

Social Capital
A Good Concept Gone Bad?

by

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ABSTRACT

Introduction: As a result of increased interest in the potential benefit of ties with others, researchers have been exploring the idea of social capital with increasing frequency over the past two decades (Portes, 1998). Although the volume of literature has accumulated over the years and its application expanded beyond its sociological roots, there has been a proliferation of misguided or poorly conceptualized social capital research (Portes, 2000; Furstenberg, 2005). This has not only affected its vigour (Portes, 1998), but has problematized its measurement. However, unlike critiques focusing on conceptualizing and defining that have been heavily debated through the years, the measurement of social capital has received little more than casual scholarly recognition. Drawing on the works of Charles Lachenmeyer, this thesis offers a unique approach that merges dimensions of social capital with aspects of “good” scientific practices.

Objective: Using a sample of published academic literature, the goal of this study is to provide a systematic review of social capital measurement patterns and to comment on good scientific practices, article crafting, and publishing patterns.

Method: *ISI Web of Knowledge* is used to simultaneously search three electronic databases for published works between 1955 and 2008. Cluster queries provide all documents matching key term, *social capital*, with additional limiters for language, discipline, document type, and methodology. Only those peer reviewed articles that receive a citation score of ten or above, and are applied in design are evaluated using a data extraction framework for systematic analysis.

Results: In total, 106 articles passed inclusion / exclusion criteria. The majority of articles surveyed for this thesis use American data for secondary analysis of cross sectional data with a strong emphasis on quantitative analyses of informal participation outside of the family unit. Overall the sample is theoretical in nature, though there are issues related to multi-dimensional modeling. Trends in dimensions of social capital show a decrease in foundational measures such as trust, obligation and reciprocity in favour of simpler measures of intensity. Failure to properly apply theory to method results in issues related to the level of measurement and strength of ties emphasized. Those articles with a conceptual definition are more likely to have an operational definition, and increase the odds of correct application of social capital. Novel ways of measuring social capital fall into three general themes with a dramatic increase in the frequency of new measures in those articles less frequently cited.

Conclusions: Overall, social capital is not necessarily a “good concept gone bad” but rather a concept that is plagued with article crafting and research-based problems. That is not to suggest that the concept in its current state is robust, but rather that the proliferation of “bad scientific practices” problematize its assessment.

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*In loving memory of my son
Ryley Cardinal (August 19, 1984 – May 30, 1999)*

*and
Matthew Ingebretsen (August 27, 2002 – January 6, 2003)
Beloved son of Mark and Karen*

We will always love you.

LIST OF TABLES

Table 1	Contemporary Definitions of Social Capital	37
Table 2	Units of Analysis and Strength of Ties	51
Table 3	Types of Participation	53
Table 4	Key Dimensions of Social Capital	60
Table 5	Themes of Good Research	68
Table 6	Exclusion Criteria for Years 1955 - 2008	73
Table 7	Hypotheses	78
Table 8	Total Articles Cited by Journal, Rank and Impact Factor	85
Table 9	Articles by Research Area	88
Table 10	Research Areas by Theme (1986 – 2004)	91
Table 11	Issues with Conceptualization	103
Table 12	Aspects of Research Design, Type of Ties and Form of Participation by Article Citation Range	107
Table 13	Dimensions of Social Capital Measurement by Article Citation Range ..	110
Table 14	No Operational Definition by Research Area & Article Citation Range	115
Table 15	Presence of Conceptual and Operational Definitions Across Article Citation Range	117
Table 16	Units and Ties by Article Citation Range	120
Table 17	Novel Measures of Social Capital by Article Citation Range	126
Table 18	Research Questions and Summary Discussion	136
Table 19	Hypotheses and Summary Discussion	141

LIST OF FIGURES

Figure 1	All Articles Cited by Year	82
Figure 2	Highly Cited Articles by Year	83
Figure 3	Patterns in Orientation by Citation Range.....	95
Figure 4	Single Author Conceptualization by Article Citation Range	96
Figure 5	Conceptual Definitions by Article Citation Range.....	102
Figure 6	Forms of Participation by Article Citation Range	108
Figure 7	Dimensions of Social Capital by Article Citation Range	112
Figure 8	Units of Analysis Agreement by Operational Definition	122
Figure 9	Units of Analysis Agreement by Conceptual Definition.....	123
Figure 10	Novel Measures of Social Capital by Article Citation Range	124

LIST OF APPENDICES

Appendix 1	References: Articles used in Analysis.....	166
Appendix 2	Analysis Framework	178

TABLE OF CONTENTS

ABSTRACT.....	i
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	v
LIST OF FIGURES	vi
LIST OF APPENDICES	vii
CHAPTER 1: INTRODUCTION.....	1
1.1 Social Capital Clarified.....	2
1.2 Social Capital and its Development in Sociology.....	5
1.3 Social Capital and Select Issues.....	7
1.4 The Prospects for Social Capital.....	12
1.5 Transforming the Concept of Social Capital	13
1.6 Thesis Design Outline.....	15
1.7 An Overview of the Thesis.....	18
CHAPTER 2: LITERATURE REVIEW	20
2.1 The Development of Contemporary Social Capital	21
2.2 Defining Social Capital	35
2.3 Social Capital in Canadian Policy.....	41
2.4 Social Capital Critiques	43
2.5 Summary	46

CHAPTER 3: METHODOLOGY	47
3.1 Operationalizing Key Dimensions of Social Capital	48
3.1.1 <i>Units of analysis</i>	48
3.1.2 <i>Type and strength of network ties</i>	50
3.1.3 <i>Participation</i>	52
3.1.4 <i>Trust, obligation and reciprocity</i>	54
3.1.5 <i>Intensity</i>	57
3.1.5 <i>Summary</i>	59
3.2 Operationalizing “Good” Research	61
3.2.1 <i>Theory in research</i>	62
3.2.2 <i>Context, problem and hypothesizing</i>	63
3.2.3 <i>Research design: Strategy, collection, measurement, and analysis</i>	64
3.2.4 <i>Summary.....</i>	67
3.3 Project Design	69
3.3.1 <i>Search strategy and data sources.....</i>	70
3.3.2 <i>Inclusion and exclusion criteria</i>	72
3.3.3 <i>Data extraction.....</i>	73
3.3.4 <i>Ethical considerations</i>	75
3.3.5 <i>Summary</i>	76
3.4 Research Questions and Hypotheses	77
 CHAPTER 4: RESULTS	 80
4.1 An Overview of Social Capital in Published Articles.....	81
4.1.1 <i>Patterns in journal quality and usage</i>	84
4.1.2 <i>Patterns in research areas.....</i>	87
4.1.3 <i>Thematic relationships.....</i>	91

4.2	An Overview of the Conceptualization of Social Capital in Research	94
4.2.1	<i>Patterns in orientation</i>	95
4.3	Analysis of Conceptual Issues.....	98
4.4	An Overview of Social Capital Operationalization in Research.....	104
4.4.1	<i>Variations in research design, ties and participation.....</i>	104
4.4.2	<i>Dimensions of social capital: Intensity, trust, obligation and reciprocity.....</i>	109
4.5	Analysis of Operationalization Issues.....	114
4.5.1	<i>Linking theory and method in defining.....</i>	116
4.5.2	<i>Units of analysis and strength of ties.....</i>	118
4.5.3	<i>Linking units of analysis to trends in defining social capital</i>	122
4.6	Novel Measurement Patterns of Social Capital.....	124
 CHAPTER 5: CONCLUSION.....		130
5.1	Discussion and Research Questions in Sum	132
5.1.1	<i>Novel operationalization patterns and hypotheses.....</i>	122
5.1.2	<i>Strengths and weaknesses of the project.....</i>	142
5.2	Study Implications and Future Research Directions	144
 REFERENCES.....		147

CHAPTER 1: INTRODUCTION

*“When I use a word,’ Humpty Dumpty said in a rather scornful tone,
‘it means just what I choose it to mean—neither more nor less.’”*

Carroll Lewis, 1871, 2008: 65

As a result of increased interest in the potential benefit of ties with others, contemporary researchers have been exploring the idea of social capital with increasing frequency over the past two decades (Portes, 1998). Although the volume of literature has accumulated over the years and its application expanded beyond its sociological roots, there has been a proliferation of misguided or poorly conceptualized social capital research (Portes, 2000; Furstenberg, 2005). This has not only affected its vigour (Portes, 1998), but has problematized its measurement. However, unlike critiques focusing on conceptualizing and defining that have been heavily debated through the years, the measurement of social capital has received little more than casual scholarly recognition. This thesis focuses on the operationalization of social capital and the relationship between measurement and conceptualization.

The purpose of this study is to explore how social capital is applied and measured in academic literature. The study uses a number of orientations to social capital providing a comprehensive analysis framework for systematic review of social capital literature. This chapter briefly introduces the concept of social capital, informs on the design of this thesis and outlines successive chapters of the thesis. The following sections detail: 1) social capital clarified describes attributes, suggests a working definition and offers

examples of applications of social capital suggesting its diversity as a researchable; 2) social capital and its development in sociology, introduces contemporary social capital researchers and briefly outlines classical sociological influences indicating the longevity and value of past research on the topic; 3) social capital and its issues advises on areas of contention, warns of hypothesized outcomes and questions if it is a concept worth saving; 4) the prospects for social capital offers three possible scenarios for the future of social capital including dissolution, transmutation and transformation with last option yielding the most potential for positive change; and 5) in order begin the transformation process the author advocates for a methodological approach promoted by author Charles Lachenmeyer (1970, 1971) and ultimately argues that social capital is a concept with flaws, but is worth trying to save. In conclusion, a brief section summarizing the research focus, design and questions is followed by an outline of successive chapters.

1.1 Social Capital Clarified

In recent years, studies dedicated to the analysis of variables that measure the benefit of social ties or “social capital” has flourished in research. Francis Fukuyama (2002, p. 23) suggests the degree of importance assigned to social capital research: “many now regard social capital as a key ingredient in both economic development and stable liberal democracy.” Coleman postulates that social capital’s importance is not limited to economic application, but is actually related to all aspects of social life (Fukuyama, 1995). Despite its saliency, to date there are no universally accepted definitions of social capital. As a result, clarifying the concept is difficult. In light of this challenge, when defining social capital for this thesis it is approached holistically

drawing on the influences of a wealth of excellent social capital research from a host of noted authors and academics. Chapter two of this thesis presents specific researchers and their definitions of social capital in greater detail.

In its simplest form, social capital is defined as “a resource comprised of the benefits of social connections and relationships” (Conrad, 2008, p. 54). It revolves around the perception that interactions with others within society help individuals “realize their interests” (Coleman, 1990, p. 304); social capital is one of the direct or indirect benefits of interactions and is facilitated by living in groups, or communities. These benefits, at least in part, motivate people to cultivate and maintain relationships (Coleman, 1990). Interactions between individuals form a structure of network ties based on configurations or “pattern of ties amongst...actors” (Leenders, 1997, p. 165). According to Coleman (1990: 305, emphasis in the original), it is through network ties or associations with others that social capital is produced: “it [social capital] is embodied in the *relations* among persons.” These associations may be simple and informal such as the interactions within a group of friends, or highly complex and formal such as those networks found in international business and trade. Francis Fukuyama (1995, p. 10) proposes that the ability to cultivate associations and exchange social capital is directly related to “the degree to which communities share norms and values and are able to subordinate individual interests to those of larger groups.” He argues that trust is built through shared values and norms and is a key dimension of social capital (1995). Robert Putnam (1993a) adds that norms and trust facilitate cooperation building social capital stocks. These stocks make “working together easier” (Putnam, 1993a, p. 36). Putnam’s orientation to social capital

suggests the collective nature of the phenomenon (Portes, 1998).¹ Conjoined to principles of trust are dimensions of obligation and reciprocity (Coleman, 1988b). The degree to which people feel obligated to reciprocate is determined by the strength of their ties (Granovetter, 1973b c.f. Lin, 2001a). These ties manifest as supports within (intra familial) or outside (extra familial) the family (Portes, 1998). Due to issues relating to mobility, some individuals are restricted in accessing opportunities to exchange resources resulting in inequalities (Loury, 1977). Social capital may focus on the advantage of strong ties (see Homans, 1961; Lin, 1982; Wellman & Wortkey, 1990; Yli-Renko, Autio & Sapienza, 2001) or the benefit of weak ties (see Granovetter, 1973, 1982, 2002; Burt, 1992; Coates, 2000). In the context of this thesis, social capital is defined as a benefit effect of collective action through network ties within or outside of the family that are reinforced by dimensions of community life such as, shared values and norms and feelings of trust, cooperation, obligation and reciprocity. Benefit effects are situational dependent, relying on the power of strong ties or the strength of weak ties and actors may opt in or out of exchanges based on expected gain or probable unfavourable outcomes; its malleability is evident through its diverse application.

Social capital is applied in multiple ways with varying degrees of success. However, all strategies of operationalizing social capital attempt to provide assessments or empirical evidence of the effects and / or benefits of network interactions. For example, in education social capital may be measured in terms of the predictive value of the strength and / or frequency of interactions between parents, children and the school / teachers. The underpinning belief is that the more complex or dense the network ties

¹ It is acknowledged that Putnam's collective focus is critiqued due to its circular argument (see Portes, 1998, p. 19).

between school, children and / or parents the stronger social capital effects influencing academic achievement positively in terms of better grades, lower rates of truancy, fewer students dropping out of school, or higher educational aspirations. Likewise, immigration research may use friend group interactions to predict successful integration experiences of newcomers and their ability to retain employment during the initial post immigration phases. Still other applications of the concept of social capital assess the benefit of simplified ties between associates over short periods of time as an effective business tool as interactions are not stymied by redundant information transmission and personal history between colleagues. Its malleability as a concept is evident in research, however not all of the ways that it is measured are indicators of social capital. It has been suggested that the issues with measurement (along with conceptualization and defining) manifest throughout its development (Portes, 1998).

1.2 Social Capital and Its Development in Sociology

Social capital researchers past and present have worked diligently to provide a wealth of vital literature both within and outside the discipline of sociology. In more recent years, social capital has found a niche in increasingly diverse areas of academic and governmental policy research. Contemporary researchers such as Pierre Bourdieu, Glen Loury, James Coleman, Nan Lin, Robert Putnam, Francis Fukuyama, Mark Granovetter and Ronald Burt have made substantive contributions towards better understanding a concept that has existed in various forms throughout the works produced by foundational nineteenth century sociological theorists (see Portes, 1998). Although the

label is relatively new (Portes, 1998; Quibria, 2003; Halpern, 2005), early iterations of what is now termed social capital are evident in Alexis de Tocqueville's discussions of institutions and social trust (Halpern, 2005), Karl Marx's dynamic examination of economic development, class consciousness and group cohesion (Portes, 1998; Woolcock, 1998), Ferdinand Tönnies' contributions on human will, social relations (*gemeinschaft*), community life (*gesellschaft*) and his focus on "peaceful human relationships among groups, classes and nations" (Loomis & McKinny, 2002, p. 11), Emile Durkheim's examinations of community and collective consensus, obligation, integration and commitment to a larger society (Furstenberg, 2005; Adkins, 2005) or social integration / disintegration and suicide (Portes, 1998; Kushner & Sterk, 2005), Georg Simmel's investigations of social exchange, interpersonal relationships, reciprocity and the accumulation of obligations (Portes, 1998), or Max Weber's focus on trust (Woolcock, 1998) economic dealings, universalism and entrepreneurial achievement (Portes, 1998) and his ideals of Puritanism and the moral treatment of all individuals in society and the power of co-operation (Fukuyama, 2001). From these deeply embedded roots, social capital takes away ideas of "bounded solidarity" and how adversarial conditions create the potential for group cohesion (Marx), "reciprocity transactions" and the emergence of obligations and norms through personal social network exchanges (Simmel), "value introjections," the idea that values, moral imperatives and commitments precede contractual relations and inform individual goals other than the strictly instrumental" (Durkheim) and the impression of "enforceable trust," that formal institutions and particularistic group settings use different mechanisms for ensuring compliance with agreed-upon rules of conduct- the former (e.g., bureaucracies) using

legal/rational mechanisms, the latter (e.g., families) substantive/social ones” (Weber) (see Woolcock, 1998, p. 161).

Clearly, the development of social capital lies firmly upon the very foundation of sociology but it is not limited to this discipline; it has gained a wide audience of academics, policy makers and others. Alejandro Portes calls social capital the “most successful “export” from sociology...to public discourse during the last two decades” (2000, p. 1). It might be argued that social capital’s importance is not just an issue of how widely it has been exported, but also its potential importance as an explanatory or predictive variable; the latter relying on the creation of a robust and valid concept that has not been fully realized in research. Social capital’s significance is not just academic; it provides a lens that social policy and changes are filtered through (see section 2.3) and has furthered our understanding of the value of network ties across a plethora of research areas such as education, immigration / migration, work and employment, civic obligations (e.g. volunteering, voter turnout, good deeds), criminology, family, religion, communities, globalization, economics, aging, organizations, institutions, minority status, fertility, demography and health.² However, its relative success is not without problems.

1.3 Social Capital and Select Issues

Although the merits of social capital cannot be disputed, researchers indicate areas of deficiency such as: theoretical fragmentation and underdevelopment (Storberg, 2005); definitional variations or misapplied theoretical interpretations (Fedderke *et al*,

² These examples of research areas are drawn from the sample analyzed for the purposes of this thesis; the research areas offered are by no means an exhaustive list of the areas of application of social capital.

1999); conceptual ambiguity or “elusiveness” (Quibria, 2003); or poor theory to concept application resulting in unreliable findings (Portes, 1998, 2000; Furstenberg, 2005). According to Charles Lachenmeyer, problems, such as those identified above, are embedded in the imprecise nature of the language of sociology: “it [sociology] has component terms that are excessively vague, ambiguous, opaque and contradictory” (1971, p. 58). Lachenmeyer (1971, p. 48) suggests other sciences have been more successful at creating enduring language of examination, consistent sets of propositions and a vernacular of theory where as the “sociological language more closely approximates conventional than scientific languages.” This is not to suggest he does not believe in the value of sociological inquiry or ignores the jargon as a specialized language, but rather he is critical of the scientific processes; specifically the lack of “parsimonious organization of diverse phenomena and the generation of propositions and hypotheses about these phenomena” (Lachenmeyer, 1970, p. 622). Lachenmeyer (1970, p. 622) indicates that it is this omission that results in:

fragmentation of research efforts among social scientific researchers that scatters valuable resources (time, energy, intellectual potential, and money) into a diversity of pursuits. This approach also produces the wide-spread tendency of social scientific researchers to consider their job done after they have performed a limited set of successful nomological experiments.

Stehr (1979, p. 145) postulates that issues such as those raised by Lachenmeyer, originate from highly contested distinction between “exact sciences” versus “ordinary language discourse[s]” or the “languages of observation” opposed to “the languages of theory.” For example terms such as ‘mass’ ‘velocity’ or ‘gravity’ have definitions and

conceptualizations that leave very little room for interpretation. They are precise. In contrast, attempts to define social capital are exemplified by a virtually endless supply of definitions and competing orientations and subsequent conceptualizations. Although amalgamated under the premise that social capital allows individuals to access advantages through ties with others (Burt, 2000), to date there are no universally accepted definitions or attempts to solidify and standardize social capital within sociology or other disciplines. The fragmentation of research efforts identified by Lachenmeyer (1970) as problematic are in evidence in social capital research; although the use of social capital in other research realms has positive effects (e.g. explaining how parent ties with other parents support positive educational outcomes, or ties with other immigrants promote faster work placement post move, but not necessarily better employment paths), it also has wider reaching consequences. Sociologists Nan Lin, Karen Cook and Ronald Burt (2008, p. vii) describe the significance of this:

there is a looming danger that the free flow of understanding, application, and interpretation of social capital may soon reach a point where the term might be used in whatever way it suits the purpose at hand, and thus be rendered meaningless as a scientific concept that must meet the rigorous demands of theoretical and research validity, and reliability.

They go on to caution that if this trajectory continues unchecked, social capital may become a research “fad” that is ultimately abandoned. Portes (2000) sums up the issues dogmatically; if social capital means all things and is connected to everything social, then it begins to mean nothing at all. Lachenmeyer (1970, p. 621-622) suggests nomological experimentation bias of publishing journals prioritizing particular types of research

(deductive / verification versus observation / induction) leads to *ad hoc* research practices: “this approach entails the building of theories by the testing of isolated hypotheses with the hope that somehow, somewhere, somebody will come along and tie these hypotheses together into general, coherent, theoretical wholes.” As a result, even though social capital’s roots run deep, there is a danger that its ultimate demise could be untimely met. That is, the potential of the concept is strong, but the current research milieu is lacking consistency in conceptualization and application and these issues have been compounding as the concept has become increasingly popular. While certainly not a flaw that is exclusive to the discipline social capital emerges from, taking a lesson from other disciplines, it is an error that can be minimized or even corrected over time (Lachenmeyer, 1970). Lachenmeyer (1970, p. 622) suggests the roots of methodological issues, poor conceptualization and deficient measurement of complex phenomena (such as social capital) originate from the violation of good scientific methods including the “observation → induction → deduction → verification cycle.” He states (1970, p. 622):

this cycle must be repeatedly applied to a limited universe of discourse to generate valuable general theories...but all too often the social scientist is satisfied with stating and testing isolated hypotheses and then moving on the other (sic) “research problems.”

For example, many concepts in psychology are rigorously tested and refined over the course of years yielding reliable ways of measuring dynamic concepts across multiple dimensions. These indices are widely disseminated and used across diverse research areas and environments and in general, are applied in consistent ways with varying degrees of success. The CES-D (Self-Report Depression) scale for example, is a condensed scale

designed to measure depression.³ This scale is the result of refinements made to larger and longer scales that were rigorously tested and found valid. Lenore Sawyer Radloff (1977) indicates the scale was subject to a series of tests that included numerous surveys using probability and general population samples to test internal consistency, construct validity, re-testability, generalizability and its overall reliability. Twenty years later, testing and refining results in another new CES-D version which is rigorously pre-tested and then re-tested in research (e.g. see Urveryo, Wallace & Erzog, 1999). Testing of this scale is ongoing with extensive cross comparisons between other reputable scales like PHQ-9 occurring in contemporary literature (e.g. see Khamseh *et al*, 2011). This sort of testing has not occurred with social capital. Since coining the term, a host of researchers have offered a strong and varied selection of conceptualization of social capital.⁴ Yet researchers have failed to fully exploit scaling and indicing as potential measurement tools and its application has been allowed to develop relatively unchecked. The result is an underdeveloped and unrefined concept that has become weak and diffused rather than valid and robust.

With such a wide array of issues (see section 2.4 for more in-depth and additional critiques) relating to important aspects of conceptualization, definition and operationalization of the concept, the question becomes: Is social capital worth saving?

³ Information on CES-D is intended to show the rigorous testing and re-testing that result in robust concepts over numerous research years. This example is not intended to provide a full account of all iterations of the scale or the minutia of the items.

⁴ It is important to note that this type of testing assumes quantification and excludes qualitative strategies for robust and valid measurement. The focus on quantitative methods reflects strong quantitative partiality evident in research (see Portes, 1998). This partiality was also found in the sample analyzed for this thesis with 80% of studies quantitative in design.

1.4 The Prospects for Social Capital

There are at least three possible directions for social capital in its current state. First, the concept could simply be abandoned as Lin, Cook and Burt (2008) warn. This outcome is a possibility especially if research fails to come to a consensus on a definition; though it seems unlikely considering social capital's history and roots. Although the emergence of the term "social capital" is relatively new, the inspiration for social capital is enduring. Assuming social capital is not going to just disappear, the second scenario could focus on its transmutation; the ideas remain constant, but the nature of how it is discussed and defined changes. Although there may be some merit in the idea of 'starting over,' this approach seems like a largely tautological exercise that may or may not result in a positive end result. Likewise, using the history of social capital as our marker, it seems unlikely that a simple shift would result in improving the representation of such a dynamic concept. If we could not get it right the first time, how does changing the words change the way we think about the concept and operationalize it? A third opportunity is possible; transformation. This would involve not just outlining definitional and conceptual variations and issues, but rigorous assessments and refinement of the measurement tools and subsequent testing and re-testing. Considering the volume of excellent work that has already been produced on the topic of social capital, there is a wealth of existing 'data' to work with. Although social capital is a concept with flaws, it is not only possible to save, but worth saving. The question becomes: How do we improve the measurement of social capital and thus 'save' it?

1.5 Transforming the Concept of Social Capital

If, as argued, social capital is a concept worth saving, how do we go about starting the process of transformative change? Charles Lachenmeyer (1970, 1971) suggests numerous strategies that may be implemented to strengthen social research. His tactics are well informed on the discipline social capital emerges from and although arguably critical, offers optimistic and concrete suggestions for how to proceed. Lachenmeyer calls for a more precise sociological language with “explicit and rigorous definitions” (1971, p. 115), a higher degree of measurement sophistication (see Jacobson, 1974) and a “full arsenal of investigation” that includes an emphasis on observation through a variety of experimentation strategies; of particular interest to this project, methodological research (1970, p. 623). Methodological research involves “those experiments used to increase the precision of the researcher’s methods or operations of research. When one increases the precision of his measuring instruments, he (sic) is obviously also affecting his methodology” (Lachenmeyer, 1970, p. 619). Likewise, systematic reviews of research focusing on methodological practices are useful in the identification of bias and “characterizing the strengths and limitations of the research in an area of study” (Moyer and Finney, 2005, p. 299).

Those who are critical of social capital have entered into strong and vivacious debates about conceptual and definitional deficiencies suggesting areas of improvement; though arguably those ventures have a long way to go (see Fulkerson & Thompson, 2008). For example, as part of a comprehensive review of definitional variations and source permutations of social capital, Portes (1998: 1) suggests that “excessive extensions...may jeopardize its heuristic value.” While accurate, Portes does not offer any concrete

analysis of just how wide spread the issue of “conceptual stretches” are or offer suggestions on how to restrict wayward operationalization of the concept. Although it is this author’s opinion that Portes’ work is notable, it may be argued that it has had very little overall effect on addressing major issues with social capital; similar arguments are still being levelled at social capital research a decade later. Unfortunately, the issue of how social capital is measured receives little more than cursory acknowledgement; methodological analyses that move beyond theory and definition are largely absent from academic literature to date. If the concept is to be saved, there is this third tool of investigation (methodological analyses) suggested by Lachenmeyer that may hold the most promise. As operationalization patterns are assessed, it is possible to begin entertaining the idea of constructing a more cohesive measurement tool or as Lachenmeyer (1970, 1971) might recommend more sophisticated measurement and higher degree of analyses. Methodological analyses can inform on the quality of the concept as a researchable, but also provide a baseline of inquiry on its application. Assessing where we are now in terms of measurement is important in order to move forward towards developing and refining and ultimately transforming social capital into the robust and reliable concept it has the potential to be.

1.6 Thesis Design Outline

The focus of this study is methodological. This thesis provides a critical review of a sample of academic literature using content analysis. Literature reviewed is used to assess the state of social capital operationalization across eight dimensions: units of analysis, network ties (strength and type), form of participation, trust, obligation, reciprocity and intensity (social role and status, emotional closeness, duration and frequency). These dimensions were developed through an extensive review of social capital literature with a focus on areas of conceptual overlap and are represented as a series of closed codes with an emergent category for “novel measures” created. Considering the paucity of existing literature on measurement, this research is timely, but exploratory in nature; it is designed to describe and offer commentary and assessments across various dimensions of social capital measurement. In tandem a comprehensive list of variables are used to assess ideas such as generalizability, replication potential and general article crafting (e.g. variables relating to disclosure of research design, grounding of research etc.). These are supported on general principles of “good” scientific research and are operationalized as a series of closed codes (see appendix 2). Results are arranged into overarching categories related to publishing, conceptualizing and operationalizing of the concept of social capital in current academic literature with a broad research focus on: What are the patterns of operationalization in existing social capital literature and how do they affect the validity of the concept?

This thesis provides a systematic critical review using content analysis for assessing measurement patterns of social capital in a sample of peer reviewed articles (N = 106). *ISI Web of Knowledge* is used to simultaneously search three electronic databases

for published works between 1955 and 2008. Cluster queries provide documents matching key term, *social capital*, with additional delimiters for language, discipline, document type and methodology. The sample includes quantitative, qualitative and mixed methods research. Papers are rank ordered by the number of times cited (citation scores in the context of this thesis) and then grouped into an equal interval three point scale ranging from high to low for ease of interpretation. The scale created is called the citation range and reporting includes variations across the array. It is important to note that citation scores⁵, while a valid research tool, do not account for the time lapse between work being published and subsequently being cited. To mitigate this issue and to capture the strongest social capital research available, only articles with a citation score of 10 or more are included in the analysis.

While it is impossible to completely divorce theory from method, the focus of this project is methodological in nature. This thesis does not provide assessments of the quality of individual theoretical interpretations or variations, comment on definitional permutations, or provide comprehensive reviews of the findings of the studies. Purely theoretical articles are excluded as the focus of this research is on the application of social capital in primary research and publication. Though these articles are not used for analysis, they are employed in providing background information and context. To avoid introducing particular forms of bias, this thesis does not adhere to any one conception or analytical framework by individual social capital researchers. It is acknowledged that taking a broad approach by treating all orientations of social capital as equal is not bias-

⁵ Information on how many times an article is cited is available from *ISI Web of Knowledge*. To assess multiple dimensions relating to publishing patterns and for clear distinction between terms, the author has called how many times an article has been cited its "citation score." This is distinctly different than an impact factor which provides a measure of journal rank versus a citation score which offers information on article rank.

free either, because it introduces different forms and expressions of social capital than a more narrow lens would. By using a broad approach to define social capital, it is hoped that problems with its measurement are accurately represented and not overstated (e.g. selection bias, verification bias, insensitive measure bias). For example, if Bourdieu was used to orient exclusive of other conceptualizations of social capital, the stage is set for saying “all others are wrong.” It is the author’s contention that social capital is too underdeveloped at this point to make that sort of intrinsic argument. Likewise, a full exploration of all measurement patterns may not be possible; the data collected, how it is organized and what sorts of questions can be answered would be not sensitive enough to capture such a dynamic and diverse concept represented in existing literature. Although a narrow approach may provide more focused analyses of social capital, it would not function well within the design of this thesis as it would ignore research that is self-labelled as social capital.

Focusing broadly, the overarching goal of this study is to document the patterns of operationalization in existing social capital literature and note how they affect the validity of the concept. Narrower research questions allow for a full and rich exploration of the thesis goal by asking the following questions: Are there nomological or publishing biases? How is social capital conceptualized? What forms of social capital measures exist in current literature and do they change? Are the units of analysis consistent with the level of conceptual analysis? Do different ways of organizing conceptual orientations affect its measurement? Is social capital operationalized adequately? Do issues with conceptualization have any effect on operationalization? What do patterns in research tell us about the development of social capital? Admittedly, this is an ambitious project. To

date, a systematic methodologically driven assessment of social capital measures rather than an overview of strategies and research conducted have not been adequately addressed within academic literature. If social capital is to be saved, we have to understand all of its issues and limitations so corrective measures can be developed to strengthen the concept for future research.

1.7 An Overview of the Thesis

This section provides a brief overview of how the chapters of this thesis are organized. Chapter two offers a review of literature prioritizing contemporary social capital orientations organizing background and contextual information into four sections: the development of social capital, definitions of social capital, key areas of public interest and a broad overview of criticisms. The methodology of the project is summarized in chapter three. It includes sections operationalizing key dimensions of social capital and good scientific methods and an outline of the project design, research questions and hypothesized outcomes. It is prudent to note that hypothesizing strategies are focused on methodological considerations identified as underpinning the ideals of “good” science. This deviates from purely topic-specific literature-based hypotheses in that there is very little, if any actual research assessing social capital from a measurement perspective to draw upon. In this way, the project is not limited by the lapse in scientific research. Chapter four reports the findings and is separated into six complimentary sections reporting patterns in publishing, conceptualization, operationalization and an account of novel measurement developments. Findings are reported using visual interpretations and explanations. The final chapter of this thesis is organized into two sections. Section one

discusses key findings of the study followed by a summary of the research questions and related results. The research questions and summary discussion is presented in table format for clarity. This is followed by comments on patterns of novel measures of social capital and hypothesized outcomes. Strengths and weaknesses of the project are explained. Section two briefly outlines the study implications or potential impact of this work and makes suggestions for future research directions.

CHAPTER 2: LITERATURE REVIEW

In recent years social capital, or the benefit of network ties, has flourished in literature in an attempt to “understand the mechanisms that affect life chances of individuals and the well-being of communities” (Lin, 2000, p. 785). The purpose of this thesis is to explore how social capital is applied and measured in academic literature. This study uses a number of key orientations to social capital providing a comprehensive analytical framework drawing on multiple dimensions for systematic review of social capital literature. The objective of this chapter is to provide a review of the contemporary history of social capital identifying key conceptual dimensions such as trust, obligation, reciprocity, strength of ties, participation and degree or intensity of interpersonal relationships and definitional variations underpinning the idea of social capital.⁶ Policy applications and research problems will be briefly considered for contextual purposes. The following chapter provides a review of literature prioritizing contemporary social capital orientations organizing background and contextual information into four sections: the development of social capital, definitions of social capital, key areas of public interest and a broad overview of criticisms. The first section traces the development of contemporary social capital. It is acknowledged that social capital has deep roots within sociology though the terminology is considered relatively new (see Portes, 1998; Grootaert & Van Bastelaer, 2002; Healy and Hampshire, 2002). Section two outlines the lack of consensus in defining social capital and offers multiple key interpretations of the concept concluding with an integrated working definition. The third section identifies key

⁶ These items are operationalized in the methodology sections of chapter three.

areas of public interest within Canadian policy. This section highlights that social capital is not just a concept of academic interest. Chapter two concludes with an overview of criticisms of social capital; critiques focus broadly on several domains highlighting the diversity of social capital problems along with a short synopsis.

2.1 The Development of Contemporary Social Capital

This section traces the development of modern social capital through the works of accomplished authors such as: Pierre Bourdieu, Glenn Loury, Mark Granovetter, Nan Lin, James Coleman, Robert Putnam, Francis Fukuyama and Ronald Burt. Due to the complex nature of the development of social capital and historical accounts of it, authors are presented in a loosely linear fashion. Although it has been argued that social capital is not new to sociology (Portes, 1998; Woolcock, 1998; Quibria, 2003; Halpern, 2005), coining of the term in the early twentieth century is generally attributed to L.J. Hanifan (noted in Putnam, 2000; MacGillivray & Walker, 2000; Halpern, 2005).⁷ With social capital first appearing in his work on the importance of community involvement in the success of rural schools, Hanifan (1916, p. 130) challenges traditional ideas of capital as tangible goods (e.g. money, property etc.):

that in life which tends to make these tangible substances count for [the] most in the daily lives of a people, namely, good-will, fellowship, mutual sympathy and

⁷ There is disagreement in literature as to when and by whom the term “social capital” was coined. Although the majority of literature indicates Hanifan as the terminological ‘starting point,’ social capital may have appeared much earlier in the works of functional psychologist, John Dewey in the late nineteenth century (Schuller, Baron & Field, 2000a; Farr, 2004; see Evans, 2003 for a discussion outlining Dewey’s work).

social intercourse among a group of individuals and families who make up a social unity, the rural community, (sic) whose logical center is the school.

Hanifan (1916) asserts that the foundation of community building is helping people to realize what the problems are and how they can be of service; this involves people coming together effecting the accumulation of social capital and thus the betterment of community life. He concludes that “the more the people do for themselves the larger will community social capital become (sic), and the greater will be the dividends upon social investment” (Hanifan, 1916, p. 138). Although Hanifan’s work is ground breaking it took social capital several decades to re-emerge and several more to rise to popularity in academic literature. Putnam (2000:19) suggests “Hanifan’s account of social capital anticipated virtually all of the crucial elements in later interpretations, but his conceptual invention apparently attracted no notice from other social commentators and disappeared without a trace.” According to historical accounts, by the 1950s the term social capital had resurfaced, but its contemporary reinvention did not begin until the 1960s with the work of French sociologist Pierre Bourdieu (Portes, 1998; Putnam, 2000; Woolcock and Narayan, 2000).

Focusing on individual level analyses of relations of power and social positions within groups, Bourdieu’s early social capital efforts provide “the first systematic contemporary analysis of social capital” (Portes, 1998, p.3). However due to the fact that his work was only available in French and the obscurity of later translations (Portes, 1998), Bourdieu’s work through the latter and early part of the 1960s and 1970s operated largely at the outer limits of social capital research until a co-authored work, *Reproduction in Education, Society and Culture* (1977) with Jean-Claude Passeron was

published elaborating upon numerous types of capital, including cultural and social (see Portes, 1998; Schuller, Baron & Field, 2000a; Morrow, 2001). Portes (1998, p. 3) suggests that the obscurity of Bourdieu's early works is "lamentable":

Bourdieu's analysis is arguably the most theoretically refined among those that introduced the term in contemporary sociological discourse. His treatment of the concept is instrumental, focusing on the benefits accruing to individuals by virtue of participation in groups and on the deliberate construction of sociability for the purpose of creating this resource.

Bourdieu's conception of social capital is based on two inter-related components: social relationships as the vehicle to access resources and the amount, quality and availability of resources for individuals to invest in (Portes, 1998). While there is disagreement between researchers as to the quality of Bourdieu's conception of social capital as an aggregate resource (Bourdieu, 1997, p. 51 in Schuller, Baron & Field, 2000a, p. 4) concerned primarily with garnering economic capital⁸, Bourdieu's work contributes to current social capital research by attempting to bring together highly symbolic features of social / cultural capital with more visible lines of class relations (Schuller, Baron & Field, 2000a; Lin, 2001). With Bourdieu's work gaining recognition by the late 1970s, social capital's reputation was spreading; other notable contributors included the efforts of American economist Glenn Loury (Woolcock & Narayan, 2000; Putnam, 2000), American sociologist Mark Granovetter in the 1970s followed closely by the early works of Nan Lin and colleagues in the early 1980s (Portes, 1998; Woolcock, 1998; Farr 2004).

⁸ See Portes, 1998 and Schuller, Baron & Field, 2000 for dissenting points of view on the centrality of economic capital.

Writing in reaction to the individualistic nature of human capital research (Portes, 1998; Schuller, Baron & Field, 2000a), Loury (1976, p. 9) argues that traditional economic frameworks fail to adequately explain racial income variation and to forecast “the long run consequences of particular policy alternatives.” Borrowing heavily from sociological perspectives on intergenerational mobility, Loury (1976, p. 45) suggests that:

the social context within which individual maturation occurs strongly conditions what equally competent individuals can achieve. These facts imply that absolute equality of opportunity, where a person’s chance to succeed depends only on his innate capabilities, is an ideal which cannot be achieved

He indicates that policy directed at skills development, equal opportunity programs and legislation against racialized hiring practices all fail to balance racial inequalities in earning and opportunity for two reasons (Portes, 1998). First, poverty factors of parents are passed on to the children through their lack of material resources and subsequent poor education prospects. Second, limited social connections between black youth result in a lack of social capital. This lack of communal resources impedes the transmission of knowledge; specifically information about work opportunities (Portes, 1998). Loury’s conception of social capital embraces the salient and important notion of unequal access to resources and opportunities through intergenerational transmission, race or poor network associations, yet his work has largely been shifted to the margins of social capital research (Portes, 1998). Author Alejandro Portes (1998, p. 4-5) suggests this is due to the incompleteness of Loury’s (1977) conceptualization of social capital:

he [Loury] did not go on to develop the concept of social capital in any detail. He seems to have run across the idea in the context of his polemic against orthodox

labor economics, but he mentions it only once in his original article and then rather tentative terms. The concept captured the differential access to opportunities through social connections for minority and nonminority youth, but we do not find here any systematic treatment of its relations to other forms of capital.

As a result, Loury's work may be seen more as a stepping-stone for a host of researchers, rather than as an integral part of the backbone of social capital. Social capital, at this point in time, was still relatively obscure and focused narrowly on the idea that strong network ties increase social capital effects. This idea was challenged in the early 1970s by economic sociologist, Mark Granovetter.

Mark Granovetter (1973, 1983) offers provocative insights into the potential for weak ties and the generation of social capital; especially for research involving diverse groups or between group analyses. He is heavily critical of the tendency towards micro level analyses and suggests that social networks are ideal for "linking micro and macro levels of sociological theory" (1973, p. 1360). Central to his work is the idea of network embeddedness. Drawing heavily on the works of political economist Karl Polanyi and colleagues (1944, 1957), Granovetter (1985, p. 504) argues that it is the degree to which individuals or organizations are tied to each other within a network that motivates the generation of social capital and that "most behavior is closely embedded in networks of interpersonal relations." Conjoined to the idea of embeddedness is the notion of the strength of ties: "the strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding) and the reciprocal services which characterize the tie" (Granovetter, 1973, p. 1361). According to Portes (1989, p.

12) Granovetter's innovative and original contribution to social capital research was his impression of the "strength of weak ties":

the power of indirect influences outside the immediate circle of family and close friends to serve as an informal employment referral system. The idea was original because it ran contrary to the commonsense notion that dense networks such as those available through family circles would be most effective in finding jobs.

Granovetter (1973, p. 1360) argues that analyses of the strength of ties and in particular weak ties are key to discussions about interpersonal relationships: "Emphasis on weak ties lends itself to discussion of relations between groups and to analysis of segments of social structure not easily defined in terms of primary groups." However, he is careful to caution that looking exclusively at the strength of ties is unadvisable; rather it is just a step in a larger process of network analysis: "treating only the *strength* of ties ignores, for instance, all the important issues involving their content" (1973, p. 1378 emphasis in the original). He goes on to suggest that the assessments of strength of ties necessitate an understanding of the interplay between tie strength and other aspects of interpersonal exchanges such as: the degree to which specialization of ties occurs and its hierarchical structure, how negative ties are navigated, sequence time effects and measurement problems with ties operationalized as a continuous variable (Granovetter, 1973).

Although Granovetter's unique perspective on weak versus strong ties is still in the minority in literature (see Portes, 1998), it has been suggested his perspective is responsible for a resurgence of academic interest in how economic action, structure and social relationships interact (Gronow, 2008; see Granovetter, 1985, 2005).

As Granovetter's work on the strength of weak ties continued to develop through the 1970s and onward, social capital's popularity was on the rise. In the early 1980s notable social capital contributor Nan Lin's work began to emerge (Portes, 1998)⁹. Building on Coleman and Bourdieu's work, he proposes that staying true to their "original conceptual understanding of social capital" is prudent for researchers studying social capital as it avoids definitional confusion (Lin, 2005, p. 52). Primarily interested in social networks, stratification / mobility, mental health (stress) and job attainment, Lin is critical of research that measures social capital on meso or macro-levels (i.e. Putnam, Fukuyama etc.) stating: "the conceptual linkage between network-based social capital and these macro forms has never been made clear" (Lin, 2005, p. 52). Like Coleman, Lin conceives of social capital as something embedded within a social network of relations: "social capital refers primarily to resources accessed in social networks" and further states, "the theory...focuses on the instrumental utility of such resources (capital as an investment or mobilization)" (1999, p. 471). Lin and associates define social resources as "wealth, status, power as well as social ties of those persons who are directly or indirectly linked to the individual" (Lin, Dayton and Greenwalk, 1978 in Lin, Ensel and Vaughn, 1981, p. 395). That is, resources are part of a rewards and normative honour system in which "an individual's access...is instrumentally important" (Lin, Ensel, Vaughn, 1981, p. 395). According to Lin, the structure of the network is based on shared ideas of the

⁹ It is important to note that establishing a timeline of social capital is difficult especially in light of the number of orientations available. This is especially true in regards to Nan Lin and James Coleman. Although Lin may technically fall first in regards to dates, his later works borrow from Coleman making linear accounts of their contributions problematic. Both authors are careful to acknowledge one another in their publications (see Portes, 1998); although Lin is placed first in this thesis based on literature reviewed, it should be assumed that Lin and Coleman's ideas of social capital develop somewhat bilaterally. As a result, reference to Coleman is made in explaining Lin's work before a review of Coleman is offered.

value of resources. Individuals are arranged within the network forming a pyramid shape; those at the top of the pyramid share more advantages through less dense networks, the ability to gather information based on the ability to view interactions that fall below, better control over resources and less competition or “accessibility to positions” (Lin, 1999, p. 470). In order to explore the hierarchical nature of this perspective, Lin and colleague developed a technique they call position generators (see Lin & Dumin, 1986) in which access to positions may be measured in tandem with relationships between actors within a network (Lin, 1999). Although it has been suggested that the most widely accepted definition of social capital currently is attributable to Lin (see Molm, 2010)¹⁰, it is James Coleman’s seminal works in the late 1980s that propelled social capital into its current state of notoriety (Portes, 1998; Putnam, 2000; Fukuyama, 2002).

According to Robert Putnam (2000, p. 19), “sociologist James Coleman put the term [social capital] firmly and finally on the intellectual agenda in the late 1980s, using it (as Hanifan had originally done) to highlight the social context of education.” Building upon Loury (Portes, 1998) and Bourdieu, Coleman’s work “has been particularly influential in the English-speaking world” especially in relation to inequality and education research (Schuller, Baron & Field, 2000a, p.5). Approaching social capital as a critique of human capital theory (Schuller, Baron & Field, 2000a), Coleman’s work is a hybrid attempt to encompass both individual and group level analyses¹¹ (Lin, 2001) and offers a “more refined analysis... [of] the role of social capital in the creation of human

¹⁰ There is disagreement in literature reviewed as to whose definition is most widely used in current literature; some cite Lin while other indicate Putnam’s definition (see Dasgupta & Serageldin, 2001, p. 45).

¹¹ Hybrid approaches such as Coleman’s attempting to bridge micro and macro levels are often problematic as community level measures are rarely applied even though conceptually, they have been identified by the author as being instrumental. These issues are explored in more detail in chapter four of this thesis.

capital” than first conceptualized in Loury’s work (Portes, 1998, p. 5; 1990, p. 302).

According to Coleman (1988a, p. s98), social capital is defined through its *modus operandi* and is dynamic:

Social capital is defined by its function. It is not a single entity but a variety of different entities...Like other forms of capital, social capital is productive, making possible the achievement of certain ends that in its absence would not be possible. Like physical capital and human capital, social capital is not completely fungible but may be specific to certain activities. A given form of social capital that is valuable in facilitating certain actions may be useless or even harmful for others.

Portes (2000, p. 3) suggests the importance of network ties in Coleman’s work:

“community ties were important for the benefits they yielded to individuals. Old people could walk the streets at night without fear and children could be sent outside because tight community controls guarantee their personal safety” (see Coleman, 1988c). Like Bourdieu, Coleman suggests two inter-related components key to social capital enterprise: “they [social capital entities] all consist of some aspect of social structures and they facilitate certain actions of actors-whether persons or corporate actors-within the structure” (1988a, p. s98; 1990, p. 302). In this way, social capital is a resource “gift” which facilitates action brought about through concepts of reciprocity, motive, membership, consequence and social organization (see Portes, 1998, p. 5-6) and guided by embedded social norms (Furstenberg, 2005). Although Coleman may garner cautious criticisms (see Portes, 1998; Schuller, Baron & Field, 2000a; Serageldin & Grootaert, 2001; Uphoff, 2001), he has received wide-spread recognition and praise for his contributions to social capital research for “putting social capital on the agenda for social

scientists and development practitioners” (Uphoff, 2001, p. 243); an accolade he shares with Robert Putnam work into the 1990s (Woolcock and Narayan, 2000; Schuller, Baron & Field, 2000a; Dasgupta & Serageldin, 2001; Uphoff, 2001; Furstenberg, 2005; Carilli, Coyne, & Leeson, 2008).

By the 1990s, social capital research had exploded, but its conceptual bounds were far from solidified. Rather than focusing on the aberrations in strength of ties, the hierarchical position, or the function and dynamic nature of social capital, the units of analysis were being confronted; social capital not as a resource developing out of interpersonal relationships, but rather as “the level of “civicness” in communities such as towns, cities, or even entire countries” (Portes, 1998, p. 18). According to Portes (1998) one of the strongest proponents of the “collective character” of social capital is professor of public policy, Robert Putnam. According to Putnam, social capital “refers to features of social organizations, such as networks, norms and trust, that facilitate coordination and cooperation for mutual benefit...enhanc[ing] the benefits of investment in physical and human capital (1994, pp. 6-7). Putnam’s initial conceptualization of social capital centers on trust as the cornerstone as it “lubricates social life” (2000, p. 21). Unlike many other researchers, he is careful to implicitly state that social capital—networks, norms and reciprocity—is good for those within group, but not necessarily for those who occupy a location outside of the group (Putnam, 2000). Authors Schuller, Baron and Field (2000a) suggest that while trust is prominent in Putnam’s earlier works, there is a subtle shift towards emphasis on reciprocity in his later works. In *Bowling Alone* (2000), Putnam’s conception of bonding and bridging social capital is evidence of this subtle shift away from trust towards reciprocity. Whereas bridging social capital is defined by Putnam as

“inclusive” forces which ‘bridge’ social divisions and offer broad network benefit linked to “external assets and...information diffusion”, bonding is “exclusive” or “inward looking and tend to reinforce exclusive identities and homogenous groups” (2000, p. 22). Succinctly put, bonding is the “sociological superglue, whereas bridging social capital provides a sociological WD-40” (Putnam, 2000, p. 23). Social capital bridging and bonding examples offered by Putnam include ethnic communities, country club memberships or ladies bible study groups (bonding) and civil rights movement, service groups, or religious-based organizations (bridging). Portes (1998, p. 18) suggests that Putnam’s conception of social capital is buttressed on the idea community involvement and is measured using indicators relating to behaviours such as “newspaper reading, membership in voluntary associations and expressions of trust in political authorities.” It is important to note that while it may be an ‘easy’ jump to polarize or separate these concepts, Putnam is careful to emphasize the over-lap between these social dimensions and stresses the continuous nature of the variables used to measure bonding and bridging social capital: “bonding and bridging are not ‘either-or’ categories into which social networks can be neatly divided, but ‘more or less’ dimensions” (2000, p. 23).

While Putnam’s work shifts away from aspects of trust, American political economist Francis Fukuyama (1995) embraces trust as central to social capital and economic stability (see Buchan & Croson, 2004; Halpern, 2005). Fukuyama relates social capital to the following two key principles: generalized trust and spontaneous sociability. Trust, according to Fukuyama, encompasses aspects of shared community expectation, societal normative action, cooperative inclinations and honesty, whereas, sociability may be defined through individual actors ability and inclination to seek out and form new

networks based on between group cooperation (1995, pp. 26-29). Trust and cooperation are instrumental in Fukuyama's conception of social capital. However, unlike Coleman who has a heavy emphasis on the importance of family and kinship ties especially in regards to positive educational outcomes, Fukuyama argues that strong ties within the family (trust and cooperation) impedes organizational or firm growth and thus undercuts economic expansion (see La Porta *et al.*, 2001). It has been suggested that Fukuyama's approach to culture and its effects upon dimensions of network ties like trust and cooperation are instrumental in understanding the wider reaching effects of social capital:

Fukuyama cites cross-cultural differences in social capital to explain cross-national differences in forms of economic organization—specifically, a predisposition towards firms based on family and kinship in societies such as France and against those in which there are strong ties to impersonal corporations, for example, Japan. Empirically, the culture theory hypothesizes homogeneity in social capital between individuals within a society, including consistency from one situation to another (Rose, 2001, p. 152)

Fukuyama (2001, p. 12), having the unique perspective of writing in a time when there is a wealth of past social capital research to draw upon, states that one of the biggest obstacles currently is how to measure social capital: “one of the greatest weaknesses of the social capital concept is the absence of consensus on how to measure it.” Fukuyama's work beginning in the mid-1990s is still being refined, but it holds promise especially for uniting dynamic features of culture with its effects upon social capital on the meso level.

As Fukuyama's work continued to develop through the 1990s and onward, social capital research saw resurgence in interest of the strength of weak ties; by the mid-1990s, the works of American sociologist Ronald Burt emerged. Like Granovetter, Burt advocates that how weakly connected individuals are within a network has a positive effect on personal mobility (Portes, 1998). He (1997, 2001a, 2001b) suggests that it is the networks formed through weak ties (bridging structural holes) that 'add value' to the concept of social capital and that social capital "is the final arbiter of competitive success" (1995, p. 59). Structural holes, according to Burt, are advantageous because they allow for more efficient transference of information: "dense networks tend to convey redundant information, while weaker ties can be sources of new knowledge and resources" (Portes, 1998, p. 6). He suggests that social capital is different from human and financial capital for two reasons. First, it cannot be legally or otherwise owned by an individual or organization, but rather "is a thing owned jointly by the parties to a relationship...no one player has exclusive ownership rights to social capital" (Burt, 1995, p. 58). Second, it varies in regards to investing and returns; human and financial capital is invested in order to produce something (e.g. money is necessary for purchase of raw materials and to pay employees and people are needed to transform raw materials into consumables) whereas social capital benefits translate to opportunities and the ability to transform financial and human capital gains into actual profit: "social capital concerns rate of return in the market production equation... through relations with colleagues, friends and clients come the opportunity to transform financial and human capital into profit" (Burt, 1995, p. 58). According to Burt (1995, p. 87), the contention of the

structural-hole approach to social capital is focused on the importance of flexibility and opportunity:

the focus of the structural-hole argument—a theory of freedom instead of power, of negotiated control instead of absolute control. It is a description of the extent to which the social structure of a competitive arena contains entrepreneurial opportunities for individual players to affect the terms of their relationships

Schuller, Baron and Field suggest Burt's work on structural holes is one of the most prominent examples of providing "an explicit bridge between networks and social capital" (2000a, p. 21). Likewise, his work is one of the few that captures important variations in social capital based on gender and embedded systems of network values (Schuller, Baron & Field, 2000a).

This section traces the development of modern social capital through the works of accomplished authors such as: Pierre Bourdieu, Glenn Loury, Mark Granovetter, Nan Lin, James Coleman, Robert Putnam, Francis Fukuyama and Ronald Burt. It summarizes the development of contemporary social capital outlining its modern history using a wealth of outstanding literature from a variety of noted authors. Embedded in these contemporary orientations are ideas related to network ties and social structure such as trust, obligation, reciprocity, strength of ties, participation and degree or intensity of interpersonal relationships. Of course these ideas are not new to sociology, as mentioned in the previous chapter, but build on much deeper sociological roots through the accomplished works of de Tocqueville (institutions and social trust), Marx (bounded solidarity obligation and group cohesion), Simmel (obligation and reciprocity and normative compliance), Durkheim (moral values and obligations), Weber (ideals of trust,

obligation and ordered compliance) and others distinguished researchers (see Woolcock, 1998; Adkins, 2005; Furstenberg, 2005; Halpern, 2005;). While contemporary authors may draw upon the deep roots of social inquiry, develop independent or competing ideas or draw from each other important facets of social capital Portes (1998, p. 6) suggests that “the consensus in the literature [is] that social capital stands for the ability of actors to secure benefits by virtue of membership in social networks or other social structures.” However, the host of available orientations presents unique challenges especially in regards to clearly defining, conceptualizing and operationalizing social capital.

2.2 Defining Social Capital

When defining social capital, there is little agreement. To date, there are no universally accepted definitions of social capital within sociology or other disciplines although there have been many notable attempts at clarification or re-definition (see Portes, 1998; Serageldin and Grootaert, 1998, 2001; Foley & Edwards, 1999; Woolcock and Narayan, 2000; Adler and Kwon, 2002; Robison *et al.*, 2002; Dolfma and Dannreuther, 2003; Conrad, 2007). Fukuyama suggests that this lack of consensus is “one of the greatest weaknesses” of social capital (1999, section 3). This section highlights the lack of definitional agreement by offering multiple key contemporary interpretations from noted authors such as Bourdieu, Loury, Granovetter, Lin, Coleman, Putnam, Fukuyama and Burt. With a focus on overlapping dimensions, this section is brought to a close with a simple integrated working definition. While comprehensive, this discussion is not intended to be exhaustive given the magnitude of research on social capital. Likewise, due to social capital’s ‘dynamic constitution,’ multiple defining qualities by a

researcher may be offered. A full debate on the merits of each individual interpretation falls beyond the scope of this project.

Defining social capital is not an easy task. There are almost as many definitions as there are scientists researching social capital. The task of defining is further complicated by ambiguous statements and a lack of clear definitions. For example, while not everyone may agree with Bourdieu's characterization, he is careful to include a clear definition of social capital in the form that is easily recognizable to readers; in other words, he has a strong 'social capital is' statement. In contrast, theorists such as Granovetter or Burt subsume or ellipse definitions in their work reducing defining qualities down to how it works rather than what it is. Fukuyama summarizes this problem by stating: "(w)hile social capital has been given a number of different definitions, many of them refer to manifestations of social capital rather than to social capital itself" (2001, p. 7). This presents limitations on the operationalization of social capital; if a concept is not readily definable, it is improbable that a precise complement of measurement variables can be constructed. Table 1 provides a list of significant contemporary authors and their definitions of social capital. All definitions are drawn from original primary, or co-authored social capital research by each of the authors. Citations are provided for each definition with complete bibliographic information available in the reference section of this thesis.

Table 1
Contemporary Definitions of Social Capital

Author	Definition
Bourdieu	<p>“Social capital is the aggregate of the actual or potential resources that are linked to the possession of a durable network of more or less institutionalized of relationships of mutual acquaintances and recognition—or in other words, to membership in a group”—that provides each of its members with backing of the collectivity-owned capital, a “credential” that entitles them credit in the various senses of the word. These relationships may exist only in the practical state, in material and/or symbolic exchanges that help to maintain them” (1986, p. 248; 2004, p. 21).</p> <p>“as <i>social capital</i> made up of social obligations (“connections”), which is convertible” (italics in original 2004, p. 16).</p>
Loury	<p>“naturally occurring social relationships among persons which promote or assist the acquisition of skills or traits valued in the market place...an asset that may be significant as financial bequests in accounting in the maintenance of inequality in our society” (1992, p. 100).</p>
Granovetter	<p>“I argue that weak ties...are actually vital for an individual's integration into modern society” (1983, p. 203).</p> <p>“More novel information flows to individuals through weak than through strong ties” (2005, p. 34)</p> <p>“There are many more weak ties in social networks than strong ones...such ties are much more likely than strong ones to play the role of transmitting unique and nonredundant information across...disconnected segments of social networks” (2005, p. 34-35)</p>
Lin	<p>“I define it [social capital] as investment of resources with expected returns in the marketplace” (2001a, p. 3).</p> <p>“Social capital is defined as resources embedded in one’s social networks, resources that can be accessed or mobilized through ties in the networks” (2005, p. 2).</p>

- Coleman** “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” (1998a, p. s98).
- Putnam** “social capital refers to connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them. In that sense social capital is closely related to what some have called “civic virtue.” The difference is that “social capital” calls attention to the fact that civic virtue is most powerful when embedded in a sense network of reciprocal social relations. A society of many virtuous but isolated individuals is not necessarily rich in social capital” (2000, p. 19).
- “features of social organizations such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit” (1995, p. 67).
- Fukuyama** “Social capital is the capability that arises from the prevalence of trust in a society or in certain parts of it. It can be embodied in the smallest and most basic social group, the family, as well as the largest of all groups, the nation, and in all other groups in between” (1995, p. 26).
- “an instantiated informal norm that promotes cooperation between two or more individuals” (1999, p. 1; 2001, p. 7).
- “trust, networks, civil society, and the like which have been associated with social capital are all epiphenomenal, arising as a result of social capital but not constituting social capital itself” (1999, p. 1).
- “social capital is shared norms or values that promote social cooperation, instantiated in actual social relationships” (2002, p. 27).
- “I prefer to define the concept more broadly to include any instance in which people cooperate for common ends on the basis of shared informal norms and values (2002, p. 24).
- Burt** “With respect to etiology, social capital is a quality created between people...” (1997, p. 339).
- “friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human

capital” (1992, p. 9).

“the brokerage opportunities in a network” (1997, p. 355).

“brokerage across structural holes is social capital” (2001b, p. 236).

“Social capital is the contextual complement to human capital. The social capital metaphor is that that people who do better are somehow better connected. Certain people or certain groups are connected to certain others, trusting certain others, obligated to support certain others, dependant on exchange with certain others. Holding a certain position in the structure of these exchanges can be an asset in its own right. That asset is social capital, in essence, a concept of location effects in differentiated markets” (2001b, p. 202-203).

Semih Akçomak (2009) argues that while definitions of social capital vary, it is counter-productive to continue to identify new, more widely accepted definitions for the concept. Rather, the process of clarifying should focus on re-defining using those areas of overlap to create a robust rather than all-encompassing definition of social capital (Akçomak, 2009). He (2009) identifies four areas of definitional overlap within existing research: 1) status may be developed through actor’s social ties with others¹², 2) positive outcomes and a sense of belonging within society can be generated through group participation and identification, 3) group identification results in solidarity which shifts self-motivated interests of individuals towards community well-being and 4) networks ties enable an exchange of information building trust that may be enforced through social

¹² It is important to note that Akçomak’s approach to overlapping dimensions of social capital is decidedly micro-based. This is in contrast to how the author conceives of the ideal unit of analysis for social capital as a meso or community level construct.

norms and mores. He adds that contemporary definitions acknowledge two new and underdeveloped overlapping dimensions: 1) the idea that individuals may opt in or out of social interactions, but the result of purposeful action is the expectation of returns or some sort of gain and 2) social capital may have negative as well as positive outcomes (2009).

While table 1 illustrates individual interpretations of social capital vary, the most important underlying 'root' of social capital is arguably its inherent 'social' aspect. That is "social capital is a feature of the social context, not of the individual actors within the social context" (Bolin *et al*, 2003, p. 2379). For the sake of definitional clarity within the context of this thesis, social capital is considered a meso level construct. It is defined as a benefit effect of collective action through network ties within or outside of the family buttressed on dimensions of community life such as shared values and norms and feelings of trust, cooperation, obligation and reciprocal action. Benefit effects are dependent on the situation, relying on the power of strong ties or the strength of weak ties and actors may opt in or out of exchanges based on expected gain or probable unfavourable outcomes. Working with the assumption that social capital is a community attribute presents unique challenges for some social researchers. In particular, how to use largely individual level datum (e.g. survey data) inclusively without reducing measures of social capital to aggregates. While important, the debate about micro / meso or individual and community level measures cannot be resolved by this research though the author's bias is toward the meso-level measurement. The focus is on measurement patterns, not the saliency of particular orientations. Rather than testing to prove which unit of analysis is correct, this study is interested in the correct usage based on the orientation of the

research. For example, if an author of an article draws on Putnam, the appropriate unit of analysis would be meso. In contrast, if Bourdieu's work creates the foundation for research, the correct unit of analysis would be individual or micro level data. Assessing the worth of social capital as a community level concept requires a dedicated paper and thus falls beyond the scope of this thesis.

2.3 Social Capital in Canadian Policy

This section identifies key areas of public interest within Canadian policy and highlights that social capital is not just a concept of academic interest. In Canada, broad areas of public interest in social capital include: aspects of poverty and crime reduction, healthy living, aging and community development (Charbonneau *et al*, 2005). The underlying preoccupation with social capital and these social domains is the belief that strong network ties provide preventive or insulating properties which work towards positive health and aging outcomes (Health Canada, 2006) and against community decay (Stone, 2001). While these policy interests focus on its application to the larger Canadian society, other social capital interests are narrow and target particular populations. This presents unique challenges as precedents are set for problematizing particular Canadian citizen groups. Some examples include: encouraging civic participation in Canadian youth populations which problematizes this population as anti-social, Aboriginal education and community that generalizes about their academic preparedness and population diversity management (see Charbonneau *et al*, 2005). Population diversity management presents the most perplexing and possibly most egregious homogeneous interpretations lumping diverse groups, such as immigrant and refugee populations together or pulling them apart indiscriminately to further 'social capital' contributions

and design policy around assimilation and productivity (see Burstein, 2003). The assumption is that diversity is a problem that needs to be managed or solved.

It has been acknowledged within government policy circles that social capital only explains relatively small amounts of the variance in individual, community and state outcomes (see Charbonneau *et al*, 2005; Franke, 2005). However, social capital has experienced a rapid ascent in government discourse as the ‘answer’ to a myriad of social problems (e.g. access to health care, immigrant assimilation, joblessness, insulating effects for poor, vulnerable or otherwise at-risk) (see Franke, 2005). Likewise, Elenor Ostrom (2000) and Stanford Ikeda (2002, 2004) caution that social capital is potentially changed or destroyed through governmental imposed social policy which relies on unreliable empirical evidence. Ostrom offers: “When national governments take over the ownership...in an attempt to provide all health and education services themselves, they destroy an immense stock of [community-level] social capital in short order and it is rarely replaced rapidly.” (2000, p. 182). She postulates that as social capital stock diminishes, individual dependency increases and important aspects of social capital production disappears (i.e. entrepreneurial or collective action of citizens). Likewise, Anthony Carilli, Christopher Coyne and Peter Leeson also view governmental manipulation as having a negative and inverse effect which “weaken, erode or destroy existing social capital” creating “homogeneity among agents” (2008, p. 1). According to Carilli and colleagues (2008), the effects of governmental intervention may initially increase the potential for social capital by creating artificially high rates of exchange between individuals. However he cautions that there is a rebound effect; as individuals begin to question the credibility of programs, policy, or other actors, these unnatural ties

collapse causing many to eliminate the network all together (2008). If this is indeed 'fact', this creates difficulty in assessing social capital as its function and form are shifting and disappearing.

Franke (2005, p 4-6) suggests that in the rush to provide answers for complex social problems social capital has been measured using less desirable data with questionable theoretical guidance and *ad hoc* measurement effecting public policy (2005, p. 4-6). Poor measurement practices are exacerbated by the competition for governmental rewards such as funding (Franke, 2005). While an assessment of social policy quality *en masse* is not central to this thesis, it is clear that social capital's roots are far reaching and not just a concept of academic interest. In light of increasing demand for social capital indoctrination by governments as an important "public policy tool" (Franke, 2005: 1), how social groups are able to perform collectively with external pressures becomes a tantamount issue (see Olsen, 1982; North, 1990); by extension, criticisms of social capital are key to understanding its current conceptual and explanatory limitations.

2.4 Social Capital Critiques

This section provides an overview of criticisms of social capital. Critiques focus broadly on several domains highlighting the diversity of social capital problems such as conceptualization and fragmentation, the gendered subtext of social research, issues of racialization and ethnicity, time-lag effects, or definitional ambiguity. Alejandro Portes (1998, 2000) suggests social capital has become a defunct construct due to a lack of proper application of theory and statistical testing resulting in an inflated significance

within literature stressing only positive gains while ignoring potential negative consequences.¹³ Likewise, Julia Storberg states that despite significant research to date, social capital “remains underdeveloped and fragmented” especially within certain disciplines, including sociology (2005, p. 468). Frank Furstenberg indicates lapses specific to our understanding of the “sociology of family and kinship” as problematic and suggests areas of conflict relating to the use of secondary data and improper unit of analysis issues (i.e. social capital is being measured at an individual level when it is conceptualized as a social property) as underlying concerns (2005, p. 809). Other researchers such as James DeFilippis (2001) are critical of the conceptualization of social capital though he is more specific in pin-pointing a particular theoretical interpretation as problematic (such as Putnam).

Whereas Portes, Storberg, Furstenberg and DeFilippis all focus on theoretical issues, Lisa Adkins (2005) finds fault adopting a feminist location pointing out that there is a gendered subtext; a subtext that ultimately does not acknowledge variations in social capital attainment by gender. Other feminist authors call for the removal of proponents of social capital’s “rose colored glasses” and caution that until such time that gender and gender politics is taken to task, social capital findings should not be relied upon (see edited collection by O’Neill & Gidengil, 2006). Additionally, author Sandra Smith (2000) suggests it is not just gender that needs to be considered when measuring social capital, but also race and ethnicity. According to Smith, inherent ethnic group differences manifest within social capital access and use—though she is careful to warn

¹³ While Portes may be correct in claiming that there has been a single minded focus on benefit within literature, the author feels that this is not necessarily an inherent flaw as the term “capital” is customarily used to signify some type of resource, whether that be financial, social, or psychological.

that the differences across ethnic bounds tend to be overstated within current literature. Recent research on Canadian immigrant Buddhist, Hindu, Muslim and Sikh populations support Smith's notions of ethnic group variations. Reitz, Banerjee, Phan *et al.* (2009) find that social networks are developed at a much slower rate for these groups of recent immigrants to Canada when compared to other groups.

Mooweon Rhee suggests that social capital research should include aspects of the "time-contingent value of social capital". That is, there is 'lag' that often goes unaccounted for; social capital benefit is adversely influenced by the time between gaining and accessing perceived benefit from social network ties (2007, p. 367). Johannes Fedderke and colleagues (1999) also indicate issues relating to time, but focus on disciplinary destabilization and resulting definitional variations between broad and narrow as problematic. Likewise M.G. Quibria (2003), expands on the fractured definitional issue and expands upon it suggesting social capital is too cerebral, or "elusive" a concept resulting in issues of multiple and tautological meanings, flawed presumptions and exaggerated findings. Although a full historical critique falls beyond the scope of this thesis, what is clear from these criticisms is that social capital has and continues to experience diverse conceptual and measurement problems. It may be surmised from the diversity of criticisms that the issues are complex however the richness of social capital literature lends itself to some variation as multiple contemporary authors contribute to the vast literature available. This is not necessarily a disadvantage as it allows for flexible application of a dynamic concept to complex social problems.

2.5 Summary

This chapter provides a review of literature highlighting social capital as a public policy tool, elaborating on some of its problems and emphasizing defining qualities put forth by various noted contemporary authors including Pierre Bourdieu, Glenn Loury, Mark Granovetter, Nan Lin, James Coleman, Robert Putnam, Francis Fukuyama and Ronald Burt. These authors conceptualization of social capital are used to trace its contemporary development suggesting the diversity of interpretations through which social capital research might be oriented and advise on several key dimensions: trust, obligation, reciprocity, strength of ties, participation and degree or intensity of interpersonal relationships. These dimensions become integral in forming the framework of analysis for this thesis and will be elaborated on in the methodology chapter of this thesis.

CHAPTER 3: METHODOLOGY

This study is methodological in nature and it is concerned with identifying excellence in studies of social capital. It draws on the important influences of Charles Lackenmyer (1970, 1971) and uses content analysis to assess a sample of social capital literature. It focuses on the operationalization of social capital and the relationship between measurement and conceptualization. Results are arranged into overarching categories related to publishing, conceptualizing and operationalizing of the concept of social capital in current academic literature with a broad research focus on: What are the patterns of operationalization in existing social capital literature and how do they affect the validity of the concept?

The study uses a number of contemporary orientations and key dimensions of social capital conjoined with principles of good scientific methods providing a comprehensive analytical framework for systematic review of social capital literature. This chapter summarizes the project methodology. The first section elaborates on key dimensions of social capital extracted through extensive review of literature written by noted contemporary authors (see section 2.1 and 2.2). These dimensions are operationalized for the present study into eight different categories including: units of analysis, type and strength of network ties, participation, trust, obligation, reciprocity and intensity. Section two explains basic rules and requirements of scientific inquiry using introductory and methods texts for direction. Since the cornerstone of good science rests on its methods, the premise is that all of the peer-reviewed articles in the sample should

be able to pass or exceed these minimum requirements. In section three the project design is clarified including search strategies, data sources, inclusion criteria, extraction and ethical concerns. The chapter is concluded with an overview of the thesis research questions and hypotheses.

3.1 Operationalizing Key Dimensions of Social Capital

After an extensive review of social capital literature prioritizing contemporary orientations offered by notable authors such as Pierre Bourdieu, Glenn Loury, Mark Granovetter, Nan Lin, James Coleman, Robert Putnam, Francis Fukuyama and Ronald Burt, key dimensions of social capital were extracted (see section 2.5). These dimensions are operationalized and organized into the following eight categories for this thesis and include: units of analysis, type and strength of network ties, participation, trust, obligation, reciprocity and intensity. These dimensions become part of the analysis framework as closed codes (see appendix 2).

3.1.1 Units of analysis

According to Babbie & Benquisto (2002, p. 499) units of analysis are defined as “*what or whom* [is] being studied” and are divided into categories such as individuals, groups and organizations¹⁴. Units of analysis are the basic building blocks of all variables measured either quantitatively or qualitatively. These categories are often discussed in

¹⁴ Babbie & Benquisto (2002) also identify a fourth category of units of analysis, social artifacts, but it does not pertain to this thesis and thus was not included.

terms of three levels of data: macro, meso and micro. Macro and meso units may be defined as an 'assemblage' or "belong to one group, considered as a single entity" characterized by a variety of modes such as, environment, membership, geography, or even cliques (Babbie and Benaquisto, 2002, p. 81). The macro level consists of units of analysis that are commonly measurements at a country or state level while meso level is reserved for community or organizational levels. Micro level refers to data used to describe individuals. Individual or micro level data is one of the most common units of analysis in the social sciences and is often presented in aggregate form in order to generalize across, between or within groups.

It has been argued in a previous section of this thesis that social capital is at its heart a community or meso level construct. Furstenberg (2005) notes the enduring debate on the saliency of measuring social capital on an individual level in social capital research and contends that by default social capital is a community attribute. Researchers Hans Liljenström and Uno Svedin (2005, p. 5) suggest that meso level analyses are deserving of "special attention" when dynamic complex systems are the focus of scientific inquiry. Knack (2002) cautions that the poor quality of heterogeneous indices of current social capital research is the result of inappropriate aggregation of individual micro level data. As a result, the vast majority of social capital enterprise focuses on individual level reporting. Portes (1998, p. 2) suggests that it is the focus on the micro level that creates much of the discord among researchers: "much of the controversy surrounding social capital has to do with its application to different problems and its use in theories involving different units of analysis". He indicates that the root of the debate is the sudden shift "from an individual asset to a community or national resource [that]

was never explicitly theorized, giving rise to the present state of confusion about the meaning of the term” (Portes 1998, p. 3). Regardless, this thesis is not designed to make comment on the ‘correct’ unit of analysis though the author is careful to reiterate her preference towards supporting capital measured at the community or meso level. The importance of units of analysis in the context of this project is in the correct ‘matching’ of unit to conceptual interpretation or orientation. For example, if a study builds on Bourdieu’s conception of social capital, measures at the community level would be inappropriate as his focus is micro-based on individual units of analysis. Likewise, if Putnam is used as the formative conceptual guide, individual level measures might be considered baseless if not misleading. Table 2 in the following section highlights the appropriate unit of analysis according to its contemporary match.

3.1.2 Type and strength of network ties

According to Doreian and Stokman network ties are defined within the structure they are located as: “a set of social actors with a social relationship defined over them”; “a type of “membership” where social actors belong to two distinct groups”; and as complex systems of ties “where there are multiple levels for a network” (1997, p. 1-2). Network ties may be divided into two straightforward categories: intra or extra familial. Extra familial ties are relationships outside of what might be considered ‘family.’ For example, ties within a church or between churches or business organizations would all be

considered extra familial. By contrast, ties between siblings¹⁵, extended family members such as aunts and uncles, or between groups of families are considered intra familial or within the family. It is acknowledged that these definitions can be somewhat ambiguous; informal or subjective family units such as gangs may be considered ‘like family.’ For the sake of clarity, intra or extra familial network ties will be translated literally rather than subjectively. Operating as a complement to the type of the tie is the idea of the strength or density of the relationships. Strength of ties is divided into two basic groups, strong or weak ties. Table 2 matches units of analysis (see section 3.1.1) and strength of ties corresponding to a number of contemporary authors prioritized in this thesis (see section 2.1 and 2.2).

Table 2
Units of Analysis and Strength of Ties

Author	Units of Analysis	Strength of Ties
Bourdieu	Micro	Strong
Loury	Micro/Macro	Strong
Granovetter	Micro	Weak
Lin	Micro	Weak
Coleman	Micro/Macro	Strong
Putnam	Meso/Macro	Strong
Fukuyama	Meso/Macro	Strong
Burt	Micro	Weak

¹⁵ Note that the operationalization of intra familial is based on a Western/Christian definition of what constitutes “family.” This may not correspond with other cultural family markers that may include other aspects such as church members as part of their extended family unit.

According to Ashman, Brown & Zwick (1998), weak ties are found in networks where there is more diversity among individuals, with less intimate connections over relatively short periods of time. By contrast, strong ties tend to be comprised of more intimate and trusting relationships within more homogenous networks—“people of similar identities who are relatively equal and share common bonds...[that] endure over time” (Ashman, Brown & Zwick, 1998 p. 2). Debates about the saliency of weak or strong ties within social capital research are ongoing. However, the underlying principle is the same; network ties facilitate the production of social capital. For example, research may find that weak ties between businesses generate social capital through an influx of novel information and a cessation of redundant information that wastes time or lower efficacy rates. Likewise, the same study may find that social capital is generated through a set of strong ties between organizations built up over years of working together and a shared history promoting ties of trust. The relative strength of ties may be measured in various ways, with active participation underpinning indicators such as, trust, obligation, reciprocity and intensity.

3.1.3 Participation

Portes (1998, p. 2) suggests the notion of social participation and positive outcomes dates back to Durkheim’s focus on group life and Marx’s divisions between “an atomized class-in-itself and a mobilized and effective class-for-itself” and as such “the term social capital simply recaptures an insight present since the beginnings of the discipline”. Stone defines social participation as the “involvement in social, political,

educational, church and other activities” (2001, p. 7). Putnam (1998) outlines two categories of participation: formal (voluntary membership in organizations) and informal (family, friends and neighbours). In this thesis, formal participation has been subdivided into a third category, civic participation. This division is to facilitate the exploration of nuances of contemporary formal participation within a growing body of literature on civic participation, responsibility, volunteerism and good deeds. Civic participation is defined in terms of politically driven memberships through volunteerism and good deeds. Table 3 provides examples of each of the three forms of participation, but does not include an exhaustive list. Participation may be viewed as an exchange creating scenarios of obligation forming expectations while breeding a sense of group belonging and ownership (Breton, 1997). Participation connects people on social and emotional levels, building trust while reinforcing social roles supported by status, reciprocity and group co-operation.

Table 3
Types of Participation

Informal	Formal	Civic
Within family (intra)	Church membership	Volunteerism
Outside family (extra)	Education	Giving (good deeds)
Friends	Organizational	Political membership
Neighbours	Institutional	Political action
Intimate others	Charities	
	Work-based associations	
	Colleague groups	
	Sport and leisure groups	
	Music/arts groups	
	Child care organizations	
	Self help memberships	

Source for informal and formal participation: Stone, 2000

3.1.4 *Trust, obligation and reciprocity*

Trust, obligation and reciprocity underpin the idea of social capital as a concept. Newton defines trust as “the belief that others will not deliberately or knowingly do us harm, if they can avoid it and will look after our interests, if this is possible” (2007, 343). Paldam (2001) suggests that trust enables individuals the ability to cooperate with one another and may be divided into two categories: generalized and specialized trust.¹⁶ Specialized trust is built within intimate relationships such as those between friends, or through institutional contact over time. By contrast, generalized trust is trust by ‘blind faith’; trust in entities that are offered where little to nothing is known about them. For example, when driving an automobile down the road, there is a generalized trust of other drivers to obey and follow the formal and informal rules of the road. Newton suggests “trust is contingent upon people and circumstance” and cautions that it is a complex concept that is integrally linked to a multitude of attitudes and forms of behavior and as such, is a concept that’s robustness is a reflection of the units of analysis with individual level data yielding the most unreliable results (2007, p. 345). Paldam (2007) suggests when defining trust produced through social capital it is about the quantity of trust and its reciprocal nature. Falk and Kilpatrick (2000, p. 2) are critical of the concept of trust and postulate that measures of trust are “useless for theoretical or analytical purposes.” They suggest the utility of trust is directly related to incomplete or variable modes of measurement and the assumption that trust is a “by-product” of macro level network ties. Likewise, Adler and Kwon (2002) suggest while the concept of trust is inherent to social capital production, there is confusion on exactly how it manifests; as a source or form of

¹⁶ For other examples of how trust may be measured and categorized, see Coleman (1990), Fukuyama (1995), or Kramer *et al.* (2001).

it. Regardless, Portes (1998, p. 9) proposes that trust only exists through obligations that are formally or informally enforced “through the power of the community.”

Drawing on Blau and Portes’ work, Adler and Kwan suggest that the concept of obligation is “created in the process of dyadic social exchange” or through “enforced trust”-where obligations are enforced on both parties by the broader community” (2002, p. 25). Obligation is characterized by actions that illicit feelings of moral or social duty or a commitment to particular actions by actors out of gratitude (see *Mirriam-Webster* online, n.d.), friendship, or respect of others within society “or from the institutionally guaranteed rights derived from membership in a family, a class, or a school” (Bourdieu, 1986 paraphrased in Nahapiet & Ghoshal, 1998, p. 243). Portes (1998) suggests that social capital is the accumulation of obligations with defining qualities that vary from other disciplines (such as economics) for two reasons: 1) obligation repayment may not be in the same “currency” as the original action such as intangibles like sanctioning, or loyalty; and 2) repayment is not on a set schedule and is largely unspecified. Feelings of obligation may exist across various dimensions of social interactions, but is not easily shared or passed from person to person outside of specific exchanges (Nahapiet & Ghoshal, 1998). Portes (1998) suggests that obligation is guided by norms of reciprocity.

The notion of reciprocity and obligation in research are often enfolded in such a way that they are difficult to distinguish one from the other. While obligation implies some sense of duty, reciprocity is what the ‘payback’ is for actions or the motivation for “normative commitments” (Adler & Kwon, 2002, p. 25). Adler and Kwon (2002) suggest reciprocity is a function of civil society that is transformative; it shifts an egocentric focus on personal gain towards a more altruistic sense of common good for all, aids in conflict

resolution through collective action and works to bind a community together. Putnam (1993, pp. 182-183) suggests generalized reciprocity is linked to higher levels of social capital:

Generalized reciprocity (not “I’ll do this for you, because you are more powerful than I,” nor even “I’ll do this for you now, if you do that for me now,” but “I’ll do this for you now, knowing that somewhere down the road you’ll do something for me”) generates high social capital and underpins collaboration.

Contemporary researchers are refining the definition of reciprocity. For example, Cox (2004) cautions that reciprocity varies based on approach. He identifies two forms: altruistic reciprocity and positive affirmation reciprocity. Altruistic reciprocity relies on unconditional acts of generosity and is most closely resembles traditional social capital definitions. In contrast, Cox (2004, pp. 262-263) defines positive reciprocity as:

a motivation to repay generous or helpful actions of another by adopting actions that are generous or helpful to the other person. An action that is positively reciprocal is a generous action that is adopted in response to a generous action by another. Thus, positively reciprocal behavior is conditional kindness that is distinct from the unconditional kindness motivated by altruism.

Shifting defining principles of reciprocity are noted, but are academic as the distinction between the two may be too fine to be captured with the scope of this thesis. Future research dedicated to identifying and clarifying defining parameters of the operationalization of reciprocity in social capital research would be prudent.

3.1.5 Intensity

Intensity infers the hierarchical position, degree, amount and / or the force of feelings or connectedness between actors. For the purposes of this thesis, “intensity” is divided into five complimentary dimensions: status, role, duration, emotional closeness and frequency. Social status is “a form of social stratification in which social positions are ranked and organized by legal, political, and cultural criteria into status groups” (*Oxford Dictionary of Sociology Online*, 2010). Nan Lin (1999) suggests that status is attained through social action of individuals by investing and mobilization of resources that increase their socioeconomic position within society. He offers that resources (or those things which as valued within a particular social setting) are divided into social and personal resources (1999). Personal resources are those attributes under control of individuals and can be used or shared at will without worry of compensation (1999). Social resources are social attributes that “exert an important and significant effect on attained statuses, beyond that accounted for by personal resources” (1999, p. 468). These resources are borrowed or shared through network ties. For example, friend “A” may informally lend his or her authority or employment resources in order for friend “B” to obtain the care of a specialist when they are sick and need more immediate attention than the health care system allows. Lin (1999) adds that social resources borrowed or lent are temporary in nature—that is friend “B” borrows friend “A’s” social standing to obtain medical care, but does not retain the resource itself. In this way “social capital is the resource available to actors as a function of their location in the structure of their social relations” (Adler & Kwon, 2002, p. 18).

Interconnected to the idea of social status is the concept of social role. Social role is defined as “social expectations attached to particular social positions and analyses the workings of such expectations” (*Oxford Dictionary of Sociology Online*, 2010). Adler and Kwon add that while social role emphasizes “shared norms and beliefs” it also aids in “determining the social capital embodied in a social network” (2002, p. 23). Stark (2007) suggests social roles are transient and may manifest along two lines: 1) achieved roles which may be defined by voluntary action and a reflection of individual abilities, skills and the degree of effort they may exert (i.e. educator, physician, high achiever or highly motivated individual etc.) and 2) ascribed roles which may be assigned to actors or groups involuntarily based on traits not under their control (i.e. parent, sibling, classmate etc.). In this way, social role(s) may be considered expected behaviors based upon some a social position or status within a network or networks of ties.

The concept of duration, as a measurement variable of intensity between groups or individuals, has several conjoined concepts such as emotional closeness and frequency (Burt, 1997). According to Burt (1997) these three concepts may capture the strength or intensity of a particular relationship within a social network and as such diminish or promote the building of social capital. While duration may be defined as the length of time a particular tie has existed and / or maintained, frequency indicates the degree to which there is contact between groups or actors. While duration and frequency are relatively clear-cut, emotional closeness is largely a subjective measure capturing to what degree individuals rate their feelings of attachment to another individual or group. For example, Hill and Dunbar use a ten point Likert scale (where 0 is no emotional attachment and 10 is high or very emotionally attached) to assess the relative closeness

of ties as a determinant of “social network size in contemporary Western society based on the exchange of Christmas cards” (2002, p. 53). They find that emotional attachment is significantly related to the frequency of contact between individuals and suggest that it is a “key parameter underlying the hierarchical differentiation of social networks” (2002, p. 63). Intensity, as defined within the parameters of this thesis as social status, social role, duration, frequency and emotional closeness, underpins the notion of how social capital is generated and then maintained over short or long periods of time through concepts such as reciprocity, obligation and trust within a social network.

3.1.6 Summary

This section operationalizes a comprehensive list of key dimensions of social capital research that become part of the analysis framework for this thesis (see Appendix 2). Type of tie (intra- or extra-familial), participation (informal, formal and civic), trust, obligation, reciprocity and intensity (role, status, duration, emotional closeness and frequency) are used to provide descriptives and to track shifting patterns across the sample. Units of analysis (macro, meso and micro) and strength of ties (weak or strong) are part of a more in-depth analysis of cross comparisons providing assessments of conceptual to methodological strength of the sample. Categories are established through the process of an intensive review of social capital literature with a focus on those areas of conceptual overlap. The dimensions provide a comprehensive complement of factors with which to assess the quality and accuracy of the operationalization of social capital in research in tandem with aspects of “good” scientific process and reporting. Table 4 summarizes the operationalization of key social capital dimensions.

Table 4
Key Dimensions of Social Capital

Dimension	Operationalization
Units of Analysis: micro, meso, macro	Identifies who or what is the focus of a study. Are the basic building blocks of all variables and may be measured quantitatively or qualitatively at the level of individual, community / group, or nation / state.
Network Ties a. Intra familial b. Extra familial c. Weak ties d. Strong ties	A set of social actors with a social relationship defined over them”; “a type of “membership” where social actors belong to two distinct groups”; and as complex systems of ties “where there are multiple levels for a network” (Doreian Stokman, 1997pp. 1-2). Ties may be within a family (intra) or outside of it (extra) c. Weak ties are found in networks where there is more diversity among individuals, with less intimate connections over relatively short periods of time (Ashman, Brown & Zwick, 1998). d. Strong ties are comprised of intimate and trusting relationships within homogenous network that endure over time (Ashman, Brown & Zwick, 1998, p. 2).
Participation a. Informal b. Formal c. Civic	An exchange creating feelings of obligation based on expectation functioning to construct a sense of group belonging and ownership. Putnam (1998) outlines formal (voluntary membership in organizations) and informal (family, friends and neighbours) participation. A third category was added “Civic” (civic responsibilities, volunteerism and good deeds) to address contemporary social capital nuances in literature.
Trust	Newton (2007: 343) defines trust as “the belief that others will not deliberately or knowingly do us harm, if they can avoid it and will look after our interests, if this is possible.” Promotes cooperation and collaboration.
Reciprocity	“A motivation to repay generous or helpful actions of another by adopting actions that are generous or helpful to the other person. An action that is positively reciprocal is a generous action that is adopted in response to a generous action by another. Thus, positively reciprocal behavior is conditional kindness that is distinct from the unconditional kindness motivated by altruism” (Cox, 2004, pp. 262-263).
Obligation	Adler and Kwan suggest that the concept of obligation is “created in the process of dyadic social exchange” or through “enforced trust”-where obligations are enforced on both parties by the broader community” (2002, p. 25). Obligation is characterized by actions that illicit feelings of moral or social duty or a commitment to particular actions by actors out of gratitude (see Merriam-Webster online, 2010), friendship, or respect of others within society “or

	from the institutionally guaranteed rights derived from membership in a family, a class, or a school” (Bourdieu, 1986 paraphrased in Nahapiet & Ghoshal, 1998, p. 243).
Intensity	Hierarchical position, degree, amount and / or the force of feelings or connectedness between actors
a. Emotional closeness	a. A subjective measure – the degree individuals rate their feelings of attachment to another individual or group.
b. Social status	b. “A form of social stratification in which social positions are ranked and organized by legal, political and cultural criteria into status groups” (<i>Oxford Dictionary of Sociology Online</i> , 2010).
c. Social role	c. “Social expectations attached to particular social positions and analyses the workings of such expectations” (<i>Oxford Dictionary of Sociology Online</i> , 2010).
d. Duration	d. the length of time a particular tie has existed and / or maintained
e. Frequency	e. the degree to which there is contact between groups or actors; the number of times actors interact either as individuals, or as part of a group.
Novel measures of social capital	Emergent categories. Those measures that fail to clearly adhere to ‘traditional’ conceptions of social capital or varied in some way from standard methods of measurement.

3.2 Operationalizing “Good” Research

In this section, multiple introductory and basic methods books are reviewed to answer the question: what are the basic rules and minimum requirements that all peer-reviewed social research articles should be able to fulfill? Researchers David Nachmias and Chava Nachmias (1987) suggest all social research should have the following interconnected elements: 1) an identified theoretical orientation; 2) a clearly recognizable reason for the research or a research problem and initial ideas, or hypotheses of what might be found through the course of the analysis; and 3) a clearly outlined research strategy and design. These categories are expanded in the following sections with the

goal of establishing a baseline of good scientific procedure that all articles are judged against. While comprehensive, the list is not exhaustive.

3.2.1 Theory in research

According to Babbie and Benaquisto theories are “systematic sets of interrelated statements intended to explain some aspect of social life” (2002, p. 41). George Homan (1964) indicates that there are three inter-related aspects of theory in research: 1) organizing arrays of concepts, 2) identifying relationships between variables forming propositions and 3) that the variables which create the propositions are operationalized so testing is possible in real-time to ensure validity. A theory should be complimentary to the topic and create a guide for how the research is conducted (i.e. what variables are included, how they are arranged etc.). Research topics with diverse conceptual branches such as social capital should clearly be identified and consistently applied. Although there are two approaches to theory in research (theory tested, or theory built), a conceptual definition should be easily identified within the context of a paper. Neuman defines conceptual definitions as “some statement or statements that organize abstract concepts to form a clear and specific meaning” (1997, p. 134). Bruce Chadwick and colleagues warn that “careful consideration of theory” is critical in providing a full and dynamic understanding by linking the research act to a larger theoretically driven problem and understanding (1984, p. 15). In addition to a clearly identified theoretical framework, for the purposes of this thesis there is a distinction that is made between ‘established social capital’ researchers (see section 2.2 for a list of primary contributing

researchers and their definitions of social capital) and ‘other theorists.’ This distinction is made in light of criticisms put forth by Woolcock (2004) indicating that social capital issues (inconsistencies, definitional ambiguity and fragmentation) arise when certain fields such as network sociology work independent of the larger social capital paradigm.

3.2.2 *Context, problem and hypothesizing*

Since “good” research usually does not materialize without a foundation of some sort, research problems and / or rationale for the study should be established and clearly outlined (Nachmias & Nachmias, 1987). For the purposes of this thesis, identification of the problem includes establishing the context or the general area of interest. For example, social capital is used in a variety of different broad areas of interest such as, health, education, aboriginal policing, or immigrant well-being. The area should be clearly identified and make sense based upon the theoretical interpretation used and include a critical review of literature (see Bryman, 2004; Jackson & Verberg, 2007). All research should have some modicum of the hypothetical. That is, the reader should not be left guessing what question(s) the researcher is trying to answer and what he or she *thinks* may be the answers. Visual interpretations of hypotheses (e.g. figures or tables) rather than literal text-based statements are acceptable in some instances (see Jackson & Verberg, 2007). While some authors suggest that hypotheses follow a standard format appearing immediately follow the literature review section of an article (see Jackson & Verber, 2007), this may be too rigid an interpretation. As long as the hypotheses are easily discernable and preceded any analysis sections, the condition is considered

fulfilled. Finally, at some point, the study should indicate what type of support was found for their initial estimations (i.e. unsupported, support, mixed), how the findings relate back to the literature reviewed (see Bryman, 2004) and the level, direction and degree of statistical significance of findings (Nachmias & Nachmias, 1987). The level of significance ($p < 0.05$ or $p < 0.01$) offers an indication of how reliable the findings may be in generalizing (Bryman & Teevan, 2007). Only those findings that achieve statistical significance (correlation of 0.3 or above at $p < 0.05$) should be explored (Kerlinger, 1986, p. 189).

3.2.3 Research design: Strategy, collection, measurement and analysis

While there is some debate on the practicality of assessing quantitative versus qualitative research strategies (see Dabbs, 1982 in Berg, 2007), but Bryman and Teevan suggest the distinction is an effective and “useful means to classify” social research (2005, p. 15). Quantitative research is defined as “the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect” (Babbie & Benaquisto, 2002, p. 496). While quantitative designs prioritize the generation of statistics, qualitative research attempts to capture the social world as emergent (Bryman & Teevan, 2005) with an emphasis on “discovering underlying meanings and patterns of relationships” (Babbie & Benaquisto, 2002, p. 496). A third research design, mixed methods, uses both qualitative and quantitative strategies in tandem (though usually one or the other is prioritized). No weight is given to which research strategy is used, but rather the condition is considered fulfilled for the purposes

of this thesis if it is either explicitly or implicitly clear. Likewise, aspects of data collection should be specified and include: a) data type (cross-sectional, longitudinal, case studies etc.); b) sources used (secondary analysis of an existing data set, or collected as part of the study design); and c) sample size and compositional attributes (see Bryman, 2004; Bryman & Teevan, 2007). According to Bryman (2004) assessing research design is helpful in establishing if scientists have achieved minimum standards for reliable and validity and the suitability tests conducted. These considerations are integrally tied to issues of measurement.

According to Bryman proper measurement allows for: delineation and identification of “fine differences”, increased precision in “estimates of the degree of relationship between concepts” and a “consistent device” for measuring differences (2004, p. 66). While the enterprise of measurement is highly contested, within and outside of the field of sociology and social capital research (see Portes, 1998, 2000), a few basics are common. First, all articles should provide some form of operational definition which clearly and specifically outlines how constructs are being measured (Babbie & Benaquisto, 2002, p. 42). According to Neuman a good operational definition is key in providing the link between the “language of the theory with the language of empirical measures” (1984, p. 136). This definition should be a good match with the conceptual definition and account for the units of analysis (see below) in relation to the ability to generalize (Neuman, 1984). Second, the level of measurement (i.e. nominal, ordinal, interval and ratio) must be consistent with, in the case of the construct of social capital, indicators. That is, the phenomenon of social capital “cannot be directly observed; one must infer...from the measurement of presumed indicators of concepts”

(Nachmias & Nachmias, 1987, p. 161). Models should be easily understood (and thus replicable) with independent and dependent variables identified based on “common sense” in conjunction with theoretical guidance (see Jackson & Verberg, 2007, pp. 436-437). In the case of social capital, it ideally should be measured as a composite score or index as a minimum requirement, rather than by a single measure based on responses from a single question (Nachmias & Nachmias, 1987; Bryman, 2004). This is due to the fact that existing theoretical constructions of social capital indicate multiple concepts. Research should be transparent and indicate how many measures or questions were used to create the index or measure and demonstrate minimally acceptable Cronbach’s alpha scores of 0.70 suggesting internal reliability (see Bryman, 2004, p. 72) and construct validity (see Nachmias & Nachmias, 1987, p. 179). Additionally, the method used to construct the index (i.e. factor analysis) and the degree and process of dealing with missing cases should be clearly identified.

Bryman (2004) suggests when constructing a scale there are multiple concerns; items should be statements, related and phrased appropriately. Since achieving isomorphism—“similarity or identity of structure” between concept and measure (Nachmias & Nachmias, 1987, p. 160)—is an important facet of measurement, for the purposes of this thesis, statements used to create scales should be accessible (either appended to the article, by stable web links). According to Nachmias and Nachmias (1987), items used should provide a comprehensive (ideally 5-7 response categories) and balanced (equal number of positive to negative categories) selection of response categories. Articles reviewed for this research should minimally include some analytical or descriptive discussion at multiple levels such as; univariate, bivariate and multivariate

where appropriate (see Babbie & Benaquisto, 2002; Bryman, 2004). Exceptions to this would be qualitative studies where analyses would typically not extend beyond description. Bryman (2004) suggests that interpretations should ideally include both explanations (in text form) and visual aids, such as graphs and tables. Type of tests conducted and discussions of potential problems and spurious and intervening variables should also be presented.

3.2.4 Summary

For reduction of information purposes and ease of interpretation, the criteria of good research have been separated into five themes and placed into the analytical framework as a series of closed codes supplementing eight dimensions of social capital (see section 3.2). Table 5 details the five themes and corresponding variables associated with good scientific methods and article crafting. Although admittedly this template is crude, it does reflect a comprehensive list of basic criteria necessary for conducting “good” social research according to some of the best authorities.

The majority of variables explored are used as descriptives or broadly to assess research strength; in particular the items are used to make comment on aspects related to generizability, validity, reliability and duplication potential of the sample. While data collected on project definition (hypotheses, operational and conceptual defining) are used for more in-depth assessments using a selection of cross comparisons, contextual

Table 5
Themes of Good Research

Theme	Variable
Theme 1: Basic study information	Publishing journal Journal impact factor Publishing date Origin of data (i.e. Canadian, USA etc.) * Research design (qualitative, quantitative, mixed) Data type (longitudinal / cross sectional) Sample type (random, stratified etc.) Sample size Data source (secondary, other) Year of data
Theme 2: **Measures of social capital	Variable (independent / dependent) Scale variable or dichotomous Cronbach's Alpha (yes / no) Cronbach's Alpha (good, acceptable, poor) How scale created (i.e. factor analysis etc.) Number of indicators Questions accessible (yes / no) Questions fulfill basic rules (i.e. balanced response categories) Missing data (yes / no) Identifies how missing data was dealt with Degree of data missing Operational definition of social capital measures (yes / no)
Theme 3: Data analysis	Discussion (univariate, bivariate, multivariate) Tests Clearly defined Makes sense based on problem identified Adequate sample size for tests conducted Dealt with missing cases in standardized and acceptable way Generalizability potential Replication potential Hypotheses supported / unsupported / mixed results
Theme 4: Context	Discipline area (i.e. education, immigration, work etc.) Problem / hypotheses and are they clearly outlined (yes / no) Area of interest /theme of research and how it relates to SC Findings, results and conclusions
Theme 5: Theory	Clear theoretical guidance (yes / no) Researchers used in outlining research (orientation) Conceptual definition (yes / no) Match units of analysis with theoretical interpretation (yes / no)

Match strength of ties with theoretical interpretation (yes / no)

* When necessary, qualitative research is removed from those analyses that are not applicable based on research design; noted and adjusted percentages are presented.

**Information on measures is collected for those variables operationalizing social capital only. No reference or assessment of measurement patterns for other variables or the effect upon validity, reliability generalizability, or replication of the overall study are offered.

data inform key areas of interest and thematic relationships of the sample. The sample for this project captures quantitative, qualitative and mixed method peer reviewed research; care has been taken in the creation of the framework to be as comprehensive and sensitive to each strategy as possible. Even so, a heavier emphasis on quantitative assumptions is apparent given the tendency in the published literature. When necessary, qualitative research is removed from those categories that are not applicable. These instances are carefully noted and percentages are adjusted in the analysis or results sections of this thesis (see chapter 4).

3.3 Project Design

This project is methodological in nature and focuses on the operationalization of social capital and the relationship between measurement and conceptualization. The following section is divided into four subsections outlining: search strategies and data sources, inclusion and exclusion criteria, data extraction techniques and ethical concerns. This thesis centralizes the measurement of social capital in academic literature. The

project is designed to capture a variety of measurement dimensions of social capital and elements of crafting and good social research practices.

3.3.1 Search strategy and data sources

As a result of extensive consultation with database experts and the thesis committee, the following databases were searched for articles spanning just over a half a century from 1955 through 2008: *Science Citation Index Expanded* covering 6,650 journals across 150 disciplines; *Social Sciences Citation Index*, including 2,474 social sciences journals spanning 50 disciplines; and *Arts & Humanities Citation Index* with 1,395 arts and humanities journals supplemented with 6,000 select social and sciences journals (for more information on these data bases see Thompson Reuters, 2011a). For ease of access, integration capacity and to minimize duplication error, *ISI Web of Knowledge (WoK)* was used to search all data bases simultaneously. Functions of *WoK* also enabled the researcher to provide a system for rank ordering of articles based on: 1) article citation scores and 2) journal impact factors determined by an equation of total citations to published papers in a journal divided by the total articles (see *Journal Citation Reports*, 2005). Article citation scores are measures using only the amount of times an article has been cited in its summed raw form (citation count). Sun and Giles (2007) suggest that this type of measure is “widely used in evaluating the importance of a paper” (p. 605). Since ranking the articles and journals is integral to establishing an objective measure of article status and journal quality, *WoK* is an ideal platform for the purposes of this project. Although citation and impact factors are not without flaws (see Seglen, 1997; Sun & Giles, 2007), this strategy provides the ability to capture the highest

profile articles for review the field has to offer and are considered integral components of the research method of evaluative bibliometrics (see Narin, 1976).

Articles that achieve a minimum citation score (see inclusion / exclusion criteria below) are sorted into three possible ranges: highly cited, mid-range and low-range. These ranges are created by first rank ordering each article based on citation score (how many times it has been cited) starting with those articles with the highest number of citations. The rank ordered articles are then divided roughly into three equal increments with the highly cited range composed of the top 36 articles while the mid- and low-range were equally divided into 35 articles each in descending order creating an equal interval scale called the citation range. The scale is used to facilitate more in-depth analyses of the sample. In particular the range from high to low allows for assessing variation across the sample and enables the researcher to comment on potential shifting tendencies that would otherwise be obscured if the whole sample were assessed *en mass*. It is acknowledged that there is a substantive degree of variability in the upper ranges that diminish across the sample range. Since higher level statistical testing is not central to this thesis, the degree of variability is not considered an assessment liability.

The initial search strategy includes topical selection using the keyword *social capital*. Cluster queries (see Fu, Goh & Foo, 2004) were generated and findings focused with additional advanced defining and limiter utilities (see inclusion/exclusion section below 4.2). While there are inherent flaws to retrieving information using searchable data bases, such as retrieval erosion over time (see Hellsten, Leydesdorff & Wouters, 2006), coverage biases that result in disproportionate media from particular countries, such as the United States (see Vaughn & Thelwall, 2003) and variations in index and updating

protocol (see Lewandowski, Wahlig & Meyer-Bautor, 2006) it is believed that this project would not be feasible within the time limits of a thesis using other search methods. Additionally, while searchable data bases are not without faults, this method of dissemination and retrieval of research has been implemented and normalized as an integral part of academic enterprise through the years.

3.3.2 Inclusion and exclusion criteria

A series of delimiters were used to systematically exclude articles that fall beyond the scope of this paper. After the initial query based on broad-band topical key term *social capital*, 6,857 articles were identified. To better focus the search, additional delimiters for language, document type and discipline with sociological articles prioritized from 1955 through 2008 were applied. All articles remaining were organized by citation score with those falling below scores of 10 eliminated. This strategy allows analysis of articles of influence creating the ‘backbone’ of contemporary social capital research. It also attempts to acknowledge the lag period between publishing and being cited in-so-far as is possible within a project of this scope. Remaining articles are reviewed and evaluated based on design and focus with only those articles centralizing social capital as a researchable and providing an empirical¹⁷ or applied analysis included for review. While purely theoretical articles were removed from the analysis, they facilitated development of context and background sections of this thesis. Further exclusions were made based on issues of accessibility (i.e. not available electronically). Table 6 reports the number of articles remaining after each phase of systematic exclusion

¹⁷ For the purposes of this thesis, “empirical” and / or applied articles include qualitative, quantitative and mixed methods but exclude purely theoretical peer reviewed papers.

and the percentage of the overall. Of the initial 830 sociological articles were identified, 106 (13%) passed all inclusion / exclusion criteria and are considered in the analyses sections of this thesis.

Table 6
Exclusion Criteria for years 1955 – 2008

Delimiter	Articles (N)	%
Topic: Social Capital	6857	100%
Language: English	6375	93%
Document Type: Peer-reviewed	5542	81%
Discipline: Sociology	830	12%
Citation score 10+	213	3%
Methodology: Empirical	125	1.8%
Other excluded: Unavailable/purely theoretical	106	1.5%

3.3.3 Data extraction

Often critiqued for its atheoretical approach (Bryman, 2004), care has been taken to avoid this criticism of content analysis¹⁸ by providing a strong and dynamic theoretical net—social capital theory—that guides the analysis strategy. Content analysis is a flexible method that may be applied to a variety of media for the purposes analyzing texts and documents (Bryman, 2004). It is most commonly associated with the ability to systematically analyse in order to generalize (Northey, Tepperman & Russell, 2002) or infer embedded characteristics or behaviors (Holsti, 1969) making it an ideal tool for this

¹⁸ The method of collection, extraction and analysis provided for citation and journal information are part of a larger research method called, evaluative bibliometrics (see Narin, 1976).

project. Although in the strictest sense, content analysis is decidedly quantitative (simply reducing and counting complex qualitative data), for the purposes of this paper, it may be considered as a mixed method linking qualitative and quantitative strategies through the application of theory driven closed and open coding schemes.

With an eye on simplicity and context, a data extraction framework is designed to systematically review and assess various aspects of each document (see appendix 2). First, articles reviewed are assigned “primarily quantitative” or “primarily qualitative” closed codes. Secondary closed codes are used to further organize the literature into “theoretical” or “atheoretical” categories which are then sub-divided into “individual,” “community,” or “country” categories drawn from social capital theory. An assessment of the type of ties the article emphasizes “strong” or “weak” ties is noted. After this initial sorting process is complete, measurements used are coded into categories that are derived from social capital research: trust, obligation, reciprocity, networks support systems (intra and extra-familial) and participation. Additional information is gathered on topic area, discipline, theory/theorist application and general data collection, replication potential, study parameters and methods. Of particular note for the purposes of this project is the agreement between conceptual orientation and units of analysis. To accommodate unanticipated categories, open coding is used to reveal major article topic themes and emergent patterns of operationalization of the construct of social capital (see Strauss & Corbin, 1998; Bryman, 2004 for more on open coding strategies).

3.3.4 *Ethical considerations*

Secondary data analysis is defined by the Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada as “research of data contained in records collected for a purpose other than the research itself” (2005, section 3C). Generally, this type of research is considered unobtrusive and thereby has minimal risk attached to it:

Research about a living individual involved in the public arena, or an artist, base exclusively on publicly available information, documents, records, works, performances, archival materials or third-party interviews, is not required to undergo ethics review. Such research only requires ethics review if the subject is approached directly for interviews or for access to private papers, and then only to ensure that such approaches are conducted according to professional protocols...

(Section 1-A, article 1.1-c)

According to standards created to facilitate quality ethical research, there is one ethical risk of note: the unwanted linking of authors or subjects through data and publication of research findings (see CIHR, 2005, article 3.3). Since datum used for this project is available within public domains with clear author identification, the risk of accidental recognition is somewhat academic. However, to be sensitive to this ethical challenge, data is presented in aggregate form whenever possible.¹⁹ Due to the fact that this research does not require interaction with human subjects (see CIHR, 2005, Appendix 2) and appropriate precautions will be taken to protect author privacy, the ethical considerations are limited.

¹⁹ See Appendix 1 for a complete sample reference list of articles used in the analysis of this thesis.

3.3.5 Summary

This thesis provides a systematic critical review using content analysis for assessing measurement patterns of social capital in a sample of peer reviewed articles (N = 106). *ISI Web of Knowledge* is used to simultaneously search three electronic databases for published works between 1955 and 2008. Cluster queries provide documents matching key term, *social capital*, with additional delimiters for language, discipline, document type and methodology. The sample includes quantitative, qualitative and mixed methods research. Papers are rank ordered by the number of times cited (citation scores in the context of this thesis) and then grouped into an equal interval three point scale ranging from high to low for ease of interpretation. The scale created is called the citation range and reporting includes variations across the array. It is important to note that citation scores²⁰, while a valid research tool, do not account for the time lapse between work being published and subsequently being cited. To mitigate this issue and to capture the strongest social capital research available, only articles with a citation score of 10 or more are included in the analysis. This thesis does not provide assessments of the quality of individual theoretical interpretations or variations, comment on definitional permutations, or provide comprehensive reviews of the findings of the studies.

²⁰ Information on how many times an article is cited is available from *ISI Web of Knowledge*. To assess multiple dimensions relating to publishing patterns and for clear distinction between terms, the author has called how many times an article has been cited its "citation score." This is distinctly different than an impact factor which provides a measure of journal rank versus a citation score which offers information on article rank.

3.4 Research Questions and Hypotheses

The purpose of this section is to highlight the research questions and suggests a series of hypotheses. Focusing broadly, the overarching goal of this study is to document the patterns of operationalization in existing social capital literature and note how they affect the validity of the concept. There are seven basic research questions under investigation: What do patterns in research tell us about the development of social capital? Are there nomological biases in publishing? How is social capital conceptualized? What forms of social capital measures exist in current literature and do they change? Are the units of analysis consistent with the level of conceptual analysis? Do different ways of organizing conceptual orientations affect its measurement? Is social capital operationalized adequately? Do issues with conceptualization have any effect on operationalization? Table 7 presents seven hypotheses that will be tested and reported in the thesis (see chapter 5). It is prudent to note that hypothesizing strategies are focused on methodological considerations underpinning the ideals of “good” science. This deviates from purely topic-specific literature-based hypotheses in that there is very little research assessing social capital from a measurement perspective to draw upon. In this way, the project is not limited by the lapse in scientific research available currently.

Admittedly, this is an ambitious project. To date, a systematic methodologically driven assessment of social capital measures rather than an overview of strategies and research conducted have not been adequately addressed within academic literature. In the next chapter, the results of the analysis are expanded upon with the findings and how they relate to the research questions and hypothesized outcomes summarized and discussed in Chapter 5.

Table 7

Hypotheses

<i>Hypothesis 1</i>	<i>The most highly cited articles will be the oldest social capital articles and will be published in the most prominent or 'best' journals.</i>
<i>Hypothesis 2</i>	<i>Research areas conceptualizing social capital will diminish and become more homogenous with a lack on internal contradiction (see Grunwald, 1990) for those articles with fewer citations (lower citation score).</i>
<i>Hypothesis 3</i>	<i>Although there will be issues with identifying a consistent conceptualization of social capital, in general the majority of articles reviewed will offer at least an adequate conceptual impression of social capital.</i>
<i>Hypothesis 4</i>	<i>There will be a slow decomposition of key dimensions of social capital that underpin conceptualization such as trust, reciprocity and obligation in lieu of simpler modes of measuring dimensions of intensity.</i>
<i>Hypothesis 5</i>	<i>Strong conceptualization of social capital leads to strong measurement patterns; those articles that clearly define theoretical aspects of social capital will also provide at least adequate defining qualities of the operationalization of social capital.</i>
<i>Hypothesis 6</i>	<i>There will be issues with measurement patterns in regards to</i>

theoretical agreement with units of analysis and strength of ties.

Hypothesis 7 *There will be a strong presence of new ways of measuring social capital that do not necessarily correlate with more traditional conceptual orientations; patterns for these 'novel' measurements of social capital will increase across the range (from highly cited to low)*

CHAPTER 4: RESULTS

As a result of increased interest in the potential benefit of network ties, contemporary researchers have been exploring social capital effects with increasing frequency over the past two decades (Portes, 1998). Although the volume of literature has accumulated over the years and its application expanded beyond its sociological roots, several researchers have identified a proliferation of misguided or poorly conceptualized social capital research (Portes, 2000; Furstenberg, 2005). Questions of validity and reliability have problematized its measurement. However, unlike critiques focusing on conceptualization, questions regarding the measurement of social capital have received little more than casual recognition in literature. This thesis focuses on the operationalization of social capital and the relationship between measurement and conceptualization. The purpose of this study is to explore how social capital is applied and measured in a sample of academic literature. Methodological studies, such as this thesis, are important for assessing the weaknesses, strengths and embedded biases of research in a particular field (Moyer and Finney, 2005) and are instrumental in improving the quality and precision of social science research and the measurement of complex phenomena (Lachenmeyer, 1970).

This thesis focuses on the conceptualization and measurement of social capital to assess a sample of sociological literature. This chapter reports the findings with results separated into six complimentary sections. In section one, the findings are explored on a broad level, providing an overview of publishing patterns including aspects of journal quality and usage, patterns in research areas and thematic relationships. Section two

focuses on conceptual factors such as defining and orientation (operationalized by counting the authors identified as grounding influences of the research) and is followed by an analysis of conceptual issues in section three. Section four provides an overview of operationalization patterns including research design and dimensions of social capital such as: ties, participation, intensity, trust, obligation and reciprocity.²¹ In section five, an analysis of operationalization issues and includes subsections offering detailed findings related to theory, defining, units of analysis, strength of ties and the links between level of data and defining social capital. The final section of this chapter provides a descriptive synopsis of novel measurement patterns highlighting the proliferation of different measurement patterns.

4.1 An Overview of Social Capital in Published Articles

Overall, 106 social capital articles are assessed for this project. Although articles published between 1955 and 2008 were the intended target, the articles that passed the inclusion / exclusion criteria (see section 3.3.2) were published between 1986 to 2005, a period of almost two decades. It is important to note that while there is a lag-time between publishing and number of citations, its effect is minimized by using a minimum citation score of 10 as a selection criterion (see section 3.3.2)²². Assessments of publishing patterns are offered for the full sample (N = 106) and then compared across the article citation range which includes subsamples of highly cited, mid-range and low-

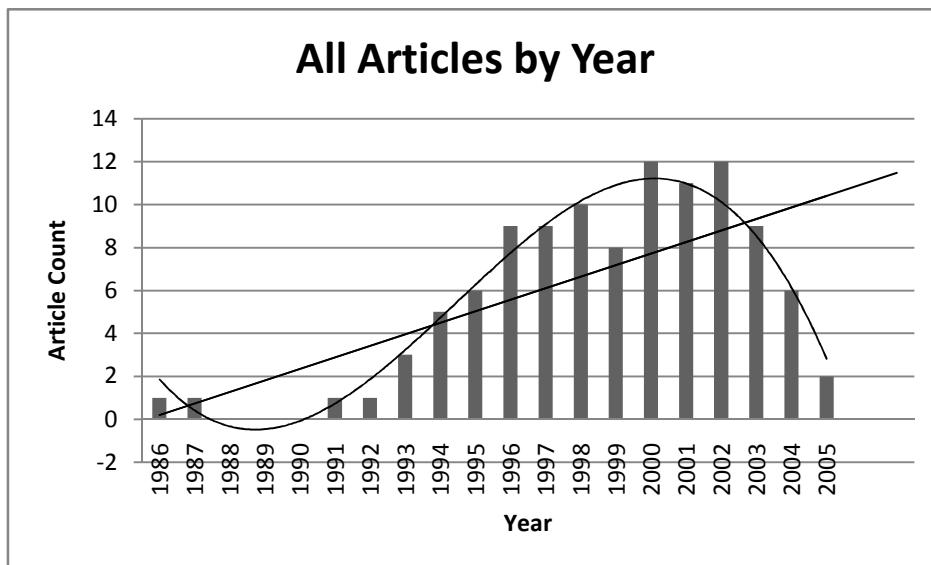
²¹ Dimensions of social capital are operationalized in Chapter 3 section 3.1.

²² It is not possible to adequately measure the influence of newly published articles based on citation scores as their influence has not yet tabulated.

range.²³ This strategy allows examination of variations within and across the sample that might otherwise be obscured.

Figure 1 represents all articles (N = 106) by year of publication. Building over time, the rate at which articles about social capital are cited increases starting in 1993 and continues until 2000, staying relatively constant until 2003 and then tapering off again by 2005. As the relatively steep trend line in Figure 1 shows, the use of social capital has grown fairly quickly with cited articles peaking between 2000 and 2002.

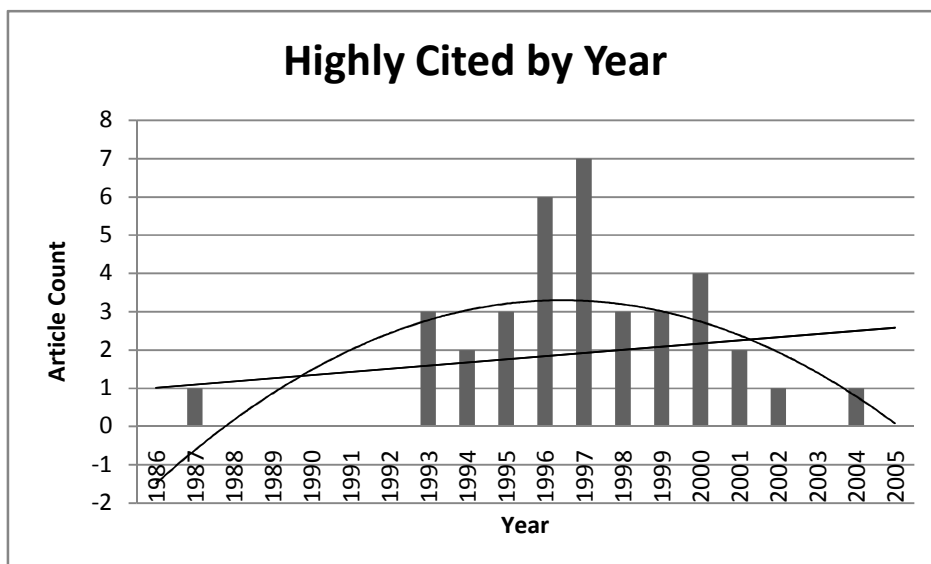
Figure 1 All Articles Cited by Year



²³ The citation range was created by rank ordering the articles by how many times cited and then splitting the full sample into an equal interval scale ranging from high (n = 36), mid-range (n = 35) and low-range (n = 35). See subsection 3.4.1 for a more complete explanation.

Different patterns emerge when assessing patterns in publishing across the sample using the article citation range. Among those articles being cited the most often, representing *hypothetically* the best representations of applied social capital research, the largest number are published between 1996 and 1997 and account for just over one-third of the sub-sample (36%). Figure 2 reports the number of articles by year of publication for the highly cited subsample (n = 36). While still generally curvilinear, the full sample in Figure 1 is negatively skewed while the highly cited sub-sample in Figure 2 follows a much ‘flatter’ trajectory with almost no skew suggesting less variation in citations by years or more concentrated publishing patterns over the breadth of the sub sample. I interpret this to mean that the articles published between 1996 and 1997 reflect an apex in researcher interest in social capital.

Figure 2 **Highly Cited Articles by Year**



In summary, when the highly cited articles are separated from the larger sample, the two most predominant years of social capital citation are 1996 and 1997, not 2000 and 2002 as the overall sample suggests. This masked effect may be due, in part, to the lag period between publishing and being cited, or may reflect the real or perceived success of the early social capital research that encourages more authors to cite fewer articles more frequently. Unfortunately, a limitation in data collection and information available about individual articles (i.e. why other authors cite the articles that they do) does not allow for a richer analysis of patterns in publishing and citing.

4.1.1 Patterns in journal quality and usage

Articles included in the sample span almost two decades. In order to better focus this study on the collection of the highest profile articles the field has to offer, objective measures such as article citation score and journal quality are used (see section 3.3.1) to identify the ‘best’ sociological research. Article citation score (how often an article is cited in other research) and journal quality (based on Impact Factors) based on the bibliometric method. (see Narin, 1976).

Of those articles that pass the exclusion criteria (see section 3.4.2), the citation score ranges from a high of 302 to the cut-off point of 10. Table 8 identifies articles by the name of the journal and by the number of highly cited, mid-range and low-range articles. Journals are rank ordered based on their Impact Factors with the top five journals shaded (the top five journals are discussed in more detail in a subsequent section).

Table 8 Total Articles Cited by Journal, Rank and Impact Factor

Journal	Rank	Impact Factor	Highly Cited	Mid-Range	Low-Range	Total
<i>Social Forces</i>	14	2.492	9	3	3	15
<i>Am Soc Review</i>	2	5.578	7	2	1	10
<i>Am J of Sociology</i>	1	5.411	8	3	1	12
<i>Socio of Education</i>	13	2.818	6	1	2	9
<i>J Marriage & Family</i>	8	2.957	3	1	3	7
<i>Sociological Forum</i>	24	1.022	1	1		2
<i>Social Problems</i>	6	2.586	1	3	2	6
<i>Social Networks</i>	3	3.328	1	1	1	3
<i>Soc Science Research</i>	18	1.927		2	3	5
<i>Ethnic & Racial Stud</i>	20	1.9		1	1	2
<i>J British Soc Assoc</i>	31	0.636		3		3
<i>Theory & Society</i>	17	1.583		1		1
<i>Sociologia Ruralis</i>	12	2.01		1	1	2
<i>Politics and Society</i>	11	1.436		1	1	2
<i>Soc Health Illness</i>	4	2.598		1		1
<i>Soc Quarterly</i>	25	1.42		1	1	2
<i>Pop & Dev Review</i>	7	2.23		1		1
<i>Work & Occup</i>	16	2.129		1		1
<i>J Sci Study Religion</i>	23	1.532		2		2
<i>Soci & Nat Resources</i>	10	1.626		1		1
<i>Acta Sociologica</i>	19	1.451		1	1	2
<i>J of Social Sciences</i>	*			1		1
<i>Law & Society Review</i>	9	1.727		1	1	2
<i>Sociology of Religion</i>	30	0.794		1		1
<i>Socio Perspective</i>	27	1.09			4	4
<i>British J of Sociology</i>	5	2.457			2	2
<i>Gender & Society</i>	15	2.405			1	1
<i>European Societies</i>	29	1.053			1	1
<i>Rural Sociology</i>	26	1.352			1	1
<i>Sociological Inquiry</i>	28	1.207			2	2
<i>Sociological Review</i>	21	1.448			1	1
<i>Rationality & Society</i>	22	1.038			1	1
Totals			36	35	35	106

* Information for the Journal of Social Sciences is unavailable

Information for the Impact Factor scores are determined using *ISI Web of Knowledge* journal citation reports (see Thomson Reuters, 2011) and are calculated on base years 2005 through to 2009.

In total, thirty-two different journals published the 106 articles included in this research; an average of three social capital articles per journal. In this case, the average is deceiving as only seven journals published the majority (60%) of social capital articles in this sample. The top five journals (see shaded journals in table 8) based on their Impact Factors publish just over a quarter (26%) of the total articles assessed and contain a concentrated number of highly cited literature. In other words, highly cited articles tend to be published in the best journals. It is important to note that 42% of articles in the highly cited group appear in first- and second-ranked journals (based on their Impact Factor) suggesting that social capital is a significant topic of interest in top-ranked journals.

When assessing the range of articles cited (from high to low) it is clear that highly cited articles appear in only a few journals; highly cited articles appear in only 8 of the 32 journals identified in the whole sample, while mid- and low-range cited articles offer a more diffuse publishing pattern, appearing in 24 and 22 different journals respectively. Journals publishing highly cited literature include: *The American Journal of Sociology*, *American Sociological Review* *Social Forces*, *Sociology of Education*, *Journal of Marriage & Family*, *Sociological Forum*. *Social Problems and Social Networks*. An another interesting pattern reveals that while 44% of the highly-cited research appears in the top three ranked journals (based on Impact Factors), it declines as article citation scores diminish; only 16% of mid-range cited articles appear in the top three journals,

while the low-range has just under 9%. In sum, quality of journal does affect the number of citations for social capital articles.

What does this all mean? In general, as the reputation of social capital as a concept has gained momentum, not only have more journals published social capital work, but more of the most prominent journals are willing to support social capital enterprise. However patterns for the top two journals indicate an inverse relationship; as time goes by, the best journals have slowed down or stopped publishing social capital research. Unfortunately, the parameters of the data collection strategies cannot explain the fundamental reasons behind the pattern as editorial decisions and researcher interests are highly complex; were editors less likely to accept social capital research by mid-decade, or is it a function of where researchers send their articles? Or is it the proliferation of social capital research among the larger research community that has caused this diffusion? Clearly the publication of social capital literature increases among a wider selection of journals over time and although unable to explain the direction of causality or reasons behind the patterns, assessments of publishing interest of particular research areas of interest can be further explored.

4.1.2 Patterns in research areas

In order to make some sense of what research sub-fields social capital is applied to, each article is categorized into a research area based on the subject of the research or context. When two or more subject areas appear in one article (i.e. education and immigrant youth), the researcher selected the strongest underlying theme. Table 9 reports

social capital articles in the sample grouped into high to low-range citation categories by sociological research area. Parentheses after the article count indicate the rank order of a particular research area within a range (highly, mid and low-range).

Table 9
Articles by Research Area (N = 106)

Research Area	Highly Cited(Rank)	Mid-Range(Rank)	Low-Range(Rank)
Education	11(1)	4(2)	10(1)
Immigration & Migration	7(2)	7(1)	8(2)
Organizations	4(3)	3(3)	1(5)
Volunteerism	3(4)		1(5)
Work	3(4)	7(1)	4(3)
Communities	2(5)		
Economics	2(5)		
Globalization	2(5)		2(4)
Criminology	2(5)		
Civil Society		4(2)	2(4)
Religion		2(4)	
Communities		1(5)	
Fertility		1(5)	
Minority Status		1(5)	
Demography & Fertility		1(5)	
Criminology		1(5)	2(4)
Health		1(5)	
Globalization		1(5)	
Social Class		1(5)	
Family			2(4)
Social Cohesion			1(5)
Aging			1(5)
Leisure Time			1(5)

The context is further operationalized in terms of clear hypotheses or research focus, the ability of readers to distinguish the degree to which the study found support for its assertions and the overall contribution to the field in terms of the generalizability of the findings. Generalizability is based on sample size with the assumption of weighted data and sample compositional and framework considerations and are grouped into three categories (good, moderate, or poor). There were 4 articles (3% of the entire sample) within the low range that could not be categorized due to incomplete methodological information such as sample size or sample frame information.

The majority (97%) of articles in this sample has either a clearly defined set of hypotheses or adequately outlines the research goals of their study (60%). The degree to which research was found to support hypotheses varied with highly cited literature finding support 44% of the time versus mid-range at 66% and low-range at 71%. The reverse pattern is apparent for those studies finding mixed support for their hypotheses, with those articles being less frequently cited and also less likely to report mixed results (20%) than mid-range (28%) or highly cited literature (39%).

This may be due, at least in part, to journals prioritizing 'fully successful' research in more current literature. Only one study in this sample found no support for their hypotheses while 10% were unclear on the degree of support with those in the highly cited range twice as likely to be unclear if research was successful and in what ways. In summation, there is a clear bias towards publishing only research that supports social capital rather than those highly critical of the concept. Overall rates of generalizability across the sample were moderate to good (76%).

Across the article citation range, research sub-areas in which social capital is most popular are: education (25 articles), followed by immigration / migration (22 articles) and work (14 articles). These three key areas represent 57% of the overall sample. Not unlike the journal publishing patterns (see section 4.1.1) for highly cited literature, articles more frequently cited tend to span fewer research areas (9) than those articles that are less frequently cited. Additionally, while the nine research areas of interest in highly cited articles (education, immigration, organizations, volunteerism, work, communities, economics, globalization and criminology) remains relatively consistent across the citation range, new areas of research interest emerge at the lower end of the citation range. These new areas of research challenge the social capital bounds within sociology with new regions of research application expanding to include broad social areas such as institutions, religion, demography and fertility, health, social class, social cohesion, aging and leisure time. The increase in new areas of social capital application could indicate at least two possible scenarios. First and possibly the most attractive reason, is that social capital is becoming more robust as a concept and thus, more applicable to a larger number of research problems. Second, that social capital enterprise is simply expanding outward and becoming more diffuse as it is pushed and pulled into various domains based on its relative 'newness' independent of its vigour. It is the opinion of the author that the latter of these options is probably more accurate, but limitations of the study design do not allow for a full exploration of these ideas.

4.1.3 Thematic relationships

Using the top three research areas, social capital applied in areas of work education and immigration have the earliest publication dates. Social capital is used to assess whether or not it helps or hinders employment chances, or focuses on the positive effects on education of parental participation in their children’s lives. The immigration and migration literature on social capital emerged about five years later than education or work research fields. The most consistent application of social capital is in education literature; these articles almost exclusively focus on academic achievement (grades) of children and adolescents. Social capital patterns reinforce the idea that the wider and stronger network of parent and school ties that surround school-aged children, the better grades they will attain (for examples see Sun, 1998; Quian & Blair, 1999; Dumais, 2002 in Appendix 1). Table 10 reports research areas by theme through the years 1986 to 2004.

Table 10
Research Areas by Theme (1986 – 2004)

Y R	Work	Immigration	Education
1 9 8 6	<ul style="list-style-type: none"> • Getting a better job 		<ul style="list-style-type: none"> • Effects of parent participation & grades
1 9 9 2	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Spending saving & remittance patterns 	<ul style="list-style-type: none"> •
1 9 9 4	<ul style="list-style-type: none"> • Job status and income attainment • Autonomy and gender • Gender inequality 	<ul style="list-style-type: none"> • Entrepreneurs 	<ul style="list-style-type: none"> • Parent work conditions and academic achievement

Y R	Work	Immigration	Education
1 9 9 6	<ul style="list-style-type: none"> • Gender inequality 	<ul style="list-style-type: none"> • Self employment • Barriers to employment • Adolescent prejudice • Effects of migration on youth • Factors encouraging migration 	<ul style="list-style-type: none"> • Social / racial inequality & grades • Dropping out • Elite education and employment prestige •
1 9 9 7	<ul style="list-style-type: none"> • Promotion trajectories and gender • Entrepreneurship 		<ul style="list-style-type: none"> • Dropping out • Time use, family and parent education & grades • Education transitions
1 9 9 8	<ul style="list-style-type: none"> • Gender inequality • Health 	<ul style="list-style-type: none"> • Effects of migration on child education 	<ul style="list-style-type: none"> • Intergenerational closure & grades • Factors supporting positive education outcomes • Asian effect • Family composition, SES & grades
1 9 9 9		<ul style="list-style-type: none"> • Diasporas, transnational entrepreneurship • Effects of migration on youth • Assimilation and pregnancy 	<ul style="list-style-type: none"> • Truancy & grades • Ethnicity and academic aspirations • Effects of community and structure on grades • Effects of race, class & social ties on grades
2 0 0 0	<ul style="list-style-type: none"> • Gender inequality • Gender, status attainment & perceptions in elite position 	<ul style="list-style-type: none"> • Academic achievement • Migration patterns • Education • Interstate migration 	<ul style="list-style-type: none"> • Public vs. Catholic schools

Y R	Work	Immigration	Education
		<ul style="list-style-type: none"> Fictive kin 	
2 0 0 1		<ul style="list-style-type: none"> Settlement patterns Labour & employment 	<ul style="list-style-type: none"> Social class, transmission of capital, gender & grades Effects of familial and community ties on grades Effects of home and schools on behavior
2 0 0 2		<ul style="list-style-type: none"> Employment Mobility and travel 	<ul style="list-style-type: none"> Effects of capital and gender on grades Neighbourhood effects & grades Social networks as a process & grades
2 0 0 3	<ul style="list-style-type: none"> Finding a job Social exclusion and civic participation 	<ul style="list-style-type: none"> Wages, un/documented workers 	<ul style="list-style-type: none"> Perception of value and minority status
2 0 0 4			<ul style="list-style-type: none"> Ties with friends Effects of parental & school closeness & grades

Likewise, “work” focused literature tends to apply social capital in limited ways using it to explain two basic phenomena (see Dixon & Seron, 1995; Davies-Netzley, 1998; Portes, 2000; Smith, 2000; Li, Savage & Pickles, 2003; Mouw, 2003 in Appendix 1): gender inequality in the workplace (with women having less social capital thus less successful employment or options) and various aspects of employment status (more social capital makes it easier to get a job, or improves employment trajectories). While slower to utilize social capital, the immigration / migration literature shows the most diverse application of social capital in this sample. While focusing on some aspect of

adjustment, emergent immigration / migration themes include: economics (work, income and spending patterns), effects of migration and prejudice (generally on women and children) and patterns of resettlement. While not all inclusive, in general immigration literature uses ties with others to explain where and why people move and the success or failure in the naturalization process with post migration experiences prioritized (for examples see Nates, 1994; Hagan, MacMillan & Wheaton, 1996; Sanders & Nee, 1996; Aguilera & Massey, 2003 in Appendix 1).

The underlying theme running through the top three research areas discussed above is the idea that social capital ‘gets you something.’ Whether that is better grades, advantages in the labour market, increased feelings of well-being or people who are better integrated into a new host society. Based on these themes and underlying orientation, social capital is clearly applied as a means to an end in this sample, but while thematic analysis is an important assessment tool, it does not much offer insight into the conceptualization of social capital.

4.2 An Overview of the Conceptualization of Social Capital in Research

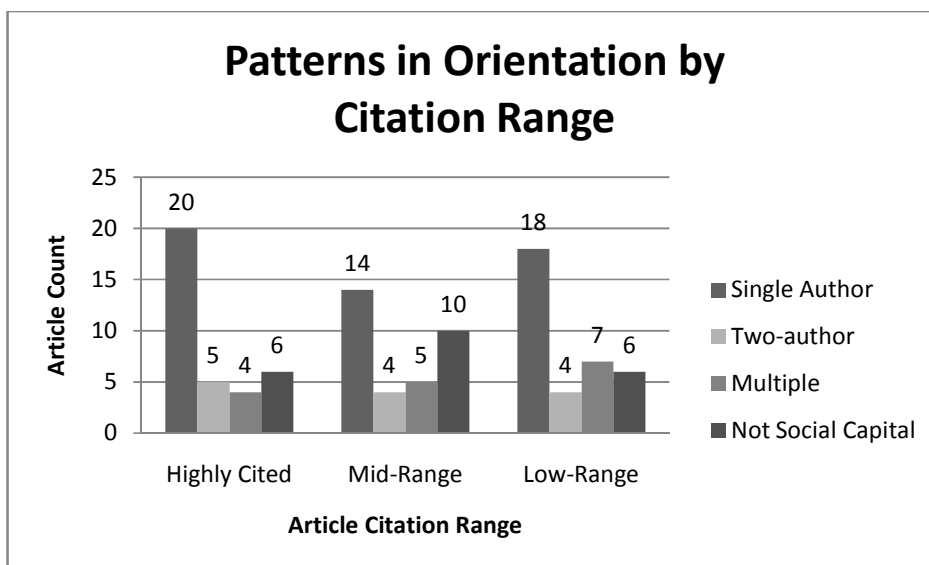
As has been stated previously in this thesis, a good match between theory and measurement is the foundation for ‘good’ scientific inquiry (see section 3.2.1 and 3.2.2). This section focuses on providing an assessment of theoretical orientation and / or strength of the sample. The underlying (possibly overly optimistic) premise being that a strong conceptual framework underpins deductive reasoning and good social capital measurement patterns. Caution should be taken when examining these patterns

independent of the rather small sample size as it affects the overall ability to generalize from the findings of this thesis. Findings can be considered valid, but not necessarily reliable for generalizing beyond this particular sample.

4.2.1 *Patterns in orientation*

The sample reviewed for this thesis can be considered in broad terms theoretically-driven;²⁴ all 106 articles have some form of theory that presents their research orientation. I have operationalized this by counting the number of social capital orientations (i.e. Coleman, Putnam etc.) identified in each article. Patterns in orientation include: single author orientation (49%), multiple author orientations (16%) and two-author orientations (14%). Unfortunately, 21% (22 articles) failed to identify at least one

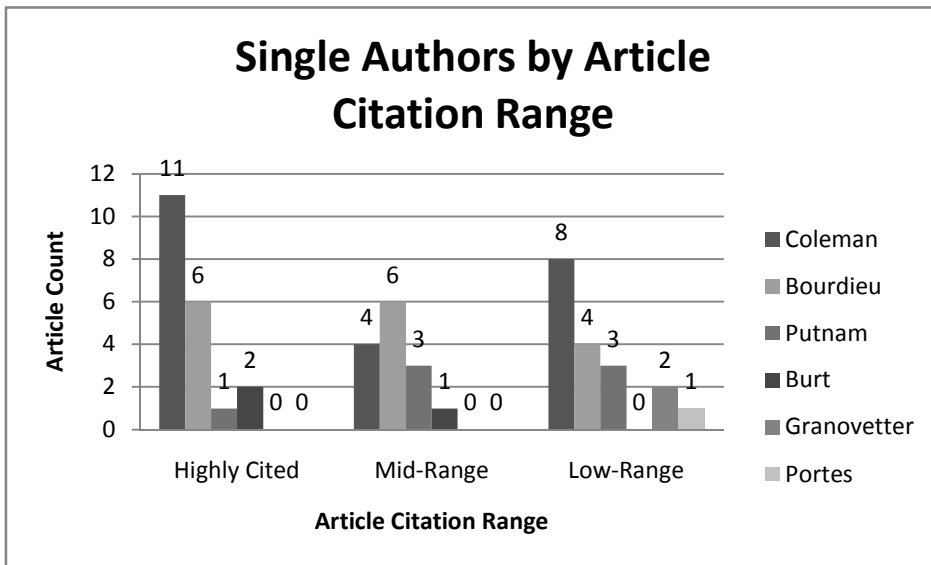
Figure 3 **Patterns in Orientation by Citation Range**



²⁴ To add a caveat, theoretically-driven does not necessarily correlate with good social capital measurement patterns. Operationalization of social capital will be covered in a subsequent section of this thesis (see sections 4.4 and 4.5).

social capital author. This presents conceptual / operationalization issues which are discussed in a subsequent section of this thesis (see sections 4.3 and 4.5). Figure 3 reports variations in orientations by citation range for the whole sample. Mid-range cited articles tend to rely on the social capital theorizing of a single author rather than multiple perspectives, unlike articles that have high and low rates of citations by other authors. Of those articles relying on a single social capital author, the most popular is Coleman (22%) and Bourdieu (15%) followed by Putnam (7%). Of those articles using more than one social capital orientation, Coleman and Bourdieu are again the most frequently paired together making their impact in this sample understated. Figure 4 reports variations in single author orientations by article citation range.

Figure 4 Single Author Conceptualization by Article Citation Range



When analyzing single author patterns in conceptualization by article citation range, Coleman is often used particularly in articles that rely on only one social capital perspective. For example, in the highly cited articles, Coleman is used 55% of the time, but this drops to 44% for low-range articles and 29% for the mid-range. This pattern is intended to be considered as descriptive and is not intended to provide evaluative data on the quality of Coleman's work in social capital research but seems to underscore his prominence as a major figure in social capital research.

While not cited as much as Coleman's work, citations of Bourdieu's work are relatively constant across the articles in this sample; even managing to dislodge Coleman as the leader for those articles in the mid-range based on citation score. Although Putnam's work rarely appears as a single theoretical orientation in the highly cited articles, he appears more often in articles with lower citation scores. The relative obscurity of Putnam's work in the high impact academic research is somewhat surprising considering Schuller, Baron and Field's, (2000a) claim of Putnam's overall popularity.²⁵ Taking this subsample of single author social capital orientations as a whole, possibly the most insightful, if not troubling pattern, is the slow erosion of single author theoretical orientations in those articles less frequently cited²⁶. Ideally multi-dimensional modeling should provide stronger theoretical research, however problems with conceptualization in this sample suggest that those articles with multiple orientations are prone to more

²⁵ This is likely due to the overall appeal of his book as popular non-fiction literature as opposed to application in research.

²⁶ To reiterate, article citation range is based on citation score (how often an article is cited in other peer-reviewed research) and is divided into an array of three possibilities. This is not to be confused with journal impact factors which measure the "top," "best" or highest ranked journals based on a formula explained in section 3.3.1.

conceptual issues than single orientations. These and other conceptual issues are discussed in the next section.

4.3 Analysis of Conceptual Issues

Initially, the sample gives the overall appearance of adhering to good research protocols as all of the articles identify a clear theory. However, a more in-depth examination reveals that although a theory is present, the robustness of the theoretical framework may be questioned. For example, only 16% of the overall sample uses multiple researchers / authors and orientations as the guiding principles for their research. While reliance on a single researcher for a theoretical framework not actively discouraged in academic research, half of the articles with multiple orientations simply offered a historical review of a host of social capital authors without applying the theory in to the results. For example, in Smith (2000), multiple social capital researchers including, Granovetter, Portes, Loury, Bourdieu, Coleman, Burt and Lin are mentioned alongside a host of other authors in the introductory and theoretical sections of the article. Although generally a well written article at the beginning, by the end of her synopsis, it is unclear which social capital theoretical orientation explains her results, if any. Similarly, Volker and Flap (2001) provide an intensive and well choreographed theoretical framework for their work on social networks post communism in all regards except to firmly place their research not just within, but alongside a specific social capital stream opting instead to try to straddle two worlds such as strong ties (Coleman, Lin and Bourdieu) and weak ties (Granovetter and Burt). This presents challenges in two regards:

1) it is impossible to adequately situate their research within a particular social capital paradigm which in turn, 2) makes assessments of the operationalization of social capital difficult, if not unviable as is evident with the contradictory findings for the units of analysis and strength of ties (see section 4.5.2). Likewise, multiple orientations enable conceptualization of social capital using competing orientations. For example, 7% of the subsample using multiple authors use combinations such as Putnam (meso level, strong ties) and Coleman (micro / meso, strong ties) or Putnam and Bourdieu (micro, strong ties) to ground their research. However, all of these articles proceed to measure social capital at an individual level – assumedly by using Coleman alongside Putnam excuses them from having to at least include some analysis at the meso / macro level in their data. Examples of this can be found in an examination of the effects of ‘community’ social capital on academic performance in Israel, Beaulieu and Hartless (2001) or Warde and Tampubolon’s (2002) attempt to provide a comparison of Putnam and Bourdieu’s theoretical focus to see if one or the other clarify social capital and time used for leisure activities in the US. Likewise literature using Granovetter alongside other researchers (usually Coleman and Bourdieu) with an emphasis on strong ties, increases the frequency of omissions based on unclear theory by another 5% (see subsection 4.5.2 for more on units of analysis and strength of ties).

While the use of multiple theoretical frameworks initiates the majority problems in this sample, single author orientation articles are not without fault. For example, while Coleman’s interpretation of social capital ideally encompasses analyses at both micro and macro levels, almost all literature uses Coleman to orient their research opt to only provide analyses using individual level units of analysis without any attempt to measure

social capital at the macro level.²⁷ Similarly, researcher's application of Putnam's work often claims to measure at the meso level, but ultimately fails to use the correct unit of analysis. Kaufman (1999) and his analysis of civil society, volunteering and municipal spending, or Urry's (2002) foray into the margins of social network effects and travel are a few examples of the issue with work inappropriately using Putnam to orient their social capital research. These issues may be due, at least in part, to data limitations and the reliance on secondary data collection; that is to say, most researchers use secondary data analysis to save on costs and time and to access larger populations, but their ability to control the level of data for analysis above that at an individual level is out of their control (see Furstenberg 2005). That does not excuse the failure to match theory to method, but may help to explain the prevalence of this type of error. Finally, with just over one fifth of the sample using orientations other than those recognized as foundational contemporary authors (Bourdieu, Coleman, Putnam, etc.), assessing the strength of conceptualization is further problematized. This issue supports Woolcock's (2004) critique of network analysts researching social capital. The issues do not stop at problems with competing orientations, or incorrect theoretical application. While not occurring often, almost 4% of the sample valorized one author's definition but go on to create the rest of their framework using other (or multiple other) social capital conceptualizations. For example, Massey and Esinosa's (1997) article on migration patterns of Mexican immigrants uses Loury and Coleman's definitions of social capital, but their theoretical framework is constructed using Bourdieu and Wacquant conceptions

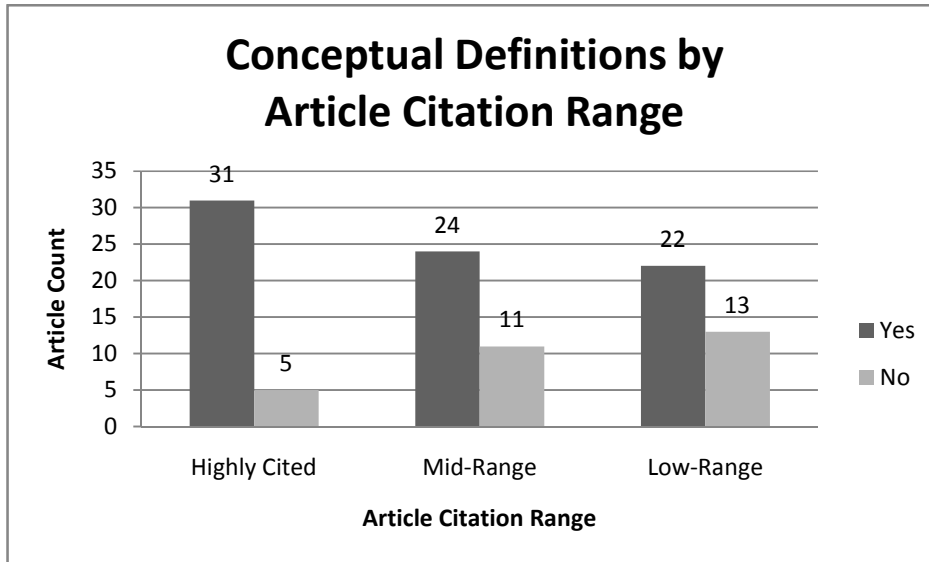
²⁷ This is not completely out of context considering critiques of Coleman's work put forth by authors such as Schuller, Baron & Field (2000a) indicating conceptual contradictions and definitional issues along with unanswered questions on how to measure social capital above the level of the individual level that permeate Coleman's work.

of social capital. As a result, readers are left questioning whose version of social capital is represented conceptually.

Bruce Chadwick and colleagues warn that “careful consideration of theory” is critical in providing a full and dynamic understanding by linking the research act to a larger theoretically driven problem and understanding (1984, p. 15). It seems the researchers in this sample have largely failed to adopt his message. Theoretical issues are compounded by the lack of conceptual definitions; overall, almost 30% of the articles fail to offer a concrete designation for ‘social capital.’ Although excuses are often made for qualitative research, Neuman states that regardless of research strategy, “some statement or statements that organize abstract concepts to form a clear and specific meaning” should be easily identified within the context of a qualitative paper (1997, p. 134). In other words, all of the articles, regardless of their qualitative or quantitative orientation, should have some clear statement(s) that define social capital.

Figure 5 reports the prevalence of conceptual definitions of social capital in the sample across article citation range using citations scores or how many times an article has been cited divided into high, mid- and low-ranges. Further analysis of conceptual definitional issues across the sample show a disturbing pattern; the rate at which articles fail to identify a conceptual definition falls by 200% between highly cited to mid-range articles and then increases by another half-fold for the low-range. When examining these patterns by article citation range, we see that highly cited literature fails to provide a conceptual definition 16% of the time, increasing to 46% for mid-range and an alarming 59% for those articles cited the least.

Figure 5 **Conceptual Definitions by Article Citation Range**



Although the conceptual picture of this sample looked promising at the outset, it is clear there are numerous inconsistencies. Table 11 offers a brief summary of issues relating to conceptualization and the resulting effect as witnessed in the articles selected for this analysis. It is somewhat troubling that the majority of issues are not directly a result of faulty theory *per se*, but in the misapplication and disregard for theory / measurement agreement and sloppy crafting practices of articles for publication. For example, Sanders and Nee (1996) fail to provide a conceptual definition in their article about immigrants and entrepreneurialism which may contribute to the poor measurement choices for social capital and arrangement.

Table 11
Issues with Conceptualization

Problem	Result
Ignores foundational social capital researchers and uses some other orientation	Issues in assessing the quality of research Lack of grounding in the larger social capital paradigm
Multiple researcher orientations	Lacks grounding Unresolved issues with competing theories
Poor fit between theory and method	Coleman always measured at micro level Putnam rarely measured at meso/maco level
Poor conceptualization	No definition of social capital Unmatched definition and framework Pattern in no definition increases for less frequently cited articles

Further, many of these authors write about the effects of trust and obligation, but fail to operationalize, or include variables which correspond to these dimensions of social capital. Regardless, considering these articles represent a sample of frequently cited articles, these patterns are most likely to appear in other work as more academics and policy analysts draw upon and duplicate this research in the future. If there is a silver lining in this conceptual cloud, it is that patterns for highly cited literature are less problematic overall and thus may be considered as a positive finding for social capital theorizing within the sample.

4.4 An Overview of Social Capital Operationalization in Research

Social capital is defined as community-level network ties that facilitate cooperation and collective action within societal bounds with positive and / or negative outcomes. Drawing on social capital research, this thesis prioritizes the following seven aspects of the operationalization of the phenomenon of social capital: type of tie (intra / extra familial), form of participation (informal, formal and civic), trust, obligation, reciprocity and intensity (frequency, duration, role status and emotional closeness). Additional assessments for units of analysis and strength of ties are considered separately.

4.4.1 *Variations in research design, ties and participation*

Of the 106 articles reviewed for this thesis, 73% used American-based data followed by Canada and the UK/England (7%) and Germany, Mexico and Sweden (6%). Highly cited literature tends to be focused on data from fewer geographic locations (5) than the mid-range (8) or low-range (9).²⁸ At the same time, patterns suggest a slow decline in the interest in data on the USA with highly cited literature using American data 30% followed by mid-range at 20% and a small increase to 23% for the low-range articles. Overall, 80% of articles are quantitative, 16% are qualitative and 4% have some form of mixed methodology. The majority of articles use secondary analysis (72%) of

²⁸ Areas of geographic interest for highly cited literature include USA, Canada, China, Germany and Mexico while mid-range include USA, Canada, Mexico UK/England, Former Soviet Union, Czechoslovakia, Sweden and the Netherlands with 3 unclear. Areas of interest included in the low-range are, USA, Germany, UK/England, Norway, Netherlands, Ecuador, South Korea and Africa with 1 using cross comparisons of 6 regions and 1 unclear

cross sectional data (68%). Overall 40% of the articles reviewed fail to explain or identify the type of sample used, but of those that do provide sample information, 45% claim to use some form of random sample followed by purposive (19%) and probability sampling strategies (11%). Generally, sample size for quantitative studies are large enough to be considered appropriate for higher level statistical analyses increasing the odds of reliable findings, though it is important to note that 13% of quantitative studies use samples of less than 500 (range 50 – 489) while 18% overall fail to adequately identify a sample size. The omission of sample size along with additional missing research design information (sample type, clear operationalization of variables, use of data on difficult to collect populations, unidentified data sets, etc.) effects the replication potential of the sample reviewed for this thesis with 51% of the articles poorly or moderately equipped for replication in the future.

In the sample reviewed for this thesis, there is a heavy emphasis on informal ties (57%) measured outside the family unit (46%). Social capital is used as independent variables in 95% of the cases reviewed with one anomaly in which variables are manipulated as dependent in some models and independent in others (see Warde and Tampubolon, 2002 in Appendix 1). Very few studies (35%) provide adequate information about the questions used to create scale variables²⁹ or provide information on how missing cases were dealt with (87%)³⁰. Of those, 13% that did offer information on how missing cases are processed, removal (i.e. listwise deletion) and mean substitution were the most common strategies. After adjusting for those studies that do not use a

²⁹ This information was not recorded for other variables except social capital measures.

³⁰ Missing case scores are adjusted to account for studies where there were either no missing cases, or missing cases do not affect analysis (i.e. study that does not do higher level statistical testing).

composite variable to measure social capital (n = 59), 63% fail to identify the statistical strategies involved in the creation of the variable(s), but of those that do, fully a quarter use factor analysis. While only 15.5% of the sample overall reported alpha factor scores for multiple item measures, internal validity is good to excellent with a range of $\alpha = 0.68$ to $\alpha = 0.92$. Tests conducted indicate strong patterns towards multivariate analyses (75%) with 59% opting for some form of regression analysis (logistic, linear, Poisson, OLS, probit, tobit, or some undefined regression). It is important to note that composite variables, properly constructed, provide the richest and most robust operationalization of social capital as a dynamic concept, yet 44% of the overall sample reviewed for this project use single item measures or dummy coded variables to measure the effects of social capital across multiple research domains. While not technically 'wrong' this pattern is not ideal for the enrichment and continued vigour of the concept of social capital, especially as it is comprised of multiple aspects.

Table 12 reports changes in research design, form of data analysis, type of sample and ties and forms of participation by article citation range (from highly cited to low-range). While quantitative research designs are the majority of the sample, there is an increased interest in qualitative and mixed methodologies in those articles less frequently cited especially in the mid-range articles where the focus on quantitative research drops by 30% while qualitative and mixed methodologies increase by 400% when compared against highly cited articles. Following this pattern, while secondary analysis of existing

Table 12
Aspects of Research Design,
Type of Ties and Form of Participation by Article Citation Range

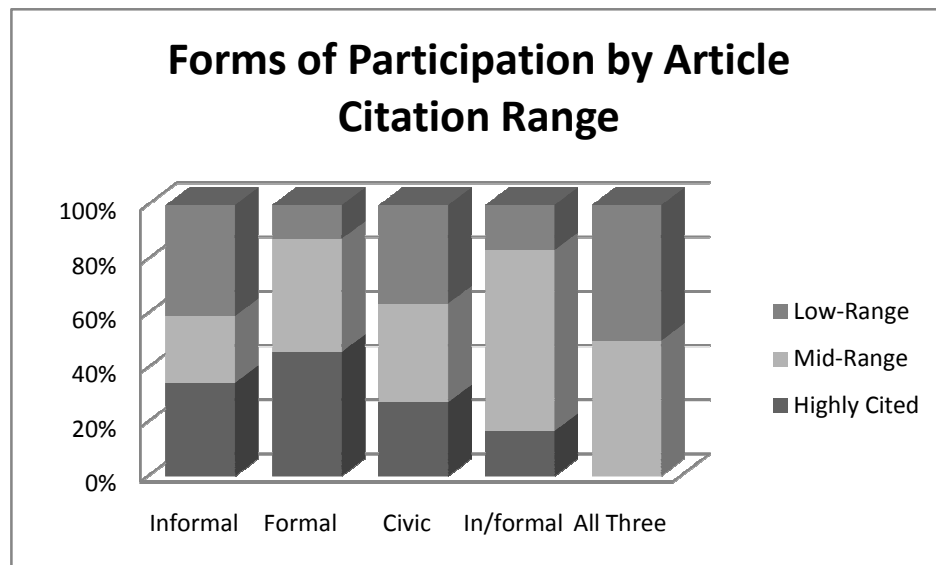
	Highly Cited	Mid-Range	Low-Range	Total
Design				
Quantitative	33	23	28	84
Qualitative	3	8	6	17
Mixed	0	4	1	5
Data Analysis				
Secondary	29	20	27	76
Collected	6	13	8	27
Both	1	1	1	3
Sample Type				
Cross sectional	21	30	17	68
Longitudinal	15	5	17	37
Panel (both)	0	0	1	1
Tie Type				
Intra Familial	7	5	7	19
Extra Familial	15	18	18	51
Both	13	12	11	36
Participation				
Informal	21	15	25	61
Formal	11	10	3	24
Civic	3	4	4	11
In/formal	1	4	1	6
All Three	0	2	2	4

data far outweighs other data strategies across the sample as a whole, interest in dedicated primary data collection more than doubles from highly cited (6 articles) to the mid-range (13 articles). Likewise, there is an extremely sharp decline in longitudinal samples from 42% of all those articles that are highly cited to a mere 14% of those articles in the mid-

range. There is very little variation in focus on tie types across the sample with the exception of a very slight increase in interest in ties outside the family (extra familial) for those articles less frequently cited.

Figure 6 reports the percentage of the different forms of participation by the article citation range. Interest in formal participation (see table 3 in subsection 3.2.3) is strong in the highly cited (21 articles) and low-range articles (25 articles) and like patterns detailed above, drops by 50% in the mid-range is apparent. However, the

Figure 6 **Forms of Participation by Article Citation Range**



similarity between high and low-range stops there. Studies measuring social capital through formal participation are relatively constant from the highly cited to the mid-range, but then drops dramatically (around 70%) for those articles with the smallest

citation scores. Civic participation sees a very small downward shift as the article citation score diminish. In summation, formal participation is the most topical area of research.

Possibly the most dramatic variation in the forms of participation across the sample are studies that attempt to measure forms of participation across all three dimensions – informal, formal and civic—in those articles less cited. Overall, patterns in research design, type of ties and formal participation are similar between the highly cited and the low-range cited articles. These patterns do not hold constant for other forms of participation such as informal, civic and emerging dimensional modeling where all three forms are assessed simultaneously.

4.4.2 Dimensions of social capital: Intensity, trust, obligation and reciprocity

According to Bryman (2004: 66) proper measurement accounts for: delineation and identification of “fine differences”, increased precision in “estimates of the degree of relationship between concepts” and a “consistent device” for measuring differences. Table 13 reports changes in measurement frequency from highly cited to low-range articles in this sample. These counts represent absolute values; that is the values do not correspond to a one-to-one ratio with an article, but rather were counted based on the times each proxy for social capital was identified within the literature. For descriptions of dimensions assessed in this section please see subsections 3.2.4 and 3.2.5 of this thesis.

Table 13
Dimensions of Social Capital Measurement by Article Citation Range

	Highly Cited	Mid-Range	Low-Range	Total
Trust	11	6	9	26
Obligation	5	3	1	9
Reciprocity	5	5	1	11
Intensity	18	33	52	103
Total	39	47	63	149
Intensity: Role	3	4	2	9
Intensity: Status	2	8	6	16
Intensity: Duration	2	4	7	13
Intensity: Frequency	5	11	15	31
Intensity: Closeness	6	6	22	34

Over the whole sample of 106 articles, some aspect of social capital was measured 149 times; with a range of 1-3 or an average of 1.4 sub-concepts of social capital per article. Dimensions of intensity (role, status, duration, frequency and closeness) are by far the most popular measurement of social capital accounting for 69% of the total count. In the minority are those articles measuring intensity using *status*, *duration* and *role* accounting for just over one quarter of the full sample, or 37% of the sub-sample measuring intensity. Status, role and duration are most prominently featured in research areas concerned with work and / or immigration with the majority of articles leaning in the direction of higher status / role and longer time doing something offers some form of advantage for individuals (through increasing their store or access to social capital). Of those articles measuring intensity of social capital ties, closeness (33%) and

frequency (30%) are the most often applied dimensions. Closeness is especially prevalent in the education articles where ties between parents and children and /or children and their schools are prioritized; the premise being that increased 'closeness' of both or one of these concepts of social capital increases the likelihood of better grades and good school outcomes for children and adolescents. Frequency of contact as social capital is the most heterogenous measurement group with a wide application across research fields with no discernable patterns by research area, but a moderate pattern (20%) towards grouping of concepts frequency, duration and closeness in articles less frequently cited. Trust, obligation and reciprocity measures account for only 31% of the overall social capital count in articles reviewed for this thesis. Although measurements of trust far outpace those of reciprocity or obligation at 17% versus 7% and 6% respectively, it is puzzling that trust plays such a small measurement role considering the heavy emphasis on dimensions of trust throughout social capital conceptualizations. In fact, it could be argued that dimensions of trust, obligation and to a lesser degree, reciprocity, are the inferred or embedded backbone of social capital *en mass*. When examining measurement dimension patterns across the article citation range, there is an inverse relationship. That is, as the frequency of citing decreases, the ways social capital is measured per article increases. For example, for those articles most highly cited, on average, only one dimension is used per article to measure social capital. This is in sharp contrast to those articles that are least frequently cited (low-range) where the average almost doubles (1.8) the highly cited group. In sum, citations on social capital tend to be higher among articles professing to measure only single sub-sets of social capital than those measuring its multiple dimensions.

Figure 7 **Dimensions of Social Capital by Article Citation Range**

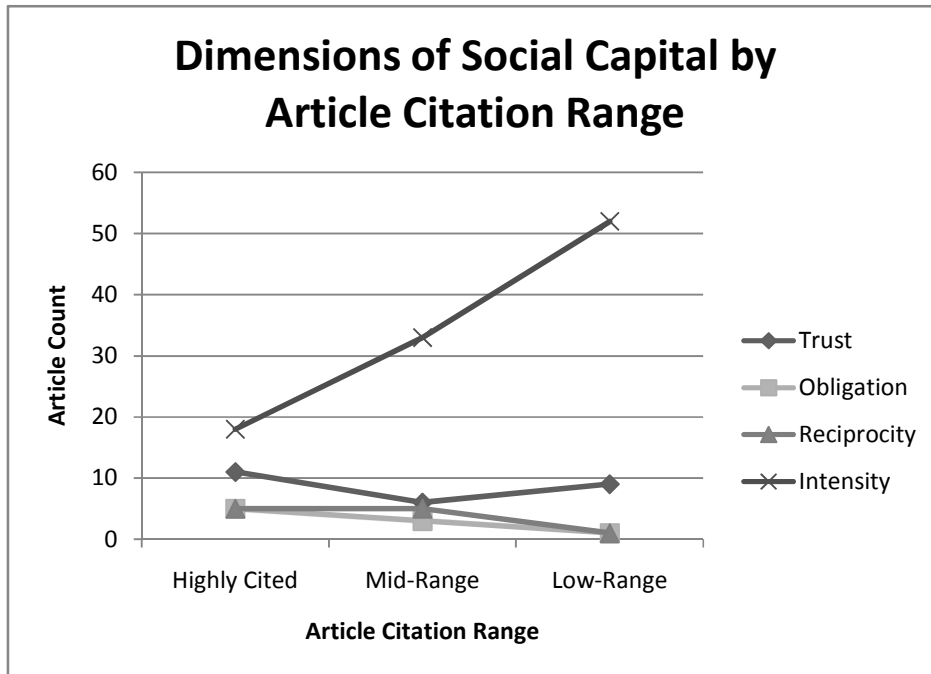


Figure 7 reports patterns of social capital dimensions by citation range. For the sake of clarity, the five measures of intensity (role, status, duration, frequency and closeness) are collapsed into one overall measurement of intensity. Of those articles that are highly cited (and by extension have the highest proportion of older social capital articles, see section 4.1), there is a heavy emphasis on integral measures of social capital; trust, reciprocity and obligation. Over half (54%) of the measures in highly cited articles use one of the three with trust at 28% being the most predominant. In the mid-range, the emphasis begins to shift away from original and / or primary conceptions of social capital (trust, obligation and reciprocity) accounting for 29% on the overall measures with only 13% dedicated to measuring some aspect of trust. The downward spiral continues with

those articles cited least often; only 17% of all measures of social capital in this group look at some aspect of trust, obligation or reciprocity with trust dropping overall to 14%. It is important to note that when examining overall patterns there is a drop, but when assessing counts from mid to low-ranges independently, there is actually a slight increase based on raw count scores from 6 to 9 incidents of usage (see table 13).

As the three arguably foundational measures of social capital decline in citations, there is a surge of in measurements using intensity of ties. While the highly cited articles focus on measuring social capital using one of the five modes of intensity present in social capital theory 46% of the time, this increases to 70% for mid-range articles and almost doubles in the low-range articles to 83%. Of the measures of intensity, closeness sees the sharpest incline with a 400% increase moving from the highly and mid-range articles to the low-range. While frequency (measured in terms of how many times contact is made within a network(s)) also sees increases across the article citation ranges. Although the increase is less abrupt, it is a slow and steady rise; from the highly cited to the mid-range, it doubles (from counts of 5 to 11) and by the low-range is has tripled (to 15). There could be multiple reasons for this shift, but at least in part, the emphasis on measurements of intensity of ties is more than likely related to the use of large survey data resources where social capital might be measured on multiple dimensions, but most are reduced down to counting contacts because it is one of the easiest approaches to collecting the data in survey format.

4.5 Analysis of Operationalization Issues

The operationalization of social capital is integrally tied to aspects of conceptualization such as units of analysis and strength of ties. To aid in proper measurement, Babbie and Benauqisto (2000), claim that all articles should provide some form of operational definition. Likewise, Neuman states that a good operational definition is key in providing the link between the “language of the theory with the language of empirical measures” (1984, p. 136). He also suggests that research design, both qualitative or quantitative, should not be a factor in establishing some schema that organizes abstractions into a clear statement(s) or in other words, conceptual and operational definitions³¹. While Neuman may be correct in a literal sense, care has been taken regardless in the when assessing operational definitions by research design – qualitative studies that fail to provide operational definitions are noted across citation ranges. Overall, 54% of articles reviewed for this project fail to provide a concrete operational definition for social capital. The mid-range articles were the worst offenders with 74% overall failure rate (with 6 qualitative articles) followed by highly cited at 63% (with 2 qualitative articles).

Table 14 reports rates the rate at which articles fails to provide adequate operational definitions of social capital by research area divided by article citation range with percentages of failure adjusted by area of interest. Percentages are reported using a “within group” strategy; that is the percentage represents failure rates based on the all articles in a particular research area in the sample (n) versus the overall sample (N).

³¹ Findings for conceptual definitions presented in prior section (see section 4.2).

Table 14
No Operational Definition by Research Area & Article Citation Range

Research Area	Highly Cited	Mid-Range	Low-Range	Percentage Within Group
Education	6	2	3	44%
Immigration/Migr.	4	4	4	55%
Organizations/Institut.	3	4	1	100%
Work	2	4	2	57%
Volunteerism	1	2	0	75%
Economics	2	0	0	100%
Globalization	1	1	1	60%
Family	0	1	1	100%
Religion	0	2	0	100%
Civil Society	0	2	0	33%
Demography	0	1	0	100%
Minority Status	0	1	0	100%
Criminology	0	1	0	20%
Social Class	0	1	0	50%

It is believed that this approach offers a more precise analysis of failure rates. In regards to operational definition, the articles that were cited the least frequently (low-range) are the most successful in providing good operationalization of the concept of social capital at 66%. Of those in the low-range that did not provide an operational definition, 5 were qualitative studies. All of the articles focusing on organizations / institutions, economics, family, religion, demography and minority status fail to provide an operational definition, while only 20-55% of articles classified as criminology, immigration and education fail to do the same. These findings suggest that certain research areas are much more successful in providing good operationalization of social capital.

4.5.1 Linking theory and method in defining

Understanding which areas of social science research of social capital are most prone to errors in operational definition is also important in assessing the strength of social capital in published research. Are theory and method linked? Table 15 reports all variations possible for conceptual / operational definitions by article citation range. When considered over the sample ranges, the mid-range articles (once again) are less likely to provide operational definitions, as well as conceptual definitions. When examining all four possible combinations of conceptual / operational inclusion or omission, variations across the article citation range emerge. Of those having a conceptual definition, the

Table 15
Presence of Conceptual and Operational Definitions Across Article Citation Range

Definitions Conceptual/Operational	Highly Cited	Mid-Range	Low-Range	Total
Yes/Yes	16	10	19	45
Yes/No	14	13	5	32
No/No	6	11	7	24
No/Yes	0	1	4	5

likelihood of not having an operational definition is moderately high at 42%. In comparison, a staggering 83% of articles lacking conceptual definitions also lack operational definitions. As the frequency in article citing moves from highly to mid-range, an increase in rates of failure to provide both definitions also increases from 17% to 31% before dropping again for those articles in the low-range to 20%. Highly cited and mid-range articles are much more likely to fail to provide an operational definition than those in the low-range; the frequency of this issue decreases by 75% for those least often cited. For mid to low-range articles an odd, if not unlikely, variation is of note; a small percentage (17%) of the articles that failed to offer a conceptualization of social capital do provide a clear operationalization of the concept.

Regardless of this anomaly, it appears that a clear conceptual definition does increase the odds of having an operational definition for this sample overall; good theory is equal to good measurement patterns at least in so far as this method of assessment can offer. Excellent examples of this can be found in Massey and Basem's (1992) article on immigrant saving, remittance and spending patterns with a concise conceptual definition

supplemented with a beautifully crafted table operationalizing and offering hypothesized effects (see pages 190-191); Messner, Baumer and Rosenfeld (2004) who not only offer a clear conceptual and operational definitions of social capital, also succeed making all aspects of their study findings clear and succeed in expanding social capital in their exploration of violent crime and homicides; or Sun (1998) who explores the “Asian effect” in education with a delicate but firm crafting of an easily accessible article with strong theoretical and measurement patterns (see Appendix 1). These are just a few of the excellent examples of theory to method agreement in the sample reviewed for this thesis.

In sum, if the gold standard for good research is having both a conceptual and operational definition, only 42% of the overall sample (N = 106) achieve this goal. The most successful in providing both definitions are those less cited at 54% followed by highly cited at 44%, with the mid-range achieving successful defining in only 29% of cases. This finding complicates the notion that highly cited literature contains the strongest social capital research even when considering lag time between publishing and being cited. Those articles that are currently classified in this sample as “low-range” may be re-classified as highly cited in a few years.

4.5.2 Units of analysis and strength of ties

For the purposes of this thesis, units of analysis, or what is counted, are divided into three levels of data, micro, meso and macro (see section 3.2.1). Although strictly speaking, social capital is usually discussed in terms of micro or macro units of analysis, this departure from more traditional approach allows for better filtering and analysis of

potential patterns of higher level data allowing for separation between organizational / country / state datum. It is absolutely imperative that the theory and application of social capital in research is cohesive and complimentary (see see Babbie & Benaquisto, 2002; Bryman, 2004; Bryman & Teevan, 2007); in other words, the units of analysis used in each article must match exactly how the author(s) conceived of the level of data for social capital measurement (see table 2 in subsection 3.1.2).

Not unlike Portes' (1998) assessment of social capital literature, this sample found heavy emphasis on micro level data and strong ties; 84% of the sample measures social capital at the individual level while 2% tried to measure both micro and macro levels of social capital. Of the remaining articles, 12% attempt meso level analyses and a small percentage (2%) are evenly split between country and state at the macro level. In two instances, the authors state their intentions of measuring at the meso level, but actually measure social capital at the level of the individual. Very little variation across the article citation range (highly cited to low-range) is found except those measuring at the meso level where the majority (54%) appears in highly cited articles. Likewise, strong ties are heavily weighted with 83% focusing on the importance of strong network ties while 6% and 9% centralized weak / strong ties or the strength of weak ties respectively.

Table 16 reports units of analysis and strength of ties agreement with theory across article citation range. Overall, only 54% of the sample matches theoretical orientation to appropriate units of analysis; with 13% unmatched and a surprising 33% unclear. Likewise, only 61% of the full sample manages to correctly emphasize strong or weak ties based on their theoretical framework while 30% is unclear and 9% failed outright. These are shockingly high failure rates for both units of analysis and strength of

ties agreement in peer reviewed academic research articles. However, these rates are somewhat artificially inflated due to inclusion of articles that did not use at least one contemporary social capital orientation / author (i.e. Bourdieu, Coleman, Putnam etc.) as part of their model (see section 4.2.1).

Table 16
Units and Ties by Article Citation Range

	Highly Cited	Mid-Range	Low-Range	Full Sample (N = 106)	Only Social Capital (n = 84)
Unit of Analysis					
Matched with theory	24	16	17	57	57
Not matched	4	6	4	14	14
Unclear	8	13	14	35	13
Strength of Ties					
Matched with theory	23	18	24	65	65
Not Matched	4	4	1	9	9
Unclear	9	13	10	32	10

The last column (“Only Social Capital”) of Table 16 reports adjusted scores after removing the subset; using only those articles that apply some form of social capital author(s), 17% and 11% fail to measure using the correct units of analysis or strength of

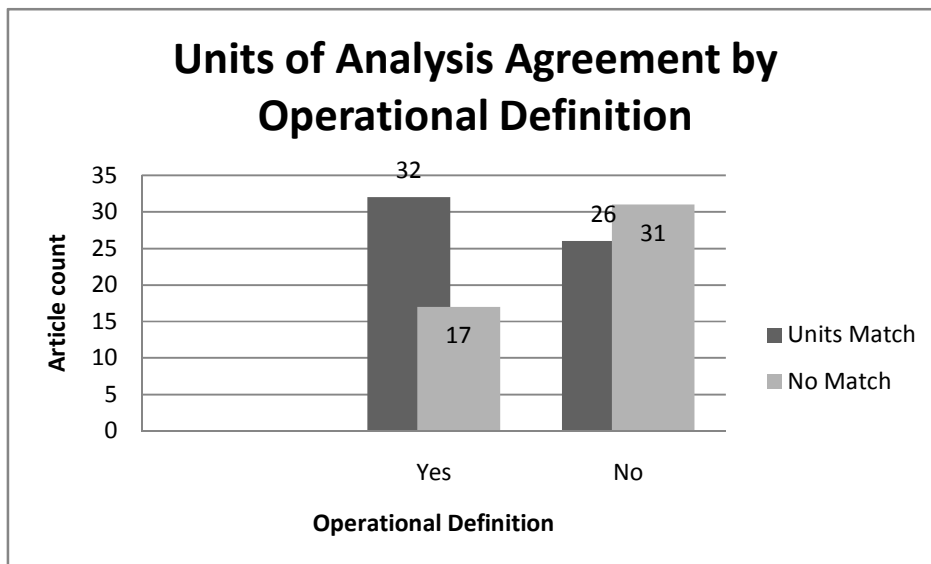
tie respectively, while 15% of units and 12% of ties were still unclear. When examining the influence across the article citation range, highly cited literature does the best job of matching both units of analysis (94%) and strength of ties (64%). This bodes well for the idea that the most highly cited social capital literature is also the strongest in terms of the link between theory and method. In contrast, only 46% and 49% of articles in the mid and low-range respectively correctly matched the units of analysis to their theoretical underpinnings. Very little deviation exists for strength of ties agreement with theory when looking at matching tie to theory, but when looking at the failure rates, the mid-range and highly cited articles were four times more likely to make an error than the least frequently cited literature.

In sum, when assessing units of analysis and strength of tie agreement with article social capital orientation overall, almost half of the articles fail to make a connection between ties and unit of analysis. However, those articles that are cited most heavily commit these errors much less frequently. Analysis of errors in strength of tie and units of analysis agreement are stymied by the lack of consistent application of contemporary social capital authors across the sample. Future social capital researchers should be aware that ignoring underpinning points of reference have a negative effect on the assessment and robustness of the concept of social capital.

4.5.3 *Linking units of analysis and patterns in defining social capital*

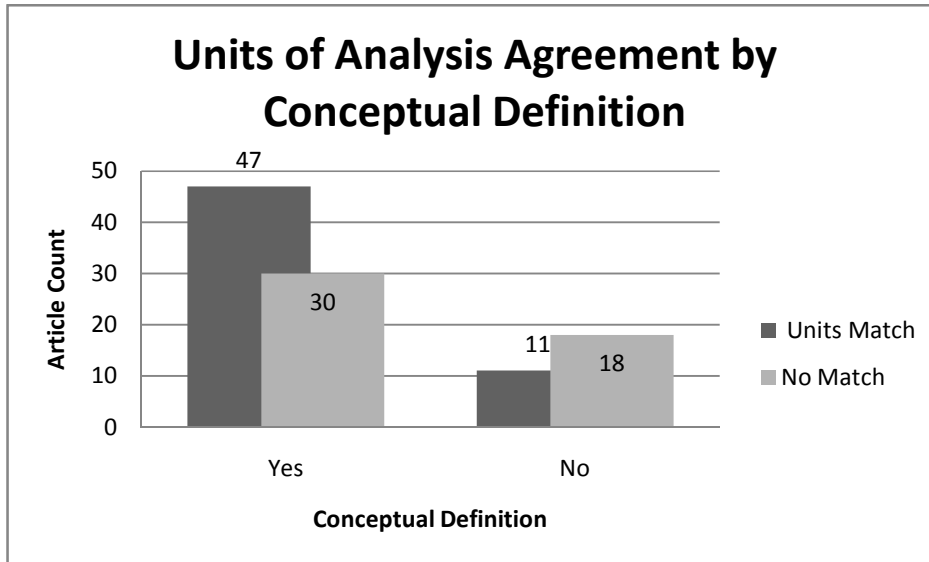
After collapsing “unclear” categories into the “no” category for ease of interpretation, units of analysis are further explored. Figure 8 reports changes in unit agreement with theory based on the presence of an operational definition while figure 9 conceptual definition effects on units of measurement.

Figure 8 Units of Analysis Agreement by Operational Definition



Of those articles with an operational definition, 65% use the correct unit of analysis. In contrast, those articles with no operational definition only 46% measure social capital. The probability of failure to match units of analysis with theoretical orientation almost doubles with the lack of operational definition. Patterns are similar for

Figure 9 Units of Analysis Agreement by Conceptual Definition



articles without conceptual definitions. For example, of those articles that provides a conceptual definition, 61% use the correct units of analysis, but of those lacking a definition only 38% manage to measure social capital using the correct unit of analysis based on the theoretical orientation of the research. However, the similarities do not extend further – while no operational definition increases the likelihood of incorrect measurement patterns, the inverse is true for conceptual definitions; the lack of definition actually decreases the probability of using the wrong unit of analysis by almost 50%.

Overall, failure to provide an operational definition appears to effect the correct measurement of social capital at the most basic, but arguably most important level, the units of analysis. Having an operational definition increases the odds of measuring at the correct level. Due to the inherent link between defining, theory and method, it might be surmised that the omission of a conceptual definition would have a similar effect on

measurement patterns of social capital. Conceptual defining and correct application of social capital measurement (units of analysis) have mixed results; while having a definition of social capital increases the odds of also using the correct unit of analysis, not having a definition does not have the expected result of increasing the probability of failure to use the correct unit of analysis.

4.6 Novel Measurement Patterns of Social Capital

This section is dedicated to the exploration of what can only be called, “novel ways to measure social capital.” These are measures that cannot be directly linked to a theory. All reference information for studies listed as examples in this section can be found in Appendix 1.

Figure 10 Novel Measures of Social Capital by Article Citation Range

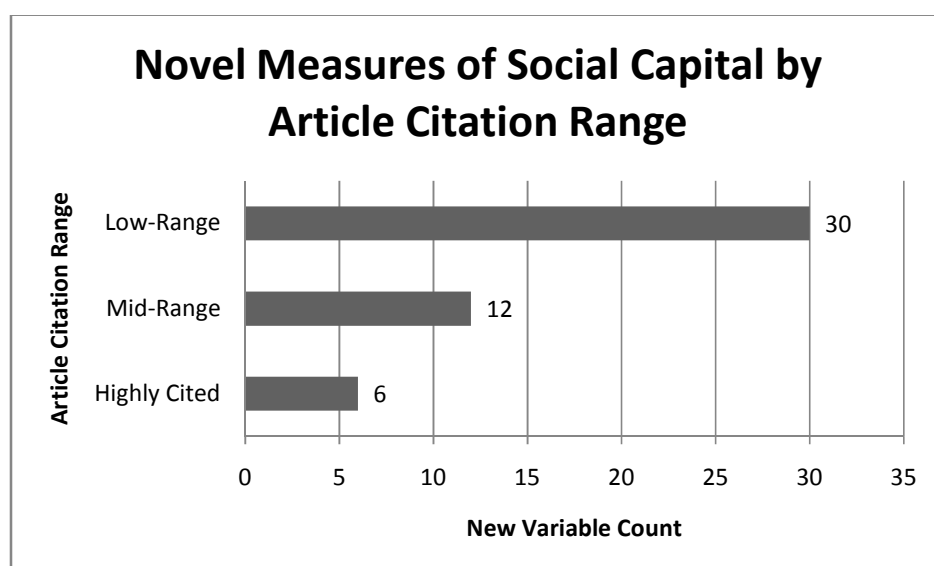


Figure 10 illustrates the frequency in novel measurement variables over the article citation range. In total, 47 ‘novel’ ways of measuring the phenomenon of social capital are evident in the literature reviewed for this thesis. Examining patterns across the full sample by article citation range, a pronounced inverse relationship is evident; as article citation score decreases, novel measures increase. For example, patterns for highly cited literature show minimal evidence of new measurement patterns at 6 measures accounting for only 13% of the total novel measurements of social capital in the sample assessed for this project. In contrast, 11 novel ways of measuring social capital appear in the mid-range sub-sample. Although still affecting the overall mid-range sub-sample moderately, this is a 100% increase when compared to the most highly cited sub-sample. However it is the low-range literature that is most likely to include novel measurement patterns. Thirty novel measures of social capital appear in the low-range articles; 62% of all the new measures of social capital and a 500% increase over highly cited literature. Table 17 identifies individual novel measures of social capital by article citation range.

The list of ‘new’ social capital measurements in Table 17 shows that many of these variables are not really novel, but are probably misapplied concepts. For example, family structure is probably not a social capital indicator given its tenuous connection to the literature. In their assessment of the likelihood to volunteer, Wilson and Musick (1997) suggest that compositional household factors, such as how many children in the household, can work as social capital proxies (the idea being that having children decreases the odds of volunteering)³².

³² Wilson and Musick (1997) also use informal social interactions (frequency) and number of children in the household as their only measures of social capital.

Table 17**Novel Measures of Social Capital by Article Citation Range**

Highly Cited	Mid-Range	Low-Range
Neighbourhood activism	Legitimacy of alternatives	Study resources
Social rewards	Mobility or travelling	Ties to males
Proportion of females in network	Control time	Academic orientation of friends
Proportion of minority clientele	Migration status (father immigrant)	Team sports membership
Proportion minority employees	Virtual interactions	Political engagement
Population composition (& female to male)	Father's political party membership	Community social service
	Ethnicity and relationship to employer	Naturalized citizens in household
	Criminal social capital	Prestigious education
	Lived with relatives right after immigrating	Quality of ties between friends and family
	Primarily responsible for new clients	School social capital (not public/private)
	More than 1/2 devoted to corporate clientele	Physical pleasure of sex in marriage
		Feeling lonely
		Family structure
		Community structure
		Personal support
	Job search method	

Table 17 Novel Measures of Social Capital by Article Citation Range CONT...

Highly Cited	Mid-Range	Low-Range
		Φ Immigration characteristics
		Median years at current job
		Parent-child communication
		Spouse born in the USA
		SMSA migration
		Own a home
		Social distance from friends
		Political and financial skills
		Trustworthiness
		Patterns of TV watching
		Fictive kin networks

Φ Immigration characteristics as social capital include: group size, % immigrated since 1974, white collar, younger than 30 and self employed

Likewise, Sanders and Nee (1996) use the idea of ‘family character’ (married, living with spouse and number of related adults and teenagers in the household) as a social capital resource used to help predict immigrant self employment. Not only do Sanders and Nee push the limits of acceptability in regards to social capital measurement, all three of these household measures are reduced down to the lowest form of measurement, dichotomous dummy coded variables.

There are other, more fanciful ways of measuring social capital. Although Lee and Brinton’s (1996) exploration of elite education and employment prestige is

fascinating, using job search as a social capital indicator just does not measure social capital *per se*. Similarly, Liu's (2000) article on extramarital sex using "marital sex satisfaction" as a social capital indicator draws a perplexing if not somewhat humorous question mark on the conceptualization and operationalization of social capital in literature. Again, the variable is not without worth, it is just difficult to see how it fits with the current conceptualizations of social capital, even in light of individual researchers trying to expand the bounds of the social capital paradigm. Likewise, Delhey and Newton's (2003) attempt to explain under what conditions individuals exhibit social trust or distrust uses "being lonely" as a measure of social capital. To be fair, the authors also measure social networks using much more theoretically grounded variables such as number and frequency of contact with close friends.

These questionable measures of social capital could also suggest some form of confounding variables is at work in the literature reviewed. That is to say, rather than a simple misapplication, what is being measured may in fact be the *potential benefit* rather than strength of network ties or amount of social capital. For example, in a study examining patterns in home leaving and home returning of young ethnic youth, researchers Mitchell, Wister and Gee (2004) use a series of variables they identify as family structure variables which they claim tap dimensions of social capital. One of these measures, mother's religiosity, is measured in terms of how often church is attended; the assumption being that higher church attendance equals more dense networks and thus more social capital. However, I would argue that higher church attendance does not necessarily equate to more capital *per se*, because merely measuring the number of times a person attends church makes the assumption that they attend and interact with others

when in reality, an individual may attend church often, but never cultivate any meaningful network ties with other church goers. In this way, what is measured is not exactly social capital, but the *potential* for social capital benefits.

This all said, not all variables are questionable; political engagement, community social service and activism and team sports, for example, are identified within the same study. Over 50 variables are run through a factor analysis with the intent of getting Putnam's seven concepts of social capital. Along with the seven original concepts of social capital, four new forms of social capital emerged (see Messner, Baumer and Rosenfeld 2004). While "team sports" is a little puzzling, the other three all tap slightly different dimensions of participation. Likewise, the variable "trustworthiness" is a fragmentation of what usually is measured as a whole concept "trust" (see Farrell and Knight 2003). The idea of fragmenting trust into dimensions is counter intuitive, but easily achieved especially in regards to the collection of future survey data. This suggests rather than decry new ways of measuring social capital as failures, it is important to understand that social capital is a dynamic phenomenon that is bound to change and shift over time; these novel patterns in measuring social capital may be considered evidence of in what directions it may be transforming.

CHAPTER 5: CONCLUSION

Researchers past and present have worked diligently to produce a wealth of vital social capital literature both within and outside the discipline of sociology. The idea that ties with others produce some benefit is not new and runs throughout sociology's rich history and is apparent in the works of eminent nineteenth century authors such as de Tocqueville, Marx, Tönnies, Durkheim, Simmel and Weber (Portes, 1998). Contemporary researchers such as Bourdieu, Loury, Coleman, Lin, Putnam, Fukuyama, Granovetter and Burt have made substantive contributions towards better understanding and refining social capital. In recent years, social capital influence has expanded beyond its sociological roots and has found a niche in increasingly diverse areas of academic and governmental policy research. Social capital's value as a researchable is exceptional and notable. Portes (2000, p.1) suggests that social capital is the "most successful "export" from sociology...to public discourse during the last two decades." Likewise, Fukuyama (2002, p. 23) advises that social capital is regarded as a "key ingredient in both economic and stable liberal democracy" while Coleman advocates its importance as a concept related to all aspects of the social life (Fukuyama, 1995).

Although thriving, social capital's success has not come without problems. Areas of contention revolve around conceptual, definitional and methodological issues³³ (see Portes, 1998, 2000; Fredderke, *et al.*, 1999; Smith, 2000; DeFilippis, 2001; Quibira, 2003; Adkins, 2005; Furstenberg, 2005; Storberg, 2005; Rhee, 2007). Issues with social

³³ Although there has been critical debate about issues revolving around conceptual and definitional issues, methodological critiques of measurement tend to note that there is a problem, but fail to expand beyond observing there is an issue to documenting what the problems are and how extensive they may be. This is problematic in terms of the validity and reliability of the concept.

capital have given rise to its viability in the future. In chapter one, this author suggests three possible scenarios for the future of social capital: departure, transmutation or transformation. It seems unlikely that given social capitals notoriety and importance as a researchable it is likely to simply disappear in all or in part (see Lin, Cook and Burt, 2008). Likewise, its transmutation would be largely a tautological exercise unlikely to correct the issues. However, if researchers of social capital are able to transform and guide its conceptual and operationalization bounds, its potential as a robust and reliable concept can be realized in time. Noted professor of sociology, Charles Lachenmeyer (1970) offers hope for this transformation. He indicates that problems embedded in the research milieu of the social sciences may be sourced to the nature of its language, the fragmentation of research efforts, nomological experimentation and publishing bias and the breach of good scientific methods. He goes on to suggest numerous strategies to strengthen social research. Of note for the purposes of this thesis, methodologically geared research that provides analyses and assessments of scientific methods specific to a discipline (such as sociology) its research and a body of literature are key to improving the conceptualization and operationalization of social capital. Methodological analyses can inform on the quality of the concept as a researchable, but also provides a baseline of inquiry on its application.

This thesis provides a methodologically geared systematic critical review using content analysis for assessing measurement patterns of social capital in a sample of peer reviewed articles. It is not designed to make comment on the quality of individual social capital orientations or variants, definitional permutations, or offer comprehensive reviews of the findings of the studies. The purpose of this study is to explore and document the

patterns of operationalization in existing social capital literature. Eight research questions are explored and a series of hypotheses tested. Admittedly, this is an ambitious project. To date, a systematic methodologically driven assessment of social capital measures rather than an overview of strategies and research conducted have not been adequately addressed within academic literature.

The final chapter of this thesis is organized into two sections. Section one discusses key findings of the study followed by a summary of the research questions and related results. The research questions and summary discussion is presented in table format for clarity. This is followed by comment on patterns of novel measures of social capital and hypothesized outcomes. Strengths and weaknesses of the project are explained. Section two briefly outlines the study implications or potential impact of this work and makes suggestions for future research directions.

5.1 Discussion and Research Questions in Sum

The majority of articles surveyed for this thesis use secondary analysis of cross sectional data with a strong emphasis on quantitative analyses of informal participation outside of the family unit. Overall examinations of article citation range reveal that in this sample, the highly and least cited subsamples are most similar. In contrast, mid-range articles are the most diverse or heterogeneous in terms of conceptualization and operationalization patterns. This suggests that caution should be taken when selecting articles that are deemed to be 'exemplary' of social capital. Further, although there are numerous critiques of objective bibliometric measures such as journal impact factors or citation scores (how many times an article has been cited or citation count) when

assessing article quality (see Weingart, 2005), in this sample, the results suggest that although these measures are not without flaws, they are relatively good predictors of article vigour.

Patterns in publishing indicate that the most frequently cited articles while not the oldest in the sample, were older with a peak in social capital citing for articles published in 1995 and 1996. The most highly cited articles tend to be published in the most prestigious journals, but this pattern does not hold constant for those articles less frequently cited. For those less frequently cited, a 'diffusing effect' is noted; there are an increasing number of journals publishing social capital work, but they tend to be ranked lower according to their impact factor. Likewise, as article citation score diminishes, heterogeneity of research areas increases. As has been suggested in this thesis in a prior section, this may be an indication of social capital's increasing robustness, but more than likely just traces an increase in overall popularity of the concept.

In general, the sample can be classified as theoretical in nature. Issues stem from a variety of conceptual problems such as theoretical frameworks that fail to acknowledge social capital research *en mass* (i.e. network analysis) resulting in the inability to ground research within the larger social capital paradigm, to difficulties in assessing the quality of the research overall. With similar results for problems with grounding and assessment, other articles showed an overabundance of conceptualization with multiple orientations and basic reviews of literature forming the framework to guide their research. These articles are further problematized because in most cases, they fail to resolve issues of competing orientation (i.e. Putnam and Bourdieu or Burt and Coleman in terms of unit of analysis) which leads to measurement issues such as misaligned units of analysis and / or

mismatched strength of ties. Likewise, measurement accuracy was affected by particular orientations. Specifically Coleman and the single-minded focus on only individual level analyses, while disregarding the emphasis on bridging the micro / macro divide underpinning his conception of social capital and Putnam whose work often suffered as meso level analyses were ignored in lieu of easily accessible micro level data, or as incorrectly identified meso / macro level data (claimed to measure at the macro level, but actually measured at the micro level). Finally poor conceptualization leads to issues with the lack of conceptual definition and unmatched definition with overall theoretical framework (an issue exclusive of two or more theoretical orientations for one article). The pattern of failing to provide a basic understanding of social capital or definition increases with those articles less frequently cited.

Finally, when considering the operationalization of social capital, there is a general pattern in the sample away from foundational dimensions such as trust, obligation and reciprocity, while measures of intensity increase dramatically. This is especially so for dimensions of closeness and frequency. These patterns are magnified for those articles less frequently cited. This could be due, at least in part, to the simplistic nature of these measures and ease of access to data for secondary analysis with many of the large-scale data sets somewhat homogenous in the way that social capital data is grouped and gathered in survey research. Although the disinterest in aspects such as trust are puzzling, it is surprising how many articles fail to provide a basic roadmap for how they measured social capital; over half (54%) of the sample fail to provide operational definitions with those in the mid-range escalating to an alarming three-quarters of the subsample. It is important to note that it was the low-range articles, not highly cited articles that offered

concise operational definitions most frequently. Variations in operational definitions were noted by research area with a range of 20% up to 100% failure rates. Of the three primary research areas interested in social capital (see section 4.1.2, table 9), rates of failure were better than many of the other research areas, but still considered poor overall (education at 44%, migration / immigration at 55% and work at 57% failure rates). When comparing if the frequency of operational definitions were influenced by the presence of a conceptual definition (the premise being that good theory leads to good measurement), it was discovered lacking a conceptual definition increases the odds of having no operational definition and that the odds of having both definitions omitted increased as article citation score decreased. On a more encouraging note, in regards to agreement between theoretical orientation and measurement, overall the majority of the sample uses the correct unit of analysis with an emphasis on an appropriate strength of tie; the most highly cited articles were the best at matching theory with method in this regard. This answers one of the broad research questions prioritized in this thesis: are units of analysis consistently applied based on conceptualization. With an overall failure rate of 17% for units of analysis and 11% for strength of ties, it seems premature to start celebrating. These, some might argue, are still unacceptably high rates of failure especially since the sampling procedures of this thesis utilized only the articles with the highest citation scores (arguably the 'best') in the most prestigious academic journals. Finally, did having a conceptual and operational definition increase the likelihood of correctly measuring social capital creating the all important key for locking down theory to measurement patterns? While having an operational and conceptual definition does indeed lead to better agreement based on units of analysis and strength of ties, not having a conceptual

definition leads to unpredictable effects across the article citation range with the lack of conceptual definition actually increasing the odds of unit match for those less cited.

Table 18
Research Questions and Summary Discussion

Research Question	Summary Discussion
What do patterns in research tell us about the development of social capital?	Social capital's application across the sample has diversified with those articles cited less frequently the most heterogeneous. Social capital's development has been expanding and diversifying.
Are there nomological or publishing biases?	There is a strong emphasis on publishing only fully supported quantitative research; this effect is most pronounced in literature that is less frequently cited. There is a clear bias towards publishing only research that supports social capital rather than those highly critical of the concept Literature appearing in top ranked journals tends to be more heavily cited. This may provide support for the idea that prestigious journals publish "the best" research, traces lag time between publishing and being cited, or citation patterns where the same articles are repeatedly cited independent of their vigour. These findings are limited by the design of the project.
How is social capital conceptualized?	The following patterns are noted: single author, paired author, multiple author and not contemporary social capital author(s). Patterns of multiple author orientations often provide a review without additional information on particular orientations used to ground their research. This could have an effect on social capital vigour in terms of multi-dimensional modeling strategies. Care should be taken when creating models

using more than one orientation.

What forms of social capital measures exist in current literature and do they change?

For those articles less frequently cited foundational dimensions of social capital such as trust, obligation and reciprocity decrease dramatically. They are replaced with more simplistic measures of intensity such as frequency of contact and emotional closeness.

It is not clear what the overall effect of this shift will have upon social capital as a researchable, but using more simplistic measures limit the explanatory potential of the concept.

Are the units of analysis consistent with the level of conceptual analysis?

Although the majority of the sample (54%, N = 106) correctly match units of analysis with conceptual orientation, a 46% failure rate is still profound.

Highly cited literature is much more likely to be successful in correctly applying units of analysis (94%) when compared with those articles less frequently cited (average of 47.5%; n = 70). Care should be taken when selecting research to duplicate; stricter adherence to correct units of analysis are necessary.

The presence of an operational definition affects units of analysis match positively. However, conceptual definition and units of analysis have an inverse relationship. The effects of defining, while not clear cut, are important factors in design. Care should be taken to clearly operationalize measures of social capital as this increases the likelihood of unit match.

Do different ways of organizing conceptual orientations affect its measurement or pose other issues in producing an accessible definition of social capital?

Consistently, the least problematic is research using only one conceptual orientation to social capital with those articles most highly cited least likely to have conceptual issues. Single orientations

for Coleman and Putnam are problematic even when used singularly as application is limited to individual level analyses almost without exception.

Defining social capital is problematized when multiple orientations are used as competing or polarized ideals of individual author's conceptualization of social capital are never reconciled. While highly cited literature does a good job of providing adequate conceptual definitions (84%), mid and low-range fail at the alarming rate of 46% and 59% respectfully.

Authors need to be more mindful of variations in social capital orientations.

Is social capital operationalized adequately?

The majority of articles (54%) fail to provide operational definitions of social capital with the low-range articles least likely to commit this error. Failure rates vary by research area. More time should be dedicated to proper defining of variables to improve measurement patterns.

Social capital is often operationalized using a single question or dummy coded variable (44%). Of those using more refined composite measures, 59% fail to identify how the multiple item score was created and only 15.5% note the Cronbach's alpha. Of those that do note the alpha, measures of social capital appear to be strong ($\alpha = 0.68$ to $\alpha = 0.92$). Patterns towards more simplistic measures limit the explanatory potential of the concept.

Omission of measurement operations related to design such as sample size / type, unidentified data sets or questions, data on difficult or sensitive populations, unclear operationalization of variables result in moderately poor duplication potential. By contrast, generalizability was found to be

moderately good. Careful article crafting could minimize effects.

Do issues with conceptualization have any effect on operationalization?

Articles with strong conceptualization and clear definitions of social capital are much more likely to provide operational definitions of variables used to measure social capital. Likewise, having both conceptual and operational definition leads to higher degrees of unit of analysis and strength of ties agreement for highly cited literature, but this effect is unpredictable for those less cited; with the lack of conceptual definition actually increasing the odds of unit match for those less cited. The results indicate that the assumption that highly cited literature is 'better' is flawed. Care should be taken when duplicating literature; at minimum clear conceptual and operationalizing definitions should be identifiable.

5.1.1 Novel operationalization patterns and hypotheses

With an emphasis on measurement patterns, this thesis uses an integrated approach between social capital conceptualization and measurement to assess a body of sociological literature. In this section, novel patterns in social capital operationalization are discussed and the results of the hypothesized outcomes summarized.

Patterns in social capital operationalization vary, but novel modes of measurement clearly exhibit an inverse relationship; as citation score decreased, novel ways of measuring social capital increase. Out of the 47 novel measures identified in this

thesis, low-range articles account for 64% of novel measures with another 24% identified in the mid-range. Clearly, highly cited literature is much more likely to adhere more closely to original conceptual guidelines for measures of social capital than those less frequently cited. Loosely categorized, these new measures fall into three categories: 1) those that misapply a variable or mistakenly call another form of capital “social” (i.e. when the measure should have been categorized as human capital); 2) those measurements that just simply cannot be explained in any other way other than to say they are fanciful poor representations of social capital; and 3) emerging or fracturing measures of traditional dimensions of social capital or those measuring the *potential* for social capital. It is this final group that holds the most promise, but also posed the most risk as a concept as it suggests that social capital, while not without issues, is dynamic and continues to expand and change as research of any complex phenomenon should. It is with this that I caution that just as Alejandro Portes (2000) dogmatically suggests, if social capital means all things and is connected to everything social, then in essence it begins to mean nothing at all; researchers should be aware of how they conceptualize and measure social capital with an emphasis on the units of analysis.

Table 19 re-states the hypotheses generated for this thesis, indicates the degree of support and offers a brief discussion on each point. In general, hypothesized statements are supported through the assessment of social capital in this sample with mixed support in regards to the degree of homogeneous findings that lack internal contradictions and theoretical agreement and the operationalization of social capital in regards to the units of analysis used in the construction of social capital variables.

Table 19
Hypotheses and Summary Discussion

Hypothesis	Support	Discussion Summary
Hypothesis 1: The most highly cited articles will be the oldest social capital articles and will be published in the most prominent or ‘best’ journals.	Support	Although not the oldest in the sample, the most highly cited have the strongest concentration of older articles in the most prestigious journals. In this sample, journal quality is a good predictor of article vigour.
Hypothesis 2: Research areas conceptualizing social capital will diminish and become more homogenous with a lack on internal contradiction (see Grunwald, 1990) for those articles less frequently cited.	Mixed	The most highly cited articles are the most densely grouped by research area and publisher. Likewise, themes tend towards homogeneous application, though there is little support for the lack of internal contradiction.
Hypothesis 3: Although there will be issues with the conceptualization of social capital, in generally the majority of articles reviewed will offer at least an adequate theoretical impression of social capital.	Support	Although there are issues with multiple theoretical orientations, overall the majority of articles are adequately theoretical and provide definitions of social capital most of the time.
Hypothesis 4: There will be a slow decomposition of dimensions of social capital that underpin theory such as trust, reciprocity and obligation in lieu of simpler modes of measuring dimensions of intensity.	Support	It has been argued in this thesis that aspects of trust are integral to the conceptualization and measurement of social capital. Unfortunately, as simplified measures of intensity are growing in number, the number of those articles interested in measuring these three foundational dimensions of social capital is diminishing.
Hypothesis 5: Strong conceptualization of social capital leads to strong measurement patterns; those articles that clearly define theoretical aspects of social capital will also provide at	Support	Not only did a strong conceptual definition increase the odds of an adequate operational definition, but it also increases the likelihood of correct application of measurement or units of analysis and agreement with strength of ties.

least adequate defining qualities of the operationalization of social capital.

Hypothesis 6: There will be issues with measurement patterns in regards to theoretical agreement with units of analysis and strength of ties.	Mixed	Overall, units of analysis were correctly matched to individual researcher orientations. However, there is still an inordinate failure rate to consider.
Hypothesis 7: There will be a strong presence of new ways of measuring social capital that do not exactly represent any traditional theoretical orientation and patterns for these ‘novel’ measurements of social capital will increase as article citations decreases.	Support	Patterns in ‘novel’ social capital measurement is not only shocking in regards to the frequency occurs across the sample, but also in regards to the overwhelming number in those articles less frequently cited.

In this sample, the most highly cited articles generally correspond with journal quality. Likewise, overall findings with the highly cited articles suggest this range of articles is not without flaws, but generally is conceptually strong with fewer issues with orientation and grounding, and defining and measuring. Therefore, journal quality in this sample is considered a relatively good predictor of article vigour.

5.1.2 Strengths and weakness of the project

This study was carefully constructed with valuable input from a committee of respected academics, but it is not without flaws. Major limitations include: 1) selection and researcher bias, 2) coding inconsistencies, 3) issues with generalizability and 4) the

potential for duplication problems. Selection bias is introduced through data collection strategies; using a large meta-database to search multiple smaller bases simultaneously introduces an unknown degree of selection bias to the sample. Likewise, database delimiters do not always function perfectly. While introducing the potential for additional inadvertent researcher selection bias as manual reviewing and exclusion is necessary, the same search and collection strategy is a strength allowing for the generation of 'data' in the form of literature that spans decades accessing multiple journals quickly and efficiently. Potential researcher coding inconsistencies are compounded by a time lapse between collection and analysis of the sample due to relocation of the author. To minimize the effects of researcher coding error the following strategy is used: 1) the initial twenty-five percent of articles are recoded after the full sample is complete and 2) using Microsoft *Excel*, a random sample is generated with an additional twenty-five percent of articles reviewed for coding consistency. The small sample size ($N = 106$), while valid, is problematic for generalizing the effects beyond the sample. A project that is larger in scope could introduce better reliability and precise measurements or different patterns and variations as the small number of cases increases the odds of systemic errors. Finally, although care was taken in the selection of variables for inclusion, there may be some disagreement as to what terms should be prioritized and lapses exposed by future research not readily apparent at the time this thesis was constructed. Likewise, the long-term effects of using a large meta-base like *ISI Web of Knowledge* are unknown; at the least search abilities may change and at worst institutional and structural changes may make precise duplication using this particular meta-base inadvisable. However, this should not affect the ability to replicate the research, as this does not hinge upon all

conditions being the same unlike duplication implies. Finally, Seglen (1997) suggests that using journal impact factors as a proxy for journal quality is problematic because it may obscure variations in citation rates (with those most frequently cited 10 times more often than those less frequently cited). He claims impact factors are determined by “technicalities unrelated to scientific quality of their articles” and depend heavily on research fields and journal coverage of broad areas of inquiry (Seglen, 1997, paragraph 3). These issues are minimized by not just using journal impact factors in isolation; citation scores (how often an article is cited) provide an additional objective measure that was useful for interpreting variation within the sample allowing for a richer and more vigorous analysis.

5.2 Study Implications and Future Research Directions

The future of social capital research is bound to wax and wane in the years to come, but is unlikely to ever completely disappear as it is so integrally incorporated into so many facets of sociological inquiry, public interest and policy. While there can be no arguing that measurement patterns currently are far from perfect, with a little re-direction the concept can become more robust helping to polish its currently somewhat tarnished façade. Questions for future social capital methodologically geared research might include: Does a larger sample size have any effect on the findings of this project? Do the patterns hold constant across disciplines? What are the variations by discipline and what are the effects of these variations on the reliability of social capital as a measurement tool? Are there strengths in social capital measurement that are unique to a discipline and

if there are, can these strengths be translated into sociologically geared research to create a more dynamic and vigorous concept? What do new or novel methods of measuring social capital add to the existing conceptualization of social capital? And finally, can fine-tuning of social capital measurement lead to better results; in particular should variables that measure the potential for social capital be identified and weighted differently in research?

In closing, noted professor of sociology and author, Charles Lachenmeyer suggests issues with social science research relate back to the breach of good scientific methods, research fragmentation resulting in, among other things, ad hoc application and overly simplistic measurement strategies of complex phenomena. These assertions provide the backbone of this project. Overall, social capital is not necessarily a “good concept gone bad” but rather a concept that is plagued with research-based problems. That is not to suggest that the concept in its current state is robust, but rather that the proliferation of “bad scientific methods” problematize its assessment. For example, incomplete documentation of scientific and statistical procedures is not necessarily the product of poor research, but rather careless crafting of articles for publication. This impacts replication potential adversely, but also is a platform for conceptual issues and poor defining practices negatively affecting the operationalization of social capital in this sample. Better publishing practices including editing and vetting procedures could mediate these effects to some degree, but do not necessarily make social capital as a concept, stronger. Ultimately, to improve concept vigour, research priorities should include the development of a series of standardized questions that measure the complexity of the phenomenon while avoiding overly simplistic one item and dummy

coded measures, and then these indices should be tested and re-tested for reliability. Community level datum should be employed starting at the survey design stage. And finally, while novel measures may expand our current understanding of the effects of social capital, they should not be without conceptual, statistical and methodological grounding. The idea that social capital, or ties with others net some intrinsic effect, is not a new concept and indeed has roots that run deep throughout sociology's rich history. Researchers past and present have worked diligently to produce a wealth of social capital research that has been applied to diverse social issues making it an important tool in driving public policy; duplication strategies should account for lapses and capitalize on strength of existing research.

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Appendix 2: Analysis framework

ARTICLE ID #	#1	#2	#3	#4	#5
Author(s)					
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THEORY					
Theory: Yes/No					
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Units of Analysis (Indv./Comm./Nat./Glob.) Micro/ Meso/Macro Match (yes/no)					
CONTEXT: discipline area					
Problem/hypothesis					
Area of Interest					
Operational Definition					
Support					
RESEARCH DESIGN					
Quantitative Qualitative					
Level of Data (Micro/Meso/Macro)					

DATA COLLECTION					
Data Type					
Sample Type					
Sample Size					
Adequate Sample for Tests (yes/no)					
MEASURES					
SC Independent/Dependent					
SC # of Indicators					
Question Accessible					
Questions Fulfill Basic Rules					
Balances Response Categories					
How scale constructed					
Missing Cases					
Cronbach Alpha					
DATA ANALYSIS					
Discussion Univariate					
Discussion Bivariate					
Discussion Multivariate					
Tests					
Generalizability					
Replication potential					
SOCIAL CAPITAL					
Theme					
Findings					
Quant/Qualitative/Mixed					
Theoretical (yes/no)					

Indv./Commun/State					
Micro/meso/macro					
Strong/weak ties					
Trust					
Obligation					
Reciprocity					
Intra/extra familial					
Participation (formal, informal, civic)					
Intensity: Duration/emotional closeness/frequency					
Intensity: role / status					
Type of data secondary/collected own					
Data set used					
Year of data					
NOVEL measures					