

PRIVATE SOCIAL CAPITAL AND THE CONSTRUCTION OF MASTERY

by

BARBARA MARTINEZ RUIZ

B.A. Psychology, The Universidad Nacional Autónoma de México, 1981

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE STUDIES

(Family Studies)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

April 2010

© Barbara Martinez Ruiz, 2010

ABSTRACT

Based on the data of the General Social Survey GSS cycle 17 (GSS 17) carried out in 2003, this study tests the relationship between private social capital and the perceived level of mastery. Private social capital has been defined as social networks composed of relatives, friends and neighbors and the type of communication and level of reciprocity they have with the individual. Mastery is a psychological learned trait that gives individuals a sense of control over the positive and negative outcomes of their lives. The notions of empowerment, self efficacy, leadership and initiative are associated with mastery and are considered as valuable resources, with positive impact in fields like health, well being and happiness, for the individuals.

This study tests in particular four hypotheses that examine the relationship between private social capital and mastery. The four hypotheses propose the following: a) the larger the social network, the greater the mastery level b) the more frequent the contact, the greater the mastery level, c) the more favours received, the greater the mastery level and d) the more favours given, the higher the mastery level in the individual. The results indicate that frequency of contact, size of network, in particular network size of close members are significant and positively related to mastery; the numbers of favours given are all positively associated with mastery but no significant, finally favours received are not significantly associated with mastery. This study suggests that increasing social interaction with our private social network of members that one's feels close has a positive impact on the mastery level of individuals, despite the lack of reciprocity in the relationship.

TABLE OF CONTENTS

Abstract.....	ii
Table of Contents.....	iii
List of Tables.....	v
Acknowledgments.....	vi
Dedication.....	vii
Introduction.....	1
Mastery.....	2
Social Capital.....	6
Purpose of the Research Project	12
Methods.....	13
Measures.....	16
Control Variables.....	18
Data Analysis.....	19
Regression Analysis.....	23
Discussion.....	26
Limitations.....	32
Conclusion.....	34
References.....	36
Appendices.....	40
Appendix A.....	40
Appendix B.....	42
Appendix C.....	43

LIST OF TABLES

Table 1	Means, Standard Deviations, and Intercorrelations between mastery, frequency of contact, network size, providing index, receiving index, health index, household income, education level, religiosity and age.....	25
Table 2	Hierarchical Regression Predicting the relationship between mastery and frequency of contact, network size, providing index, receiving index, health index, educational level, household income, religiosity, and age.....	28

ACKNOWLEDGMENTS

To Dr. White for his patience, encouragement to work on a quantitative study and good sense of humor when faced with my anxiety

To Nathan and Carrie for re teaching me another language, stats.

To all the above and to Jose Landeros for helping me enjoy stats and the fun of SPSS

To Linda Simpkins for her wise advise and logic questioning

To Risako who's friendship and support to finish this work were invaluable

To all my other teachers from UBC and other places and latitudes

DEDICATION

To Vancouver with its beauty, people and especially to Dan, Natalia and Andrei!

INTRODUCTION

This study is interested to examine the relationship between a particular type of social capital, defined as private social capital and formed by the size, type of communication and nature of the interaction between relatives, friends and neighbors, with the development of mastery in the individuals. It tries to narrow the multiple dimensions that the social capital concept encompasses to isolate these elements defined as private social capital and study the nature of the relationship with mastery (Bourdieu, 1986; Portes, 1998; Putnam, 1995; 2002; Lynch, Due, Muntaner, & Davie, 2000). Both concepts have received considerable attention and been subject to numerous studies and in most of the cases are valued as positive resources (Putnam, 1995; 2000; 2002; Bandura, 1989; 2000; Holden, 1991; Welch and West, 1995). Mastery is defined as a psychological learned trait that gives the individuals a sense of control and involves positive consequences (Ross & Van Willigen, 1977; Mizelli, 1999). There are studies that show that individuals with a high sense of control and are independent and proactive, are considered healthier and as having more coping skills to deal with stress and difficulties (Brodzinsky & Righmyer, 1976; Bacigalupo, 2004). Traits like initiative, participation, motivation, sense of control are associated with mastery. High mastery is embodied by these positive characteristics. Therefore understanding how mastery is formed by examining the effects of the primary relationships with relatives, friends and neighbors seems significant.

The setting for the relevance of mastery comes as Cote (2005) has suggested from the American ideology prevalent in our societies based on the belief that life has endless possibilities and that they must be preserved by unconstrained freedom of choice. Western contemporary societies are interested in developing individuals with leadership characteristics, (agency), self efficacy, autonomy, initiative and empowerment (Bandura, 1989; Holden, 1991;

Bandura, 2000; Welch & West, 1995). As Bandura has said “[u]nless people believe they can produce desired effects and forestall undesired ones by their actions, they have little incentive to act” (Bandura, 2000, p. 2). Furthermore the concept of democracy that re-appears with the French revolution and the USA Constitution in the late 18 century as the ruling principle in the shaping of nations has influenced greatly our values and the social fabric organization. The promotion of non hierarchical structures within the government, organizations, schools and family contexts, along with the encouragement of individuals at the micro and macro levels to make decisions regarding their lives is a well established value in modern Western societies (Halvorsen, 1998). Choosing whom we marry, what we study, whom we vote for, are some examples of how important decisions pertaining one’s life have been deposited at the individual level and are considered a right of the human being. This ideology of freedom and control over one’s life is prevalent in post modern times, despite the limited options that one has in making choices and decisions, (Cote, 2005). As mastery grows as a value, societies are losing their social capital (Putnam, 1995, 2000). Participation in the community, in civil organizations and political life has been demonstrated to be an important ingredient of societies, especially democratic ones and has been declining with negative impact on health, economics and politics (Putnam, 1995, 2000, 2002).

Mastery

Mastery defined as synonymous with control, has been identified as an important measure related to positive outcomes in the psychological, sociological and health fields. It has been linked to leadership and empowerment, and it is considered to be an important value in at least most western societies (Halvorsen, 1998; Sastry & Ross, 1998). There has been extensive research around the area of mastery, but the construct seems to have different connotations that we can deduce from the variety of terms used to describe this sense of control such as primary

control, self efficacy, empowerment, agency, personal autonomy and mastery among others (Skinner, 1995; Satsry & Ross, 1998). This lack of consensus in the meaning of the theoretical constructs used to refer to the concept of control has impacted negatively on this research field, creating difficulties in the understanding of the literature in the field at theoretical and empirical levels (Skinner, 1995). Nevertheless the sense of control, regardless of how it is defined and what elements the construct has, is an important psychological and sociological variable; therefore the contributing factors that do generate mastery are worth exploring.

The definition and variations of the meaning of control are at three different levels: agents of control, (who has the control) means of control (how do I exercise control) and finally ends of control (outcomes) (Skinner, 1995). Furthermore other definitions of mastery can include personality traits and motivational elements (Zimmerman & Rappaport, 1988).

The first level agents of control is also named primary control. External or secondary locus of control will be associated with low mastery and internal locus with high mastery (Rotter, 1966).

Regarding means of control, or second level, mastery can be attributed either to one's abilities or to one's efforts. Bandura's self-efficacy theory focuses on mastery as perceived control through ability (Bandura, 1977). Bandura links mastery with one's perceived ability and he noted that individuals with high mastery will not respond to perform certain tasks unless they perceive they have the ability to do so. Most scales measure mastery on an effort based conceptualization.

The third and last level, ends of control, which considers mastery as an independent variable responsible for positive outcomes in individuals' lives (Ross & Van Willigen, 1977; Mizelli, 1999). At this stage it has been associated with well being, stress control and better coping resources. However in some studies it is being considered as a dependent variable and the result of a process that leads the individual to this sense of control (Miselli, 1999).

High levels of socio economic status (SES) are associated with mastery as a dependent variable (Mizelli, 1999; Shaw & Krause, 2001). Individuals with higher education, high income and more interesting jobs, have usually higher rates of mastery and social capital, compared to people with fewer resources, and put the source of control inside them (Shaw & Krause, 2001). Furthermore, mastery has been identified as a moderating variable in patients with chronic disease. Patients with high mastery used strategies to changes their situations, reducing marital strain and depression, while low mastery patients use more passive coping skills (Elliot, Trief, & Stein, 1985).

The notions of helplessness, determinism or fatalism are antithetical concepts to the notion of control. Individuals with these sets of beliefs, feel that they cannot control their situation and this lack of control could be attributed to internal or external causes. The individual perceives his/her situation and environment as a product of fate or chance and out of his/her control. The two concepts fatalism and mastery have been considered mutually exclusive, but the relationship between these two sets of beliefs is more complex (Skinner, 1995). Religiosity has been associated less with sense of mastery and this may be due to the beliefs in an external locus of control like God or faith. The interesting thing is that mastery has been associated with people's initiative to do things in their environment, but it has been found that individuals despite their belief in fate work hard for the well being of their group and family (Harrel, 1987). Clearly, there is a more complex relationship between fate, fatalism and behavior. People who believe in fate try to operate as intelligently as possible under circumstances they believe are inflexible (Harrel, 1987). The motivation for individuals with a high sense of mastery is clear; they believe their life depends on what they do. Consequently individuals with low sense of mastery, hence no belief of control over their lives, should appear to be more passive than high mastery individuals, but this has not always been the case. In summary, mastery is defined as the individual's learned perceived control over their

environmental outcomes in terms of failure and success. So the acquisition of mastery is a process which is the result of individual and environmental circumstances. As described by Prilleltensky et al. (2001), person and environment interact in a dialectical way, providing opportunities for the individual to exercise control; this process may lead to mastery. In addition, the sense of community plays an important role in the development of sense of control and participation (Chavis & Wandersman, 1990).

If we consider mastery as the result of individual and environmental circumstances, the process in which individuals have developed a sense of control over their lives, we find interesting data related to the understanding of the process of internal locus of control. The variables that lead to the development of a sense of control, mastery, as well as how this sense of control impacts aspects of our life are complex and are associated with cultural variables like: religiosity, race, and geographic origin (Sastry & Ross, 1998; Van Uchelsen, 1989).

As we have mentioned before the importance of the notion of perceived control is linked to the cultural context of the individual, it is also related to western values where individualism is prized, but it has not the same impact in more community oriented environments. There are studies which demonstrate that the beneficial impact that this sense of mastery has upon individuals varies depending on the racial origin. Asian individuals, either born in the United States or in Asia, did not experience an association between sense of control and well being, the relationship observed in white individuals. Even when the socio economic status (SES) was equivalent to the white individuals studied, black individuals do not experience more sense of control associated to education, neither Asians (Sastry & Ross, 1998; Shaw & Krause, 2001). These differences due to ethnic variations (Ross and Sastry, 1998) may be re-interpreted instead, using the collective notion of empowerment prevalent in most Asian societies, as opposed to individual self efficacy theories (Van Uchelsen, 1989) and not really viewed as a total lack of sense of control.

Understanding how different types of social capital influence the level of mastery and its association with positive outcomes in individuals, may help us to foster interactions associated with sense of control in contexts in which it is a valued resource.

Social Capital

The term social capital aroused interest in recent years as an important positive resource in human and community development and as an important contributing factor linked to democracy and economic growth. The research in which the concept has been applied is also vast, ranging from areas like families, youth schooling, education, work, crime and poverty reduction and civic engagement (Woolcock & Narayan, 2000). It also has been associated with constructive consequences in a variety of contexts at personal, group and community levels.

Political attention has been given to the notion of social capital; government and private initiatives have been put into place to measure and develop it. It has also been used to explain the socio-economic conditions of communities in several countries and measured in a variety of ways. In Canada alone at least eleven different surveys from 1996 to 2003 have been developed to measure certain components of social capital (Bryant & Norris, 2002). The importance of social capital for the development of communities has been re established through a variety of studies in areas like health, psychology, social policy, economy among others.

Despite the fact that the notion of social capital was introduced by Hanifan in 1916, and that it was he who coined the term, The concept was used by other authors like the sociologists Seely, Sim, and Loosely in 1956, and by an exchange theorist Homans in 1961, but it was not until 1986 that the concept was further developed by Bordieu. His work is considered the first systematic analysis of social capital (Portes, 1988). Then Coleman in 1987 and 1988 gave visibility to the concept and finally Putnam's work in 1993, 1995 and 2000 brought notions of

political science like civism and democracy into the arena of social capital, it unfortunately led to the term being used in a very broad way as a cure for social ills (Portes, 1998). According to Lynch et al. (2000), “in the sociological literature, the domain covered by “social capital” has been highly elastic” (p.404).

Since the definition of social capital is strongly related to the operationalization of the concept and the resulting measurements developed to assess it, it is important to be clear what its precise meaning is. Policies and their implementation will derive from these assessment processes and from the definitions in which they were based.

Bourdieu’s approach is much more abstract than others and has the disadvantage that the way in which he presents his theory makes it difficult to test it empirically. Nonetheless Bourdieu’s contribution to the theoretical understanding of the concept of social capital is significant (Portes, 1998). Bourdieu defines social capital as “...the aggregate of the actual or potential resources which are linked to the possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition...to membership in a group” (Bourdieu, 1986, p.248). For Bourdieu social capital means the resources that a particular group has and its value relies on the possibility that its members have access to the group owned capital and use it. The way in which these relationships are established is both at the material and symbolic level as he states it, “The volume of the social capital possessed by a given agent thus depends on the size of the network of connections he can effectively mobilize and on the volume of the capital (economic, cultural and symbolic) possessed in his own right by each of those to whom he is connected” (Bourdieu, 1986, p.249). Portes (1998) adds “thus it is important to distinguish resources themselves from the ability to obtain them by virtue of membership...” (Portes, 1998, p 5), a difference that Bourdieu makes explicit.

Coleman’s use of the concept was related to the relationship between social capital and human capital. For Coleman (1988) “Social capital is defined by its function. It is not a single

entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors - whether persons or corporate actors - within the structure” (Coleman, 1988, p.5). Coleman’s definition is quite vague. One of the problems of his work is that he creates categories: obligations and expectations, information channels and social norms which include mechanisms that generate social capital as well as consequences of social capital, obscuring the meaning of the concept (Portes, 1998).

Putnam’s definition of social capital is as follows: “Whereas physical capital refers to physical objects and human capital refers to the properties of individuals, social capital refers to connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them.” (Putnam, 2000, p.19). Unlike Bourdieu, Putnam’s locates social capital in the community, but if community rather than individuals have social capital, then there is a circularity problem with Putnam’s definition (Portes, 1998). It is important to separate in the social capital definition what social capital is, what the sources are and what the consequences of it are (J. White, personal communication, 2007). Despite the variety of definitions Portes suggests that “... the consensus is growing in the literature that social capital stands for the ability of actors to secure benefits by virtue of membership in social networks or other social structures” (Portes, 1998, p.6). This definition has the advantage of bringing social capital to the individual level and as he says “...the greatest theoretical promise of social capital lies at the individual level ...there is nothing intrinsically wrong with redefining it as a structural property of large aggregates“ (Portes, 1998, p.21). By placing social capital at the individual level we can avoid the tautological explanations that use social capital as a causal and explanatory variable.

Given the lack of distinction made in the definition of social capital between mechanisms, sources and consequences, the confusion about measuring social capital it is not

surprising. As Putnam himself recognized "...we are not anywhere near yet a kind of canonical account of the dimensions of social capital." (Putnam, 2001, p.2) and "...researcher in the field of social capital looks desperately for different measures of social capital and tries to triangulate among those measures..." (Putnam, 2001, p. 9). As social capital has been defined at different levels of analysis (individual, familial and societal) its measurement becomes a complex task. "Obtaining a single, true measure of social capital is probably not possible, for several reasons. First, the most comprehensive definitions of social capital are multidimensional, incorporating different levels and units of analysis" (Alexander, 2007). This project will use the individual level of analysis according to Portes' (1998) arguments. Clearly social capital definition has different components.

Researchers have categorized social capital in different ways. Putnam's for example talks about formal and informal social networks, dense and thin networks and clarifies he is most interested in developing a coherent and empirical valid typology (Putnam, 1995). Other classifications of social capital Woolcock (2001) are based on the characteristics of the members in the networks. "Bonding" is the type of network established among similar members, persons having a common set of characteristics that are closely related. These set of characteristics could be racial, economic, cultural or from any other kind and distinguish its members. This type of "Bonding" connection is bounded for outsiders. "Bridging" is a kind of horizontal network in which its members are related to others that share broadly demographic characteristics. It is more flexible in terms of membership. "Linking" is a vertical network built by individuals in different levels of the social structure and it allows its members the possibility to leverage resources from other members of the community in positions of power. This type of connection will produce greater advantages for creating social capital, than the bonding association type. As Woolcock and Narayan, (2000) have stated "*If we just mix with the sameness, we will progress less*" (Woolcock & Narayan, 2000).

Other classifications divide social capital into instrumental or hard networks and supportive or soft networks (Van Emmerick, 2005); or Consummatory or Instrumental (Portes, 1998). Empirically the classifications have been measured separately considering their nature: familial, professional, civic, spiritual and political among others. Additional dimensions included in the definitions of social capital are the norms in which the relationships between members and networks are established: Cooperation, reciprocity. Finally the outcomes of the social capital derived from these social networks are norm observance, family support and network-mediated benefits (Portes, 1998). According to Portes "...consensus is growing ...that social capital stands for the ability of actors to secure benefits by virtue of membership in social networks...." (Portes, 1998, p. 6). Portes offers examples of these beneficial outcomes as: sense of belonging, well being, happiness, trust and health. The positive effects of social capital have been clearly demonstrated (Kawachi, Kennedy, Lochner, Prothrow-Stith, 1997; Portes, 1998; Coleman, 1988) but the negative side has received less attention. However, social capital can have a negative impact on the individuals by restricting freedom, by excessive claims on group members and by restricting access to opportunities (Portes, 1998). For example certain groups like the KKK or gang networks with a high degree of cohesion can have negative impact on society

It is also important to note that if social capital exists only at the micro level of the individual, the benefits from these types of social networks will be less than if social capital is supported by meso (group) and macro societal structures: "Social capital per se does not increase economic growth, civic and government social capitals are important ingredients for societies to prosper" (Woolcock & Narayan, 2000). The characteristics of the networks, their composition homogeneous versus heterogeneous and vertical versus horizontal, bridging or bonding defined its benefits for the individuals and the more diverse the better, for health, psychological and economical factors (Tolsdorf, 1976; Woolcock & Narayan, 2000).

The research in which the concept of social capital has been applied is also vast, ranging from area like families, youth, schooling, education, work democracy and economic development (Woolcock & Narayan, 2000; Narayan, 2000). Hence being an important research area.

PURPOSE OF THE RESEARCH PROJECT

According to the literature review in this study, mastery will be defined as a learned belief in which the individuals perceive they have control over their environment and that the outcomes for success and failure in their lives are due to their actions (Aneshensel, 1992; Rotter, 1966; Satsry & Ross, 1998; Mizell, 1999).

Mastery has been considered a positive cognitive belief that has a beneficial impact in various areas of the individual life (Elliot et al., 1985; Wallerstein, 1992). For some authors the development of sense of mastery is related to the notion of well being and participation (Chavis & Wandersman, 1990), for others may be partially responsible for the reduction in social capital, as may overestimate self sufficiency and isolationism (Woolcock & Narayan, 2000).

The purpose of this study is to measure the relationship that components of private social capital have with the level of mastery perceived and thus answer if mastery is a conflicting concept with a more gregarious perception of one's outcomes as a result of community variables related to social capital. The proactive individuals that have a high sense of mastery are looking for their own benefit or they develop a sense of reciprocity within their communities and have a relevant private social network.

The following conceptual hypothesis will be examined:

H1 Individuals who often communicate by with relatives, friends and neighbors will have a higher score in the mastery scale

H2 Individuals with a large private network will have a higher score in the mastery scale

H3 Individuals receiving help will have a higher score in the mastery scale

H4 Individuals giving help will have a higher score in the mastery scale

Methods

The General Social Survey started in 1985. The purpose of the survey is to monitor changes in the living conditions and well being of Canadians and to provide information to be used for social policy issues. GSS cycle 17 (GSS 17) carried out in 2003 will be used for this research project. The GSS17 survey for the first time has assembled questions on social engagement, to obtain information on living conditions and well being, measurements of social participation, civic participation, trust and reciprocity in a national social engagement survey.

The GSS17 survey has classification variables used to delineate the population and core variables designed to measure social trends and changes related to living conditions or well being. This is an outline of variables measured: Demographic characteristics such as age, sex, and marital status, well-being, cultural background, social participation, civic participation, main activity of respondent, education of respondent, spouse/partner and parents, Activities of spouse/partner, housing characteristics of respondent and finally under the section of other characteristics, the following aspects were measured trust, reciprocity, values, mastery, bridging ties, religious participation, place of birth of parents and income.

The General Social Survey from 2003 (GSS17) contains data of 24,951 respondents from 15 years of age or older residing in Canada. Residents from the Yukon, Northwest Territories and Nunavut and full time resident of institutions are excluded.

The median age of respondents (N=24909) is between 35 to 44 years old (21%), (30%) of respondents are between 15-34 years old and (30%) are between 45 to 64 years old, and 20% of respondents are over 64 years. There are in the sample (55.4%) women and (44.6%) are men.

The marital status of respondents (N= 24,909) shows 54% of respondents are married

or in common law relationships, around 20% are widowed divorced or separated, and 25% are single.

The sample could be considered mainly urban with 77% of respondents from urban centers and 23% from rural areas or small towns.

Respondents are divided into nine different categories depending on their main activity (N=24717): 54 % are working in a paid job and 2% looking for one, 9% are attending school and 10% are taking care of children or doing housework, 20% are retired, 2% are on maternity/paternity leave and 2% are on a long term illness, and 1% doing some other type of activity.

The North American Industry Classification System (NAICS) is an industry classification system developed by the statistical agencies of Canada, Mexico and the United States. Created against the background of the North American Free Trade Agreement, it is designed to provide common definitions of the industrial structure of the three countries and a common statistical framework to facilitate the analysis of the three economies (Statistics Canada, 2007)

According to the (NAICS) respondents are also classified into 16 different categories (N=16833), percentages of participants working in different industries, 15%, manufacturing 12% and health care and social assistance 11%. educational services had 8%, professional, scientific and technical services 7%, accommodation and food services 6%, public administration 6%, finance, insurance and real estate 6%, information, culture and recreation 6%, construction 5%, other services 5%, transporting and warehousing 5%, management, administration and other support 4%, forestry, fishing, mining and gas 2%, agriculture 2% and finally utilities with 0.7%.

This industrial classification is also divided in 10 standard occupational classification categories (N=16,810) the most frequent are sales with (26%), business, finance and

administration (18%), natural and applied sciences (13%). The less frequent categories are primary industries (4%) and artistic, culture and recreation (4%). The rest of the categories are as follows: management occupations 10%, occupation in social sciences and education (5%), natural and applied sciences (7%), manufacturing and processing (6%), trades, transport and equipment (6%).

The level of education of the sample is as follows (N= 24517): (21%) of the respondents have Doctorate, Master's or Bachelor's degrees, (25%) have a diploma, certificate from community college or trade/technical school, (16%) have some university/community College, (14%) have high school diploma and (23%) have some secondary/elementary/no schooling.

For the GSS17 only 9% are studying full time and (0.7%) are studying part time (N=2315). For (90%) of other respondents we do not know whether or not they are studying.

The total household income as divided into 12 different categories (N= 19008) in which participants ranging from no income (0.3%), to above 100,000 (15%). The other respondents are in the following categories: less than \$5,000.00 we have (0.7%) of participants, between \$5,000to \$9,999 there are (3%), from \$10,000 to \$14,999 there are (6%), from \$15,000 to 19,999 there are (5%), from \$20,000 to \$29,000 there are (11%), \$30,000 to 39,999 there are (13%), from \$40,000 to \$49,999 (11 %), from \$50,000 to 59,000 there are (11%), from \$60,000-\$79,000, there are (15%) of respondents, from \$80,000 to \$99,000 there are (10%) respondents, above 100,000 (15%). The mean income for this sample is 8.3, median 9 and Mode is 12. The GSS17 sample has a negative skewed sample, with a sample of medium-high income.

Measures

The GSS17 survey collects a large number of data for each respondent and the compiled micro data file for public use contains the entire questionnaire used. The GSS17 survey is constructed taking several sections of other surveys and the sections used for this study are described in Appendix B.

Mastery, the dependent variable, is measured in the GSS 17 with the sense of mastery scale developed by Pearlin and Schooler (1978). The mastery scale in this survey encompasses seven questions related to sense of perceived control, mastery, or lack of it, in relation to one's problems and life outcomes (Appendix A). Each respondent is asked to answer seven questions using a point five scale ranging from 1: strongly agree, 2: agree, 3: neither agree nor disagree, 4: disagree, and 5: strongly disagree. The refusal to answer or answer "do not know" are given zero score. Respondents with higher scores are considered to have high mastery and those with lower scores would indicate to have low mastery; Q160 and Q170 scores are transformed so higher numbers indicate higher perceived mastery. The scores in this scale range from 0 to 28. The scale has been used in a number of studies (Schieman & Turner, 1998; Nolen-Hoeksema et al., 1999; Jang et al., 2003) and its Alfa coefficient has ranged from of .78 to .67. Schieman and Turner, (1998) describe that the average inter item covariance is .55 and the Scale reliability coefficient is .71. Test and re test correlation of .66 are found in Nolen-Hoeksema et al. (1999). The mastery scale includes instrumental statements associated with both sense of control and fatalistic ones as well. The scale leaves open the possibilities that one's failure and success are both dependent on one's behavior: this perception in particular has been defined as sense of control. Defensiveness is one reaction in which individuals attribute success to one's own behavior, but failures to someone else's acts or to fate. The "agreement bias" is another characteristic that must be controlled when measuring mastery. This trait causes some respondents to agree on all statements. This measurement problem may be balanced by placing

some questions associated with fate and some others related to a sense of control within the questionnaire (Morosky & Ross, 1991), to force individuals to choose. The mastery scale used in the GSS 17 survey complies with these methodological requirements to avoid defensiveness and agreement biases.

The questions to create the four indexes to measure Private Social Capital for this research are based on various sections of the GSS17 taken from other surveys: Social Capital Module of the British General Household Survey (GHS) for the first two parts of the section, questions regarding help received and help given come from the GSS 16 and from the Civic engagement National Survey of Giving, Volunteering and Participation (NSGVP).

Private social capital, as the independent variable is measured using four categories: Frequency of contact, size of the network and reciprocity defined by help given and received. To measure each one of these categories 4 indexes are developed (Appendix B).

The first index “frequency of contact” includes contact: In person, by phone, through Internet. Six questions are included to construct this index. The score ranges from less frequent (6) to most frequent (30); The categories for frequency are (5) every day, (4) a few times a week, (3) a few times a month, (2) once a month and (1) not in the last month. For this index (N= 16,220), the ranges are from 7(1%) to 30. (1%), with a (M= 19.07, SD 3.98 and Median of 19).

The second index “size of the network” is constructed with four items with six options each, with a minimum score of 4 and a max of 24. The size of network varies from no members (4) to more than 20 in each category (24). The categories are 1 – (none), 2 (1 or 2), 3, (3 to 5), 4, (6 to 10) , 5, (11 to 20) and 6, (more than 20).

For this index (N=24673), the ranges are from, (0.4%)to 24,(0.1%,) with a (M=13.35, SD = 3.6) and Median of 13.0.

The third index, “help received”, is constructed with seven types of help received and

two options yes (1), no (0.) Maximum score 7, score obtained if help is received in each scenario, considering help received always from others. For this index (N=24 768), (M= 1.79, SD=1.1) and Median and mode of 1. The distribution is positively skewed (1.3).

The fourth and last index, “help provided”, is constructed with seven types of help provided to others and two options yes (1), no (0). The maximum score 7 is obtained if help is provided in each scenario. For this index (N=22,576), was (M=2.4, SD1.4).

Control Variables

The following variables age, health, religiosity, household income and educational level are variables known to be related to mastery they are going to be controlled throughout the present research. Individuals with high socio-economic status (SES) have a greater sense of control (Mizelli, 1999; Shaw & Krauzze, 2001); individuals with health problems score lower in mastery, but at the same time the higher his sense of mastery the better they can reduce stress and marital strain (Elliot, Trief & Stein, 1985, Mirel, 2006), aging has been associated with lower mastery (Mirel, 2006). Finally religiosity has been associated with less sense of mastery (Harrel, 1987; Mirel, 2006).

The level of education for this study is measured taking the classification used in the GSS17, which divides education in 10 categories ranging from Doctorate (10, 5%)to elementary or no schooling (5%.) (N= 24517), Mean 5.5, (58%), SD= 2.9 and Median 5. This category includes individuals with some university. The distribution seems bi-modal with almost (60%) of individuals with some university or higher educational level and (35%) with some high school or high school diploma.

The household income is calculated using the GSS 17 classification in 12 categories (1) no income and (12), \$100,000 or more. (N=19,008), Mean 8.3, Median 9 and is negatively

skewed -0.325. We can, therefore, say that the sample represents the average and median household income for individuals with this age range.

In this study the health index is made with five items with three options each. The index asks questions related to the physical and mental health of respondents. A score of 5 means Excellent –good health and a score of 15 means lots of physical or mental problems, or both. (N=4,810), Mean of 9.7 with 55% and SD of 2.7, Median 9. The distribution is positively skewed 0.46.

Religiosity was measure with one item asking how important are the religious or spiritual beliefs in the way you live your life. The question answers range from very important (4) to not at all (1).

Data Analysis

Bivariate Analysis Table 1 Includes means, standard deviations and inter-correlations of the control variables, private social capital indexes: frequency of contact index, network size receiving index, providing index, and for the control variables for the sample of the GSS17 survey.

The sample mean for the mastery scale (N= 22,605) is (M=18, 74, SD=4.2) this indicates that the sample feels is in control of certain aspects of their lives. The sample mean for the frequency of contact index (M= 15475) was (M=19.08, SD=4). This shows that on the average participants scored in the medium range of the scale. This indicates people make contact with its network a few times a month. The sample mean for the network size (N=21,865), was (M=13.36 SD=3.58). This shows that the sample average was in the mid range of the index, with a network size between 3 and 10 people. The sample mean for the providing index (N=22,576), is (M=2.4, SD1.4). This indicates that the average is on the low range of the scale. (People doing two out of seven favours to others, 34%). The sample mean for the

receiving index (N=22,579), was (M=1.8,SD,1.1). This illustrates that the sample average was in the low range of the receiving index. Getting less than two favours out of seven options, (25%). The sample mean for education (M= 22,525) was (M= 5.5, DS= 3). This illustrates that the sample has a medium high average of education, with same kind of university diploma. The sample mean for household income (N=18154) was (M= 8.34, SD 2.6) with a sample negatively skewed -.325. This indicates that the sample was formed for participants with an average income of \$40,000-\$49,999. The sample mean for the health index (N=4,159) was (M=9.7, SD=2.69). This indicates that participants scored in the mid range of this scale with some physical disabilities or health problems. The sample mean for age (N= 22,605) was (M= 3.65, SD= 1.78). This illustrates that the participants were in the mid range age, around 35-44 years of age.

As indicated in Table 1 there are significant positive relationships between the mastery Scale and frequency of contact($r=.12, p<.01$), network size ($r=.22, p<.01$), providing index ($r=.13, p<.01$), receiving index($r=.08, p<.01$), income ($r=.28, p<.01$) education level ($r=.24, p<.01$) There is a significant negative relationship between health index ($r=-.23, p<.01$), religiosity ($r=-.069, p<.05$), and age ($r=-.191, p<.01$). There are significant positive relationships between frequency of contact, and network size ($r=.34, p<.01$), providing index ($r=.26, p<.01$), receiving index($r=.21, p<.01$), religiosity ($r=.047, p<.05$), and education level ($r=.005, p<.01$). There are significant negative relationship between health index ($r=-.02, p<.01$), Income ($r = -.007, p<.01$) and age ($r=-.15, p<.01$).

There are significant positive relationships between network size and the providing index ($r=.24, p<.01$), receiving index ($r =.18, p<.01$) income ($r= .18, p<.01$), religiosity (($r= .04, p<.01$), education level ($r=.14, p<.01$). There are significant negative relationships between health index ($r=-.10, p<.01$), and age ($r=-.12, p<.01$). There are significant positive relationships between the providing index and the receiving index ($r=.45, p<.01$), income ($r= .18, p<.01$)

education level ($r=.14, p<.01$) and religiosity ($r=.04, p<.05$). There are significant negative relationships between health index ($r=-.09, p<.01$), and age ($r=-.22, p<.01$). There are significant positive relationships between the receiving index and health ($r=.06, p<.01$), income ($r=.0, p<.01$) education level ($r=.087, p<.01$) and religiosity ($r=.0, p<.05$). There are significant negative relationships between age ($r=-.24, p<.01$). There are significant positive relationships between health and age ($r=.07, p<.01$) and religiosity ($r=.06, p<.05$). There are significant positive relationships between income and education ($r=.34, p<.01$). There are significant negative relationships between income and age ($r=-.16, p<.01$) religiosity ($r=.01, p<.05$). There are significant negative relationships between education level and age ($r=-.16, p<.01$) and religiosity ($r=.50, p<.05$). There are significant positive relationships between age and religiosity ($r=.3, p<.05$).

Hypothesis testing:

H1 individuals with a large network will have a high score in the mastery scale

H2 Individuals who often communicate with relative and fiends will have a high score in the mastery scale

H3 Individuals receiving help will have a high score in the mastery scale

H4 Individuals giving help will have a high score in the mastery scale

Table 1

Means, Standard Deviations, and Intercorrelations between Mastery, frequency of contact, network size, providing index, receiving index, health, household income, education level, age and religiosity

Variable	Mean	S.D.	M Scale	F Contact	N Size	P.Index	R. Index	Health	H Income	Edu Level	Age	Religiosity
M Scale	18.74	4.2	1									
F Contact	19.08	3.99	.118**	1								
Network Size	13.36	3.58	.217**	.338**	1							
P. Index	2.44	1.41	.129**	.260**	.246**	1						
R Index	1.8	1.14	.082**	.211**	.183**	.448**	1					
Health	9.66	2.7	-.226**	-0.018	-.107**	-.090**	.063**	1				
H Income	8.34	2.62	.277**	-0.007	.186**	.074**	0	-.214**	1			
Edu Level	5.47	2.89	.224**	0.005	.138**	.144**	.087**	-.067**	.340**	1		
Age	3.65	1.78	-.191**	-.158**	-.122**	-.228**	-.243**	.072**	-.167**	-.157**	1	
Religiosity			-.069*	.047*	.044*	.041*	0	.062	-.110*	-.050*	.29*	1

* $p < .05$, ** $p < .01$, *** $p < .001$

Regression Analysis

Hierarchical Ordinary Least Squares (OLS) regression is conducted to test the hypotheses of the relationships between network size, frequency of contact, favours given and favours received and Mastery for the total sample. In the first step of the model frequency of contact is introduced, and then network size, favours received and favours provided. In last step of the regression the control variables age, health index, educational level, household income and religiosity are added.

In the five regressions the dependent variable is mastery. In model 1, frequency of contact is added. The first step of the equation explained 2% ($R^2 = .023$) of variance in mastery. This step of the model is statistically different from zero ($F(40) p < .001$). In model 2, network size is added. In this second step of the model, the amount of variability explained is 4% ($R^2 = .049$). The results are statistically different from zero ($F(44) p < .001$). The explained variability increased by 2.6% ($R^2 \Delta = .26\%$) when adding network size into the equation. Then in model 3 the receiving index is added. In this third step there is no explained variability. The results are not statistically significant ($F(.03) p < .85$). Next model 4, the providing index, is added. The equation explained .03% ($R^2 = .053$), of variability ($R^2 \Delta = .03\%$). The results are statistically different from zero ($F(5.8) p < .01$). Finally in model 5 the control variables are added to the analysis. The equation explained 12% ($R^2 = .117$) of variability. The results are statistically different from zero ($F(24) p > .001$). The explained variability increases by 7% ($R^2 \Delta = .065$).

The analysis indicated that mastery is significantly and positively related with frequency of contact ($\beta = .15, p < .001$), network size ($\beta = .17, p < .001$), providing index ($\beta = .065, p < .01$), educational level ($\beta = .09, p < .01$) and income ($\beta = .11, p < .01$). The results indicate a significantly negative relationship between mastery and health index ($\beta = -.16, p < .$

00), age ($\beta = -.06, p < .00$), the receiving index and religiosity indicate a negative relationship but were not significant ($\beta = -.005$) for to mastery.

Table 2
 Hierarchical Regression Predicting the relationship between frequency of contact, network size, providing index, receiving index, age, health index, educational level, household income, religiosity and mastery

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
FrequencyContact	0.153**	0.09**	0.91**	0.08*	0.085**
Network size		0.172**	0.172**	0.167**	0.141**
Receiving index			-.005	-.029*	-.005
Providing Index				0.065*	0.03
Age					-.065**
Health Index					-.164**
Edu level					0.090**
Household income					.112**
Religiosity					-.029
R2	0.023	0.049	0.049	0.052	0.117

* $p < .05$, ** $p < .01$, *** $p < .001$

DISCUSSION

The purpose of the present study is to measure the relationship between two important concepts: private social capital and mastery. Both concepts have received considerable attention in the literature and both have been associated with positive outcomes for individuals. The GSS17 Survey data content reflects the interest in these social measures and it is the first time that social engagement issues are included in 2003, adding to the GSS17 survey questions regarding social engagement, trust, reciprocity and social participation. Social capital is associated, as has been noted before, with community involvement, participation and trust (Putnam, 1995; 2000; 2002; Bandura, 1989; 2000; Holden, 1991; Welch and West, 1995)

Governments all over the world including Canada have adopted neo liberal policies, this results in the state providing fewer social services while citizen are given greater responsibility to solve their problems, but this changes in social policies are not making a difference regarding the decline in social capital (Putnam, 1995).

The notion of mastery has become important in recent years and is considered a relevant psychological trait that needs to be fostered and promoted. Mastery is defined as a learned trait. Individuals with mastery take the initiative and are independent; they usually have feelings of well being and happiness (Ross & Van Willingen, 1977; Mizelli, 1999; Milan 2006). Mastery is associated with individuals who believe they have endless possibilities with unconstrained choice (Cote, 2005), such individualistic people are not necessarily community oriented. Therefore, for a weaker state with a reduced role in public life, mastery becomes a desirable trait in citizens as they will be held responsible for their life circumstances.

The present research studied two aspects of mastery: the first aspect relates to the factors influencing the learning of mastery including its development. This study analyzed private social networks, including the primary contacts that the individual establishes with

his/her immediate social circle. The second aspect of mastery we analyze, is the individualistic notion of one's control over one's life circumstances related to reciprocity defined as favours given and received. Compared to the broad notion of social capital which is sometimes difficult to define (Portes, 1998) as it encompasses structural and cognitive components and includes sources and consequences. We reduce the broad private social capital notion into the measurement of private social network and reciprocity.

This study it is found a significant positive relationship of mastery with frequency of social contact, size of network and favours given. The results obtained are in line with the three of the four hypotheses tested. The first hypothesis: Individuals who often communicate with relatives, friends and neighbors will be positively related to mastery. In model one frequency of contact explained 2.3% of variability and the relationship with mastery is significant. The second hypothesis: Individuals with a large private network will be positively related to mastery. The results from model 2, when size of network is introduced shows an increase in variability explained of 4.9%, so size of network accounts for 2.6% of variability explained. The fourth hypothesis also positively associated with mastery: Individuals giving help will be positively related to mastery. In this 4th model when the providing index was added there was only an increase of .03% of variability explained. Hence the positive relationship with this index the effect on providing favours is very small on mastery. Thus it is found that individuals who have frequent contact with many members of their private social group and who performs favours for them have a greater sense of mastery.

For the third hypothesis: individuals receiving help will be positively related to mastery, the hypothesis does not hold. When the receiving index variable was added no variability was explained in this step of the model. A negative relationship between favours received and mastery was found, but the relationship was not significant. This negative relationship may indicate that individuals with a sense of control are more prone to give than to receive, are

proactive and implement strategies to change their situations actively (Elliot, Trief & Stein, 1985).

Regarding the reciprocity component the relationship to mastery reflects a more complicated interaction. When both components are added the relationship becomes significant. The receiving index alone has no effect on the mastery level and this may indicate that people with high mastery believe in solving their own problems, thus not seeking help from others. On the other hand the providing index on its own has a small effect on mastery showing that individuals with high mastery may tend to perform favours for others, but without asking anything in return.

As has been noted before the outcomes for people with high sense of mastery like stress coping, empowerment and leadership (Ross & Van Willingen, 1977; Mizelli, 1999), relate well with having a large social network with frequent contact, but these results suggest that the interaction is from a different nature and is not based on reciprocity.

Taking into account that size of network was one of the two factors strongly associated and with mastery and the results obtained by Milan (2006) regarding the relationship between closeness and mastery, a post hoc analysis separating size of the network index into two was done. The first component included just number of members of the network the respondent feels close to and the second component included the other members. The results for this analysis showed that when considering size of network closeness is more relevant. ($\beta = .15, p < .001$), than network size ($\beta = .04, p < .001$.) Variability explained by size of network of close members was ($R^2 \Delta = .25\%$) 2.5 %. Variability explained by size of network of others was), ($R^2 \Delta = .007\%$).07% only. These results stressed the relevance of establishing an intimate contact with the members of the private social network for the sense of mastery. Therefore, further analysis may be warranted in relation to the type of contact that facilitates closeness. This relates then to the second variable found relevant in this research, frequency of contact.

New technologies have been developed allowing for the population to remain in touch despite geographic distances. Electronic social networks such as Face Book, My Space and cell phones may have an important impact maintaining the feelings of closeness in social networks. This is crucial in a country like Canada, which is the second largest country in the world, with a scattered population and a large immigrant inflow. In conclusion and based on the results from this analysis we can say that mastery is affected by two components, size of the closeness-network and frequency of contact. These two aspects relate well with the notion of sense of community that has been associated with mastery (Chavis & Wanderman, 1990). Closeness may also be related to the feelings of happiness and well being associated with mastery as well (Portes, 1998; Milan, 2006). The specific interaction between individuals with high sense of mastery and reciprocity appears to have no relevance.

The control variables health, age and religious beliefs in Model 5 of this study confirmed the negative relationship of mastery with aging, lack of health and religious beliefs. As the individual ages, loses health or has religious beliefs their sense of mastery is lessens (Schieman & Turner, 1998, Milan, 2006). These results indicate the complex process of one's perception on assessing mastery. These results are related to Bandura's definition on mastery in terms of means of control, or one's perceived abilities (Bandura, 1988). There seems to be a connection between the individual levels of perceived mastery and the aging process and the loss of health. On the other hand, the negative relationship between religious beliefs and the level of mastery perceived, seems to be related with the mastery definition of agents of control perception (Rotter, 1966). In this study we found that educational level and income were positively associated with mastery, results that are similar to other studies (Mizelli, 199; Shaw & Krause, 2001; Milan, 2006). These results indicate that individuals that are richer and more educated have more choices in their lives and therefore their mastery level is higher. Level of mastery seems to take into consideration beliefs regarding agent of control, who exercise the

control and results (Skinner, 1995). Mastery is a perception that is related to measurable factors like age, health, income, and educational level. Are individuals conscious of these relationships? If not, individuals with high sense of mastery when evaluating its own situation may develop an arrogant attitude to explain results attained. Also when judging individuals in disadvantaged positions, they may attribute circumstances to lack of personal effort without taking into consideration socio economic factors. Early experiences in the weave of private social networks influence people's perception and the behaviors associated with it.

The Canadian educational models in which punishment and coercion are less valued than negotiation and encouragement, the inclusion in the school curriculum of courses related to planning and leadership, the participation and consent needed from students regarding health issues like vaccination and the freedom to choose contraception before becoming nineteen are some examples of the importance of mastery. Some of these examples are also important in other western societies. Asian cultures are more community oriented and based on authority and obedience; in these societies the sense of control is less developed.

In other places like the developing countries, the learned helplessness situation of the poor may create a vicious circle in which individuals with lack of resources, lack of education, poor health services, have little choices, so they do not develop mastery and they do not act to change things, maintaining their subjugated situation.

Finally, religion is negatively associated with mastery and appears to be in the opposite extreme of a continuum, their advocates claim beneficial results associated with each one of these two opposite beliefs: mastery and religiosity

In conclusion mastery is a positive characteristic that is associated with acceptable living conditions of the individuals like income and level of education, with the situation of the person like age and health and with the social environment that allows individuals to have contact with members of the social network that the individual feels close to. Social and

economical policies that enable a more balanced society, which provides opportunities for its members, may develop the conditions in which individuals may build up their sense of mastery. For the reciprocity component, we will need further analysis to understand what triggers this interaction.

LIMITATIONS

One obvious limitation of the research in this study is the cross-sectional nature of the GSS17 survey which samples data at a single point in time, thus operating like a “snapshot”. For instance it seems likely that a survey conducted in 2003 when the Canadian economy was growing at healthy rates would produce a rosier picture than if the survey were conducted in 2009, during one of the biggest global recessions. Consequently this study did not measure the changes in mastery over time. In addition although we were able to observe the relationship between size of network, frequency of contact, favours given and Mastery, we were not able to distinguish whether mastery is developed through the establishment of these private social networks or whether mastery helps the development of these private social networks.

We also had to work with the indicators at hand; the mastery and the private social capital component indexes were based on the questions available from this survey. These could probably be refined with additional specific questions. In addition, the sample was mainly urban and it was formed by individuals with a home phone; this distinction leaves individuals with no phone out of the sampling process. The existence of this device in a household gives their members a different possibility in terms of communication. Having no phone for financial reasons or choice, excludes individuals with different characteristics that most likely present different levels of mastery. Furthermore, for the Mastery scale we are not able to determine whether the sense of control was effort-based or skilled-based. Skilled based questions to measure mastery will explore the abilities of the individuals and how these abilities relate to the results obtained regarding the control you have over your life. Most of the questions regarding the private social network interaction focused on quantitative measures, but there are no questions regarding the quality of the interaction. Additionally, we believe that the GSS17 provided no information regarding the sources of motivation governing people’s readiness to

give and receive favours. Another limitation for this study is that we did not distinguish between the variables in each index. For instance this study does not measure whether size of the social network is important regardless of the member composition of it (family members versus friends). Similarly, frequency of contact includes different kinds of interaction(in person, phone).The new social media interaction through Twitter, Face book, My Space likewise cannot be evaluated with this GSS17 survey, as no information was taken from respondents regarding the nature of the internet interaction. Furthermore we do not analyze separately the impact of each of the control variables in this study like health, age, household income and religiosity.

CONCLUSION

In this study we examine the relationship between private social capital and mastery. The term social capital has been criticized as being too broad. This study therefore focuses on a few components of the term to show its relationship to mastery. Mastery, defined as the perceived control of one's actions, has been associated with positive outcomes like empowerment, leadership and initiative. To determine the relationship between the two, we identify and measure four components of private social capital in a simple way: size of network, frequency of contact, favours given and favours received. This study then demonstrates a positive relationship between three of these private social capital components: size of network, frequency of contact and mastery, confirming three of our four initial hypotheses. More specifically individuals who have a large private social network of family, friends and neighbors and who have frequent contact with them and perform some favours for them, have a higher sense of mastery, than people who do not.

What is the significance of these results? Despite the fact that we cannot accurately define the broad term social capital, nor can we manipulate directly individuals' belief in mastery, we are certainly able to design social environments by manipulating the components positively associated with our definition of private social capital, thus indirectly influencing mastery. Situations could be created in which social interaction is promoted and connections between individuals are encouraged. For instance at a private level, planning for joint recreational activities, trips, dinner parties with our significant ones, at public level creation of pedestrian walks, outdoor markets, street events, fund raising events, cultural festivals , as some of these activities increase people interaction and finally introducing socio economical policies regarding the use of technology like reduced phone rates, public internet, among others.

In addition further research can be done to analyze the components that are related to mastery. Thus the “size of network” variable can be further defined. As in the post hoc analysis of this research, where size of closeness was the significant component, not size alone. Other questions for example like, does “close family” differ in its impact on mastery from “close friends” or “close neighbors”? Frequency of contact could also be also studied depending on the nature of the interaction- are there differences between interacting though the internet, phone or in person?

One of the surprising results of our work is that we discovered that reciprocity was not necessary for individuals to have a sense of mastery. Although reciprocity is usually used as a unitary term it should probably be studied separately in terms of favours given versus favours received and their consequences for mastery. It would be interesting to study the relationship between the recipient of the favour and the one who gives the favour.

Future studies may help illuminate issues critical for a country like Canada, where different cultures create a social mosaic. What if, for instance the family ingredient of private social capital is irreplaceable? This would have serious implications for immigrants leaving their families to come to a new country; this is particularly relevant to Canada. Newcomers, people being relocated within the country and local elderly populations may need a more innovative approach from social services and communities than what we currently have to maintain well functioning networks with higher levels of mastery.

It is clear that the connection between private social capital and mastery opens the door to future theoretical and practical work.

REFERENCES

- Alexander, M. (2007). Determinants of social capital: New evidence on religion, diversity and structural change. *British Journal of Political Science*, 37, 368-377.
- Bandura, A. (1977). Self-efficacy: Toward a unified theory of behavioral change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44, 1175-1184.
- Bandura, A. (1993). Perceived efficacy in cognitive development and functioning. *Educational Psychologist*, 28, 117-148.
- Bandura, A. (2000). Cultivate self-efficacy for personal and organizational effectiveness. In E. A. Locke (Ed.), *Handbook of Principles of Organization Behavior*, 120-136. Oxford, UK: Blackwell
- Bourdieu, P. (1983) Forms of capital. In J. C. Richards (Ed.), *Handbook of Theory and Research for the Sociology of Education*, Chapter 9, 241-258. New York: Greenwood Press.
- Bourdieu, P. (1989). Social space and symbolic power. *Sociological Theory*, 7, 14-25.
- Bourdieu, P. (2001). Masculine domination. *Journal of British Studies*, 44(2), 17-36.
- Brodzinsky, D., & Rightmyer, J. (1976). Pleasure associated with cognitive mastery as related to children's conceptual tempo. *Child Development*, 47(3), 881-884.
- Coleman, J. (1987). Norms as social capital. In G. Radnitzky and P. Bernholz (Eds.), *Economic Imperialism: The economic Approach Applied Outside the Field of Economics*, 133-155. New York: Paragon House Publishers.
- Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95-120.

- Coleman, J. C. (1990). *Foundations of Social Theory*. Cambridge, MA: Harvard University Press.
- Cote, J. (2005). Identity capital, social capital and the wider benefits of learning: Generating resources facilitative of social cohesion. *London Review of Education*, 3(3), 221–237.
- Elliot, D., Trief, P., & Stein, N. (1986). Mastery, stress and coping in marriage among chronic patients. *Journal of Behavioral Medicine*, Vol 9 (6), 549-557.
- Emirbayer, M., & William, E. (2005). Bordieu & social work. *Social Service Review*, 79(4), 689-724.
- Halvorsen, K. (1998). Symbolic purposes and factual consequences of the concepts of “self reliance” and “dependency” in contemporary discourses on welfare. *Scandinavian Journal of Welfare*, 17(1), 56-64.
- Hanifan, L. J. (1916). The rural school community center. *Annals of the American Academy of political and Social Science*, 67, 130-38.
- Herek, G. M., Gills, J. R., & Cogan, J. C. (1999). Psychological sequel of hate crime victimization among Lesbian, Gay and bisexual Adults. *Journal of Consulting and Clinical Psychology*, 67(6), 945-951.
- Homans, G. (1961). *Social behavior. Its elementary forms*. New York: Harcourt, Brace and World.
- Jang, Y., Borenstein-Graves, A., Haley, W. E., Small, B. J., & Mortimer, J. A. (2003). Determinants of a sense of mastery in African American white older adults. *Journal of Gerontology*, 58(4), 221-224.
- Kawachi, I, Kennedy, B, Lochner, K, & Prothrow-Stith, D. (1997). Social capital, income and mortality. *American Journal of Public Health*, 87(9), 1491-1498.
- Milan, A. (2006) Taking charge: Perceptions of control over life chances. *Canadian Social Trends*. Statistics Canada Catalogue, 11(8), 10-15.

- Mizelli, A. (1999). African American men's personal sense of mastery: The consequences of the adolescent environment, self-concept and adult achievement. *Journal of Black Psychology*, 25, 210-230.
- Nolen-Hoeksema, S., Larson, J., & Grayson, A. (1999). Explaining the gender difference in depressive symptom. *Journal of Personality and Social Psychology*, 77(5), 1061-1072.
- Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, 24, 1-24.
- Putnam, R., Leonardo, R., & Rafaella, N. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, N.J: Princeton University Press.
- Putnam, R. (1995). Tuning in, tuning out: The strange disappearance of social capital in America. *Political Science and Politic*, 664-683.
- Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, 6(1), 65-78.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.
- Putnam, R. D. (Ed.) (2002). *Democracies in flux: The evolution of social capital in contemporary society*. New York: Oxford University Press.
- Satry, J., & Ross, C. (1998). Asian ethnicity and the sense of personal control. *Social psychology quarterly*, 161(2), 101-120.
- Schieman, S., & Turner, H. A. (1998). Age, disability, and the sense of mastery. *Journal of Health and Social Behavior*, 39(3), 169-186.
- Seeley, J. R., Sim, A. R., & Loosley, W. (1956). *Crestwood heights: A study of the culture of suburban life*. New York: Basic Books.
- Skinner, E. A. (1996). A Guide to Constructs of Control. *Journal of personality and social psychology*, 71(3), 549-570.

Shaw, B., & Krause, N. (2001). Exploring race variations in aging and personal control.

Journal of Gerontology, 56B(2), 8119-8124.

Stets, J. (1995). Role identities and personalities identities: Gender identity, mastery identity,

and controlling one's partner. *Sociological Perspectives*, 38(2), 129-150.

Wallerstein, N. (1992). Powerlessness, empowerment and health: Implications for health

promotions programs. *American Journal of Health Promotion*, 6, 197-205.

Woolcock, M. (2001). The place of social capital in understanding social and economic

outcomes. *Canadian Journal of Policy Research*, 2, 1-17.

Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory,

research, and policy. *The WOTU Bank Research Observer*, 15(2), 225-249.

APPENDICES

Appendix A

Mastery Scale Questionnaire

Options:

1. Strongly Agree
 2. Agree
 3. Neither agree nor disagree
 4. Disagree
 5. Strongly disagree
- Dont know
Refusal

MAS_Q110 Please tell me if you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree that:

..... you have little control over the things that happen to you.

MAS_Q120 Please tell me if you strongly agree, agree, neither agree or disagree, disagree, or strongly disagree that:

.....there is really no way you can solve some of the problem you have.

MAS_Q130 Please tell me if you strongly agree, agree, neither agree nor disagree , disagree, or strongly disagree that:

..... there is little you can do change many of the important things in your life.

MAS_Q140 Please tell me if you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree that:

..... you often feel helpless in dealing with problems of life.

MAS_Q150 Please tell me if you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree that:

..... sometimes you feel that you are being pushed around in life.

MAS_Q160 Please tell me if you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree that:

...what happens to you in the future mostly depends on you.

MAS_Q170 Please tell me if you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree that:

...you can do just about anything you really set your mind to.

Appendix B

Structure of measurement of private social capital: Family, friends, neighbors

Type of communication	Size of network	Reciprocity Favours Received	Reciprocity Favours Given
Relatives: SCR_Q120, SCR_Q130 SCR_Q140	SCR_Q810	HICR_Q110_WO HICR_Q110_TR HICR_Q110_CH HICR_Q110_TE: HICR_Q110_EM HICR_Q110_OT HICR_Q120	HICG_Q110_WO HICG_Q110_TR HICG_Q110_CH HICG_Q110_TE HICG_Q110_EM HICG_Q110_OT HICG_Q120
Type of communication	Size of network		
Friends SCF_Q120, SCF_Q130 SCF_Q140	SCF_Q100 SCF_Q110 NO OFRNDS		

Appendix C

Questions used in the operationalization of Private Social Capital - Independent Variable

Frequency of contact index

1. *Variable Name: SCR_Q120 Position: 83 Length: 1*
In the last month, how often did you see relatives (outside of people you live with)?

2. *Variable Name: SCR_Q130 Position: 84 Length: 1*
In the last month, how often did you communicate with relatives by telephone (remember to exclude people you live with)?

3. *Variable Name: SCR_Q140 Position: 85 Length: 1*
In the last month, how often did you communicate with relatives on the Internet (including by email)? Was it:

4. *Variable Name: SCF_Q120 Position: 93 Length: 1*
In the last month, how often did you see your friends? Was it:

5. *Variable Name: SCF_Q130 Position: 94 Length: 1*
In the last month, how often did you communicate with your friends by telephone? Was it:

6. *Variable Name: SCF_Q140 Position: 95 Length: 1*
What about by e-mail or Internet? Was it:

Size of network index

7. *Variable Name: SCR_Q810 Position: 86 Length: 1*
How many relatives do you have who you feel close to, that is, who you feel at ease with, can talk to about what is on your mind, or call on for help?

8. *Variable Name: SCF_Q100 Position: 87 Length: 1*
How many close friends do you have, that is, people who are not your relatives, but who you feel at ease with, can talk to about what is on your mind, or call on for help?

9. *Variable Name: SCF_Q110 Position: 88 Length: 1*
How many other friends do you have who are not relatives or close friends?

10. *Variable Name: NO_OFRNDS Position: 91 Length: 2*
Number of other friends the respondent has who are not relatives or close friends.

FREQ WTD

Reciprocity Favours received index

11. *Variable Name: HICR_Q110_WO Position: 105 Length: 1*
In the past month did anyone help you: by doing domestic work, home maintenance or outdoor work?

12. *Variable Name: HICR_Q110_TR Position: 106 Length: 1*
In the past month did anyone help you: by providing transportation or running errands?

13. *Variable Name: HICR_Q110_CH Position: 107 Length: 1*
In the past month did anyone help you: by helping with child care?

14. *Variable Name: HICR_Q110_TE Position: 108 Length: 1*
In the past month did anyone help you: by teaching, coaching or giving you practical advice?

15. *Variable Name: HICR_Q110_EM Position: 109 Length: 1*
In the past month did anyone help you: by giving you emotional support?

16. *Variable Name: HICR_Q110_OT Position: 110 Length: 1*
In the past month did anyone help you: by helping you in some other way?

17. *Variable Name: HICR_Q120 Position: 112 Length: 1*
Did you receive unpaid help on a regular basis?

Reciprocity Providing index

18. *Variable Name: HICG_Q110_WO Position: 118 Length: 1*
In the past month did you help anyone: .by doing domestic work, home maintenance or outdoor work?

19. *Variable Name: HICG_Q110_TR Position: 119 Length: 1*
In the past month did you help anyone: .by providing transportation or running errands?

20. *Variable Name: HICG_Q110_CH Position: 120 Length: 1*
In the past month did you help anyone: .by helping with child care?

21. *Variable Name: HICG_Q110_TE Position: 121 Length: 1*
In the past month did you help anyone: .by teaching, coaching or giving practical advice?

22. *Variable Name: HICG_Q110_EM Position: 122 Length: 1*
In the past month did you help anyone: .by giving someone emotional support?

23. *Variable Name: HICG_Q110_OT Position: 123 Length: 1*
In the past month did you help anyone: .by helping a person in some other way?

24. *Variable Name: HICG_Q120 Position: 125 Length: 1*
Did you provide help to anyone on a regular basis?

25. *Variable Name: HICG_Q110_NO Position: 124 Length: 1*
In the past month did you help anyone: None.