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Social Capital and Subjective Well-being: The Case of Rural Ethiopia

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SOCIAL CAPITAL AND SUBJECTIVE WELL-BEING: THE CASE OF RURAL
ETHIOPIA

A Thesis
Presented to
The Graduate School of
Clemson University

In Partial Fulfillment
Of the Requirements for the Degree
Masters of Science
Applied Sociology

By
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Accepted by:
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ABSTRACT

The current study examined the association between social capital and subjective well-being (SWB) in rural Ethiopia. The current study used the 2009 Ethiopian Rural Household Study (ERHS) with a sample of 1277 households. It was hypothesized that social capital is positively associated with SWB, that cognitive social capital would have a stronger association with SWB than would structural social capital, and that the relationship between social capital and SWB will differ by region. The study included an examination of the interaction between regions in Ethiopia, social capital, and SWB. It was found that membership in an equub, generalized trust, and perceptions of the trustworthiness of government were significantly associated with SWB. Significant interaction terms were Oromia and participation in a work party and Tigray and trustworthiness in neighbors. These findings are consistent with the research linking social capital to SWB (Bjornskov 2006; Helliwell 2006; Sarracino 2010). The findings of this study also support previous research indicating a stronger association between cognitive social capital and SWB over structural social capital and SWB (Bjornskov 2006; Yip, Subramanian, Lee, Wang and Kawachi 2006). There were some significant interactions between social capital, region, and SWB. This study can be used to inform policymakers interested in social capital and SWB approaches. More research is needed on memberships in associations and their relationship with SWB in rural Ethiopia.

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LIST OF ACRONYMS

AAU	Addis Ababa University
CSAE	Centre for the Study of African Economics
DHS	Demographic and Health Survey
ESRC	Economic and Social Research Council
EPRDF	Ethiopian People's Revolutionary Democratic Front
ERHS	Ethiopian Rural Household Survey
ETB	Ethiopian Birr
EVS	European Values Study
GTP	Growth and Transformation Plan
HDI	Human Development Index
IFPRI	International Food Policy Research Institute
OLS	Ordinary Least Squares
OPDO	Oromo People's Democratic Organization
PA	Peasant Associations
PCA	Principal Component Analysis
PASDEP	Plan For Accelerated and Sustainable Development to End Poverty
QOL	Quality of Life
SEPDF	Southern Ethiopia People's Democratic Front
SEM	Structural Equation Modeling
SLF	Sustainable Livelihoods Framework
SNNP	Southern Nations Nationalities and Peoples
SWB	Subjective Well-being
SWLS	Satisfaction with Life Scale
TLPF	Tigray People's Liberation Front
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WHO	World Health Organization
WVS	World Values Study

CHAPTER ONE

INTRODUCTION

The context and focus of international development are in a state of change and debate. Indicators of development have shifted from the early focus on country-level industrialization, Gross National Product (GNP), and material consumption toward a wider breadth of indicators that include poverty reduction, human capabilities, sustainability, social progress, and well-being (Sen 1999; Gough, McGregor, and Camfield 2007; UNDP 2011). Subjective well-being (SWB) has gained the attention of social scientists and international organizations monitoring and measuring outcomes in both developed and developing countries. The SWB approach to development and to the mitigation of poverty considers the perceptions of individuals' satisfaction with life or state of happiness as a relevant development outcome (Rojas 2007). In April 2012, the secretary general of the United Nations, Ban Ki-Moon, expressed his enthusiasm for the SWB approach (United Nations 2012). He challenged the international community to embrace new goals for development that integrate well-being, happiness, and sustainability.

Economic and social policies increasingly are oriented at participatory approaches to achieve development goals. The World Bank has analyzed poverty and inequality by employing participatory development strategies, such as social capital (Dolfsma and Dannreuther 2003). Social capital is defined as groups and networks from which individuals can access resources for individual or collective benefit (Portes 1998). The concept of social capital has come to include notions of norms, trust, civic community, and associational life, in addition to networks and social ties (Putnam 1993; Helliwell and Putnam 1995). Improving the ability of the poor to mobilize resources has become a

central feature of development discourse. The attention paid to social capital has led scholars to unpack, define, and distinguish different forms and types of social capital.

The purpose of this study was to examine the relationship between social capital and SWB in rural Ethiopia. The current study used the 2009 Ethiopian Rural Household Survey (ERHS) to examine the research question: What is the empirical relationship between social capital (i.e., both structural and cognitive forms of social capital) and SWB in rural Ethiopia? The study investigated three issues: (1) the association between social capital and SWB in rural Ethiopia; (2) the independent relationships of structural social capital and cognitive social capital and SWB in rural Ethiopia; and, (3) whether the association between social capital and SWB varies by region.

The current study contributes to the literature investigating SWB in developing countries. The study links social capital and SWB in rural areas of developing countries. The study can have important policy implications. The current study adds to the knowledge base regarding the linkages between social capital and SWB. The examination of social capital and SWB in rural Ethiopia can inform policy that integrates social capital and SWB as aspects of development.

LITERATURE REVIEW

The following literature review focuses on the social capital theory, social capital in development, and social capital measurements. Next, there is a discussion of SWB, and the linkages between social capital and SWB. Finally, the literature review summarizes the history and current state Ethiopia. The literature review addresses several social capital and SWB studies conducted in or about Ethiopia.

Social Capital Theory

Social capital has been studied by sociologists, economists, development practitioners, and political scientists. The literature has resulted in a range of applications (Portes 1998). Participatory approaches to development have been included in developed and developing countries alike. The prominence of social capital in development policy by organizations such as the World Bank has been both praised and harshly criticized (Putnam 1993; Woolcock 1998; Cleaver 1999; Fine 1999).

The conceptualization of social capital emerged out of debates regarding the determinants of social action within the social sciences. Historically, classical and neoclassical economists tended to pursue the “undersocialized concept of man,” operating under the assumption that action is determined through calculated, rational self-interest of benefits versus consequences. This approach is criticized due to the lack of acknowledgement of the effect social structure and social relations may have on the actor (Granovetter 1985). Weber (1968) contended that economic action is considered social if the behavior of others is taken into account. The undersocialized perspective has potential pitfalls due to its inability to address the social nature of economic action (Granovetter 1985).

The opposite side of the continuum, the “oversocialized concept of man,” emphasized that human action is dependent on human existence as social beings (Granovetter 1985). Thus, social action is the result of internalized norms and values and strict obedience to social systems. However, Weber theorized that social action consists of more than one type or motivation: rational orientation for discrete ends, rational

orientation to an absolute value, affectual orientation, and traditional orientation. Rational orientation for discrete ends can be understood through the rational choice perspective of weighing benefits and consequences. Rational orientation to an absolute value means that action is guided by actors' morality. Affectual orientation is social action guided by emotion. Traditional orientation is social action that results from habitual practice (Weber 1968:6). These articulations aided in understanding the embeddedness of social action within social relationships and social structures.

Social capital as a theory and a concept has been subject to a great deal of discourse that has led to a variety of definitions and measurements. Table 1.1 summarizes several definitions of social capital in the literature. The first known articulation of social capital as a resource was made by a school superintendent from West Virginia named Lyda J. Hanifan who focused on the positive consequences of community participation for schools (Woolcock and Narayan 2000). Hanifan commented that social relationships created from fellowship, goodwill, and sympathy could be seen as social capital with the potential to improve the quality of life for the entire community (Hanifan 1916 cited in Woolcock and Narayan 2000).

Table 1.1. Definitions of Social Capital.

Author	Definition
Bourdieu (1986: 248)	<i>The aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition.</i>
Coleman (1988: S98)	<i>Social Capital[...] consist of some aspect of social structures, and they facilitate certain actions of actor – whether persons of corporate actors – within the structure.</i>
Portes (1998:6)	<i>Social capital stands for the ability of actors to secure benefits by virtue of membership in social networks or other social structures.</i>
Putnam (2000: 19)	<i>Social Capital is social networks and the norms of reciprocity and trustworthiness that arise from them.</i>
Woolcock and Narayan (2000: 225)	<i>Social capital refers to the norms and networks that enable people to act collectively.</i>
Fukuyama (2001: 7)	<i>Social capital is an instantiated informal norm that promotes cooperation between two or more individuals.</i>

Contemporary scholars such as Bourdieu (1986) and Coleman (1988) described social capital as the social context in which actors use groups and networks to access specified benefits. The definitions and articulations of social capital by Bourdieu (1986), Coleman (1988), and Portes (1998) emphasize the importance of social capital as an opportunity to access benefits found within embedded social structures. These potential benefits of social capital can include monetary support or non-monetary support (Bourdieu 1986; Portes 1998).

Coleman (1988) and Putnam (1993) addressed the benefit of social capital to the larger community as a public good. The definition of social capital was extended to include the inclination of individuals to actively participate in public affairs, to trust in others, and to associate with one another regularly (Putnam and Goss 2002). Putnam (1993) argued that associational life - membership and active participation in civic life - are necessary for healthy communities. He noted that “successful collaboration in one

endeavor builds connections and trust – social assets that facilitate future collaboration in other, unrelated tasks” (Putnam 1993:4). Coleman (1988) theorized those involved in the creation and maintenance of social capital receive only a small portion of the overall benefits. Woolcock and Narayan (2000) and Fukuyama (2001) focused on social capital as a mechanism for cooperation and collective action. It is argued that the norms of reciprocity and trust shared within groups create an environment of cooperative behavior to help achieve and maintain goals (Fukuyama 2001). Woolcock (2000) underscored the practical aspect of social capital as a way in which actors cope with risk and uncertainty, pursue interests, fulfill aspirations, and achieve goals.

There are four sources of social capital. These are: value introjection; reciprocity exchanges; bounded solidarity; and, enforceable trust (Portes and Sensenbrenner 1993). Table 1.2 summarizes the sources of social capital. Value introjection is similar to the oversocialized concept of man discussed earlier. This source is derived from social capital as a type of moral order internalized through socialization that prompts “individuals to behave in a way other than naked greed” (Portes and Sensenbrenner 1993: 1323). As sources of social capital, reciprocal exchanges are predicated upon the use of social ties (Coleman 1988; Portes and Sensenbrenner 1993). Social ties further legitimate actors’ ties to and the resources exchanged within the system because these ties act as a type of social credentialing (Lin 1999). These resources represent opportunity for a variety of exchanges.

Bounded solidarity is a source of social capital due to its ability to manifest as group-oriented behavior reacting to a common challenge (Portes and Sensenbrenner 1993). Coleman (1988) emphasized that network closure brings about effective norm

adherence which may play a part in bounded solidarity. Portes and Sensenbrenner (1993) cited the solidarity found within ethnic and immigrant communities as an example of bounded solidarity.

Enforceable trust is considered a source of social capital. Norms and expectations underpin the continued and reinforced access to social capital (Coleman 1988). Effective group norms can reduce crime and other deviance within the community through the perceived threat of sanctions. This source of social capital is maintained by the potential rewards available within particular social relationships by virtue of obedience to norms and the perceived threat of sanctions if group norms are not maintained (Coleman 1988).

Table 1.2. Summary of Sources of Social Capital.

Source	Definition
Value introjection	Socialization into norms and moral order.
Reciprocity Exchanges	Social ties embedded in a system of credits and debits.
Bounded Solidarity	Group-oriented behavior.
Enforceable Trust	The use of sanctions against those that break norms.

Two forms of social capital have been identified through the theoretical and empirical works on social capital are structural social capital and cognitive social capital (Uphoff 1999). Structural social capital consists of networks and ties to which individuals or groups have access. Structural social capital includes both horizontal and vertical organizations and associations. Horizontal structural social capital is characterized by informality. It is considered to be important to sustained trust and collective action, while vertical associations, characterized by member hierarchies, may place some restriction on the formation of structural social capital (Putnam and Goss 2002). The assertion that

membership in horizontal organizations are best for the accumulation of social capital has been debated. Studies have shown that membership in these types of organizations are not necessarily associated with higher social capital than vertical associations (Krishna and Shrader 2000). Structural social capital can be inward-looking social capital or outward-looking social capital (Putnam and Goss 2002). Inward-looking associations tend to provide benefits to members only and are likely to be homogenous along gender, ethnic, or class lines. Outward-looking associations are groups that are explicitly interested in the enhancement of community and civic society. Both inward and outward associations have the potential to increase social capital.

Bonding and bridging social capital are distinguished aspects of structural social capital. Bonding social capital is similar, yet distinct from, inward-looking organizations (Putnam and Goss 2002). Bonding social capital are connections with those most identical to a person's gender, ethnicity, class, race, etc. In developing countries, bonding social capital are typically those connections within villages. Those with high levels of bonding social capital may act upon these close-knit networks to 'get by' (Woolcock and Narayan 2000). Bridging social capital consists of connections to those that differ from one's own identity such as weak intercommunity ties (Woolcock and Narayan 2000; Putnam and Goss 2002). Ties defined as bridging social capital are seen as important ways 'get ahead' (Woolcock and Narayan 2000).

Social Capital and Development

Woolcock and Narayan (2000) traced the emergence of social capital and the increased attention to the social dimension of development within the development

literature. In the 1950s and 1960s, development scholars viewed traditional social relationships as obstacles to the implementation of economic development strategies. Throughout the 1970s, conflict theorists dominated the development discourse and argued that the exploitative capacity of capitalist expansion was ruinous to the poor. During the 1980s and the 1990s, neoclassical economic development became prominent. This approach emphasized the structural adjustment of developing economies toward decentralization and trade openness. This approach was criticized in part because it ignored social aspects embedded within countries and their potential role in success or failure of development. If groups and communities fail to engage in development, then development projects may fail. The social capital approach to development was adopted because of the limitations and failures of the previous approaches to development (Portes and Vickstrom 2000). Past development policy left many developing countries responding to corrupt governance, problems associated with public order, fragmented communities, and other unintended consequences of macroeconomic policy.

The social capital approach is emphasized due to its presumed ability to contextualize the social dimension of progress, which includes locally based institutions, social relations, networks, norms, and trust into successful development policy (Grootaert and van Bastelaer 2002). It has been argued that social capital can reduce economic transaction costs and empower the poor, thus spurring economic growth and the mitigation of poverty (Fukuyama 2001). Grootaert and van Bastelaer (2002) summarized the benefits from social capital that directly or indirectly affect development are increased availability to and lowered cost of information, efficiency in collective decision-making, and reduction of opportunistic behavior by members of the community.

It has been argued that increasing the quality and quantity of social capital in developing countries will help ensure the success of social and economic development projects for entire communities (Sorenson 2000). Structural social capital in developing countries consists of informal organizations formed and maintained by its citizens (Bebbington and Carroll 2000). Labor-sharing networks, farmers associations and cooperatives have been identified as important horizontal and informal institutions in which farmers and their households can compete for a diverse opportunities and exchanges such as access to open fields, labor assistance, diversification of agricultural plots, and an increase in the collective bargaining power of farmers (Sorenson 2000).

Cognitive social capital is comprised of norms, values, attitudes, beliefs, and trust (Uphoff 1999). Possessing high levels of cognitive social capital potentially predisposes actors toward beneficial collective action (Krishna and Uphoff 2002). Trust can be created by organizations through the adherence to norms, obligations and expectations of the organization (Sorenson 2000). Trust facilitates efficient exchange and reduces the need for continuous monitoring of exchange systems. Mutual trust makes it more likely that these systems remain stable and operable. The implications of social capital for development show that its role may have profound effects on households and community.

Grootaert and van Bastelaer (2002) summarized some of the outcomes from the World Bank Social Capital Initiative studies. These studies found that the effective management of watersheds in Rajasthan, India, the increase of income for agricultural traders in Madagascar, the success of agricultural extension in Mali, and successful waste management services in Bangladesh all were significantly associated with social capital.

Social capital and its linkages to development is criticized on several grounds. It is argued that there is no clear and universal definition of social capital. Fine (1999, 2002) has argued that the notion of social capital has a “shaky foundation” due to the multiple definitions and the unrefined nature of measurement used in the social capital literature. He warned of applying social capital to anything and everything as an explanation to social phenomena.

Critics note that supporters of the social capital in development paradigm proceed with a functionalist approach that highlights the concept as a positive phenomenon with positive consequences (Portes 1998). However, Bourdieu (1986) considered the negative consequences of social capital and the problem with its potential for unequal access and exclusionary impact. Bourdieu posited that the dominant class is responsible for the production and reproduction of social capital and this class only allows certain individuals access to any potential benefits. Fine (1999) criticized studies of social capital for not recognizing the power and authority structures that exist within countries, communities, networks that inhibit access to networks. When individuals lack social ties and trust within their community, they can be systematically excluded from accessing resources that may otherwise be available (Woolcock and Narayan 2000). Members of groups may use social capital as a means to oppress the rights and activities of other groups or individuals. Groups with strong networks may be connected to illegal activities (Fine 1999).

Cleaver (1999) pointed out that there is no long-term evidence that investment in participatory approaches to development have resulted in improved quality of life for those in developing countries. It was argued that participatory approaches have become

more like bureaucracies, 'domesticated' from original conceptualizations and intentions. Cleaver suggested that a major reconceptualization of development is needed (Cleaver 1999:608). .

The Measurement of Social Capital

The concept of social capital has been applied to various settings in both developed and developing countries using different levels of analysis, measurement and methodological approaches. Debates remain regarding what constitutes social capital in varying social and cultural contexts (Krishna and Shrader 2000). This section reviews the literature addressing the measurement of social capital.

Krishna and Shrader (2000) noted the need for a rigorous and detailed methodological plan to uncover specific micro-level social capital indicators for cross-cultural research. To that end, the Social Capital Assessment Tool (SOCAT) was created. The SOCAT involves the creation of a community profile, data collection from household surveys, and an organizational profile of formal and informal organizations to help understand what social capital is in a particular context as well as the role of social capital in development. The SOCAT used a participatory approach to define and piece together local knowledge of community characteristics and assets. The SOCAT is meant to uncover dimensions of social capital within the culture it is implemented. The tool has been administered in several countries such as India, Panama, and Nigeria. The implementation of a cross-cultural methodological tool such as the SOCAT, may help to uncover culturally specific manifestations of social capital, but is a costly endeavor. The implementation may not be practical with limited resources.

Narayan and Cassidy (2001) created the Global Social Capital Survey. They reviewed several social capital instruments and found that measures of trust and organizational membership were universally used. Then, multi-disciplinary workshops at the World Bank were held in order to refine the instrument. Finally, the survey instrument was pilot tested using 1,471 households in Ghana and 950 individuals in Uganda. Structural equation modeling (SEM) was used to explore dimensions of social capital. From the analysis seven dimensions of social capital were identified. The dimensions were:

- group characteristics;
- generalized norms;
- togetherness;
- everyday sociability;
- neighborhood connections;
- volunteerism; and,
- trust.

Onyx and Bullen (2000) conducted a survey in New South Wales, Australia that investigated social capital within five communities. The study used factor and correlational analysis to identify dimensions of social capital. The specific factors were:

- participation in the local community;
- social agency, or proactivity in a social context;
- feelings of trust and safety;
- neighborhood connections;
- family and friends connections;
- tolerance of diversity;
- value of life;
- work connections; and,
- proactivity in a social context (employees).

Bjornskov (2006) used the World Values Study (WVS) to determine whether social capital was a uni-dimensional or multi-dimensional concept. The analysis was at the national-level and included over eighty countries. Principal component analysis

(PCA) was used to examine social capital dimensions. There were three factors extracted from the analysis. These were generalized trust, societal norms (e.g. permissiveness of cheating, stealing and bribery), and membership in organizations. The findings suggested the need to separate social capital components rather than including them as a single aggregate.

Grootaert and van Bastelaer (2002) distinguished macro versus micro approaches to measuring social capital. It was argued that successful macro approaches to measuring social capital included assessing the institutions of the country, the rule of law, and governance. Micro approaches to measurement were assumed to encompass the dimensions discussed earlier including networks, organizational membership, trust, norms, and values. Grootaert and van Bastelaer (2002) suggested that studies of social capital should focus on membership in local associations, trust and norms, and collective action.

Subjective Well-being

Subjective well-being (SWB) is generally defined as the evaluation of one's own life (Diener and Biswas-Diener 2002). Veenhoven (2008) further extended the concept by defining SWB as an overall judgment of life using two sources. These sources were cognitive comparisons regarding what the good life means and affective information regarding how an individual may feel the majority of the time.

The Secretary General of the United Nations, Ban Ki-Moon, gave a speech in April 2012 regarding the use of SWB indicators as a relevant measurement of sustainable growth and prosperity for nations. He highlighted the need for SWB indicators, arguing

that they may shed new light on social and environmental progress that may be otherwise hard to measure (Helliwell and Barrington-Leigh 2010; United Nations 2012). This echoed the assertions of researchers who have focused on factors and determinants of SWB in an effort to advance a more holistic and social approach to development (Helliwell and Barrington-Leigh 2010). Attention to SWB has increased as scholars and practitioners question what should be the end goal of development (Gough, McGregor, and Camfield 2007).

Using SWB as an indicator of development has its roots in quality of life (QOL) research. Quality of life research examines well-being with the use of both objective and subjective indicators to inform policy and monitor development (Ferriss 2004). The World Health Organization (WHO 1997) defined QOL as an individual's perception of their relative position within their specific culture and value system. Quality of life is judged in relation to expectations and standards of life. Quality of life instruments typically ask subjective questions about objective circumstances (e.g. health status). Subjective well-being encompasses an actors' perception about their overall QOL, including experiences of pleasure, fulfillment of basic needs, as well as ethical and evaluative judgments of the actor's life (Diener and Suh 2000).

Life satisfaction and happiness are two distinct aspects of SWB. Happiness is typically defined as the affective, volatile component of SWB, while the measurement of life satisfaction is considered to be a stable and evaluative process correlated to life-long circumstances (Diener 1984; Krueger and Schkade 2008). According to Rojas (2007), the SWB approach is inherently subjective, acknowledges the authority of the person, is inferential, and transdisciplinary. The SWB approach assumes that well-being is

essentially a subjective phenomena experienced by the actor living life. Actors are the most appropriate persons to evaluate their own life satisfaction and well-being. The SWB approach argues that the researcher should understand well-being as it is assessed by the actor, rather than to assess the well-being of others. This approach avoids presumptions of what well-being is and seeks instead to examine the determinants of SWB using inferential techniques. The study of subjective well-being is transdisciplinary.

Veenhoven (2008) addressed several sociological theories relevant to SWB. He applied social constructionist theories to SWB using cross-country research as evidence. Social constructionism proposes that humans attach meanings to phenomena and construct reality. Because humans belong to different cultures, the meanings created may be relative and relevant to that culture. Veenhoven (2008) argued that within cultures there are shared notions regarding what it means to live well, to be happy, and to be satisfied. This may vary between cultures. Veenhoven (2008) pointed out some shortfalls to this theoretical framework. Social constructionism does not explain affective experience such as physical pain and psychological affect that play a part in SWB. Data also suggest that factors associated with SWB are universal rather than specific to culture (Diener and Suh 2000; Veenhoven 2008; Helliwell and Barrington-Leigh 2010).

Social comparison theory has been used to contextualize SWB. Social comparison theory states that people compare their life using referential standards in order to make judgments about whether they are living well (Veenhoven 2008; Diener 2009). Persons may see themselves as relatively deprived compared to their neighbors, which may negatively affect their SWB. One shortfall of the social comparison

framework to SWB is that standards may be based on values and ethics unrelated to material surroundings (Diener 2009).

Adaptation theory also has been applied to SWB. Adaptation theory postulates that individuals adapt to good and bad life events because individuals SWB has a biological set-point that typically remains constant (Lucas 2007). The literature on adaptation and SWB has yielded mixed findings, thus it is not clear whether adaptation actually occurs (Lucas 2007; Diener 2009; Fafchamps and Kebede 2008).

For the main part, SWB research has been reliant on surveys. Subjective well-being can be measured as an overall judgment of life or can measure specific domains of life such as work, family, leisure and health (Diener, et al. 1999). Studies may focus on a single question of overall happiness or life satisfaction. The World Values Study (WVS) uses the following happiness question used in a number of analyses, “Taken all things together would you say you are: 1, “very happy;” 2, ‘pretty happy;” or 3, ‘not too happy” (Diener 2009; Sarracino 2010; Helliwell 2011). Another question used in single-item analyses is the Cantril Ladder. The Cantril ladder measures life satisfaction on a continuum from 1, meaning “dissatisfied” to 10, meaning “satisfied” (Diener 2009; Helliwell 2011). Other studies use multi-item scales and indices such as the Satisfaction With Life Scale (SWLS) (Diener, Emmons, Larson, and Griffin 1985; Han, Kim, and Lee 2012). Multi-item scales typically are considered more robust than single-item scales.

Psychologists, sociologists, and economists have engaged in SWB studies. Psychologists typically focus on the association between personality factors and SWB. Optimism, high self-esteem, extroversion, and neuroticism have been associated with

SWB (Diener, Oishi, and Lucas 2003). Other social scientists have found that cultural and social factors are associated with SWB (Diener, Oishi, and Lucas 2003; Helliwell and Diener 2004; Veenhoven 2008). Diener, et al. (1999) summarized empirical work that examined associations between individual-level factors and individual-level SWB. It has been found that SWB is associated with better health, job productivity, income, marital status, religiosity, relative deprivation, and social capital (Frey and Stutzer 2002; Helliwell and Putnam 2004; Bjornskov 2006; Veenhoven 2008; Diener, et al. 2009; Sarracino 2010; Judge and Mueller 2011; Wang and VanderWeele 2011; Han, Kim, and Lee 2012).

Data on SWB have been gathered and empirically analyzed at the national and individual levels. SWB has been subject to cross-national studies in an effort to understand international differences in determinants of SWB. Countries with democracies that encourage individualism and that have more freedoms are positively associated with SWB (Triandis 2000; Frey and Stutzer 2002). It has been noted that income has the strongest power in understanding international differences in life satisfaction (Helliwell and Barrington-Leigh 2010). An analysis using cross-country data from the 2002 International Survey Program found that few country-level factors are associated with happiness though the macro-micro interaction between country-level factors and the individual-level factors gives a more holistic picture of SWB across cultures (Helliwell and Barrington-Leigh 2010).

There has been a longstanding debate on the association between income and SWB. The debate is related to criticisms of orthodox development outcome indicators. Those critical of using GNP or per capita income as the main indicators for development

argue that income fails to capture the complexity of well-being (Frey and Stutzer 2002; Rojas 2007). Historically there was an assumption that an increase in economic growth at the macro-level and increasing wealth at the micro-level improve the quality of life for individuals and households (Sarracino 2010). However, evidence from wealthy developed countries suggests that improved technology and economic conditions may have no effect or may even have adverse effect on well-being (Diener and Biswas Diener 2002; Diener and Seligman 2004). It is suggested that its relationship presents a paradox: at the individual level more money is associated with more individual level happiness, but greater income for all within a society does not increase the happiness of all within the society (Easterlin 1973; Easterlin 1995). However, there have been studies that refute this finding. For example, one study using the Eurobarometer and the World Values Study (WVS) found that country-level increases in wealth are tied to country-level increases in SWB (Stevenson and Wolfers 2008).

There have been several criticisms of the subjective well-being approach to development. Subjective well-being may be culturally biased and SWB is most important in Western societies from which the concept derived (Gough, McGregor, and Camfield 2007). Developing countries may value other things such as modesty and communitarianism that may undermine the validity of SWB as currently measured. Another criticism is that some developing countries are subject to very harsh environments unsuitable for SWB measurements. The poor often have little power over their own lives and that the use of SWB measurements may inappropriately emphasize responsibility and culpability of the poor for their circumstances (Franzblau and Moore 2000 cited in Gough, McGregor, and Camfield 2007).

Past research relates subjective well-being with social capital. In one cross-national study cognitive social capital was significantly associated with SWB in both high income and low-income countries, while social capital had greater significance in high-income countries than in low-income countries (Sarracino 2010). Analysis of data from the WVS has shown a positive association between participation in associations, ties to family and neighbors, civic engagement, trustworthiness and trust and SWB (Helliwell and Putnam 2004). Bjornskov (2006) using data from the World Values Study (WVS) found that trust was found to have the only significant association related to life satisfaction

The majority of studies examining the link between social capital and SWB use multi-level analysis. This type of analysis focuses on the multi-level relationships between of region, village, or neighborhood and individual-level. Individual well-being has been noted to be important for the well-being of the community. Social conditions are seen to “play an important role, if not an all-powerful role, in individual well-being” (Wilkinson 1999:63). A study using a sample of 5,934 individuals from 2,847 households within twenty-five administrative areas of South Korea from the 2010 Seoul Welfare Panel Study found that both area-level and individual-level measures of participation levels, perceived helpfulness, and trust in authorities were positively associated with subjective well-being after controlling for various demographic variables (Han, Kim, and Lee 2012). Yip, Subramanian, Mitchell, Lee, and Kawachi (2006) used a sample of 1,218 individuals in three rural counties in Shandong, China. It was found that cognitive social capital, measured as trust, was significantly associated with SWB in rural China at both the individual and village levels. However, structural social capital, measured as

memberships and associations, was not significantly associated with SWB at either level (Yip, et al. 2006). At the same time, health, social capital, marital status and income were analyzed as factors associated with SWB in Rhini, a poor suburb in the Eastern Cape province in South Africa (Cramm, Moller, and Nieboer 2012). This study operationalized social capital as perceived helpfulness of neighbors, perceived friendliness of neighbors, and trust in neighbors. This study also found social capital to be significantly associated with SWB. In several Belgian communities, individual-level indicators of generalized trust and informal networks had significant association with SWB (Hooghe and Vanhoutte 2011). It was suggested that in homogenous regions with less inequality, community-level indicators would not be significantly associated with SWB.

It has been noted that there may be discrepancies with the directionality of social capital and SWB when social capital is used as a determinant of SWB. However, SWB may influence behavior. Thus, it may affect levels of social capital (Groot, Van Den Brink, and Van Praag 2006; Portes and Vickstrom 2011). Reverse causality is likely (Portes and Vickstrom 2011). In order to affirm that social capital does predict SWB, measurements of social capital must be taken before measurements of SWB.

Ethiopia

Ethiopia is Africa's second most populous country with 73.9 million residents, growing at an annual rate of 2.6% between 1994 and 2007 (Ethiopia Central Statistical Agency 2008). Figure 1.1 presents a map of Ethiopia. Eighty percent of the population resides in the three regions of Oromia, Amhara and Southern Nations and Nationalities and Peoples (SNNP) Region. Ethiopia's national history is divided into three periods: the Imperial period, the period of the Derg, and the creation of the Federal Democratic Republic.

Figure 1.1. Map of Ethiopia.



Credit: U.S. Department of State (2011).

For centuries, Ethiopia was dominated by an imperial reign focused on feudal rule. For a brief period from 1936 – 1941 Ethiopia found itself at war with Italian occupiers. In 1941, Ethiopia returned into the hands of imperial rule headed by Emperor Haile Selassie. In 1974, revolutionaries overthrew the emperor (Milkais 2011). After the

1974 revolt, a military committee known as the Derg came to power in Ethiopia. During the reign of the Derg, Ethiopia transitioned into a socialist state with a power structure based on the Soviet Union models of the state. Ethiopian land was nationalized and put agriculture under control of peasant associations also known as kebeles. Kebeles are the smallest administrative units in Ethiopia. During this period, education and literary programs were introduced, forced villagization, and forced resettlements were considered normal (Bevan and Pankhurst 2007).

A coalition of opposition movements removed the Derg from power due to the Derg's inability to react to the droughts and famines of 1989 and the government's history of violence (Milkais 2011). The coalition government, the Ethiopian People's Revolutionary Democratic Front (EPRDF), officially came to power in 1991. The EPRDF consists of ethnic and multi-ethnic organizations: the Tigray Peoples Liberation Front (TLPF), Amhara National Democratic Movement (ANDM), Oromo People's Democratic Organization (OPDP) and the Southern Ethiopia Peoples Democratic Front (SEPDP). The EPRDF reconstructed the country into a democratic society officially named the Federal Democratic Republic of Ethiopia. This government is focused on state-centered economic development.

A salient feature of current politics in Ethiopia is the state supported model of regionalization, or decentralization, based upon traditional ethnic divisions within the country (Habtu 2003; Vaughan 2003). Figure 1.2 shows the administrative regions within Ethiopia. Governmental resources and administrative responsibilities are granted to each administrative zone in an effort to achieve greater regional autonomy and encourage regional provision of services (Habtu 2003). There are eight major ethnic

groups in Ethiopia: Oromo, Amhara, Tigray, Somali Sidama, Gurange, Wolaita and Afar groups. There are nine administrative regions and two chartered cities in Ethiopia. The administrative regions are Afar, Amhara, Beneshangul-Gumuz, Gambela, Harari, Oromiya, Somali, Southern Nations, Nationalities and People's Region (SNNP), and Tigray. The SNNP is a unique region because it is a coalition of over 45 ethnic groups. The two chartered cities in Ethiopia are Addis Ababa and Dire Dawa.

Figure 1.2. Administrative Zones in Ethiopia.



Source: European Commission cited in United Nations 2004.

Despite several positive growth indicators, Ethiopia remains one of the poorest countries in the world. Ethiopia is ranked 174 out of 187 countries on the United Nations Human Development Index (HDI) (United Nations 2011). In the past several decades, Ethiopia has experienced severe drought, price inflation, internal conflict, and war. These shocks have negatively affected the livelihood of the rural poor and of Ethiopians

in general. The effects of shocks include losses of income, a decline in health and quality of life, and lowered household consumption levels (Dercon 2004). Ethiopia remains competitively disadvantaged in preparing for and responding to economic, environmental, political and other stressors.

Regional differences exist in regards to poverty, child malnutrition, HIV/AIDS prevalence, fertility, and educational experiences and outcomes (Christiaensen and Alderman 2001; World Bank 2005; Bevan and Pankhurst 2007; World Bank 2008; Central Statistical Agency 2012).

Ethiopia's main economy is agriculture and more than 80% of Ethiopia's population lives in rural areas (United Nations 2006). Rural Ethiopians have lower wealth inequality than urban areas of Ethiopia, but are generally less educated, have less exposure to media, are less likely to be literate, and more likely to engage in activities that may have adverse effects on health in comparison to those who live in urban areas (Central Statistical Agency 2012). Most rural areas within Ethiopia depend on three types of livelihood systems.

Pastoralism is practiced in the Somali and Afar regions (Bevan and Pankhurst 2008). It also can be found to lesser degrees in Oromia, SNNP, Tigray, Benishangul and Gambella regions. There are two main types of farming areas. The areas are the semi-arid highlands and semi-tropical valley areas (PASDEP 2006 cited in Bevan and Pankhurst 2008). These two agricultural areas grow a variety of subsistence and cash crops.

The government of Ethiopia launched the Growth and Transformation Plan (GTP) in order to facilitate movement towards democratic rule, “good” governance, the alleviation of poverty, and the greater involvement of its people in civil society (MoFed 2010). Strategies include enhancing social development and empowerment and economic and infrastructure development. Emphases are placed on enhancing women’s participation in local government, including the community in infrastructure development, and protecting and promoting professional and public associations (MOFED 2010).

Rural Ethiopians have created and maintained associations and organizations since the early twentieth century (Pankhurst and Mariam 2000). These associations are socially bound mutual assistance groups that pool risk in times of need (Hoddinott, Dercon, and Krishnan 2005). Much of the insurance and credit activities are embedded within social networks. Iddir, equub, and labor sharing groups are organizations in which rural Ethiopians participate. Participation in these groups is common among many Ethiopian households, but the amount of organizations and the extent of participation in these groups vary between regions and villages (Muir 2004).

These groups offer access to pooled resources, high levels of trust, and social support (Muir 2004). An iddir, the most prevalent group, is a burial association that provides insurance to households if death or illness were to occur (Pankhurst and Mariam 2000; Muir 2004). Iddir meet once or twice a month to make a small contribution to a communally held fund (Pankhurst and Mariam 2000; Dercon, Hoddinott, Krishnan, and Woldehanna 2007). An iddir make in kind or cash payments to surviving family when a member dies. Members of iddir provide social support in the form of public bereavement

in the event of a death (Muir 2004). Some iddir provide cash or in-kind support for a house destroyed by fire, livestock are lost, or an illness (Muir 2004; Dercon, et al. 2007). Some iddir help with weddings or other events. There is evidence that some iddir are unionizing in an attempt to address social issues such as HIV/AIDS (Pankhurst and Mariam 2000; Muir 2004). Most members of an iddir live within the same village (Dercon, et al. 2007).

An equub is a savings or credit group into which members pay. This informal banking system runs on informal trust (Teshome 2008). Equub enforce saving, promote sharing of ideas, is less bureaucratic than formal alternatives, offer loans with small interest rates, foster social cohesion, provides additional income, and finances small to medium enterprises for members.

Labor sharing groups are common in Ethiopia. These are reciprocal schemes in which members are called to work on the farm of other members. Members pool their labor and resources when a household needs more labor than the household can provide (Debebe 2009).

The government of Ethiopia has encouraged public participation in and the strengthening of traditional organizations. Studies on social capital in Ethiopia have examined the way in which social capital has led to successful development outcomes. A study of 385 households in Northern Ethiopia found social capital has been significantly associated with empowerment (Nega, Mathijs, Deckers, and Tollens 2009). A study of 416 North-East Ethiopian households found that social capital, defined as memberships in associations, was significantly associated with the growth and recovery of livestock

assets (Mogues 2006). One study using the ERHS found that 91% of rural Ethiopian households have social ties and networks that may provide assistance in a time of need (Hoddinott, et al. 2005). Of this 91%, it was found that 75% of the households had both received from and provided assistance to others. Most ties and networks are typically within the same village and are connected by kinship or by membership in an iddir. Another study using the ERHS found organizations and groups help smooth consumption levels when a stressor occurs (Dercon 2004).

Several studies have focused on SWB in Ethiopia. One study, using a 416 respondent sample from the 2009 Ethiopian Urban Socio-economic Survey, found that many of the determinants of SWB in urban Ethiopia were similar to other countries. Marital status, health status, and income were significantly associated with SWB. Inflation was negatively associated with SWB. It was found that having access to a ditch or septic tank to dispose of waste was significantly and positively associated with SWB (Alem and Martinsson 2010). Exploratory work in Ethiopia and other countries (i.e. Peru, Thailand) attempted to gauge the subjective experience of well-being and happiness. The qualitative study had 373 Ethiopian participants from two rural and two urban areas. The study found that respondents distinguish happiness from well-being. Marriage, having basic needs fulfilled, good health and friends were found to be sources of happiness. When asked about the characteristics of someone who lives well, the study participants prioritized good family and community relationships, land and livestock, health, education, wealth, and those that were disciplined and hard working (Camfield 2006). Another qualitative study focused on the destitute (i.e. those living in extreme poverty) in the village of Dinki, located in the Amhara region of Ethiopia. It was found

that wealthier households do not view the extreme poor as fundamentally different than other people. Interviews with the destitute produced a similar result, finding that the destitute did not think they were systematically excluded from the community. When asked about contentment and happiness, social relations (i.e. being married and having children) and material living conditions were considered important (Pankhurst 2009).

Data from the 2004 ERHS were used to investigate the role of disability and adaptation on SWB using a single-item happiness question and the Cantril Ladder (Fafchamps and Kebede 2008). Using random effects regression, it was found that having a disabled person within a household had a significant negative association with SWB of the household. The study did not support adaptation theories of SWB. Data from the 2002 and 2006 rounds of the Young Lives project sampled 1,000 Ethiopian children and found that losing one's mother for children ages seven through twelve had a negative impact on school enrollment and educational outcomes of Ethiopian children (Himaz 2009). The death of a father within a household had a significant negative association with the child's SWB. Data from the 1997, 2004 and 2009 rounds of ERHS analyzed the relationship of asset inheritance on the SWB of women in light of new reforms strengthening women's access to property rights. It was found that land inheritance is associated with increased SWB for women (Kumar and Quisumbing 2010).

CHAPTER TWO

HYPOTHESES

There is documented evidence of formal and informal networks that aid rural Ethiopians in time of crisis, but no known research on whether structural and cognitive social capital is associated with SWB in rural Ethiopia. The research question for the current study is: Is there an empirical relationship between social capital (i.e. structural and cognitive social capital) and SWB in rural Ethiopia?

Hypothesis One: Social capital is positively associated with SWB.

Trust in neighbors and community, and access to network structures and associational ties may enhance life satisfaction among individuals and communities (Helliwell 2006). The SWB literature shows that there is a significant and positive relationship between social capital and SWB (Bjornskov 2006; Bjornskov, Dreher, and Fischer 2010; Cheung and Kwok-Hong 2010; Helliwell and Barrington-Leigh 2010; Han, et al 2012).

Hypothesis Two: There will be a stronger association between cognitive social capital and SWB than between structural social capital and SWB.

Different types of forms and types of social capital can be distinguished because of the multi-dimensionality of the concept (Krishna and Shrader 2000; Bjornskov 2006). The literature suggests that cognitive social capital, particularly trust, has a more significant effect on SWB than structural forms of social capital (Bjornskov 2006; Yip, et al. 2006; Helliwell and Wang 2010).

Hypothesis Three: The association between social capital and SWB will vary by region.

It is hypothesized that social capital varies across regions in rural Ethiopia. Regional characteristics may play an important role in the 'stock' of social capital, which may influence SWB outcomes as well as general regional differences in SWB. Regions in developing countries have varying access to markets, trade, and opportunity (Grootaert and van Bastelaer 2008). Several studies have shown significant regional differences in health outcomes in Ethiopia (World Bank 2008

METHODS

Data Source

The current study used data from the 2009 Ethiopian Rural Household Survey (ERHS) to examine the relationship between social capital and SWB. The ERHS was chosen due to multi-item questions regarding well-being and the availability of several social capital measures.

The Ethiopian Rural Household Survey (ERHS 2011) is a panel dataset that has been collected every five years from 1989 to 2009. The survey was conducted in collaboration with Economics Department, Addis Ababa University (Economics/AAU) and the Centre for the Study of African Economies (CSAE), University of Oxford. Funding for the survey was provided by the Economic and Social Research Council (ESRC), the Swedish International Development Agency (SIDA), the United States Agency for International Development (USAID), and the World Bank (IFPRI 2011).

A total of 1355 households were surveyed in 2009. The data are taken from 15 peasant associations (PA) and four rural regions within Ethiopia. The PAs represented in the ERHS are Haresaw and Geblen in the Tigray region; Shumsha, Yetmen, Debre Berhan, and Dinki in the Amhara region; Adele Keke, Turfe Kechemane, Sirbana Godeti, and Koro-degaga in the Oromia region; and Aze Deboa, Addado, Gara Godo, and Imdibir in the Southern Nations, Nationalities, and People's Region (SNNPR). These communities were chosen because they reflect the diversity of farming systems in rural Ethiopia. Bevan and Pankhurst (2008) grouped the communities within the ERHS data

based on their conceptualization of four distinguishable livelihood systems:

- Cash food crop sites;
- Vulnerable cereal sites;
- Enset sites; and,
- International cash crop sites.

Table 2.1 depicts the type of site surveyed in each region. The Amhara region has villages with both cash food crop sites and vulnerable cereal sites. ERHS data for the Oromia region has three of the four livelihood systems, namely cash food crop sites, vulnerable cereal sites, and international cash crop sites. In the Tigray region, the ERHS surveyed sites in vulnerable cereal sites. The ERHS surveyed vulnerable cereal sites, Enset sites, and international cash crop sites in the SNNP region.

Table 2.1. Region and type of site surveyed by the ERHS.

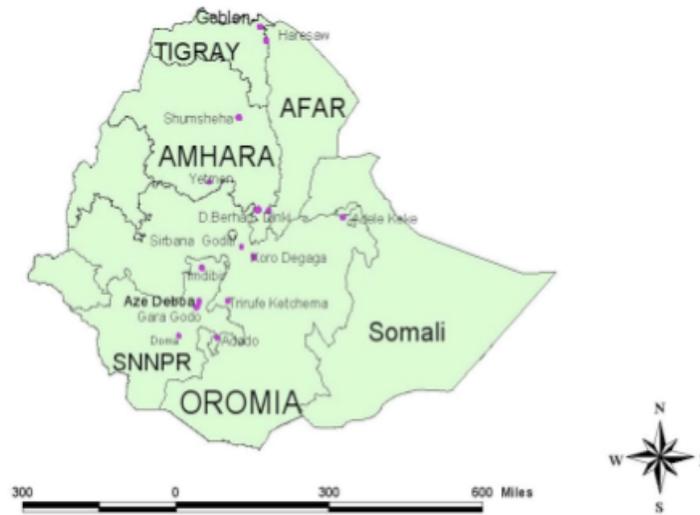
	Cash food crop sites	Vulnerable cereal sites	Enset sites	International cash crop sites
Amhara	X	X		
Oromia	X	X		X
Tigray		X		
SNNP		X	X	X

Source: Bevan and Pankhurst (2008).

Figure 2.1 presents a map of the villages participating in the ERHS. Stratified random sampling was employed within each village (Dercon and Hoddinott 2011). Households were stratified by the sex of the household head to garner an approximate proportion of female-headed households were included in the data. Sampling size within each village was pooled in an attempt to obtain a self-weighted sample. Participant were an approximate representation of the same number of persons from each of the main farming systems which include grain-plough areas, enset growing areas, and sorghum hoe areas (Dercon and Hoddinott 2011). Trained interviewers interviewed respondents.

Response rates were very high and are estimated to be between 90 to 100% for the household surveys. This is likely due to the perceived authority of the interviewers and the belief that any information provided will be used to benefit Ethiopians and their village.

Figure 2.1. Map of villages participating in the ERHS.



Source: Kumar and Quisumbing (2011).

Sample

Cases with missing variables were excluded listwise. After excluding cases with missing variables, a total of 1277 households were left in the dataset. This excluded approximately six percent of households from the analysis.

Dependent Variable

The dependent variable for the current analysis is SWB measured as life satisfaction. Life satisfaction is measured at the individual-level using the Satisfaction with Life Scale (SWLS). The SWLS, developed by Diener, Emmons, Larsen, and Griffin

(1985) is a validated scale that measures the life satisfaction in all life domains and is used as a measure of SWB and has been used in many countries (Yip, et al. 2007; Han, Kim, and Lee 2012). The scale is composed of five statements that are answered using a Likert scale, ranging from one to seven where ‘1’ is “strongly disagree” and ‘7’ is “strongly agree”. The statements for the SWLS are: “In most ways my life is close to my ideal;” “The conditions of my life are excellent;” “I am satisfied with my life;” “So far, I have gotten the important things I want in life;” and, “If I could live my life over, I would change almost nothing.” Principal Component Factor Analysis (PCA) was used to ensure the scale measured the underlying concept of life satisfaction in order to justify creating the index. The reliability of the scale was measured using Cronbach’s Alpha, which produced a score of .77. The scale explained 57.61% of the variance. The fifth statement, “If I could life my life over, I would change almost nothing” loaded very low to the sample. This variable was excluded from the analysis. The reliability then increased to .86 once that question was excluded. The new scale explained 71.26% of the variance. Table 2.2 below shows the factor loadings for the adapted SWLS. The adapted SWLS was created using a summated score ranging from four to twenty-eight with higher values associated with higher levels of satisfaction.

Table 2.2. Factor Loadings for the Satisfaction with Life Scale (SWLS).

	Factor 1
In most ways my life is close to my ideal.	.80
The conditions of my life are excellent	.90
I am satisfied with my life	.88
So far I have gotten the important things I want in life.	.80

Independent Variables

The independent variables for social capital were chosen due to the availability of variables in the ERHS dataset and the relevance to the literature. Social capital measures consisted of both structural and cognitive dimensions. Structural social capital was captured at the individual-level and was measured by membership in three associations noted to constitute social capital in rural Ethiopia: Iddir, Equub, and work parties (Grootaert 1999; Dercon 2000; Bevan and Pankhurst 2007). The variables used for structural social capital were dichotomous variables. The three variables were recoded into three dummy variables, where 0 is “no” and 1 is “yes.” The correlations between the variables ranged from .15 to .24, which suggests that membership in these three associations do not substantially overlap.

Seven questions representing cognitive social capital were chosen for the current study. Trust in neighbors and public officials, along with generalized trust, have been used to create constructs of cognitive social capital in other studies (Helliwell and Putnam 2004; Helliwell 2006). The questions for the study were: “Most people are basically honest;” “Most people can be trusted;” “I could rely on my neighbor to mail an important letter for me;” “I feel I could trust my neighbor to look after the house if I am away;” “I believe that the government does what is right for people;” “I am confident of the government officials to do their job;” and, “I am confident of the kebele officials to do their job.” Answer categories for each statement were comprised of a Likert scale, where 1 was “Strongly Disagree” and 7 was “Strongly Agree.” Principal Component Factor Analysis (PCA) was used to identify underlying concepts and to determine whether cognitive capital was a multi-dimensional measure. This method has been found to be more robust than simply including single-item variables (Bjornskov 2006). Factor

loadings below .60 were suppressed. Table 2.3 below shows the factor loadings for cognitive social capital. Three factors were extracted from the seven variables. Each factor loaded onto distinct dimensions of trust.

Table 2.3. Factor Loadings for Cognitive Social Capital.

	Factor		
	1	2	3
Most people are basically honest.		.909	
Most people can be trusted.		.917	
I believe that the government does what is right for the people.	.720		
I am confident of the ability of the government officials to do their job.	.885		
I am confident of the ability of the kebele officials to do their job.	.807		
I could rely on my neighbor to mail an important letter for me.			.890
I feel I can trust my neighbors to look after my house if I am away.			.873

Cronbach’s Alpha was used to test for reliability. The first factor, trustworthiness in government, had a reliability of .77. Trustworthiness in government explained 56.49% of the variance. The second factor, generalized trust, produced a reliability score of .89. Generalized trust explained 17.70% of the variance. The third factor, trustworthiness of neighbors, produced a reliability score of .80. Trustworthiness of neighbors explained 15.43% of the variance. Summated indices were created for each of the three factors. The first factor, trustworthiness in government, ranged from three to twenty-one. The second factor, generalized trust, ranged from two to fourteen. The third factor trustworthiness in neighbors ranged from two to fourteen. For all three factors, higher values are associated with higher levels of trust.

Age, gender, marital status, income, occupation and education are key demographic variables that should be considered in empirical analyses of SWB (Diener 2009). Age has been found to be associated with life satisfaction and that the association

is U-shaped (Blanchflower and Oswald 2008). Although SWB has been found to have a weak association with gender, it is still necessary for its presence as a control variable (Pavot and Diener 1993). There has been a consistently positive association with marital status and SWB (Diener, Suh, Lucas, and Smith 1999). It has been found that income and education are linked to SWB (Diener, et al. 1999). There is evidence of marginalization of those in non-farming occupations, which may have implications for SWB (Bevan and Pankhurst 2007). The demographic variables used for the study were:

- age of household head
- sex of household head
- marital status of the household head
- education level of household head
- household poverty level
- primary occupation of the household head.

For the analysis, age measured in years remained as a continuous variable. A variable, “age2” representing the noted U-shaped association with age and SWB will be included. A dummy variable for gender, ‘malehead’ was used. This variable had been created in an aggregated file available in the ERHS data package. Marital status was constructed as a dummy variable with ‘0’ as single and ‘1’ as married. Education of household head was measured using four dummy variables: no schooling, grade 1-6, grade 7 – 12, and “other” (includes enrollment in religious schools, literacy programs, and secondary education that is not considered college). A dummy variable for household poverty level was available in the ERHS data package using a definition of 50 Ethiopian birr (ETB) per capita per month. In 2012, 50 ETB approximately 2.80 U.S. Dollars (USD). The dummy variable was 0 is “non-poor” and 1 is “poor.” A dummy

variable for farmer was created where 0 represented “non-farmer” and 1 represented “farmer.” Descriptive statistics for all variables can be found in Table 2.4.

Table 2.4. Descriptive Statistics for variables used in analysis.

	Tigray (N=143)	Amhara (N=391)	Oromia (N=347)	SNNP (N=396)	Total (N=1277)
	Mean (Std. D)	Mean (Std. D)	Mean (Std. D)	Mean (Std. D)	Mean (Std. D)
Subjective Well-being					
Satisfaction with Life Scale ¹	13.70 (4.40)	18.07 (5.99)	16.87 (5.66)	12.57 (5.40)	15.55 (6.03)
Structural Social Capital					
Iddir (% membership)	0.70	86.40	96.80	96.5	82.8
Work Party (% membership)	0.00	57.00	54.00	30.80	41.7
Equub (% membership)	0.70	23.00	11.00	11.90	13.80
Cognitive Social Capital					
Generalized Trust ²	10.36 (2.39)	9.02 (2.80)	6.92 (3.35)	7.29 (3.76)	8.06 (3.73)
Trustworthiness of Government ³	16.32 (2.23)	14.55 (4.34)	13.81 (4.39)	13.97 (4.34)	14.37 (4.23)
Trustworthiness of Neighbors ⁴	10.18 (2.21)	11.01 (3.31)	10.12 (3.15)	9.47 (3.13)	10.20 (3.16)
Demographics					
Gender (% Male)	32.90	69.10	58.80	69.70	62.40
Age (mean years)	57.13 (14.64)	53.50 (14.82)	52.00 (15.87)	51.52 (14.60)	52.89 (14.98)
Poverty Level (% Poor)	93.70	40.90	28.50	72.00	53.10
Occupation (% Farmer)	55.20	68.80	76.40	74.20	71.00
Marital Status (% Married)	49.70	63.20	66.30	73.00	65.50
Education Level (mean grade)	3.13 (1.36)	4.70 (2.50)	5.10 (2.65)	5.47 (2.70)	5.11 (2.64)

¹ Range: four to twenty-eight, where four means dissatisfied and twenty-eight means satisfied.

² Range: two to fourteen, where two is low trust and fourteen is high trust.

³ Range: three to twenty-one, where three is low trust and twenty-one is high trust.

⁴ Range: two to fourteen, where two is low trust and fourteen is high trust.

Statistical Procedures

The current study used IBM SPSS 19 to perform all statistical analyses. In addition to PCA, descriptive statistics and ordinary least squares (OLS) regression procedures were used to analyze the data. OLS was used because the dependent ordinal variables were summated into an index and treated as one underlying continuous

construct. This method is commonly used in the social sciences (Zumbo, Gadermann, and Zeisser 2007).

The current study fitted a total of five regression models. Model 1 included all demographic and region variables. Model 2 added structural social capital variables to model 1 to examine the association between structural social capital and SWB while controlling for sociodemographic variables. Model 3 added cognitive social capital variables to model 1 to examine the association between cognitive social capital and SWB while controlling for sociodemographic variables. Model 4 added both structural social capital variables and cognitive social capital variables to model 1 to examine the independent associations of each type of social capital with SWB. Model 5 added the interaction terms between region and social capital variables to see whether the relationship between social capital and SWB varies by region.

CHAPTER THREE

FINDINGS

Frequencies and Descriptives

Frequencies for all variables used in this study can be found in Appendix A. Most respondents (62.4%) were men. Tigray was the only region in which most respondents (67.1%) were women. The overall mean year of age was approximately fifty-three. The highest rate of poverty was in the Tigray region, where 93.7% of respondents were below the poverty level. Oromia had the lowest rate of poverty (28.5%), while Tigray was the lowest (49.7%). Overall most people (65.5%) were married. SNNP had the highest rate of marriage (73.0%). Educational attainment was low. The mean level of schooling was approximately five years. Tigray had the lowest mean level of schooling, which was approximately three years.

Overall mean satisfaction (15.55) reflected average life satisfaction. Amhara had the highest mean life satisfaction (18.07), followed by the Oromia region (16.87). Tigray (13.70) and SNNP (12.57) had the lowest mean life satisfaction, but life satisfaction scores from SNNP had greater variation. Tigray had the second lowest mean satisfaction and the least amount of variation of the regions.

Overall, membership was highest in iddir (82.8%) and lowest for equub (13.8%). In Tigray, no respondents had participated in a work party. Less than one percent of Tigrayans in the study held membership in iddir and equub. In Amhara, 86.4% of respondents were members of an iddir and over half, 57%, participated in a work party. Approximately 23% of the respondents from Amhara reported membership in an equub. This rate was ten percent higher than for any of the other regions. In Oromia, 96.8%

were members of an iddir and a little over half (54.0%) of respondents participated in a work party. Eleven percent were members of an equub. In SNNP, 96.5% percent of respondents were members of an iddir, while 30.8% participated in a work party. Almost twelve percent (11.9%) of respondents from SNNP were members of an equub.

Overall, generalized trust (8.06) was one point higher than the midpoint of the summated index. The highest levels of generalized trust were found in Tigray (10.36) and Amhara (9.02). Mean generalized trust in SNNP (7.29) was slightly above the midpoint of the index. Oromia had a mean generalized trust (6.92) slightly lower than the average of the scale. The trustworthiness of government index was almost four points higher (14.37) than the summated midpoint. Tigray had the highest trust in government (16.32), while Oromia had the lowest trust in government (13.81). Amhara had the highest trust in neighbors (11.01), while SNNP reported the lowest trustworthiness of neighbors (9.47).

Regression Analysis

Table 3.1 presents results from OLS regression analysis. The coefficients for marital status, farmer occupation, poverty level, residence in Oromia, membership in equub, generalized trust, and trustworthiness of government were significant in all models in which the variables were regressed, but the size and significance change somewhat from model to model. The coefficients for residence in Amhara or Tigray were significant in most, but not all models. Age squared was significant in the second model only, and the positive association was marginal. Gender and education are not significant in any of the models.

Table 3.1. OLS Regression of Life Satisfaction on Structural Social Capital, Cognitive Social Capital, and Controls.

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	14.38**	13.70**	8.87**	7.83**	5.92**
Demographic Variables					
Male	-.48	-.48	-.55	-.54	-.62
Age	-.09	-.10	-.07	-.08	-.05
Age ²	.001	.001*	.001	.001	.001
Education (ref = no schooling)					
Grade 1 – 6	.16	.09	.46	.39	.49
Grade 7 – 12	-.38	-.09	.76	.65	.78
Other Schooling	.62	.55	.58	.50	.35
Married	1.09*	1.04*	1.31**	1.25**	1.32**
Farmer	1.24**	1.21**	1.27**	1.24**	1.18**
Poor	-1.73**	-1.56**	-1.76**	-1.56**	-1.63**
Region (ref = SNNP)					
Tigray	1.74**	2.43*	.68	1.62*	16.25**
Amhara	4.87**	4.82**	4.54**	4.48**	4.34
Oromia	3.40**	3.44**	3.64**	3.68**	5.27*
Structural Social Capital					
Equub		1.13*		1.28**	2.04*
Iddir		.63		.87	2.33
Workparty		.15		.24	-.49
Cognitive Social Capital					
Generalized trust			.25**	.25**	.29**
Trustworthiness: public officials and government			.24**	.25**	.21**
Trustworthiness: neighbors			-.05	-.05	-.02
Interaction between Region and Social Capital					
Tigray*Iddir					5.25
Tigray*Equub					-2.21
Tigray*workparty					
Tigray*gentrust					-.09
Tigray*trustgovt					-.24
Tigray*trustneighbor					-.85**
Amhara*Iddir					-1.72
Amhara*Equub					-1.06
Amhara*workparty					1.00
Amhara*gentrust					.11
Amhara*trustgovt					.02
Amhara*trustneighbor					.03
Oromia*Iddir					-2.80
Oromia*Equub					-.69
Oromia*workparty					1.07
Oromia*gentrust					-.25*
Oromia*trustgovt					.15
Oromia*trustneighbor					.05
R square	.18	.19	.24	.25	.28

*p value < .05, **p value < .01

The first model included demographic and region variables regressed on life satisfaction. Coefficients for marital status, occupation, poverty level, and region were significant in the model. When controlling for other variables in the model, status married was associated with 1.09 points higher life satisfaction than those unmarried, status farmer was associated with 1.24 points higher life satisfaction than non-farmers, and status poor was associated with 1.73 points lower in life satisfaction compared to the non-poor. Residence in Tigray was associated with 1.74 points higher life satisfaction than SNNP when all other variables are controlled for. Residence in Amhara was associated with 4.87 points higher life satisfaction than SNNP while controlling for all other variables. Residence in Oromia was associated with 3.40 points higher life satisfaction than SNNP when all other variables are controlled for. In the first model, region variables had the largest size of association with life satisfaction, followed closely by poverty level. The first model explained 18% of the variability in life satisfaction.

The second model added structural social capital variables to Model 1. Of the three measures of structural social capital, membership in an equub was statistically significant but membership in an iddir and participation in a work party was not significant. Membership in an equub was associated with 1.13 points higher life satisfaction than non-membership. The coefficients for marital status, occupation, poverty level, and region variables only slightly changed and all remained statistically significant. Status married was associated with 1.04 points higher life satisfaction than those status unmarried. Status farmer was associated with 1.21 points higher life than for non-farmers. Status poor was associated with 1.56 points lower life satisfaction than status non-poor. Residence in Tigray was associated with 2.43 points higher life

satisfaction than residence in SNNP. Residence in Amhara was associated with 4.82 points higher life satisfaction than those with residence in SNNP. Residence in Oromia was associated with 3.44 points higher life satisfaction than those with residence in SNNP. In this model, region variables had the largest size of association with life satisfaction. The second model explained 19% of the variability in life satisfaction.

The third model added cognitive social capital variables to Model 1. Of the three measures of cognitive social capital, generalized trust and trustworthiness in government were significant while sociodemographic variables were controlled for, but trustworthiness of neighbors was not significant in the model. A 1.0 increase in generalized trust was associated with a 0.25 point increase in life satisfaction and a 1.0 increase in trustworthiness in government was associated with a 0.24 point increase in life satisfaction when controlling for sociodemographics and other measures of cognitive social capital in the model. Coefficients for marital status, occupation, poverty level, residence in Amhara or Oromia remain significant, but the difference between Tigray and SNNP is no longer significant. Controlling for other variables in the model, status married was associated with 1.31 points higher life satisfaction, status farmer was associated with 1.27 points higher life satisfaction than non-farmers, and living below the poverty level was associated with 1.76 points lower life satisfaction. Residence in Amhara was associated with 4.54 points higher life satisfaction and residence in Oromia was associated with 3.64 points higher life satisfaction compared to residence in SNNP. The third model explained 24% of the variability in life satisfaction, 6% more variability than the first model.

The fourth model added both structural social capital and cognitive social capital measures to model 1. The coefficients for both types of social capital did not change much from those observed in Model 2 and Model 3. Of the three structural social capital measures, only membership in an equub was significant, but the other two were not. Of the three cognitive social capital measures, generalized trust and trust in government were significant, but trustworthiness of neighbors was not. The size of these relationships did not substantially change. Coefficients for marital status, occupation, poverty level, and region were significant. Status married was associated with 1.25 points higher life satisfaction than status non-married. Status farmer was associated with 1.24 points higher life satisfaction than non-farmers. Living below the poverty level was associated with 1.56 points lower life satisfaction than the non-poor. Residence in Tigray, Amhara, and Oromia were associated 1.62 points, 4.48 points, and 3.68 points higher life satisfaction respectively compared to residents in SNNP. The fourth model explained 25% of the variability in life satisfaction.

The fifth model added interaction terms between region and social capital to Model 4 to see whether the association between social capital and SWB differ by region. When interactions are added, the coefficients of the main effects for social capital variables represent the associations between social capital and SWB for SNNP. Thus, in SNNP region, members of an equub had 2.04 points higher in life satisfaction than non-members, a 1.0 increase in generalized trust was associated with a 0.29 point increase in life satisfaction and a 1.0 increase in trustworthiness in government was associated with 0.21 point increase in life satisfaction while controlling for all variables in the model. Among the 17 interaction terms, only two interaction terms were significant. The

interaction term for Tigray and trustworthiness in neighbors was negative and significant. This means that there was a significant negative association between trustworthiness in neighbors and SWB for Tigray residents; 1.0 increase in trustworthiness of neighbors is associated with .87 points (i.e., -.02-.85) decrease in life satisfaction for Tigray residents while the association was not significant for SNNP. The interaction term for Oromia and generalized trust was significant and negative. This means the association between general trust and SWB is much weaker for Oromia residents compared to SNNP residents; one point increase in general trust is associated with only .04 (i.e., .29-.25) points increase in life satisfaction for Oromia residents. The fifth model explained 28% of the variability in life satisfaction.

CHAPTER FOUR

DISCUSSION

The first hypothesis examined the association between social capital and SWB. This hypothesis was supported. The study found significant associations between membership in equub, generalized trust, and trustworthiness in government and SWB. Membership in an iddir, participation in a work party, and trustworthiness in neighbors were found to be statistically insignificant with SWB.

The second hypothesis stated that cognitive social capital would have a stronger association with structural social capital. This hypothesis was supported. The life satisfaction variability explained by the third model which included cognitive social capital, region variables, and demographics increased 6% from the first model. This life satisfaction variability explained by the second model which examined structural social capital, region variables, and demographic variables increased 1% from the first model. This finding is consistent with the literature on the linkages between social capital and SWB (Bjornskov 2006; Yip, et al. 2006; Helliwell and Wang 2010; Klein 2011).

The third hypothesis was partially supported. The significance of the additive terms indicated that social capital does not appear to vary largely according to region. It was found that there were significant variation between Tigray and trustworthiness in neighbors and between Oromia and generalized trust. The significance of the Tigray variable in the fifth model became strongly significant and the size of association increased dramatically. This may be due, in part, to the overwhelming lack of memberships in the associations included in this study.

The current study found that several demographic variables were significantly associated with SWB. Marital status was significantly and positively associated with SWB. This is consistent with the literature (Diener, et al. 1999). Schooling was not significantly associated with SWB. Living below the poverty level of 50 birr per capita had a significant and negative association with SWB. This is consistent with the literature linking income to SWB (Diener, et al. 1999). The occupation of farmer had a significant and positive association with SWB. Some regions also were associated with higher levels of SWB. Those that were living in the Amhara or the Oromia regions had higher levels of SWB, while those living in the SNNP or Tigray region tended to have lower levels of SWB. The U-shaped association between age and social capital, described in other studies, was not supported by this study.

IMPLICATIONS

The current study contributes to knowledge available to policymakers in regards to the association between social capital and SWB. The GTP (2010) suggests that Ethiopian policymakers are prioritizing participation in development of policies. The findings from the current study suggest that being a member in an equub is significantly associated with SWB. The Ethiopian government or other organizations may want to investigate and understand the role of equub in rural life.

Trust was significantly associated with SWB. The findings from the current study would suggest that effective policy attempting to enhance SWB in Ethiopia would be directed at trust. Knack and Zak (2003) identified policies that influence levels of trust. They found that raising education levels, redistributive transfers of funds through

taxation, and increasing civil liberties are cost effective policies that positively influence trust. The government of Ethiopia has mapped out policy for each of these areas. The current study adds evidence that these policies are efficacious and should receive continued support.

The study found that those sampled from the Tigray region experience the lowest levels of life satisfaction, coupled with the highest percentage of poverty and lowest levels of education. The study found that there was marginal membership in associations in Tigray, yet those in Tigray experience higher levels of trust than other regions. Policies designed to enhance participation in associations such as the iddir, equub, and work parties should be targeted and tailored to Tigray in an effort to enhance SWB.

LIMITATIONS

This analysis had several limitations. It relied on a cross-sectional secondary dataset. Cross-sectional studies can measure analyses and ascertain associations between concepts, but they cannot capture causality of the relationship between social capital and life satisfaction.

This study did not capture all measures of structural and cognitive social capital. Several dimensions were left out of the analysis because it was limited to questions used in the dataset and the sampling strategies employed for the dataset.

CONCLUSIONS

The current study found that there were several significant associations with SWB in rural Ethiopia. Significant demographic variables included marital status, farming occupations, and poverty level. Cognitive social capital variables, specifically

generalized trust and trust in the government, were found to be positively associated with SWB.

This study found that membership in an iddir and participation in a work party were not associated with SWB. Further investigation in structural social capital and SWB should target specific nuanced functions of these groups in order to examine their relationship with SWB. Specific indicators for such an analysis could include the level of participation and position in iddir equub, and work parties.

APPENDICES

APPENDIX A

Table A.1. Demographic Variables.

Variable	Count	Percent
Region		
Tigray	143	11.2
Amhara	391	30.6
Oromia	347	27.2
SNNP	396	31.0
Sex		
Male	797	62.4
Female	480	37.6
Age		
Mean age	52.89	N/A
Poverty Level		
Poor	678	53.1
Non-Poor	599	46.9
Marital Status		
Married, Single Spouse	837	65.5
Not Married	440	34.5
Primary Occupation		
Farmer	907	71.0
Non-Farmer	370	29.0
Schooling		
No Schooling	623	48.8
Grades 1 – 6	262	20.5
Grades 7 – 12	100	7.8
Other Schooling	292	22.9

Table A.2. Structural Social Capital.

	Count	Percent
Membership in iddir		
Yes	1057	82.8
No	220	17.2
Participated in Work Party		
Yes	533	41.7
No	744	58.3
Membership in Equub		
Yes	176	13.8
No	1101	86.2

Table A.3. Cognitive Social Capital.

	Strongly Agree	Agree	Slightly Agree	Neither Agree nor Disagree	Slightly Disagree	Disagree	Strongly Disagree
Most people are basically honest.	134 (10.5%)	258 (20.2%)	255 (20.0%)	87 (6.8%)	125 (9.8%)	279 (21.8%)	139 (10.9%)
Most people can be trusted.	118 (9.2%)	246 (19.3%)	268 (21.0%)	89 (7.0%)	148 (11.6%)	264 (20.7%)	144 (11.3%)
I could rely on my neighbor to mail an important letter for me.	249 (19.5%)	424 (33.2%)	262 (20.5%)	89 (7.0%)	97 (7.6%)	106 (8.3%)	50 (3.9%)
I feel I can trust my neighbors to look after my house if I am away.	282 (22.1%)	420 (32.9%)	232 (18.2%)	69 (5.4%)	101 (7.9%)	110 (8.6%)	63 (4.9%)
I believe that the government does what is right for the people.	309 (24.2%)	505 (39.5%)	242 (19.0%)	61 (4.8%)	57 (4.5%)	74 (5.8%)	29 (2.3%)
I am confident of the ability of government officials to do their job.	139 (10.9%)	384 (30.1%)	290 (22.7%)	118 (9.2%)	97 (7.6%)	178 (13.9%)	71 (5.6%)
I am confident of the ability of kebele officials to do their job.	107 (8.4%)	272 (21.3%)	317 (24.8%)	132 (10.3%)	147 (11.5%)	199 (15.6%)	103 (8.1%)

Table A.4. Subjective Well-being.

	Strongly Agree	Agree	Slightly Agree	Neither Agree nor Disagree	Slightly Disagree	Disagree	Strongly Disagree
In most ways my life is close to my ideal.	80 (6.3%)	246 (19.3%)	285 (22.3%)	131 (10.3%)	178 (13.9%)	248 (19.4%)	109 (8.5%)
The conditions of my life are excellent.	43 (3.4%)	227 (17.8%)	287 (22.5%)	117 (9.2%)	182 (14.3%)	308 (24.1%)	113 (8.8%)
I am satisfied with my life.	70 (5.5%)	271 (21.2%)	273 (21.4%)	95 (7.4%)	173 (13.5%)	290 (22.7%)	105 (8.2%)
So far I have gotten the important things I want in life.	47 (3.7%)	230 (18.0%)	250 (19.6%)	152 (11.9%)	183 (14.3%)	294 (23.0%)	121 (9.5%)
If I could live my life over, I would change almost nothing.	97 (7.6%)	154 (12.1%)	87 (6.8%)	118 (9.2%)	137 (10.7%)	411 (32.2%)	273 (21.4%)

APPENDIX B

Table B.5. Selected Social and SWB Studies.

	Data	Sample	Social Capital Measurements	Social Capital Measurement at the Second Level.	Subjective Well-Being Measurement	Statistical Analysis	
Bjornskov (2006)	Three waves of WVS	Approximately 80 countries	Structural: percentage of active members in nine types of associations Cognitive: Generalized trust and social norms		Single-item life satisfaction	Regression	Trust was only social capital variable with significant association
Yip, Subramanian, Mitchell, Lee, Wang, and Kawachi (2006)	3 rural counties in north east China	1218 individuals; 839 households; 3 counties	Structural: Organizational membership (Voluntary and Communist Party related) Cognitive: 12 item scale of trust variables	Aggregations of individual social capital variables	SWLS	Multi-level linear and logistic regression	Cognitive social capital at both levels were significantly associated with SWB

	Data	Sample	Social Capital Measurements	Social Capital Measurement at the Second Level.	Subjective Well-Being Measurement	Statistical Analysis	
Sarracino (2010)	WVS	269,890 individuals; 80 countries	Honesty; Trust; and freedom of choice and control		“All things considered would you say that you are: 1 “Very happy,” 2 “Pretty Happy;” 3 “Not too happy;” “Not at all happy.”		Significant associations between social capital and SWB. Social capital had larger coefficients in high income countries.
Hooghe and Vanhoutte (2011)	European Social Survey (ESS) for Belgium and Social Cohesion Indicators Flanders Survey (SCIF)	ESS: 1,798 individuals; SCIF: 2,080 individuals	Structural: frequency of family visits, how often friends are invited to home, attendance at local events, membership in organizations Cognitive: Scale of generalized trust	Aggregations of regions	Global and domain-specific life satisfaction	Ordinary least squares and Multi-level analysis	All variables except frequency of friends in home and membership in organizations were significant to SWB.
Cramm, Moller, and Nieboer (2012)	Rhini, South Africa	957 households; 20 neighborhoods	Perceived friendliness of neighbors, norms of reciprocity among neighbors, and trust in neighbors		SWLS	Multi-level linear regression	Social capital was found to be strongly associated with SWB

	Data	Sample	Social Capital Measurements	Social Capital Measurement at the Second Level.	Subjective Well-Being Measurement	Statistical Analysis	
Han, Kim, and Lee (2012)	2010 Seoul Welfare Panel Study	5,934 individuals; 2,847 households; 25 administrative areas	Structural: Participation level in eleven different organizations Cognitive: perceived helpfulness; trust in authority	Aggregation of all individual social capital variables	SWLS	Multi-level linear regression; random intercepts model	Participation level, perceived helpfulness are significant at all levels.

Table B.6. Selected studies of Social Capital in Ethiopia.

Author	Data	Analysis used	Research Questions	Measurement of Social Capital	Dependent Variable	Findings
Mogues (2006)	1996 – 2003 416 households from trading towns in Oromia and South Wollo Regions of North East Ethiopia	Non parametric estimation	What is the role of social capital in livestock asset recovery and growth?	(1) participation in groups: iddir/kire; labor-sharing groups; mehabar or senate; and equub (2) sending or receiving remittances to others from far away.	Livestock asset holdings	Growth and recovery of livestock assets are positively associated with social capital
Dercon, Hoddinott, Krishna, and Woldehanna (2007)	2004 ERHS		What is the role of groups and networks in helping households manage risk and cope with shocks?	(1) density of networks; (2) participation in iddir; (3) network heterogeneity		Network Size is significantly associated with landholdings lying within the 2 nd highest quintile in the village and whether or not the father of the household head belongs to an iddir.
Nega, Mathijs, Deckers, and Tollen (2009)	2004, 2005, 2006 Panel data of 385 households in rural Northern Ethiopia	Multi-nomial logit regression	“Does social capital influence the power of rural households to make decisions that change their life?” and “Can gender differences in empowerment be attributed to gender differences	(1) Membership in Associations (2) Extent of participation	Do respondents feel they have the power to make important decisions that change the course	Social capital is significantly associated with empowerment, but with significant gender differences.

Author	Data	Analysis used	Research Questions	Measurement of Social Capital	Dependent Variable	Findings
			in the form and use of social capital among rural households?"	within associations	of their life?	

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