INTRODUCTION

One of the most important sources of social capital is the variety of people in a person’s entire social network, including weak as well as strong ties. The more varied the contacts, the more varied and rich the resources to which they potentially provide access. Past research has been almost entirely devoted to just one kind of variety: the number of different occupations in which the focal person knows anyone. But different forms of variety provide access to different ranges of resources, and, people gain different kinds of network variety in different ways. Thus we add four new kinds of network variety to the traditional occupational variety: (1) the number of middle class occupations in which the person knows anyone, (2) the number of working class occupations in which the person knows anyone, (3) the number of occupations in which the person knows a man, and (4) the number of occupations in which the person knows a woman. These forms of social capital provide access to the different kinds of resources typically controlled by higher prestige people, lower prestige people, men, and women. We then examine how unequal access to these five kinds of social capital is or is not shaped by homophily, contact opportunities, biographical constraints, social status, and position in the occupational prestige hierarchy.

FORMS OF SOCIAL CAPITAL

Social capital is the resources embedded in social networks. That is, a person’s social capital is the array of resources belonging to the person’s contacts and potentially available to the person through these contacts. One important form of social capital is the variety of people known, and hence the variety of resources these people control. Variety matters for two reasons. First, the more different kinds of people one knows, the more likely it is that one of them will have the resource one needs. For example, people who know others in many kinds of occupations are more likely to have some contacts with high occupational prestige, to be able to get their help in seeking a job, and hence to get a good job (Lin 1999). Second, variety is sometimes valuable in itself. For many higher level jobs, employers prefer people with varied contacts because these contacts can be appropriated for the firm’s use in recruiting clients, scanning the environment, and so on (Erickson 2001). Varied networks also engage people in many kinds of relationships, with different kinds of people, in different settings, and this "complexity of role sets" is a source of important personal strengths including more sophisticated language and greater sense of control over one’s own life (Coser 1975). People with more varied networks also receive more varied cultural inputs from their contacts and hence develop more richly and usefully varied cultural repertoires (Erickson 1996). Thus network variety is an important advantage in life (Erickson 2003).
But there are different varieties of network variety. Theoretically, the important forms of variety are those that provide access to varied resources. Research to date relies heavily on occupational variety as measured by some form of position generator (Volker and Flap 1999, Lin, Fu and Hsung 2001). Typically, researchers develop a list of occupations which range from high to low in prestige, and ask respondents whether or not they know anyone in each of these occupations. The more occupations a person has one or more contacts in, the greater the network diversity. This simple but powerful approach works because occupation is a master role in modern societies, one which reflects important aspects of past histories (such as class background and education) and current social location. People in different occupations are different in a plethora of resources: interests, tastes, information, money, power in the workplace, skills, and so on. We call this classic form of social capital occupational diversity.

For some outcomes, access to higher status positions is much more useful than access to lower status positions. For example, the higher the occupational prestige of a contact used to get a job, the better the job one gets (Lin 1999). People in higher level work often have greater control over good jobs, greater cultural resources, higher levels of information, and wider networks that provide greater indirect access to a wealth of resources. We call access to higher prestige occupations middle class diversity.

Access to lower status occupations may well provide less leverage on the whole than does middle class diversity, but, may also provide access to resources of different kinds. Lower prestige people have better access to working class skills, and may be better routes to relatively desirable working class jobs, such as jobs filled by employee recruitment. Thus we also separate out and examine access to working class occupations, which we call working class diversity.

Occupational variety is important because occupations differ in their resources. But occupation is not the only way in which people are divided into categories with distinctive amounts or types of resources. All major forms of inequality do this. Here, we also include gender stratification, one of the most pervasive and powerful forms of inequality and difference, and one with important resource consequences. Men and women have different tastes and are well informed about different topics (such as sports for men, but novels for women, Erickson 1996). They take responsibility for different things, such as men’s greater attention to automobile maintenance and women’s greater attention to health. Moreover, the vast gender differences in resources cannot be reduced to occupational differences. For example, the cultural contrasts that make gender boundaries are different from the cultural differences that distinguish occupations, so that gender and class each need their own analysis (Hall 1992). If social capital consists of the resources embedded in one’s network, and if men and women have typically distinctive resources, then contacts with men are a different form of social capital than contacts with women. It is not that ties to men are better or worse social capital, but rather that ties to men are more useful social capital for the kinds of resources men tend to control and ties to women are better social capital for the kinds of resources women tend to control. For example, men have more power in the workplace, so contacts with men are more productive of good jobs. But women know more about health, so contacts with women have a greater positive effect on health. Thus we examine both male diversity, the number of occupations in which a person knows one or more men, and female diversity, the number of occupations in which a person knows one or more women.

To keep this paper and related conference presentation brief, we have combined the materials usually separated into a theory and a results section. Below we first describe the data
and data analysis procedures, then give a combined discussion of our arguments and our findings.

DATA AND MEASUREMENT

The data source is the 2004 federal election study in Canada. This study selected a national representative sample and administered three surveys: a telephone survey during the election, another telephone survey just after the election, and a mailed-out survey shortly afterwards. This paper uses variables from all three waves. For the main multiple regression analyses, there are somewhat over 1100 cases with complete information on all variables.

The social capital measures are based on an item designed by Erickson for the 2000 federal election study (see Erickson 2004). She designed a new kind of gendered position generator (Figure 1), a variant on the original developed by Lin and Dumin (1986). To select occupations she consulted the 1996 Census of Canada to choose occupations including at least 20,000 people, since few respondents will know anyone in very small occupations. She also chose occupations with clear common-language titles in the census, to facilitate comparison between survey results and census information. Given these restrictions, she looked at several types of occupations: higher professionals, middle managers, other professionals, skilled trades, lower level service workers, semi-skilled trades, and unskilled. Within each set she chose one of the most male-dominated and one of the most female-dominated available, at roughly comparable levels of occupational prestige, while also varying prestige from very low to very high (prestige scores came from Ganzeboom and Treiman 1996). She also varied the sectors to which occupations belong, and added farmers, the largest and most typical of occupations in the agricultural sector. Table 1 shows the occupations selected, their size, gender composition, and occupational prestige.

From this position generator, as repeated in the 2004 study, we constructed five social capital scales. **Occupational diversity** is the simple count of the number of occupations in which the respondent reported knowing anyone (whether men, women, or both). **Middle class diversity** is the simple count of the number of higher prestige occupations in which the respondent knew someone, with the six higher prestige occupations being lawyer, pharmacist, human relations manager, sales and marketing manager, social worker, and computer programmer. **Working class diversity** is the count of the number of lower prestige occupations (the remaining 11 occupations) in which a person knows someone. **Male diversity** is the simple count of the number of occupations in which the respondent reports knowing one or more men. **Female diversity** is the number of occupations in which the respondent knew any women. All the social capital scales have good reliability as measured by Cronbach’s alpha: occupational diversity = .867, male diversity = .823, female diversity = .812, middle class diversity = .697, working class diversity = .826.

Most of the measure for independent variables are standard and straightforward. Age is age in years. Since age straggles up, and we expected a curvilinear effect of age on social capital, we use age and the square root of age to make a quadratic fit without excessive straggle. Gender is coded as 1 for women and 0 for men, so labelled "female." “Non-European” is a dummy variable that is 1 for people who report that their nations of origin are not European; this is our best approximation of non-white. Canadian born is 1 for those born in Canada, 0 otherwise. Education is an ordinal variable for level of education (not education in years of schooling). Working is 1 for those working, 0 otherwise. Prestige is the Blishen score for occupational prestige (a standard occupational prestige score for Canada). We include dummy variables for
whether or not the respondent has children under the age of 18, and whether or not the respondent is married or living with a partner. Voluntary association involvement is the number of kinds of voluntary associations in which the respondent reports being active in the past five years. We inspected the means of the social capital variables for the four main regions of Canada and found that the West and the East are consistently highest, while Ontario and Quebec are consistently lowest, so we included two dummy variables for residence in the Western provinces and in the Eastern provinces. We also inspected means for rural, mid-size, and metropolitan location. Finding that the means for social capital are all lowest in metropolitan areas, we left that as the reference category, and included dummies for rural and mid-size location.

DATA ANALYSIS STRATEGY

The arguments to follow predict how social capital should be related to important forms of social location, taken one at a time. But these arguments also suggest that the effects of social location are complex, sometimes direct, sometimes indirect, or both. For example if more educated people have greater social capital, is that because they met people through their educational experiences or is it because more educated people have higher levels of participation in voluntary associations? To help untangle the complex possible pathways through which social capital is formed, we conducted multivariate analysis in an approximation of life course analysis. We conducted a sequence of multiple regressions in which we first entered variables ascribed at or soon after birth (age, gender, birth in Canada or elsewhere, ethnicity) and then entered variables in the order in which they appear in lives on the average: education; adult work and family roles; and voluntary association participation. Finally, we entered geographic location to see whether regions, and rural to metropolitan areas, differ in social capital beyond what we would expect from differences in the individual attributes of their populations.

While most of the regression analysis is straightforward, we needed to give special treatment to the respondent’s occupational prestige. Those respondents who are not working do not have occupations, hence do not have an occupational prestige score. Thus they would drop out of the regression if we simply used prestige as an independent variable. Fortunately, Ross and Mirowsky (1992) explain a useful way to include all respondents and to use prestige scores only for those who are working. First, recode the occupational prestige values as deviations from their mean. Second, define a dummy variable which is 1 for those working and 0 for others. Third, give those NOT working arbitrary "placeholder" values for occupational prestige, so they do not have missing data on this variable and will remain in the regression. Fourth, create a variable which is the dummy for working multiplied by the recoded prestige scores. The arbitrary placeholder values for non-working people are thus multiplied by zero and drop out, while the real prestige scores for those working are multiplied by 1 and enter the regression. Finally, include both the dummy for working and the term (working times recoded prestige) in the regression. The dummy for working shows the difference between workers with average prestige and those not working. The other term, the dummy for working or not times centered prestige scores, shows the effect of prestige only for those who are working.

THE SOCIAL SOURCES OF SOCIAL CAPITAL

People differ in the amount of social capital they can get, in the kinds of social capital they can more easily get, and in how they get what they get. While the patterns are complex, as we will show, they are organized by a modest number of underlying principles.

Homophily
One of these important principles is homophily (McPherson, Smith-Lovin and Cook 2001): given a choice, people prefer to meet others like themselves in ways socially defined as important. People rightly assume that they will have more in common with more similar others, and find it both more attractive and more easy to build relationships with them. Thus:

Men have greater diversity of ties to men, and women have greater diversity of ties to women.

Higher occupational prestige goes with greater middle class diversity and lower working class diversity.

Feld (1982) points out that much of the apparent homophily in social life may not be choice but necessity. People of the same kind often end up in the same social settings, not necessarily of their own free will, as when students are placed in classrooms with children their own age. Thus we must next consider the social settings in which people participate, and the kinds of contact opportunities they provide.

Social Settings as Contact Opportunities

In general, people gain a greater number of chances to meet a greater variety of people if they participate in more social settings, especially social settings that differ from each other in the kinds of people in them and social settings that include an internal variety of people.

The strongest example of this principle is voluntary associations. Associations of different kinds appeal to different kinds of people. For our purposes, it is especially relevant that associations differ in membership distribution of gender and occupational prestige (e.g. McPherson and Smith-Lovin 1987). Many associations also have some internal diversity of gender and occupational prestige (e.g. Erickson and Nosanchuk 1984). People who belong to more voluntary associations have more opportunities to meet a wide range of people. Further, they are well motivated to take advantage of these contact opportunities because of the homophily principle. Fellow members of the same association share a valued kind of similarity, common interest in the association’s purposes. Thus:

The greater the number of voluntary associations in which a person is active, the greater the person’s level of all five forms of social capital.

Participation in a social setting provides good contact opportunities for the kinds of people that populate the setting. Thus activity in voluntary associations might enhance middle class diversity more than working class diversity, because middle class people take part in associations at higher rates. However, people with modest levels of occupational prestige and/or education do become active in associations, at rates that are non-trivial even if lower than middle class rates, so others can and do meet working class people through association activity. Association activists probably meet more middle class than working class people, but still meet enough working class people to get a useful variety of working class contacts. From the social resources point of view, variety of contacts is more important than sheer number; one does not need to know a hundred carpenters to have access to the skills and information that a single carpenter can provide.

The composition of a setting sets stronger limits on contact variety when the setting is very strongly dominated by one type of person. Schools are a notable example. People with higher levels of education have spent years in higher level educational institutions that are strongly dominated by fellow students who will go on to have middle class jobs. Even before entering higher level organizations like universities, the students bound for higher education are often in special tracks strongly dominated by other students also bound for educational success.
Thus, higher education provides a long history of better access to future middle class people than to future working class people. These future middle class people are as likely to be women as men, so education also promotes diversity of access to both men and women. Hence:

Higher education goes with greater male, female, and middle class diversity, but not greater working class diversity.

Education provides contact opportunities in itself, as people meet fellow students, but it also leads to later life experiences that themselves provide contact opportunities. Most notably, better educated people are more active in voluntary associations. Thus:

The positive effects of education on diversity are weaker, but still significantly positive, after controlling for activity in voluntary associations.

Where settings are not strongly dominated by one kind of person, but instead are internally diversified, people have a large range of choice among potential contacts. The effect of this range of choice depends on the setting’s population size. If the population size is large, people have potential access to many people much like themselves, and they prefer similar others (homophily). This accounts for an initially surprising result: people living in rural areas have more diversified networks than those living in urban areas (see also Angelusz and Tardos 2001:311, for Hungary). Urban areas include people in a far greater variety of occupations, so urbanites could easily build highly varied networks. However, urban areas also include larger numbers of people in any given occupation and similar occupations. Thus urbanites more often have the option of recruiting network members from people in a narrow range of similar kinds of work (Fischer 1982: 179.) In rural areas, there are fewer occupations but also fewer people, so one is compelled to meet all or almost all of the people around, similar or not. For the same reasons, rural areas force men and women to meet each other extensively. Thus:

The larger the place (from rural to mid-size town or city to metropolitan area) the lower the levels of all five forms of network diversity.

Men and women move in somewhat different social circles. There is extensive gender segregation in work, with women still under-represented in higher level positions. Men and women tend to join different kinds of voluntary associations. Thus differences in contact opportunities alone would lead to women meeting more women than men do, and men meeting more men than women do. When contacts are made, homophily leads to further selection as women feel more interest in building ties with the women they meet, and men feel more in common with the men they meet. Thus men should have greater male diversity than women and women should have greater female diversity than men, even after controlling for contact opportunities including education, voluntary associations and so no. But women have somewhat less access to middle class diversity than men.

Network variety should greater for those in paid employment, because working includes meeting at least some people, and past research often shows greater network diversity for those working. However, we do not find this. The sheer fact of working may not be important in an occupational system that includes large numbers of jobs with restricted contact opportunities, such as the growing number of lower level service positions like telephone soliciting.

**Biographical Constraints**

If we think of family life as a social setting that may provide contact opportunities, family ties could provide network diversity. Network variety might be greater for those with a spouse or partner, because one meets some of one’s partner’s contacts. Variety might be greater for those with children insofar as caring for the children leads one to meet fellow parents, childcare
workers, and others to whom children connect adults. However, family life absorbs a good deal of time, and care for younger children is especially demanding. Family life is not a social setting enhancing contact opportunities so much as it is a form of biographical constraint that can limit ability to turn any contact opportunities into new relationships. Thus:

Having a partner does not add to network diversity, while having children under 18 generally reduces network diversity.

Another, more powerful form of biographical effect is position in the life course. Both the youngest and the oldest adults face many biographical constraints compared to people in mid-life in North America. The young and the old have no paid work or lower level work, while those in mid-life are at the peak of their careers. The young and the old have lower incomes, lower rates of activity in voluntary associations, and lower social standing than those in mid-life. Thus:

Network diversity rises from youth to mid-life and then drops again into old age.

This is true even after all controls, because we have not been able to control all of the many social advantages of mid-life.

**Social Status**

People with higher social status generally are more active in a variety of social settings, gaining more contact opportunities. Not only do higher status people encounter more varied potential network members, but these potential contacts are more willing to become network members, because higher status is attractive. Thus status advantage becomes network advantage. So powerful is the networking advantage of superior social status that position generator studies in several different parts of the world have reported it. For example in Hungary, knowing people in many occupations goes with wealth, education, working, being married, and being a landowner or self-employed (Angelusz and Tardos 2001:311). In Taiwan, occupational variety goes with education, employment, being married, and being male (Lin, Fu, and Hsung 2001:71). Other examples are plentiful.

Thus we were somewhat surprised to find no great network advantage to being of European (probably white) ancestry. The lack of effect of race may well just be due to the very small number of non-white people in our sample (a study of an earlier election survey, Erickson 2004, for the 2000 election, did find a network handicap for non-whites).

Being born in Canada gives people a longer time to accumulate social connections in Canada, gives people better access to the labour market, and gives greater social status. Thus the Canadian born have higher levels of social capital, and especially have better access to a range of men in many occupations and to a wider range of working class occupations. Most immigrants to Canada are highly selected for higher level education and work experience, not for working class skills such as carpentry. Immigrants do increasingly find they cannot convert their foreign qualifications into good middle class work in Canada, and many immigrants are forced to take low prestige jobs. But they are not qualified for the more highly skilled blue collar jobs, so do not often get into the more richly developed working class networks found in the skilled trades. The effect of Canadian birth fades somewhat when we control for voluntary associations, in which the native born are more active, and region, because immigrants overwhelmingly move to metropolitan areas where social capital is least rich on average.

**Occupational Prestige**

We initially expected occupational prestige to go with network diversity, for two reasons. First is the “Nan Lin - Peter Blau” hypothesis. Lin argues that modern occupational structures have a pyramid shape, with many people at low levels and fewer and fewer people as
one goes up the occupational ladder. Higher status people have many lower level people they can meet, while lower level people have far more restricted numbers of potential contacts above them. However, this pyramidal model no longer describes occupations in Canada well. Many working class or modest middle class jobs have been downsized out of existence or shifted outside Canada to lower wage countries. The strong growth of the service sector has brought both new lower level jobs and new higher level ones. The pyramid has become a pillar.

Second, we expected that more prestigious positions would include more contact with others and more autonomy over one’s work including more freedom to build connections. However, many high prestige occupations can be quite socially limited. Consider highly skilled technical workers who only meet other experts at work, for example. Occupations at the same level of prestige vary greatly in the kinds of jobs they are and the kinds of networks they support. Thus we found, to our surprise, that occupational prestige does not go with network diversity. The only kind of effect is a negative one: higher prestige people have lower levels of diversity of contacts with working class occupations. The only apparent effect of high prestige positions is to insulate people from contact with lower prestige people.

Future work should consider work variables more clearly linked to network formation, such as position in command hierarchies and the extent to which a job includes non-trivial work with people.

A Note on Region

Finally we turn to regional effects. Social capital tends to be higher in the West and the East than in Ontario or Quebec. Commenting on the high levels of social capital in the East also found in the 2000 election survey, Erickson (2004) attributed this to a long history of hardship that compelled Easterners to engage in mutual support networks, combined with low levels of in-migration that might disrupt local connections. The same applies to part of the West, especially the prairies, but not to all the West. Alberta has been an especially wealthy province for some time, and both Vancouver and Calgary are migration magnets. Thus the high levels of social capital in the West are a bit puzzling at first, but become clearer when we distinguish middle class diversity from working class diversity. The West is higher than Ontario and Quebec in middle class diversity but not working class diversity. Economic booms, the middle class in-migrants they attract, and the rising education levels they both demand and fund, all make it easier to meet socially active middle class people. The East is higher than Ontario and Quebec in working class diversity but not middle class diversity. The East’s history of hardship and community has helped to incorporate the disadvantaged into social networks.

REFERENCES


**Figure 1** The Election Survey Item

Here is a list of occupations. Please put a circle in the appropriate column if you know any men (column 1) or any women (column 2) in each of these occupations:

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lawyer</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Social worker</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Carpenter</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Tailor, dressmaker or furrier</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Computer programmer</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Security Guard</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Cashier</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sales or marketing manager</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sewing machine operator</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Delivery driver</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Human resources manager</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Janitor or caretaker</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Server (waiter or waitress)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Farmer</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

NOTE: This Figure gives the English language version of the questionnaire; a French version was also used in the survey, since Canada is bilingual.

**Figure 2** The Prestige and Gender Composition of Occupations in the Position Generator

<table>
<thead>
<tr>
<th>OCCUPATION</th>
<th>PRESTIGE</th>
<th>% FEMALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lawyer</td>
<td>73</td>
<td>31</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>64</td>
<td>56</td>
</tr>
<tr>
<td>HR Manager</td>
<td>60</td>
<td>47</td>
</tr>
<tr>
<td>Occupation</td>
<td>Prestige</td>
<td>Female</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>Sales Manager</td>
<td>60</td>
<td>25</td>
</tr>
<tr>
<td>Social Worker</td>
<td>52</td>
<td>76</td>
</tr>
<tr>
<td>Computer Programmer</td>
<td>51</td>
<td>25</td>
</tr>
<tr>
<td>Tailor, furrier, dressmaker</td>
<td>40</td>
<td>86</td>
</tr>
<tr>
<td>Farmer</td>
<td>40</td>
<td>24</td>
</tr>
<tr>
<td>Carpenter</td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td>Cashier</td>
<td>34</td>
<td>86</td>
</tr>
<tr>
<td>Delivery Driver</td>
<td>31</td>
<td>9</td>
</tr>
<tr>
<td>Security Guard</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Sewing Machine Operator</td>
<td>25</td>
<td>92</td>
</tr>
<tr>
<td>Janitor</td>
<td>25</td>
<td>32</td>
</tr>
<tr>
<td>Server</td>
<td>21</td>
<td>81</td>
</tr>
</tbody>
</table>

NOTE: occupational prestige scores come from Ganzeboom and Treiman (1996), and % female from the 1996 Census of Canada.