpreted pointing out that a diverse network is indeed important in job attainment, thereby supporting the idea that people attain jobs through their network. At the same time, there is no reason to believe that especially higher positioned contacts would provide these higher prestige occupations. Especially when looking at cumulative prestige scores as a measure of network diversity strength, the findings are very similar to the first measure of network diversity, thereby not pointing in the direction that these higher contacts would be more useful per se.

In order to make sure the used measure of network diversity is valid, a second measure was constructed using cumulative prestige scores. The measures are highly correlated and the regression results are almost identical as shown in table 5. This supports the notion that both measures are indeed adequate and valid when assessing the diversity of one's social network. It remains arguable that the position generator as a measure for network diversity is too simple but at the same time its strength lies in this simplicity. The measure provides a clean and efficient way to gain the necessary information required for the analysis without resorting to costly in depth network analysis.

The problem that remains is that of reverse causality. Without longitudinal data it is impossible to draw conclusions about the direction of the causal relation between network diversity and social mobility. We attempted to control for this through adding the respondent's number of previous employers, but it is fair to say the problem persists. The use of longitudinal data could provide sufficient evidence for the direction of the causal relation.

Another problem that persists is that of structural mobility possibly biasing our findings. Ganzeboom and Luijkx (1995) showed the significant presence of circular mobility in Dutch society. We therefore assume that this is also the case in the SSND dataset. However, we have no means to exclude the effect of structural mobility on our findings.

These findings are somewhat limited in their explanatory power, especially the data in regard to intra-generational mobility was limited due to the lack of first hand data and appropriate variables specifically designed for answering the research questions of this study. The significant relation regarding intergenerational mobility combined with the theoretical support whilst taking these limitations into account provides plausibility that more adequate research would be successful at gaining more insight in the role of network diversity on intra-generational mobility.

More research should be devoted to gaining more insight in social networks and in particular social network diversity as an underlying mechanism influencing social mobility. In regard to intergenerational mobility future research should attempt to

neutralize limitations we have experienced in this study such as reverse causality and structural mobility. Also multiple or more informative measures for network diversity would empower our research model. In regard to intra-generational mobility future research should be aimed at finding an effect between network diversity and intra-generational mobility where we did not. This can be done with more adequate measures of intra-generational mobility. Information about the entire career path combined with the changes in one's social network would give a clearer view on the causality and strength of the relationship. On short term the second wave of the SSND research could already provide the desired longitudinal data and especially give more insight in the relation between network diversity and intra-generational mobility.

In respect to the theories, empirical results and counter arguments and limitations presented in this study, we formulate the general conclusion that social network diversity is an important factor in regard to social mobility. The primary purpose of our research model is to answer our main research question on the mechanisms through which network diversity could influence social mobility. In doing so we have found evidence that supports theories of social capital or social resources as a determinant in mobility outcomes on the micro level. Our expectation is that these micro level processes can at least partially be used to explain social mobility within Dutch society on the macro level. The black box problem surrounding mobility remains, however our study moves a small step towards a better understanding of underlying mechanisms behind social mobility.

References

Bowles, S. and Gintis, H. (2002). 'The Inheritance of Social Inequality' in *The Journal of Economic Perspectives* (16) 3: 3--30.

Burt, R. & Minor, M. J. (1983). *Applied Network Analysis: a methodological introduction.* Beverly Hills: Sage.

Coleman J S (1990). *Foundations of Social Theory*. Cambridge: The Belknap Press.

Duijn, M.A.J. van, Busschbach, J.T. van & Snijders, T.A.B. (1999). Multilevel analysis of personal networks as dependent variable. *Social Networks 21:187-209.*

Eagle, N., Macy, M. & Claxton, R. (2010). 'Network diversity and economic development'. *Science,* 328(5981): 1029-1031.

Erikson, R. and Goldthorpe, J.H. (2002). 'Intergenerational Inequality: A Sociological Perspective' in *The Journal of Economic Perspectives* (16) 3: 31--44.

Feld, S. (1981). 'The focused organization of social ties'. *American Journal of Sociology*, 86(5): 1015-1053.

Ganzeboom, H.B.G. & De Graaf, P.M. (1983). 'Beroepsmobiliteit tussen generaties in Nederland in 1954 en 1977' in *Mens en maatschappij*, 58: 28-52.

Ganzeboom, H.B.G. & De Graaf, P.M. (1984). 'Intergenerational occupational mobility in the Netherlands in 1954 and 1977: a loglinear analysis' in Bakker, B.F.M., Donkers, J. & Ganzeboom, H.B.G. (Eds.) *Social stratification and mobility in the Netherlands*. pp 71-90. Amsterdam: SISWO

Ganzeboom, H.B.G., Luijkx, R., Dessens, J., Graaf, P.M. de, Graaf, N.D. de, Jansen, W. & Ultee, W.C. (1987). 'Intergeneerationele klassenmobiliteit in Nederland tussen 1970 en 1985' in *Mens en Maatschappij*, 62, pp 17-43.

Ganzeboom, H.B.G. & De Graaf, P.M. (1989a). 'Intergenerationele opleidingsmobiliteit in Nederland van geboortecohorten 1891-1960' in *Sociale wetenschappen*, 32: 263-278.

Ganzeboom, H.B.G., Luijkx, R. & Treiman, D.J. (1989b). 'Intergenerational class mobility in comparative perspective' in *Research in Social Stratification and Mobility*. 8, 3-84.

Ganzeboom, H.B.G. & Luijkx, R. (1995). 'Intergenerationele beroepsmobiliteit in Nederland' in *Verschuivende ongelijkheid in Nederland* (red. Donkers, J. & Ultee, W.C.). Van Gorcum; Assen.

Granovetter, M. (1973). 'The strength of weak ties'. *American Journal of Sociology*, 78: 1360-80.

Granovetter, M. (1983). 'The strength of weak ties: a network theory revisited'. *Sociological Theory.* 1: 201-233.

Granovetter, M. (1993). *Getting a job*. Chicago: University of Chicago Press.

Grusky, D. & Manwai, C. (2008). *Social Stratification: Class race and gender in sociological perspective*. Westview Press.

Hampton, K.N., Lee, C.J. & Her, E.J. (2011). 'How new media affords network diversity: Direct and mediated access to social capital through participation in local social settings' in *New media & society* 13(7) 1031-1047.

Höllinger, F. and Haller, M. (1990). 'Kinship and Social Networks in Modern Societies: A Cross-Cultural Comparison among Seven Nations'. *European Sociological Review*, 6(2): 103-124.

Kalmijn, M. (1998). 'Intermarriage and Homogamy: Causes, Patterns, Trends'. *Annual Review of Sociology,* 24: 395-421

Kuhn, P. (I987). 'Sex discrimination in labour markets: The role of statistical evidence.' American Economic Review, vol. 77, pp. 567-83.

Lin, N., Ensel, W. & Vaughn, J. (1981). 'Social Resources and Strength of Ties: Structural factors in occupational attainment'. *American Sociological Review*, 46:393-405.

Lin, N. & Erickson, B.H., eds (2008). *Social Capital: An International Research Program.* New York: Oxford University Press.

McPherson, M., Smith-Lovin, L. & Brashears, M.E. (2006). 'Social Isolation in America; Changes in Core discussion networks over two decades'. *American Sociological Review*, 71(3): 353-75.

Mollenhorst, G.; Völker, B. & Flap, H. (2008). 'Social contexts and core discussion networks: using a choice-constraint approach to study similarity in intimate relationships'. *Social Forces*, 86(3): 937-966.

Podolny, J. & Baron (1997). 'Resources and Relationships. Social Networks and Mobility on the Workplace'. *American Sociological Review*, 63(5): 673-693

Sixma, H. & Ultee, W.C. (1983). 'Een beroepsprestigeschaal voor Nederland in de jaren Tachtig' in *Mens en maatschappij*. 4: 360-382.

Tulder (1962). *De beroepsmobiliteit in Nederland van 1917 tot 1954*. Leiden: Stenfert Kroese.

Ultee, W., Arts, W. & Flap, H. (2003). *Sociologie: vragen, uitspraken, bevindingen.* Groningen: Wolters-Noordhoff.