8-2021

Perceptions of Future Community and Individual Well-Being in Rural Nebraska

Amanda L. Kowalewski
University of Nebraska-Lincoln, amanda.kowalewski@huskers.unl.edu

PERCEPTIONS OF FUTURE COMMUNITY AND INDIVIDUAL WELL-BEING IN RURAL NEBRASKA

by

Amanda L. Kowalewski

A THESIS

Presented to the Faculty of

The Graduate College at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Master of Science

Major: Agricultural Economics

Under the Supervision of Professor Bradley Lubben

Lincoln, Nebraska

August, 2021

PERCEPTIONS OF FUTURE COMMUNITY AND INDIVIDUAL WELL-BEING IN RURAL NEBRASKA

Amanda L. Kowalewski, M.S.

University of Nebraska, 2021

Advisor: Bradley Lubben

Populations of rural areas continue to decline, yet some communities are more vibrant than ever. While past research has studied current satisfaction or well-being, few have examined future well-being. Using an ordinal logistic regression and combining primary and secondary data sources, this study investigates the predictors of rural Nebraskan's sense of future well-being, both at the community and individual levels. The model indicates that resilience may be more important in well-being than social capital. Additionally, certain satisfaction indicators are more important than others. Factor analysis was employed to re-index variables, and findings were similar. Social capital, resilience, and quality of life are closely related and it is difficult to extract individual effects of these phenomena. This study finds complex, interrelated factors that contribute both economically and socially to the makeup of communities and resident's experiences, and thus to the perceived future well-being of both communities and individuals. This points to a well-rounded development approach that supports building resilience as well as providing amenities that satisfy needs of consumers. It also suggests that it doesn't matter how rural or urban a place is or what the economic base is but rather what is offered in the community and the social structure of a place.

DEDICATION AND AUTHOR'S ACKNOWLEDGMENTS

To small town roots and the continued vibrancy of rural America. Never let small town life make your life small.

A huge thanks to my advisor and committee without which I would be completely lost. Your incredible patience, wisdom, and probing questions challenged me in all the right ways. To my parents who supported me even when they didn't understand what I was doing (or that a thesis isn't something that can be completed in a day or two), I love you so much, and there are not enough words of thanks for allowing to me to grow up in a small town. To the rest of my family and friends, thank you for enduring endless requests to "please read through this" or "just let me finish this one page", and for tolerating a lot of stress and even more tears. Finally, thank you to my hometown and everyone who shared with me a love of rural living.

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

CHAPTER 1: INTRODUCTION

Sometime around the 1950s, populations of rural areas in the United States began to shrink, causing the creation of an entire sub-discipline of rural development termed rural decline. Since then, community leaders and practitioners have been looking for ways to retain strong rural communities and overcome the effects of rural decline. Unfortunately, over time, many rural areas have continued to shrink. While some claim rural decline is due primarily to reclassification of counties from nonmetropolitan to metropolitan (Johnson & Lichter, 2020), county-level population trends (i.e. comparing populations over time of the same counties regardless of classification) indicate otherwise. Census data from 2019 indicated that more than half of U.S. counties saw a decline in population from 2010 to 2019, as shown in Figure 1, most of which were concentrated in traditionally rural areas such as the Midwest, Great Plains, and Appalachia (U.S. Census Bureau, 2020). In Nebraska over the same time frame, 71% of counties saw population declines with 28 of 93 total counties losing 5% or more in population (Olberding, 2019).

Several explanations have been cited for this depopulation, including out-migration, aging populations, increased globalization, lack of resilience and social capital, and lack of diversification (Johnson & Lichter, 2019; Li et al., 2019; Schmidt, 2020). Yet, just because community size is shrinking, it doesn't mean a community's overall health and vibrancy is as well (Schmidt, 2020). There are numerous examples of success stories in rural communities from renewable energy keeping small businesses alive in Maine and Nebraska to public safety improvements in Texas and South Dakota to rural broadband expansions in Tennessee

and Illinois (USDA Rural Development, n.d.). Community development practitioners and community leaders around the country are committed to the long term success of rural areas.

However, as the populations of rural areas continue to decline, understanding the attitudes and perceptions of this unique subset of the population becomes more challenging. The Nebraska Rural Poll, an annual survey from the University of Nebraska-Lincoln was created to give local and state leaders a better understanding of issues, challenges, and concerns of rural Nebraskans (University of Nebraska-Lincoln, n.d.). As community development practitioners undertake long-term strategic planning, perceptions from current residents about future well-being of the community and its residents are valuable tools for identifying development objectives and strategies. As the longest running opinion survey of rural residents, the unique data from the Nebraska Rural Poll contains key insights into the attitudes and perceptions of the state's rural communities as they exist now. Thus far, publications utilizing this data have typically only reported summary statistics and broad analyses (Vogt et al., 2020). One exception was a publication by Filkins et al. (2000) examining the factors contributing to current community satisfaction. Since this study, rural communities have seen widespread changes in information and technology as well as changes in the consumer economy, areas that were identified as needing further research (Filkins et al., 2000). Now, two decades later, an updated study providing further interpretation and analysis of the Nebraska Rural Poll findings is warranted. Supplementing

this survey data with additional secondary sources will develop a more comprehensive view of rural Nebraskan's perceptions as they relate to the future of communities.

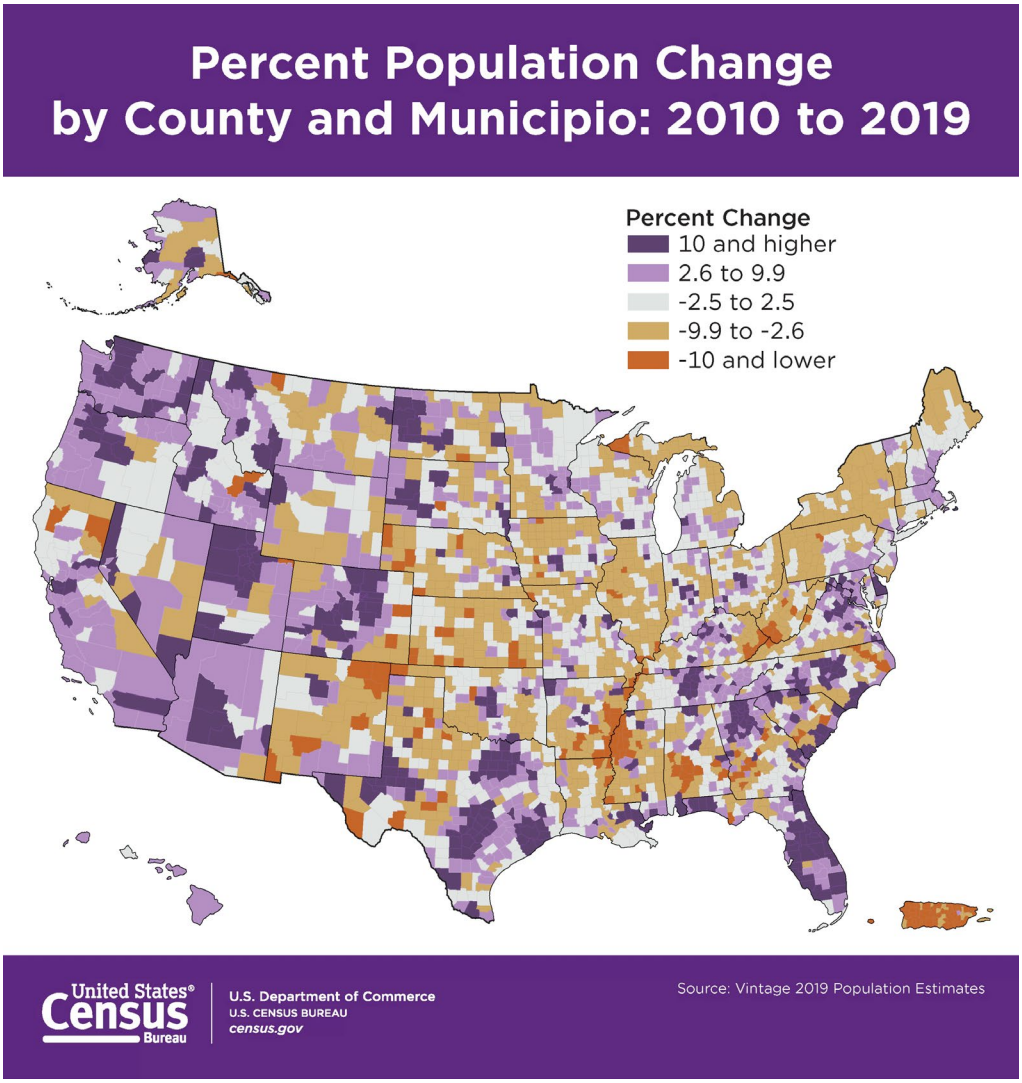

Figure 1. Percent Population Change by County and Municipio: 2010 to 2019

Statement of the Problem

Several studies have addressed various aspects of community satisfaction, well-being, quality of life, and related terms (Bernard, 2015; Crowe, 2010; Filkins et al., 2000; Fitz et al., 2016; Hoyt et al., 1995; Johnson & Backman, 2010; Sirgy et al., 2000; Sirgy & Cornwell, 2002; Theodori, 2001). However, most of these studies focus on the current status of

individuals or communities. Much less attention has been given to how individuals view the future of their communities. Analyzing different satisfaction and economic factors tells us something about general quality of life in rural communities, but doesn't fully indicate why some people have a positive outlook about the future well-being of their community while others from the same community do not. Ulrich-Schad et al. (2013) included perceptions about the future as an independent variable in determining intentions to move away from a rural community, yet little is known about what most contributes to the future perceptions themselves. In this research, perceptions about the future are the focus and will be used as the dependent variable in analysis models.

Objectives

The main purpose of this paper is to identify variables and factors from primary and secondary data sources that most influence a positive sense of future well-being for both individuals and the community as a whole. In essence, this research seeks to explain why some individuals feel positive about the future outlook of their communities while others think there is a bleak future in rural America. In addition to a more complete understanding of these factors, this research may provide insights for policy makers as well as rural prosperity community leaders and practitioners into necessary community attributes for future well-being that can potentially be influenced by community projects or policies. Because this study also examines perceptions of future individual well-being, there may be mental health implications as well.

CHAPTER 2: A REVIEW OF THE LITERATURE ON COMMUNITY WELL-BEING AND RELATED FACTORS

This chapter reviews previous work in the following areas related to this study: quality of life and well-being, resilience, community attachment, amenities satisfaction, and demographic and socioeconomic factors.

Quality of Life, Well-Being, Empowerment, & Community Vitality

Understanding the quality of life or well-being of a community and its residents is an important factor in community vitality. Community vitality, defined as a process of capacity building toward the goal of economic strength and social well-being (Cook et al., 2009; Grigsby, 2001), allows communities to continue to thrive, even when faced with challenges such as population decline and economic hardship. Often, community engagement has been used as an indicator of community vitality, yet, as Dutta-Bergman (2005) argues, community satisfaction precedes engagement. Thus, much of the research pertaining to the well-being of communities or individuals' quality of life includes resident satisfaction with various aspects of the community as key variables. Individuals perceive a higher level of well-being when they are satisfied with their community (Theodori, 2001), and overall community quality of life is determined by satisfaction with local services (Peters, 2019). In other words, quality of life and well-being are not only influenced by an individual's satisfaction with aspects of their own life (e.g. employment, finance, health, etc.), but also with a specific location and its amenities, government, social networks, and culture (Peters, 2019).

Satisfaction is not the only factor affecting well-being however. Many demographic factors including homeownership, income, age, occupation, education, gender, and family

size are associated with increased levels of perceived well-being (Filkins et al., 2000; McLaughlin et al., 2014; Peters, 2019; Theodori, 2001). The specific structure of the community also influences well-being, as measured by social support and participation, religious and spiritual connections, and duration of residence, among other variables (Filkins et al., 2000; Peters, 2019; Sirgy et al., 2000; Sirgy & Cornwell, 2002; Theodori, 2001). Satisfaction and other factors affecting perceived well-being also influence intentions of residents to migrate to rural communities (McLaughlin et al., 2014). For current residents in rural Nebraska towns, perception of changes within the community as a whole are closely tied to the perceptions of their specific neighborhood, suggesting overall quality of life and well-being is dependent upon residents' sense of community as well as their accessibility to services (Cantarero & Potter, 2014).

Throughout economic and sociological literature, the terms "well-being", "quality of life", "empowerment", and "satisfaction" have often been used interchangeably. To an extent, these terms are subject to each individual's own experiences and interpretations, and therefore, to their own definitions. While it can be argued that these terms have the same meaning, examining the current state or future potential of a community necessitates distinguishing between definitions. It has been acknowledged that well-being encompasses a variety of conditions including meeting daily needs, physical and mental health, social relationships, altruism, collective action, and open communication (Brehm et al., 2004; Cicognani, 2014; Theodori, 2001). In common language, these conditions together could represent quality of life in the same way they represent well-being. In fact, well-being has been defined previously as people's perceived quality of life (Huppert et al., 2009). Thus, it

is easy to see how these terms carry multiple meanings and must be clearly defined in each case.

For the purposes of this study, satisfaction will refer to the fulfillment of needs; quality of life will be defined as the standard of health, comfort, and happiness experienced by individuals or communities at a given state; empowerment will describe an individual or community's power to act or to engage with others (Wright & Annes, 2016); and well-being will encompass social progress and the ability or potential of a place (or person) to continue providing (or experiencing) a high quality of life, empowering residents (or self), and meeting residents' (or their own) needs (Cicognani, 2014; Theodori, 2001; Wright & Annes, 2016). Community vitality, defined previously as a process of capacity building toward the goal of economic strength and social well-being (Cook et al., 2009; Grigsby, 2001), is synonymous with well-being in this particular instance.

Well-being will serve as the dependent variable in the following analysis models.

Resilience

Resilience has been defined in the social sciences very simply as a process of adapting to adversity (Norris et al., 2008). While typically thought of in terms of post-natural disaster resilience, community and individual resilience can refer to any number of disturbances to the status quo. Resilience, much like social capital, is a complex concept encompassing a number of elements. Norris et al. (2008) focus on four sets of adaptive capacities as processes: economic development, social capital, information and communication, and community competence. "Resilience is a process that leads to adaptation, not an outcome, not stability" (Norris et al., 2008). Bonanno et al. (2015) choose

to define resilience in terms of predictors of resilience, preadversity states of the community, the actual aversive circumstances, and postadversity outcomes, which is similar to Carpiano's (2006) breakdown of social capital.

This study relies on the view of Bonanno et al. (2015) of resilience as a broad umbrella term with elements that are "temporally related and [which] cannot be accurately understood in isolation." Ultimately, resilience will be defined as the dynamic processes of communities or individuals adapting to, coping with, and/or recovering from adversity relating to environmental, economic, or social hazards (Norris et al., 2008; Peters, 2019). Simply put, resilience is the ability to bounce back from hardship.

Like social capital, resilience is not one condition that can be easily measured. "It is a set of sets with many dynamic attributes and transactional linkages and relationships" (Norris et al., 2008). As a latent concept, many researchers have turned to measuring either predictors or outcomes of resilience. Peters (2019) measured changes in subjective quality of life, whereas Bonanno et al. (2015) used the existence of social capital as a predictor of social capital. Sherrieb et al. (2010) attempted to empirically measure two of the adaptive capacities identified by Norris et al. (2008) which included both survey data and demographic data. Leykin et al. (2013) utilized the Conjoint Community Resiliency Assessment Measure (CCRAM), a self-reporting survey tool dividing resilience into 6 components, as a measure of overall community resilience. Building off of these studies, the experience of Rural Poll team members, and available data, resilience was measured as distinct from social capital and included in a separate section in the Rural Poll survey. Based on Bonannon et al.'s (2015) work, questions that related more specifically to social capital were included in the social

capital metrics, and only those referring to overcoming crises were used as a metric for resilience.

It is understood that social capital and resilience are closely related and the concepts may overlap. “The transformational characteristics are what distinguish “community resilience” from other ways of characterizing community strengths, such as “social capital”, which is viewed as a set of resources” (Norris et al., 2008). Peters (2019) examines the complex relationships between different forms of social capital (bonding, bridging, and linking) and resiliency. Peters (2019) summarizes previous empirical work by stating “Community resiliency is enhanced by the process of creating bridging social capital, not the quantity available for use.” It is the process of creation, not the existence itself that indicates a resilient community. Social capital is a prerequisite for the collective action of communities required for greater resiliency (Peters, 2019). Thus, resilience and social capital, while related, should be analyzed separately if possible.

Similar to social capital, it is important to make a distinction between individual and community resilience. “A collection of resilient individuals does not guarantee a resilient community” (Norris et al., 2008). Furthermore, aggregating community resilience from individual resilience may hide or altogether ignore certain aspects of one or the other (Bonanno et al., 2015). In addition, Bonanno et al. (2015) identified different predictors of resilience at the individual vs community levels. Self-efficacy, flexibility in emotional regulation, positive social relations, and large social networks predict high levels of individual resilience, whereas collective efficacy, place attachment, community leadership and preparedness, and social trust predicted community resilience (Bonanno et al., 2015).

Another indicator of community resilience was the successful completion of community projects (Markantoni et al., 2019).

Overall, resilient communities are more civically engaged, have lower poverty rates, and possess more social capital. Additionally, residents of resilient communities view their community more favorably, rate their quality of life higher, and agree that their town has more going for it than similarly sized towns, even despite population losses (Peters, 2019). Based on these findings, it is hypothesized that higher measured resilience both at the individual and community levels will lead to a higher likelihood of positive perceptions of future well-being. Accordingly, the present study proposes the following hypothesis:

H_1: Higher measured resilience leads to a higher likelihood of positive perceptions of future well-being.

Community Attachment

When thinking about communities, especially rural ones, residents often feel a strong tie to their hometown. This phenomenon can be defined as community attachment, or the sentiments and feelings of connection people have to a specific geographically-bound community (Ulrich-Schad et al., 2013). A summary by Theodori (2001) indicated that, based on the recent literature at the time, factors related to community attachment include duration of local residence; home ownership and race; income and number of children living at home; age and level of education; social interactions; and marital status, presence of children, children's ages, and religious affiliation. Additional factors influencing community attachment include attachment to the natural environment (Brehm et al., 2004), sense of community, cultural tastes, and civic service (Wolfe et al., 2020). Community attachment has

been viewed as a form of social capital (Brehm et al., 2004; Ryan et al., 2005; Ulrich-Schad et al., 2013), but Cope et al. (2016) found little evidence for this relationship. Since feelings or perceptions of dimensions of community attachment were stronger determinants of migration intentions than place characteristics, the social construction of a place is again necessary to consider rather than just demographic or socioeconomic characteristics (Ulrich-Schad et al., 2013). Therefore, the present study proposes the following hypothesis:

H_2: Higher levels of community attachment lead to a higher likelihood of positive perceptions about future well-being.

Amenities Satisfaction

Well-being, social capital, and community attachment are closely tied to satisfaction with community amenities and services. Personal social/spiritual satisfaction, economic satisfaction, and satisfaction with consumer services, local government services, education, and human services all affect overall satisfaction with the community, and thus influence well-being (Filkins et al., 2000). Outdoor recreation and a natural environment largely influence future residential aspirations and satisfaction (McLaughlin et al., 2014). Access to information technology, such as Internet and cell-phone coverage was not significantly associated with residential aspirations, but higher community-based Internet usage was positively correlated to community satisfaction (Dutta-Bergman, 2005; McLaughlin et al., 2014). Finally, families in communities with more amenity growth tend to have higher annual incomes, but also face a higher cost-of-living, leaving a question around overall well-being (Hunter et al., 2005). The present study proposes the following hypothesis:

H_3: More satisfaction with amenities leads to a greater likelihood of positive perceptions of future well-being.

Demographic & Socioeconomic Factors

Personal demographic characteristics, such as gender, age, race, and income, are typically controlled for in social models, and are often important in predicting community attachment or migration intentions (Ulrich-Schad et al., 2013). Gender has shown mixed results when it comes to migration intentions and community satisfaction (Fitz et al., 2016; McLaughlin et al., 2014). "At the individual level, females, older residents, those with children, and higher wage earners are more likely to be satisfied with their community" (Fitz et al., 2016). Including demographic variables allows for less noise in the data. Filkins et al. (2000) found that "as education increases, the respondents become less satisfied with their community." However, "rural parents without a bachelor's degree see liberal arts education as a path to a remunerative and rewarding career" (Tieken, 2020). Social capital is closely tied to education as well, and influences the promotion of higher education within the family (Israel et al., 2001). Owning a home has also resulted in mixed effects. Homeowners are different in many ways from renters, and homeownership generates positive externalities and positive neighborhood outcomes, leading to a significant relationship on social capital (DiPasquale & Glaeser, 1999; Grinstein-Weiss et al., 2012). The effect of homeownership is stronger for higher income levels (DiPasquale & Glaeser, 1999). However, owning a home is not associated with overall community satisfaction, and social life satisfaction decreases when one owns a home (Fitz et al., 2016). Industry occupation has significant effects on household well-being as well as migration intentions, and is closely tied to income.

Traditional higher-wage industries, such as government, mining, and manufacturing, led to a greater well-being than the service industry, though these changes were minor (Kassab et al., 1995). Adding another income-earner to the household revealed more significant changes on well-being (Kassab et al., 1995). Differences in income lead to different priorities in amenities and community structure when looking for a new place to live (Maynard et al., 1997). Although Ulrich-Schad et al. (2013) found income to have no significant effect on their models of migration intentions, findings were inconsistent with other studies.

Rather than household income, some studies have focused on income inequality within the community (Peters, 2019; Sampson & Graif, 2009; Thiede et al., 2020). Greater disparities result in a lower quality of life and less connected communities (Peters, 2019). Between non-metropolitan and metropolitan communities, rates of income inequality have converged after historically higher inequality in non-metropolitan counties (Thiede et al., 2020). Sampson & Graif (2009) used a concentrated disadvantage scale to measure economic inequality which included percentage below the poverty line and percentage unemployed, among other measures.

There are significant place differences between urban, metropolitan communities and rural, non-metropolitan communities. For example, “a sense of belonging, rootedness, and social ties were higher amongst residents of rural communities than amongst residents in an urban center” (Lev-Wiesel, 2003), and “rural counties are less likely than urban counties to undertake various economic development activities” (Dewees et al., 2003). Even within the rural classification, the economic base and job opportunities vary among communities (Ulrich-Schad et al., 2013). There is a strong relationship between satisfaction attitudes and

geography along the rural-urban continuum, with counties classified as less rural being more likely to experience growth and overall greater satisfaction from residents (Fitz et al., 2016; Sharp & Adua, 2009; Ulrich-Schad et al., 2013). That being said, rural classifications are just that: classifications, and the indicators leading to certain classifications may highlight or mask other characteristics contributing to differences among communities (Murray & Grubesic, 2019). Ultimately, there exists a strong relationship between resource dependence and well-being, but there is large variation by industry and by region, highlighting the importance of including place characteristics in models (Stedman et al., 2004).

CHAPTER 3: A DISCUSSION ON SOCIAL CAPITAL

Read almost any community development policy proposal and there's a good chance social capital will be prescribed as a key piece in whatever objective the policy intends to achieve. The term social capital has come to mean many things to many people.

French sociologist Pierre Bourdieu was the first to develop a strong theoretical approach to social capital. Bourdieu's social capital theory emphasized that individual members draw upon the collective resources of groups to obtain resources separately or in conjunction with other forms of capital (Carpiano, 2006). Viewing social capital through Bourdieu's lens necessitates acknowledging both the existence of networks as well as the actual and potential resources a network contains and the ability of individuals within said network to access those resources to pursue goals (Carpiano, 2006). Although Bourdieu's definition has been somewhat lost in recent literature, DeFilippis (2001) claims "[Bourdieu's] is probably the most theoretically useful and sophisticated attempt to deal with the issue [of social capital]." This approach focuses on benefits to the individual that come from being a member of a group, and separates social capital into two elements: the member-relationship itself that provides access to resources and the actual resources themselves (Portes, 1998).

Shortly after Bourdieu, another similar definition of social capital emerged. Sociologist James Coleman's approach attempted to combine the self-seeking individual utility maximization principle of action in the economic discipline with the sociology discipline's explanation that an individual's actions are governed by social norms, defining this tool as social capital and making comparisons to other forms of capital, namely physical and human capital (Coleman, 1988). Similar to Bourdieu, Coleman emphasizes the benefits

of social capital to individuals themselves, but he extended his definition to include the importance of community social capital only as a means to benefit the individual. To Coleman, social capital is functional, not a single entity, that allows people or institutions to act by providing needed resources contained within the social structure. It is "neither desirable nor undesirable", it simply exists, like other forms of productive capital, to make possible "the achievement of certain ends that in its absence would not be possible." (Coleman, 1988; DeFilippis, 2001). Coleman also breaks down the concept of social capital into related, but distinct, facets, comprised of the expectations and obligations of group members and the trustworthiness between them; the effectiveness of information channels, and group norms and their associated sanctions (Coleman, 1988).

Robert Putnam largely popularized the term social capital with his essay *Bowling Alone: America's Declining Social Capital* in 1995, deviating in his definition from previous work. While Putnam's social capital definitions vary slightly (Putnam, n.d., 1995a, 1995b, 2001), he commonly includes three aspects: social networks, formal and informal group norms, and trust that combine to achieve group goals, all of which are reciprocated within the group, and are mutually beneficial to all group members. Thus began a subtle shift from social capital being viewed as an individual attribute to one of the community or group itself. Where Bourdieu emphasizes the resources that exist within networks, Putnam focuses on the cohesiveness of those networks in a confined geographic area. Where Coleman maintains the benefits of networks return to the individual, Putnam shifts the thinking to benefits accruing to the collective group as a whole (Portes, 2000). "Indeed, the post-Coleman (1990) literature

has almost universally viewed social capital as a community-level attribute" (Glaeser et al., 2002).

While Putnam's definition remains one of the most popular across a variety of disciplines, some researchers have claimed that Putnam's work lacks applicability and usefulness, especially in a community economic development context (Carpiano, 2006; DeFilippis, 2001; McCall, 2002). In a review of social capital definitions, McCall (2002) explains that "For Putnam, social capital is largely, but certainly not exclusively, a cultural question." Carpiano (2006) attests, "[It] can be concluded from his collective works on the subject that social capital is used as an umbrella term that covers a range of social processes…that can be classified as "social cohesion."" DeFilippis explains Putnam's deviations from the initial social capital definitions. "Social capital is transformed from something realized by individuals to something possessed (or not possessed) be either individuals *or* groups of people" (DeFilippis, 2001).

Portes acknowledged this deviation from a sound theory to a generality encompassing several social structure ideas, and cautioned against continuing with a similar approach. While Coleman's definition was still focused on the benefits to the individual, his separation of the term into necessary antecedent conditions to generate social capital, the structure of the group itself, and outcomes of possessing social capital opened the gate for extended usage of the term to include both sources and effects (Portes, 1998). "The heuristic value of the concept [of social capital] suffers accordingly as it risks becoming synonymous with each and all things that are positive in social life" (Portes, 2000). In Portes' view of social capital, the importance of separating the resources themselves from the ability to obtain them due to

membership in groups cannot be overstated (Portes, 1998). As an alternative, Portes takes a more economic approach. Acquiring social capital, much like that of other forms of capital, requires investing in social capital resources, in this case, both economic resources (the actual assets) and cultural resources (the obtainability due to group membership) (Portes, 1998). Portes (2000) explains the traditional social capital argument by separating the antecedent conditions (higher media exposure, higher associational membership, and greater expressions of trust) that create social capital (or greater "civicness"). It is this collective social capital that then leads to better political outcomes. Alternatively, Portes (2000) hypothesizes that the creation of social capital is a spurious effect rather than a causal one. However, the empirical justification for this argument is lacking in either Portes' own or others' studies.

Once social capital entered the economic discipline, several definitions emerged in an attempt to incorporate what was historically viewed as more of an abstract concept into existing economic models. Definitions ranged from broadly including any occurrence based on shared values and norms to promote social cooperation (Fukuyama, 2002) to the specific "weak" ties between people (Granovetter, 1973) to a general measure of the level of trust and reciprocity within communities (McCall, 2002) to the World Bank's definition of the "ability of a society to support itself through social interactions and assessing institutional structures of government" (McCall, 2002). DiPasquale & Glaeser (1999) focused on social capital within neighborhoods, specifically the connection of people that allows them to cooperate to improve public goods and benefit from their neighbors' local amenity investments.

Fukuyama (2002) viewed social capital as a utilitarian way to understand culture or "the role that values and norms play in economic life."

Glaeser et al. (2002) took a strict economic approach to social capital and aimed to translate the relatively agreed-upon components of individual social capital into a measure of aggregate social capital using the traditional economic investment theory and optimal individual investment decisions. Their definition of social capital relates to Coleman's and Bourdieu's theories in that the measuring stick is the ability of individuals to capture gains from interactions of groups (Glaeser et al., 2002). However, this ability was due to a person's social characteristics as opposed to environmental factors or chance. In their attempt to aggregate social capital from the individual level, challenges arose due to externalities. "The complexity of aggregation means that the determinants of social capital at the individual level may not always determine social capital at the society-level" (Glaeser et al., 2002).

Most early social capital definitions focus almost exclusively on the membership aspect of individuals in a group. While social capital is not explicitly mentioned, Granovetter (1973) argued that weak ties between people of different social groups actually reach more people in terms of information dissemination. Strong ties create an echo chamber within the group, and information fails to be passed outside of the group except through weak contacts with individuals outside of a group (Granovetter, 1973). Thus, the weak ties between people that indirectly connect different social circles are just as important if not more so than the traditional view of social capital as a characteristic of how closely connected groups are to each other.

In 1992, a book titled "Rural Communities: Legacy & Change" was published that detailed the Community Capitals Framework (Flora et al., 2018)[1]. One community capital was social capital, seen as both an economic concept as well as a community development concept. In this book, social capital was broken down into bonding social capital, or that which connects similar individuals, and bridging social capital, or that which connects diverse groups. This framework continues to be utilized by community development practitioners today and relates the idea of social capital through a familiar economic capital lens, but lacks some nuance and clarification of terms.

Given the limitations of many of these definitions, namely, the absence of either the economic component and related issues of power or the social component, DiFililppis (2001) suggests returning to Bourdieu's theory. Carpiano (2006) makes a similar claim, and offers an updated model combining aspects of Bourdieu, Portes, and Putnam. Carpiano argues that Putnam's theory actually refers to the idea of social cohesion rather than social capital, and that these are two distinct entities.

> *"In terms of a neighborhood or local area, residents may be socially cohesive in the sense that they know and trust one another and share similar values [social cohesion]. However, they may not necessarily rely on each other for acquiring resources that they are unable to obtain through their own individual means [social capital]."* (Carpiano, 2006)

[1] Since 1992, updates to data and concepts have been published in subsequent editions. The sixth edition was published most recently in 2018.

An empirical study using Carpiano's model found support for the separation of social cohesion and social capital (Kaiser et al., 2020). While separate, the two are related. Cohesive (or connected) communities may foster a higher willingness to help out your neighbor or participate in community projects. "Social cohesion is the soil that can develop a seed or plant, which is social capital" (Kaiser et al., 2020). Building off of Portes' three aspects (social processes leading to social capital, social capital itself, and outcomes of social capital), Putnam's theory can be likened to the antecedent social processes necessary for social capital, and Bourdieu's theory refers to the resources contained within social networks, or social capital itself. (Carpiano, 2006).

In another attempt to encapsulate all aspects of social capital discussed thus far, Grootaert's (2003) book dissected social capital into six dimensions, much like Coleman had attempted to do. The six dimensions include groups and networks, the dimension most commonly associated with social capital; trust and solidarity toward neighbors, key service providers, and strangers; collective action and cooperation analyzing how people work together on projects or in response to a crisis; information and communication channels; social cohesion and inclusion, or how division and differences are managed; and empowerment and political action which includes both personal efficacy as well as the capacity to influence local political events and agendas (Grootaert, 2003). This breakdown of dimensions includes the structural and cognitive aspects of social capital, the ways in which social capital operates, and the outcomes of social capital or collective action due to social capital (Grootaert, 2003).

As this is an economic study, a discussion on the economics of social capital is now warranted. Several studies have made the comparison between social capital and other forms of capital, such as human capital or physical capital. From an economic perspective, capital is a resource of production. Thus, for social capital to have meaning, it must retain a similar definition and be connected in some way to the production of goods and services or other forms of capital within society (DeFilippis, 2001). Additionally, it can be reasoned that social capital is a rival resource in the sense that certain people are able to acquire it at the expense of others (DeFilippis, 2001). To put it another way, "Individuals accumulate social capital when the private incentives for such accumulation are high" (Glaeser et al., 2002). If everyone has the same connections, no one would benefit because no one would gain an advantage from realizing that capital (DeFilippis, 2001). Perhaps the most direct comparison to established forms of capital is to that of human capital. In the context of education, Coleman (1988) describes how social capital both at the individual and community levels contributes to the creation of human capital. Fukuyama (2002) further details how this is done, stating that investments in educational training and infrastructure are necessary for social capital as much as for human capital. Glaeser et al. (2002) suggest that social capital is the social component of human capital.

It has also been suggested that social capital is a public good (Coleman, 1988), yet the rival nature of social capital would maintain otherwise. Social capital itself creates externalities, both positive and negative, both at the individual and aggregate levels (Fukuyama, 2002; Glaeser et al., 2002). Most studies choose to focus on measuring the positive externalities, such as higher levels of trust in local officials, while choosing to ignore

the potential negative externalities, such as are created by social capital within groups like the Mafia. Aggregating social capital also creates externalities. Glaeser et al. (2002) explain that when networks aggregate social capital from individual social capital, the entire network benefits from each new membership such that the aggregate social capital exceeds the sum of the individual investments, thus creating externalities. These social capital externalities can lead to a free rider problem.

> *"In fact, [Adam Smith in his infamous 1776 "Wealth of Nations"] argued that too much trust between economic actors was a recipe for economy-stifling cartels and monopolizations…Similar concerns were again voiced by Weber in 1925…to stress that such trust-based networks further distort and hamper growth within the economy by inviting free-riders from within the relationships not to work as hard as they might, or have to, if they were not connected"* (DeFilippis, 2001).

There are certain applications of social capital that can, however, address the free rider problem. One such application is that of repeated games. The iteration of social interaction among the same players actually spontaneously builds social capital, leading to a cooperative outcome (Fukuyama, 2001; Glaeser et al., 2002). In a tit-for-tat strategy, social capital is used to reduce transaction costs between players, as well as the costs of enforcing contracts or the lack thereof, leading to greater efficiency and more cooperative outcomes (Fukuyama, 2001; Glaeser et al., 2002). Looking outside a theoretical context, "States

indirectly foster the creation of social capital by efficiently providing necessary public goods, particularly property rights and public safety" (Fukuyama, 2001). Again, transaction costs and enforcement costs are reduced with these types of public goods.

There exist as many ways to measure social capital as there are definitions, and there is likewise a lack of a universally agreed upon unit of measure or method for including social capital in models in any singular discipline, let alone across disciplines. Two broad approaches have historically been used to measure social capital: the number of group memberships in a given society, and survey data on levels of trust and civic engagement (DiPasquale & Glaeser, 1999; Fukuyama, 2001). Putnam (1995a, 1995b, 2001) took the first approach using readily available formal membership data. He also contended that social trust and associational membership were closely correlated, and later incorporated measures of trust into a social capital index (Putnam, 1995a, 1995b, n.d.). In a 2001 article, however, Putnam insists that social trust and social capital are not the same thing, but that social trust can be used as a close proxy for social capital (Putnam, 2001). Using this number of existing memberships within organizations as a measure of social capital, a large portion of Putnam's work argued that the United States' social capital stock was declining (Putnam, 1995a, 1995b). As such, it has been suggested that organizational memberships alone are not a sufficient measure of social capital. The other approach, using survey data to measure trust, has also been discounted as a sole individual measure, although it may be successful at the community level (Glaeser et al., 2002). The World Bank measurement uses a unique metric, such as the "willingness of governments to uphold laws and fight corruption," but that is similarly difficult to measure quantitatively (McCall, 2002).

Carpiano (2006) took a different approach and followed Bourdieu's and Portes' methodology that separates social capital into different facets, effectively combining several measurement techniques. The emphasis on both the size of the network and the resources themselves correlates to the organizational membership and survey-based levels of trust, respectively. While Carpiano's (2006) model is well laid out and considers four "forms" of social capital (social support, social leverage, informal social control, and neighborhood organization participation), the specific empirical measurement approaches are lacking. Sampson & Graif (2009) also break down social capital into different indices, yet their specific measurement approaches are mostly survey-based, which may not capture all aspects of social capital.

Social capital is neither an economic concept nor a sociological concept nor an anthropological concept, nor a product of leadership theory. It's a cross-disciplinary combination of all of those things that serves both an economic function, a social function, and a political function. For the purposes of this study, social capital is defined similar to Carpiano (2006). The modification of Portes' aspects from three to four attempt to capture all aspects of social capital without incorporating related but external factors. In this context, social efficiency comprises structural antecedents to social cohesion, social cohesion itself, social capital, and the outcomes of social capital. Social efficiency is an umbrella term defining all aspects of social networks, including how they are structured and how they function within a community. Structural antecedents are the characteristics (socioeconomic or otherwise) of neighborhoods, communities, or groups that contribute to the structure of social networks and resources. Social cohesion is the values, norms, and patterns of

interaction that facilitate social capital. Social capital is the actual or potential resources contained within networks. Outcomes of social capital are the externalities, goals, or benefits provided to members of a network or to the network as a whole (Carpiano, 2006). Since the actual (or potential) resources of social capital are often unobservable and incredibly difficult to quantify, including social cohesion and outcomes of social capital allow the ability to measure indicators of social capital rather than solely social capital itself. This functionality of social capital indicator is much more measurable in economic terms (Fukuyama, 2002). Thus, for ease of discussion, social cohesion, social capital, and outcomes of social capital will collectively be referred to as social capital.

Furthermore, social capital shall be viewed as a private, rival resource that contributes to the production of goods and services or other forms of capital and that may create externalities. Social capital reduces transaction costs and enforcement costs and leads to cooperative outcomes.

Given the available data, social capital will be separated into two forms: individual social capital and community social capital. The former will refer to social capital the individuals are able to realize based on their participation in social interactions. The latter will refer to the perceived social capital that exists among community members as a whole, but that is distinct from individuals. Note that community social capital is not an aggregate measure of individual social capital, but the social capital that is perceived to exist within a community by individuals.

Carpiano (2006) includes neighborhood socioeconomic factors as antecedents to social capital. These include median income and income inequality, ethnic composition,

median length of residency, percent of home ownership, the percent of parents in neighborhood, adjacent neighborhood median income and income inequality. Additionally, Carpiano (2006) includes individual confounders such as family income, education, residency length, number of adults/children in home, etc. Empirical studies have found that "group-level variables on their own are unlikely to predict most of the variation in social capital" (Glaeser et al., 2002). A separate study highlighted the importance of the social construction of a place rather than just the actual characteristics in influencing rural migratory patterns (Ulrich-Schad et al., 2013). Thus, building on Carpiano's methodology and the findings of Glaeser et al. (2002), and given the ease of availability of this type of data, neighborhood socioeconomic factors as well as individual demographic factors are included as separate, distinct factors from social capital.

Since social capital is tied closely to human capital (and thus, education), an individual's own education level may be a factor of social capital. Putnam (1995b) cautions including education in a measure of social capital as to not confuse the effects of other variables. Furthermore, the externalities of accumulating social capital can be both positive and negative, offsetting other effects (Helliwell & Putnam, 2007). While education and social capital are related, they are included as separate factors in this analysis to better tease out the effects of each. A 1999 study found a potential causal link between homeownership and social capital. However this influence of homeownership is largely due to community tenure, or the decreased mobility of homeowners (DiPasquale & Glaeser, 1999). It is unclear whether the causal relationship is between community tenure and social capital or

homeownership itself, nor what other factors influence community tenure and mobility. Homeownership is included as a separate variable.

With all of the confusion among definitions and measurement techniques, one might wonder why social capital should be included in economic models at all. Most early proponents agreed that communities are typically better off with higher levels of social capital, pointing to relying on past success for future collaboration, facilitating coordination and communication, and developing strong and efficient institutions (Carpiano, 2006; Fukuyama, 2002; Putnam, 1995a). However, the negative aspects of social capital have also been recognized. Carpiano (2006) cites Bourdieu's recognition of the potential "exclusion of specific individuals from obtaining resources tied to a network." Fukuyama (2002) also points out that too much of a good thing, in this case social capital, can lead to an inefficient government due to the motivations of interest groups. "The ability to co-operate is based on habit and practice; if the state gets into the business of organizing everything, people will become dependent on it and lose their spontaneous ability to work with one another" (Fukuyama, 2001). In a prescriptive policy context, social capital is able to provide an appropriate context for policies and institutions that guard against the expectation that a social-capital based policy will surely lead to economic growth (Fukuyama, 2002). In addition, a study relating social capital to community satisfaction found contradictory effects. High levels of bridging social capital, such as friend networks, have a positive association to community satisfaction, but bonding social capital, such as family ties, have a negative correlation (Fitz et al., 2016). Peters (2019) also made the distinction between bonding, bridging, and linking social capital types. While a differentiation between types may

influence the impact of overall social capital, it is not the main focus of this study. Therefore, due to the potential synergistic effects of social capital on community economic development and individual perceptions, as well as contradictory evidence of positive or negative correlations, social capital will be included in the model in a somewhat simplified form: individual social capital and community social capital. Therefore, the present study proposes the following hypothesis:

H_4: Higher levels of social capital increase the likelihood of positive perceptions of future well-being.

CHAPTER 4: METHODS & MODEL

This chapter outlines the methodology of the proposed study, including survey data collection, explanation of variables, and a description of the empirical model.

Survey Methodology and Profile of Respondents

Data was collected from the 2020 Nebraska Rural Poll, an annual survey administered by Nebraska Extension of the Institute for Agriculture and Natural Resources, the University of Nebraska Rural Futures Institute, and the Department of Agricultural Economics at the University of Nebraska. This self-administered questionnaire containing questions regarding community, weather events, well-being, resilience, and agriculture, as well as occupation and demographics, was mailed to 6,033 randomly selected households in all nonmetropolitan counties of Nebraska in March and April as well as selected metropolitan, but historically rural counties. Seven metropolitan counties were excluded. Of the 6,033 mailed surveys, 1,979 were returned for a response rate of 32.8%. The total design method was used in developing and administering the survey (Dillman, 1978). Of the returned surveys, 518 (or 26.2%) were considered complete for purposes of this study. The overall completion rate from the total mailed surveys was 8.6%.

The average respondent was 52 years old and had lived in the community for 29 years. Females comprised 51% of respondents, and 83% had earned at least a bachelor's degree. The average household size was 3 people, and 40% of households earned an annual income below $100,000. Population of communities ranged from less than 100 to 20,000 and over. At the county level, the percent of individuals living below the poverty level averaged 11%. Although the average respondent was not necessarily representative of the overall

demographics of the state, this research is focused on individual respondent perceptions. Thus, responses were not weighted for the purposes of this study.

Explanation of Variables

Following Filkins et al. (2000) methodology, the choice of specific variables was guided in part by the availability of data and by the researcher's findings. Many of the variables did not have a single agreed-upon measure; therefore, measurement techniques were based on available data and previous work of others. Most items were measured on a Likert scale ranging from 3 points to 7 points, with a 5-point scale the most common. For Likert scales that are not 5 points, the range was adjusted to a 5-point scale to include in indexes and for easier comparison.

Based on the findings in previous literature, the model was separated into two parts: future community well-being and future individual well-being. The independent variables remain largely the same for each part of the final model, because demographic variables as well as social capital, resilience, and satisfaction variables matter at both the individual and community levels (Cope et al., 2016; Fitz et al., 2016).

The survey data likely suffer from selection bias, since those who are unsatisfied will leave the community whereas satisfied residents remain, skewing results toward more satisfied residents (Peters, 2019). Respondents were given the option of "does not apply" for certain personal satisfaction questions. These responses were excluded from the study, thus certain types of respondents may be over- or under-represented (Filkins et al., 2000).

Dependent Variable

The dependent variable was future well-being, evaluated using two separate but related models. One model reflected future community well-being and was measured using the question "Based on what you see of the situation today do you think that in ten years from now your community will be a worse place to live, a better place or about the same?" Respondents were asked to choose on a scale of 1 to 3, with 1 reflecting "a worse place", 2 reflecting "about the same", and 3 reflecting "a better place". Fifteen percent of respondents predicted their community would be a worse place to live, and 31.5% predicted it would be a better place to live. The other 53.5% predicted it would be about the same. The sample standard deviation was 0.66 when the variables take on the previously depicted values.

The other model reflecting future individual well-being was measured using the question "All things considered, do you think you will be better or worse off ten years from now than you are today?" Respondents were asked to select a number on a scale of 1 to 5, with 1 indicating "much worse off", 2 indicating "worse off", 3 indicating "about the same", 4 indicating "better off", and 5 indicating "much better off". Results were modified to include responses "much worse off" and "worse off" as one category (worse off), and responses "better off" and "much better off" as one category (better off). Forty-eight percent of respondents predicted their individual well-being to improve in ten years, and 13% thought they would be worse off, with a sample standard deviation of 0.71 (when variables take on previously described values).

Independent Variables

The core independent variables are social capital, resilience, satisfaction, and community attachment. Except for community attachment, composite indexes were created for the core independent variables on the basis of previous work by others (Peters, 2019; Smith et al., 2001; Theodori, 2001). A simple average was calculated for each of the composite indexes rather than a formal measurement model (e.g. factor analysis[2], weighted average, etc.). This allowed for each item to carry equal weight in the index instead of diminishing certain items and avoided introducing additional model complexity (Peters, 2019). The measure of internal consistency (Cronbach's alpha) was reasonably high[3] for each of the indexes, further eliminating the need for a more formal measurement model.

As mentioned previously, there is no single measure for any of these variables, and certain items could logically be included in other indexes (Filkins et al., 2000). The choice of specific variables was based on by previous research by others, the availability of data, and how closely it followed the definitions of each variable.

Social capital has often been touted as the key to successful community development (Carpiano, 2006; Fukuyama, 2002; Glaeser et al., 2000; Putnam, 1995a; Yang, 2007), but accurately measuring such a broad concept has proven challenging. Rather than relying on one specific approach, different methods were combined to include multiple aspects of social capital, in particular trust, networks, and sense of belonging. Social capital was separated into community social capital and personal social capital, as suggested by previous research

[2] Factor analysis was studied as an alternative measurement technique. An in-depth discussion of the process and results is found in Chapter 6.
[3] A frequently cited acceptable measure of Cronbach's alpha is 0.70 or greater, values of 0.60 or greater are generally acceptable for exploratory research such as in this study (Howard, 2016).

(Carpiano, 2006; Glaeser et al., 2000; Peters, 2019; Ulrich-Schad et al., 2013). Community social capital combined 13 individual items into a single index, including questions such as "People in this community are good at influencing each other", "There is trust among the residents of my community", and "My community is friendly". The Cronbach's alpha measure was 0.86. The personal social capital index contained 10 items, including questions such as "I feel like a member of this community", "I have a good bond with others in this community", and "I am satisfied with my family". The Cronbach's alpha was 0.9.

Resilience was likewise separated into personal resilience and community resilience based on findings from Norris et al. (2008) and Bonanno et al. (2015). Previous work has included community preparedness, completion of community projects, and self-efficacy as indicators of resilience. Thus, community resilience combined seven items that focused on preparedness, community powerlessness[4], and keeping people informed. The Cronbach's alpha measure was 0.87. Personal resilience included seven items such as "When my community faces a major problem, I know I can help find a way to solve it", "I think of community hardships as an opportunity for me to grow", and "Life has changed so much in our modern world that most people are powerless to control their own lives."[5] The Cronbach's alpha was 0.81.

The next category of variables, satisfaction, was included on the basis of the work of Filkins et al. (2000). Indexes were created closely following the methodology of Filkins et al. (2000). Since that study, however, survey questions in the Nebraska Rural Poll have been

[4] Community powerlessness was measured by the question "Do you agree or disagree with the following statement. My community is powerless to control its own future." Responses were reverse-coded prior to being included in the index.
[5] Responses were reverse-coded prior to being included in the index.

changed, added, or excluded, so final indexes were determined by their logical inclusion according to the researcher's experience. Using a 5-point Likert scale, respondents were asked to indicate their satisfaction with public services and community amenities based on their availability, cost, quality, and other considerations. Respondents were also asked to indicate their level of satisfaction with personal quality of life indicators (e.g. current income level, housing, job, clean air, etc.) on the same 5-point Likert scale. Respondents were given the option of selecting "Does not apply" for the personal quality of life indicators[6]. Satisfaction indexes included Public Safety, Infrastructure, Civic Services, Education (within the community), Human Services, Consumer Services, Health, Telecommunications, Nature, Quality of Life, Employment, and Personal Finance[7]. Overall community satisfaction was included as a separate variable. Cronbach's alpha measures ranged from 0.60 to 0.87. Alpha measures can be found in Table 1.

Measuring community attachment has generally been done two ways: sentiment-based attachment (sorrow-leaving), or interest in your community (Carpiano, 2006; Theodori, 2001). Since interest in your community may be influenced by other factors (occupation, social network, etc.), community attachment will be measured by sorrow leaving. More specifically, community attachment will be measured by a question asking "How easy or difficult would it be for your household to leave your community?" with one indicating "very easy" and seven indicating "very difficult". The more difficult it would be to leave indicates a stronger sense of community attachment.

---

[6] If "Does not apply" was selected, the response was coded as NA and excluded from analysis. Therefore, certain groups of people may be under- or over-represented in the analysis. For example, those who selected "Does Not Apply" for satisfaction with your marriage automatically excluded single persons.

[7] For a complete list of questions included in each index, refer to Appendix A.

A category of demographic factors was included to reduce noise in the model. Age, gender, education, homeownership, and income have all been shown to be key factors in

Table 1. Internal Reliability and Summary Statistics for Core Variables

	Cronbach's Alpha	Mean	Standard Deviation
Social Capital			
Community Social Capital	0.9	3.48	0.63
Personal Social Capital	0.86	3.75	0.62
Resilience			
Community Resilience	0.87	3.52	0.71
Personal Resilience	0.81	3.36	0.56
Community Attachment	-	4.70	1.91
Satisfaction Indexes			
Infrastructure	0.68	3.16	0.68
Civic Services	0.62	3.31	0.87
Public Safety	0.6	4.08	0.84
Education (Satisfaction)	0.71	3.79	0.76
Human Services	0.7	3.51	0.72
Consumer Services	0.84	2.82	0.97
Health Services	0.69	3.36	0.95
Telecommunication	0.76	3.50	1.09
Nature	0.84	4.03	0.85
Quality of Life	0.84	4.08	0.86
Community Overall	-	3.51	1.03
Employment	0.83	3.59	0.95
Personal Finance	0.87	3.49	0.93

social models (DiPasquale & Glaeser, 1999; Filkins et al., 2000; Fitz et al., 2016; McLaughlin et al., 2014; Tieken, 2020; Ulrich-Schad et al., 2013). Gender was coded as 0 for male and 1 for female. Respondents were asked to select their highest level of education from 1 (less than 9th grade) to 8 (graduate or professional degree). Responses were coded based on the number of years of education. For example, if response 3 was chosen, indicating a high school diploma or equivalency, it was re-coded as 12. A quadratic term was included for education to more accurately represent the appropriate form (past a certain point, additional

years of education have less of an effect on perceived well-being). Homeownership was coded as own (1) vs do not own (0). Respondents were asked to select their household income given certain ranges. Responses were coded based on the midpoint of each range. For example, if a respondent selected $40,000-$59,999, the response was recorded as $50,000. Units were based in $1,000s, so the previous example was coded as 50. Since it is logical that the effect of income isn't strictly linear (at some point, additional income won't have the same effect), it was included in the model in logarithmic form.

Rather than including the type of work (full-time, part-time, retired, etc) and occupation (education, agriculture, healthcare, etc) as separate variables, they were combined into a single variable to avoid multicollinearity. If respondents selected "employed"[8], their response to the occupation question was used instead. Responses for both self and spouse/partner if applicable were combined as well to get an accurate measure of the household work situation. If respondents did not have a spouse/partner, only their occupation was recorded, but if they did have a spouse/partner, both occupations were included.

Community socioeconomic factors were also included in the model. Income disparity was measured using the Gini coefficient for each county, and was obtained from the 2019 American Community Survey (5-year estimates) through the United States Census Bureau[9] (U.S. Census Bureau, 2019a; U.S. Census Bureau, 2019b). The percentage of people below

[8] The survey question read "Were you and your spouse/partner (if applicable) working either on a full-time, part-time, or seasonal basis at any time during 2019?" Responses were "Yes", "No, I am retired", "No, I am a full-time homemaker", "No, I am a student", "No, I am not working but am looking for work", or "No, I am not working and am not looking for work".

[9] At the time of this study, 2020 Census results had not yet been published.

the poverty line by county was also obtained from the 2019 American Community Survey (5-year estimates). Each of these variables used their numeric values.

Finally, following the methodology of Ulrich-Schad et al. (2013), variables measuring place differences were included accounting for community population, region, county economic dependency, and county rurality. Population of the community was coded similar to household income (using the midpoint of each range, and in units of 100). Regions were matched to the Thriving Index regions (Thompson et al., 2020) by zip code. For comparison purposes, the region with the highest number of respondents (Tri-Cities region) was used as the base. County economic dependency was measured using USDA Economic Research Service (ERS) 2015 County Typology Codes (USDA ERS, 2015). These codes classify counties according to their mutually exclusive economic dependence. Types include farming, mining, manufacturing, Federal/State government, recreation, and nonspecialized counties. Nonspecialized counties were used as the reference. To determine county rurality, a variable classifying counties by the ERS 2013 Rural-Urban Continuum Code was included (USDA ERS, 2013). Nonmetropolitan counties are primarily determined based on distance from a metropolitan area (defined by the population size). Rural-Urban Continuum Codes contain six categories, and are coded as such: the greater the number, the more "rural" a county is considered.

Model

To understand relationships between the independent variables and perceptions of future well-being, an ordered logistic regression was chosen. This model examines the probabilities of a given respondent viewing the future well-being of their community (or

themselves) in one of three categories: worse-off, about the same, or better-off. The model is represented as follows:

$$y^* = x_i'\beta + u_i$$

where y^* is a latent, unobservable variable and is only know when it crosses a threshold; β is the partial regression coefficient; x_i' represents all of the independent variables; and u_i is an error term. To determine which category, j (worse off, about the same, or better off), a particular individual, i, falls into, the following equation is used:

$$y_i = j \text{ if } \alpha_{j-1} < y_i^* \leq \alpha_j$$

where α_j represents a particular threshold. In this case, since there are three categories (worse off, about the same, or better off), there are two thresholds between choice one and two and choice two and three. In other words, an individual will choose category j if y_i^*, the latent variable, falls between the two thresholds.

As mentioned, an ordered logistic regression estimates probabilities of a given individual choosing a particular option. This can be further described as:

$$p_{ij} = p(y_i = j) = p\left(\alpha_{j-1} < y_i^* \leq \alpha_j\right) = F\left(\alpha_j - x_i'\beta\right) - F\left(\alpha_{j-1} - x_i'\beta\right)$$

where $F(z) = \frac{e^z}{1+e^z}$ (the logistic form); p_{ij} is the probability of individual i selecting category j (in this case, worse off, about the same, or better off); $p\left(\alpha_{j-1} < y_i^* \leq \alpha_j\right)$ is the probability of the latent variable, y_i^* falling between two thresholds; α_j is the thresholds between categories; x_i' is all the independent variables; and β is the partial regression coefficient.

Table 2 shows the full ordered logistic regression model for future community well-being (Model 1). It could be argued that population follows a logarithmic form rather than strictly linear, so a separate model (Model 2) was created including the log of population

instead. Independent variables were removed in categories (i.e. demographics, place differences, occupation, etc) to test whether certain categories of variables provided little explanatory power and could be excluded from the model (Models 3, 4, 5, 6, 7). Upon excluding each of the categories in turn, the strength of the model was reduced in each case. Thus, all independent variables were determined to be relevant in describing future well-being and were therefore included in the final model. Since coefficients in an ordinal logistic regression can indicate only statistical significance of a variable and direction of correlation (positive or negative), marginal effects were calculated for later interpretation. These effects are displayed in Table 3. A separate regression model was completed for future individual well-being (Table 4). The same methodology of log of population and removing categories was employed (Models 2-7), and marginal effects were calculated in Table 5.

Table 2. Prediction of Future Community Well-Being by Social Capital, Resilience, Community Attachment and Satisfaction

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Social Capital							
Community Social Capital	-0.035	-0.002	-0.055	0.117	-0.083	-0.044	-0.103
Personal Social Capital	-0.368	-0.363	-0.396	-0.355	-0.379	-0.344	-0.320
Resilience							
Community Resilience	0.836***	0.816***	0.862***	0.998***	0.855***	0.814***	0.908***
Personal Resilience	0.243	0.268	0.296	0.132	0.242	0.279	0.282
Community Attachment	0.102	0.105	0.098	0.063	0.100	0.098	0.098
Satisfaction Indexes							
Infrastructure	-0.195	-0.193	-0.137	-0.213	-0.143	-0.199	-0.227
Civic Services	0.191	0.196	0.151	0.111	0.134	0.210	0.150
Public Safety	-0.171	-0.177	-0.147	-0.165	-0.159	-0.165	-0.148
Education (Satisfaction)	0.708***	0.694***	0.717***	0.478***	0.670***	0.696***	0.687***
Human Services	-0.059	-0.077	-0.059	-0.026	-0.022	-0.064	-0.074
Consumer Services	0.066	0.067	0.064	0.137	0.092	0.050	0.056
Health Services	0.149	0.140	0.133	0.100	0.158	0.144	0.143
Telecommunication	0.004	0.002	-0.017	0.018	0.004	0.016	0.002
Nature	-0.305**	-0.305**	-0.322**	-0.294**	-0.317**	-0.314**	-0.295*
Quality of Life	0.093	0.086	0.083	0.226	0.058	0.078	0.100
Overall Community	0.584***	0.583***	0.555***	0.390***	0.512***	0.583***	0.571***
Employment	-0.101	-0.092	-0.086	-0.105	-0.102	-0.097	-0.105
Personal Finance	0.022	0.019	0.023	0.049	0.061	0.018	0.028
Respondent Demographics							
Length of Residence	-0.012*	-0.012*	-0.013*		-0.013**	-0.011*	-0.011
Education	-0.437**	-0.472**	-0.499***		-0.525***	-0.272	-0.493***
Education^2	0.014**	0.015**	0.016**		0.017***	0.009	0.016**
Log(Income)	0.307	0.295	0.283		0.325*	0.302	0.337
Household Occupation(s)							
Not working, looking	-2.727***	-2.786***	-2.463***	-1.978**		-2.742***	-2.377**
Agriculture	-0.515	-0.495	-0.518*	-0.577**		-0.416	-0.445
County Typology (nonspecialized reference)							
Farming	-0.652*	-0.646*		-0.609*	-0.572*	-0.623*	-0.321
Manufacturing	-0.776**	-0.783***		-0.748***	-0.700**	-0.769**	-0.539*
Recreation	-1.937**	-1.851*		-1.617*	-1.789*	-2.007**	-1.896*
Household Location (Outside city, not farm/ranch reference)							
City	0.518	0.497	0.518	0.478	0.617*		0.431
Farm/Ranch	0.611	0.630	0.661*	0.538	0.707*		0.479
Region (Tri-Cities reference)							
Panhandle	-0.366	-0.390		-0.763*	-0.354	-0.396	-0.345
Income Inequality	-9.237***	-9.343***	-7.357***	-7.206***	-7.133***	-8.619***	
Observations	517	517	517	571	532	517	517

Note: Standard errors and non-core insignificant variables have been excluded. A complete table can be found in Appendix B *$^*p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*

Table 3. Marginal Effects for Future Community Well-Being

	Worse Off	About the Same	Better Off
Social Capital			
Community Social Capital	0.003	0.004	-0.007
Personal Social Capital	0.028	0.040	-0.068
Resilience			
Community Resilience	-0.064***	-0.090***	0.154***
Personal Resilience	-0.019	-0.026	0.045
Community Attachment	-0.008	-0.011	0.019
Satisfaction Indexes			
Infrastructure	0.015	0.021	-0.036
Civic Services	-0.015	-0.021	0.035
Public Safety	0.013	0.018	-0.033
Education (Satisfaction)	-0.054***	-0.077***	0.131***
Human Services	0.005	0.006	-0.011
Consumer Services	-0.005	-0.007	0.012
Health Services	-0.011	-0.016	0.027
Telecommunication	0	0	0.001
Nature	0.023**	0.033**	-0.056**
Quality of Life	-0.007	-0.010	0.017
Overall Community	-0.045***	-0.063***	0.108***
Employment	0.008	0.011	-0.019
Personal Finance	-0.002	-0.002	0.004
Respondent Demographics			
Length of Residence	0.001*	0.001*	-0.002*
Education	0.033**	0.047**	-0.081**
Education^2	-0.001**	-0.001**	0.003**
Household Occupation(s)			
Not working, looking	0.493***	-0.264***	-0.229***
County Typology (Nonspecialized reference)			
Farming	0.053*	0.064*	-0.117*
Manufacturing	0.073**	0.054**	-0.126**
Recreation	0.301**	-0.098**	-0.202**
Income Inequality	0.707***	0.998***	-1.705***

Note: Non-core insignificant variables have been excluded. A complete table can be found in Appendix C.
** p<0.1; ** p<0.05; ***p<0.01*

Table 4. Prediction of Future Individual Well-Being by Social Capital, Resilience, Community Attachment and Satisfaction

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Social Capital							
Community Social Capital	0.315	0.301	0.202	0.402	0.228	0.320	0.300
Personal Social Capital	-0.248	-0.235	-0.200	0.011	-0.089	-0.310	-0.245
Resilience							
Community Resilience	0.384	0.384	0.322	0.302	0.348	0.401	0.352
Personal Resilience	0.799***	0.801***	0.772***	0.582**	0.712***	0.733***	0.708***
Community Attachment	-0.071	-0.073	-0.045	-0.046	-0.077	-0.054	-0.075
Satisfaction Indexes							
Infrastructure	0.068	0.060	0.001	-0.079	0.111	-0.005	0.097
Civic Services	0.133	0.135	0.121	0.053	0.115	0.111	0.173
Public Safety	-0.389**	-0.384**	-0.365**	-0.251*	-0.410***	-0.357**	-0.390**
Education (Satisfaction)	-0.100	-0.102	-0.079	-0.030	-0.124	-0.079	-0.090
Human Services	-0.277	-0.280	-0.276	-0.409**	-0.211	-0.221	-0.247
Consumer Services	0.230*	0.230*	0.139	0.190	0.188	0.248*	0.236*
Health Services	0.224	0.229*	0.239*	0.176	0.194	0.175	0.212
Telecommunication	0.032	0.036	0.058	-0.087	0.030	-0.019	0.043
Nature	-0.138	-0.126	-0.175	-0.048	-0.083	-0.056	-0.125
Quality of Life	-0.012	-0.022	0.069	-0.027	-0.030	-0.025	-0.037
Community Overall	-0.081	-0.085	-0.077	-0.153	-0.054	-0.040	-0.093
Employment	0.417***	0.411***	0.354**	0.388***	0.365***	0.400***	0.413***
Personal Finance	0.502***	0.507***	0.583***	0.373**	0.533***	0.515***	0.518***
Respondent Demographics							
Age	-0.083***	-0.083***	-0.072***		-0.072***	-0.083***	-0.082***
Gender (Female)	-0.406*	-0.406*	-0.305		-0.378*	-0.395*	-0.417*
Homeownership	-1.294**	-1.303***	-1.115**		-1.127**	-1.134**	-1.297***
Household Occupation(s)							
Not working, looking	3.063**	3.036**	2.460**	3.059**		2.919**	2.823**
Homemaker	0.879*	0.882*	0.674	1.009**		0.843	0.812
Healthcare/Public Safety	0.452	0.466	0.454	0.754***		0.436	0.438
Distance from metro area	0.170*	0.155*		0.048	0.110	0.148*	0.166*
County Typology (nonspecialized reference)							
Farming	-0.072	-0.142		-0.213	0.040	-0.158	-0.563*
Manufacturing	0.722**	0.699**		0.363	0.560*	0.632**	0.534*
Household Location (Outside city, not farm/ranch reference)							
City	-0.680*	-0.673*	-0.648*	-0.448	-0.513		-0.584
Subdivision	0.868	0.874	0.802	0.960*	0.823		0.968*
Income Inequality	1.364***	1.949***	-0.955***	3.474***	-0.010	2.014***	
% Below Poverty Level	0.090*	0.092*	0.088**	0.009	0.080*	0.082	
Observations	505	505	505	558	521	505	505

Note: Standard errors and non-core insignificant variables are excluded. A complete table can be found in Appendix D. *$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*

Table 5. Marginal Effects for Future Individual Well-Being

	Worse Off	About the Same	Better Off
Social Capital			
Community Social Capital	-0.018	-0.061	0.079
Personal Social Capital	0.014	0.048	-0.062
Resilience			
Community Resilience	-0.022	-0.074	0.096
Personal Resilience	-0.046***	-0.154***	0.200***
Community Attachment	0.004	0.013	-0.017
Satisfaction Indexes			
Infrastructure	-0.004	-0.013	0.017
Civic Services	-0.008	-0.026	0.033
Public Safety	0.022**	0.075**	-0.097**
Education (Satisfaction)	0.006	0.019	-0.025
Human Services	0.016	0.053	-0.069
Consumer Services	-0.013*	-0.044*	0.057*
Health Services	-0.013	-0.043	0.056
Telecommunication	-0.002	-0.006	0.008
Nature	0.008	0.027	-0.035
Quality of Life	0.001	0.002	-0.003
Overall Community	0.005	0.016	-0.020
Employment	-0.024***	-0.080***	0.104***
Personal Finance	-0.029***	-0.097***	0.125***
Respondent Demographics			
Age	0.005***	0.016***	-0.021***
Gender (Female)	0.023*	0.078*	-0.101*
Homeownership	0.047**	0.244**	-0.291**
Household Occupation(s)			
Not working, looking	-0.060**	-0.402**	0.462**
Homemaker	-0.036*	-0.172*	0.208*
Distance from metro area	-0.010*	-0.033*	0.042*
County Typology (Nonspecialized reference)			
Manufacturing	-0.035**	-0.142**	0.176**
Household Location (Outside city, not farm/ranch reference)			
City	0.037*	0.131*	-0.168*
Income Inequality	-0.078***	-0.263***	0.341***
% Below Poverty Level	-0.005*	-0.017*	0.022*

Note: Non-core insignificant variables have been excluded. A complete table can be found in Appendix E.
** p<0.1; ** p<0.05; ***p<0.01*

CHAPTER 5: RESULTS

The regression analysis used in this study allows each independent variable to be examined more precisely in explaining variation in future community and individual well-being. As mentioned previously, the initial coefficients for each variable are useful only in determining significance and direction of correlation (positive or negative). To determine magnitude, marginal effects are needed. All marginal effects are listed in Tables 3 and 5.

Future Community Well-Being

For the community-level model (Table 3), important predictors of future community well-being include satisfaction with education, satisfaction with nature, overall community satisfaction, and community resilience. Other significant predictors include certain place-difference variables, respondents' education level, and length of residence.

Social capital was not significant whether it was community social capital or personal social capital. Therefore, the hypothesis H_4 that higher levels of social capital increase the likelihood of positive perceptions of future community well-being is rejected.

Community attachment was not significant even at the $p<0.1$ level. Thus, we also reject the hypothesis H_2 and conclude that higher levels of community attachment do not necessarily lead to a higher likelihood of positive perceptions about future well-being.

Community resilience was significant at the $p<0.01$ level. When looking at the marginal effects, a one unit increase in community resilience is associated with a 15.4% greater likelihood that respondents will view their community well-being as better off in ten years. Personal resilience was not significant in the community model. The hypothesis H_1 that increased resilience leads to a greater likelihood of positive perceptions of future

community well-being is partially accepted, holding for community resilience but not personal resilience.

Satisfaction with education services in a community was statistically significant at the $p<0.01$ level. Respondents are 13% more likely to have positive perceptions of future community well-being with a one unit increase in education satisfaction. On the other hand, satisfaction with nature was negatively significant at the $p<0.05$ level. A one unit increase in satisfaction with nature is associated with a 5.6% less likelihood that respondents will view their future community well-being as "better off." Overall, increasing community satisfaction one unit is associated with a 10.8% greater likelihood of an individual viewing their community's future well-being positively. Based on these findings, the hypothesis H_3 that more satisfaction with amenities leads to a greater likelihood of positive perceptions of future well-being can be neither fully accepted nor fully rejected at the community level.

Although not core variables, certain county typology codes (Farming-, Manufacturing-, and Recreation-dependent counties) were statistically significant in the future community well-being model, all negatively so. Respondents who indicated either themselves or their spouse/partner were not employed but actively looking for work think differently than those employed. These individuals were less likely to view their community's future well-being as better off.

Future Individual Well-Being

Significant predictors of future individual well-being include satisfaction with public safety, consumer services, employment, and personal finance; personal resilience; demographic factors such as age, gender, homeownership, and occupation; and place

differences such as distance from a metro area (Rural Urban Continuum Code) and county income inequality.

Social capital was again not significant at either the personal social capital metric or the community social capital metric, allowing the hypothesis H_4 that higher levels of social capital increase the likelihood of positive perceptions of future individual well-being to be rejected. Community attachment was also not a significant predictor of individual future well-being, so the hypothesis H_2 is also rejected, and it can be concluded that higher levels of community attachment don't necessarily lead to a higher likelihood of positive perceptions about future individual well-being.

Personal resilience was a strong predictor of individual future well-being, with significance at the $p<0.01$ level. A one unit increase in personal resilience is associated with a 20% greater likelihood of respondents viewing their individual well-being as "better off" in ten years. We fail to reject they hypothesis H_1 that increased resilience leads to a greater likelihood of positive perceptions of future individual well-being, holding for personal resilience but not for community resilience.

Satisfaction with consumer services, employment, and personal finance were associated with a respective 5.7%, 10.4%, and 12.5% greater likelihood of positive perceptions of individual future well-being, given a one unit increase in satisfaction of each index. However, public safety, significant at the $p<0.05$ level, had an opposite effect. Given a one unit increase in satisfaction with public safety, respondents were 9.7% less likely to perceive their future individual well-being as "better off." Thus, the hypothesis H_3 that more

satisfaction with amenities leads to a greater likelihood of positive perceptions of future individual well-being can be neither accepted nor rejected.

Demographics

Demographic variables were more important in predicting future well-being at the individual level than they were at the community level. Age, homeownership, and gender were negatively significant, indicating that older, female, homeowners are less likely to view their future well-being positively. Respondents who were not employed but were actively looking for a job as well as those who were employed as a homemaker have overall positive perceptions of their future individual well-being. Contrary to the community model, manufacturing-dependency was positively correlated with future individual well-being. Rural Urban Continuum Codes, or distance from a metro area, were also positively correlated with individual future well-being, suggesting the more "rural" a county is, the greater likelihood that residents will expect their future well-being to be "better off." Interestingly, income inequality (measured by the Gini coefficient) and percentage of people below the poverty line at the county level were positively associated with future individual well-being. In other words, the more economic disparity that exists within a county, the greater the likelihood of individuals perceiving their future well-being as "better off".

Since each of the dependent variables could logically be included as an independent variable in the opposite model, two additional regression models were run incorporating such a suggestion (Models "2" & "B" in Table 6 as compared to the original models labeled "1" and "A") (i.e. future community well-being was included as an independent variable in the

future individual well-being model and vice-versa). Marginal effects for these new models are seen in Table 7.

In the community model, individual future well-being was significant at the $p<0.01$ level, and a one unit increase in individual future well-being is associated with a 10.5% greater likelihood of positive future perceptions of community well-being. Household size became weakly significant in this model (significant at the $p<0.1$ level), but the remaining significant variables saw few changes other than slightly different marginal effects and levels of significance.

In the individual model, community future well-being was significant at the $p<0.01$ level, and a one unit increase in community future well-being is associated with a 15% greater likelihood of positive future perceptions of individual well-being. Other significant variables had slightly different marginal effects, but experienced no major changes.

Table 6. Prediction of Future Well-Being by Social Capital, Resilience, Community Attachment, Satisfaction, and Well-Being

	Community Well-Being		Individual Well-Being	
	Model 1	Model 2	Model A	Model B
Social Capital				
Community Social Capital	-0.035	-0.086	0.315	0.346
Personal Social Capital	-0.368	-0.328	-0.248	-0.231
Resilience				
Community Resilience	0.836***	0.764**	0.384	0.254
Personal Resilience	0.243	0.137	0.799***	0.802***
Community Attachment	0.102*	0.121*	-0.071	-0.079
Satisfaction Indexes				
Infrastructure	-0.195	-0.185	0.068	0.088
Civic Services	0.191	0.179	0.133	0.101
Public Safety	-0.171	-0.112	-0.389**	-0.360**
Education (Satisfaction)	0.708***	0.706***	-0.100	-0.205
Human Services	-0.059	-0.033	-0.277	-0.286
Consumer Services	0.066	0.027	0.230*	0.238*
Health Services	0.149	0.114	0.224	0.215
Telecommunication	0.004	0.014	0.032	0.028
Nature	-0.305**	-0.303**	-0.138	-0.097
Quality of Life	0.093	0.040	-0.012	-0.029
Community Overall	0.584***	0.607***	-0.081	-0.177
Employment	-0.101	-0.159	0.417***	0.463***
Personal Finance	0.022	-0.012	0.502***	0.477***
Individual Future Well-Being		0.580***		
Community Future Well-Being				0.598***
Respondent Demographics				
Age	-0.002	0.011	-0.083***	-0.083***
Gender (Female)	0.052	0.126	-0.406*	-0.435**
Household Size	-0.183	-0.214*	0.115	0.145
Length of Residence	-0.012*	-0.012*	-0.003	-0.001
Education	-0.437**	-0.462**	-0.029	-0.011
Education^2	0.014**	0.015**	-0.001	-0.002
Homeownership	0.416	0.534	-1.294**	-1.331***
Household Occupation(s)				
Not working, looking	-2.727***	-2.917***	3.063**	3.604***
Homemaker	-0.157	-0.273	0.879*	0.852
Distance from metro area	0.045	-0.001	0.170*	0.166*
County Typology (nonspecialized reference)				
Farming	-0.652*	-0.680*	-0.072	0.049
Manufacturing	-0.776**	-0.940***	0.722**	0.862***
Recreation	-1.937**	-1.814*	-0.839	-0.568
Household Location (Outside city, not farm/ranch reference)				
City	0.518	0.559	-0.680*	-0.794**
Income Inequality	-9.237***	-11.244***	1.364***	2.806***
% Below Poverty Level	-0.052	-0.050	0.090*	0.103**
Observations	517	505	505	505

Note: Non-core insignificant variables have been excluded. A complete table can be found in Appendix F
$^*p<0.1;^{**}p< 0.05;^{***}p<0.01$

Table 7. Marginal Effects for Future Well-Being

	Community Well-Being			Individual Well-Being		
	Worse Off	About the Same	Better Off	Worse Off	About the Same	Better Off
Social Capital						
Community Social Capital	0.007	0.009	-0.016	-0.019	-0.067	0.086
Personal Social Capital	0.025	0.034	-0.059	0.013	0.045	-0.058
Resilience						
Community Resilience	-0.058***	-0.080***	0.138***	-0.014	-0.050	0.063
Personal Resilience	-0.010	-0.014	0.025	-0.044***	-0.156***	0.201***
Community Attachment	-0.009*	-0.013*	0.022*	0.004	0.015	-0.020
Satisfaction Indexes						
Infrastructure	0.014	0.019	-0.033	-0.005	-0.017	0.022
Civic Services	-0.014	-0.019	0.032	-0.006	-0.020	0.025
Public Safety	0.008	0.012	-0.020	0.020**	0.070**	-0.090**
Education (Satisfaction)	-0.053***	-0.074***	0.128***	0.011	0.040	-0.051
Human Services	0.003	0.004	-0.006	0.016	0.056	-0.072
Consumer Services	-0.002	-0.003	0.005	-0.013*	-0.046*	0.060*
Health Services	-0.009	-0.012	0.021	-0.012	-0.042	0.054
Telecommunication	-0.001	-0.001	0.003	-0.002	-0.005	0.007
Nature	0.023*	0.032*	-0.055*	0.005	0.019	-0.024
Quality of Life	-0.003	-0.004	0.007	0.002	0.006	-0.007
Overall Community	-0.046***	-0.064***	0.110***	0.010	0.035	-0.044
Employment	0.012	0.017	-0.029	-0.025***	-0.090***	0.116***
Personal Finance	0.001	0.001	-0.002	-0.026***	-0.093***	0.119***
Community Future Well-Being				-0.033***	-0.117***	0.149***
Individual Future Well-Being	-0.044***	-0.061***	0.105***			
Respondent Demographics						
Age	-0.001	-0.001	0.002	0.005***	0.016***	-0.021***
Gender (Female)	-0.010	-0.013	0.023	0.024**	0.084**	-0.108**
Household Size	0.016*	0.022*	-0.039*	-0.008	-0.028	0.036
Length of Residence	0.001*	0.001*	-0.002*	0	0	0
Education	0.035**	0.048**	-0.083**	0.001	0.002	-0.003
Education^2	-0.001**	-0.002**	0.003**	0	0	-0.001
Homeownership	-0.049	-0.035	0.084	0.046***	0.252***	-0.298***
Household Occupation(s)						
Not working, looking	0.536***	-0.310***	-0.226***	-0.059***	-0.425***	0.484***
County Typology (Nonspecialized reference)						
Farming	0.055*	0.064*	-0.119*	-0.003	-0.010	0.012
Manufacturing	0.091***	0.055***	-0.145***	-0.039	-0.170	0.209
Recreation	0.270*	-0.079*	-0.191*	0.040	0.098	-0.138
Household Location (Outside city, not farm/ranch reference)						
City	-0.045	-0.052	0.097	0.041**	0.155**	-0.195**
Income Inequality	0.850***	1.180***	-2.031***	-0.154***	-0.547***	0.701***
% Below Poverty Level	0.004	0.006	-0.009	-0.006**	-0.020**	0.026**

Note: Non-core insignificant variables have been excluded. A complete table is found in Appendix G
**p<0.1; **p<0.05; ***p<0.01*

CHAPTER 6: FACTOR ANALYSIS

The use of more sophisticated techniques for creating indexes was previously mentioned. The discussion now turns to one of those techniques: factor analysis. In their work with Nebraska Rural Poll data, Filkins et al. (2000) used a factor analysis to create variables based on respondents degree of satisfaction with 24 community services and amenities. A recent study by Zhang et al. (2020) looked at the influence of social capital on farmers' participation in rural domestic sewage treatment in Nanjing, China using factor analysis and a logistic regression model. Thus a new model was created for the purposes of this study using a factor analysis to determine indexed variables.

Factor analysis is a technique used to reduce dimensionality within a model by identifying and including latent, or unobservable, variables (Bartholomew et al., 2011; Jolliffe, 2002). Identifying the interrelationships between variables is the primary goal in hopes that such interrelationships help to explain the inherent structure in a dataset (Reyment & Joreskog, 1993). Using factor analysis, these latent variables can be expressed quantitatively and used as an observable, measurable variable in a regression analysis (Reyment & Joreskog, 1993). Three assumptions must be made when using factor analysis. First, error terms are uncorrelated. Second, common factors are uncorrelated with the specific factors (error). Third, common factors may be correlated with each other (rotation) (Jolliffe, 2002). Jolliffe (2002) explains that, within the basic model of factor analysis, observed random variables can be expressed as linear functions of a hypothetical, or latent, variable, except for an error term. This underlying model distinguishes factor analysis from other techniques, such as Principal Component Analysis (PCA), that lack an explicit model.

Often, PCA and factor analysis are used interchangeably, but there are subtle differences. Principal component analysis allows individual variables that are almost independent of all other variables to act as its own component, whereas factor analysis requires at least two variables to contribute to a factor. Thus, in factor analysis, "single variable" factors appear as error terms rather than as specific factors (Jolliffe, 2002). Where factor analysis directly addresses unobservable factors, PCA does not, and only provides an approximation (Jolliffe, 2002). However, one technique is not "better than" the other, because they are ultimately aiming to measure different things. The main distinction is within the underlying model of factor analysis, versus no such model with PCA (Jolliffe, 2002).

Using the R software, a factor analysis was run for this particular study. One decision made by the researcher is the number of factors to retain, but previous work provides some guidelines. One suggested way to choose the number of factors is to select a cumulative percentage of the total variation and select the number of factors required to meet or exceed this chosen percentage (Reyment & Joreskog, 1993). Kaiser's rule is another way (Hayton et al., 2004). This rule states that any component with variance less than 1 eigenvalue contains less information than one of the original variables and so is not worth retaining. Perhaps the most common approach is the use of eigenvalues[10], or identifying an "elbow" in the scree graph (Jolliffe, 2002). "It is recommended that whatever criterion, or combination of criteria, is selected, more, rather than fewer, factors are chosen initially" (Reyment & Joreskog, 1993). If not, the data may be severely distorted, rendering the use of factor analysis invalid.

[10] An eigenvalue greater than or equal to 1 is considered acceptable and is justification for retaining that factor (Reyment & Joreskog, 1993).

For the purposes of this study, a combination of Kaiser's rule and eigenvalues were used to determine the number of factors. Two separate factor analyses was completed, one for the community satisfaction survey items and one for the personal satisfaction, social capital, and resilience items. In the first case, six factors were retained, and in the second case, ten factors were retained.

Once the number of factors to retain is determined, a rotation may be added to the factor loadings. The goal of rotating factors is to make the structure as simple as possible, with most elements either close to zero or far from zero, and as few elements as possible with intermediate values, effectively placing factors so that each contains only a few highly loaded variables (Jolliffe, 2002; Reyment & Joreskog, 1993). There are a variety of rotation options (varimax, orthogonal, oblique, etc.), each with advantages and drawbacks. For this particular study, a varimax rotation was chosen because it gave the fewest variables with intermediate values and allowed the resulting factors to remain uncorrelated, which is desirable when inputting into a regression equation (Reyment & Joreskog, 1993). Alternative rotation methods may give slightly different results, but this is less important than the number of factors to retain. "Often, results are far less sensitive to the choice of rotation criterion that to the choice of how many factors to rotate" (Jolliffe, 2002).

Factors, once loaded with individual variables, are typically named according to either their highest loading or the similarities among all loadings. These factors were created with the intent to be used in the original model rather than the author-created indexes. DiStefano et al. summarize alternative methods for using factor scores in a regression analysis (2009). One simple approach is by summing the raw scores of the loadings for each

factor which preserves variation in the original data. Averaging the scores retains the scale metric and allows for easier interpretation. This method, however, does not consider the loading value of each item, and rather gives each item equal weight (DiStefano et al., 2009). While not as refined as other alternatives, this approach is generally acceptable for most exploratory research situations. More sophisticated techniques for using factor scores in a regression may provide a better representation of the factor loadings, but these techniques are outside the scope of this paper.

Compared to the author-created indexes in the previous chapters, the factor loadings from factor analysis shifted some items. In the community satisfaction items, factors were civic services and amenities, consumer services, human services, housing and infrastructure, healthcare, and telecommunications. These factors were similar to the indexes created previously, but combined civic services, public safety, and education into one factor. The personal satisfaction, social capital, and resilience items also saw some inconsistencies. Many of the items previously included in social capital indexes were loaded on resilience factors and vice versa, further emphasizing the overlap of concepts. Additionally, social capital was dissected into multiple factors of community belonging, community needs, feelings about the community, and personal relationships. Statistically in this sample, the questions asking about needs measured slightly different than questions asking about community feelings and so were separate factors. However, both factors are indirect measures of social capital. A complete comparison between factor loadings and author-created indexes, including Cronbach's alpha measure of reliability for each factor or index, can be found in Table 8.

Table 8. Internal Reliability and Summary Statistics for Core Variables from Factor Analysis and Author-Created Indexes

	Author-Created Indexes			Factor Analysis		
	Cronbach's Alpha	Mean	Standard Deviation	Cronbach's Alpha	Mean	Standard Deviation
Social Capital						
Community Social Capital	0.9	3.48	0.63	0.83	3.76	0.82
Personal Social Capital	0.86	3.75	0.62	0.80	4.10	0.76
Community Needs				0.86	3.19	1.06
Community Belonging				0.92	3.47	0.90
Resilience						
Community Resilience	0.87	3.52	0.71	0.94	3.53	0.69
Personal Resilience	0.81	3.36	0.56	0.86	3.36	0.59
Community Attachment	*	4.70	1.91	*	4.70	1.91
Satisfaction Indexes						
Infrastructure	0.68	3.16	0.68	0.61	3.03	0.86
Civic Services	0.62	3.31	0.87	0.84	3.31	0.87
Public Safety	0.6	4.08	0.84			
Education (Satisfaction)	0.71	3.79	0.76			
Human Services	0.7	3.51	0.72	0.68	3.28	0.71
Consumer Services	0.84	2.82	0.97	0.84	2.82	0.97
Health Services	0.69	3.36	0.95	0.72	3.35	0.88
Telecommunication	0.76	3.50	1.09	0.76	3.49	1.09
Nature	0.84	4.03	0.85	0.84	4.03	0.85
Quality of Life	0.84	4.01	0.63	0.85	4.12	0.63
Community Overall	*	3.51	1.03			
Employment	0.83	3.59	0.95	0.82	3.63	0.85
Personal Finance	0.87	3.49	0.93	0.80	3.35	1.01

Notes: Not all items are included in the same index between Factor Analysis and Author-Created. A full list of questions in each index can be found in Appendix A and Appendix H
** Variables consist of a single item and therefore do not have an internal reliability measure*

Results

Using the factor loadings from the factor analysis, new ordered logistic regression models were created by averaging the items loaded on each factor. At the community level, significant predictors of future community well-being were satisfaction with civic services and amenities, satisfaction with nature, community needs, and feelings about the community. Additional significant predictors were those not employed but actively looking for work; county typology codes; length of residence; and income inequality.

Looking at the marginal effects, a one unit increase in satisfaction with community amenities is associated with an 11.1% greater likelihood of respondents selecting "better off" when it comes to future community well-being. Satisfaction with nature, significant at the $p<0.05$ level, was negatively correlated and respondents were 7.2% less likely to view their future community well-being as "better off", given a one unit increase in satisfaction. A one unit increase in community needs was associated with a 5% greater likelihood of positive perceptions of future community well-being, and a one unit increase in feelings about the community was associated with a 5.5% greater likelihood of positive perceptions, both significant at the $p<0.1$ level. A full list of marginal effects can be found in Table 9.

Significant predictors of future individual well-being included satisfaction with consumer services, employment, and personal finance as well as community and personal resilience. Again, demographics played a larger role at the individual level, with age and homeownership contributing significantly, as well as occupation, distance from a metro area, and income inequality[11].

Within our core variables (satisfaction, resilience, community attachment, and social capital), resilience and certain satisfaction variables carried significant predictive power when it came to future individual well-being. Both community resilience and personal resilience were significant at the $p<0.05$ level, and a one unit increase in each is associated with a respective 15.1% and 12.9% greater likelihood of respondents viewing their future individual well-being as "better off." Employment satisfaction and personal finance satisfaction were also positively correlated, and a one unit increase in each is associated with

[11] Income inequality, measured by the Gini coefficient at the county level, was positively correlated at the individual level.

Table 9. Prediction of Future Individual Well-Being Using Factor Analysis by Social Capital, Resilience, Community Attachment and Satisfaction

	Community Well-Being				Individual Well-Being			
	Model 1	Worse Off	About the Same	Better Off	Model 2	Worse Off	About the Same	Better Off
Social Capital								
Community Social Capital	0.290*	-0.024	-0.031	0.055	-0.011	0.001	0.002	-0.003
Personal Social Capital	-0.019	0.002	0.002	-0.004	0.050	-0.003	-0.010	0.013
Community Needs	0.263*	-0.022	-0.028	0.050	-0.152	0.009	0.029	-0.038
Community Belonging	0.063	-0.005	-0.007	0.012	-0.076	0.005	0.014	-0.019
Resilience								
Community Resilience	0.258	-0.022	-0.027	0.049	0.604**	-0.036	-0.115	0.151
Personal Resilience	0.211	-0.018	-0.022	0.040	0.516**	-0.031	-0.098	0.129
Community Attachment	0.105	-0.009	-0.011	0.020	-0.038	0.002	0.007	-0.009
Satisfaction Indexes								
Civic Services/Amenities	0.582**	-0.049	-0.062	0.111	-0.201	0.012	0.038	-0.050
Consumer Services	0.020	-0.002	-0.002	0.004	0.278**	-0.017	-0.053	0.070
Human Services	0.106	-0.009	-0.011	0.020	-0.154	0.009	0.029	-0.039
Infrastructure	0.117	-0.010	-0.012	0.022	-0.076	0.005	0.014	-0.019
Healthcare	0.162	-0.014	-0.017	0.031	0.119	-0.007	-0.023	0.030
Telecommunications	-0.039	0.003	0.004	-0.007	0.025	-0.001	-0.005	0.006
Quality of Life	0.414	-0.035	-0.044	0.079	-0.018	0.001	0.003	-0.005
Employment	-0.126	0.011	0.013	-0.024	0.418**	-0.025	-0.079	0.105
Personal Finance	-0.043	0.004	0.005	-0.008	0.510***	-0.031	-0.097	0.128
Nature	-0.379**	0.032	0.040	-0.072	-0.142	0.009	0.027	-0.036
Respondent Demographics								
Age	0.005	0	0	0.001	-0.077***	0.005	0.015	-0.019
Length of Residence	-0.012*	0.001	0.001	-0.002	-0.004	0	0.001	-0.001
Homeownership	0.177	-0.016	-0.016	0.032	-1.220**	0.048	0.230	-0.278
Household Occupation(s)								
Not working, looking	-2.908***	0.554	-0.311	-0.243	3.126**	-0.064	-0.404	0.467
Homemaker	-0.086	0.007	0.009	-0.016	0.958*	-0.041	-0.185	0.226
Distance from metro area	0.027	-0.002	-0.003	0.005	0.188**	-0.011	-0.036	0.047
County Typology (Nonspecialized reference)								
Farming	-0.594*	0.053	0.057	-0.110	-0.073	0.004	0.014	-0.018
Manufacturing	-0.691**	0.069	0.049	-0.118	0.759**	-0.038	-0.147	0.185
Recreation	-1.798*	0.286	-0.082	-0.204	-1.010	0.094	0.139	-0.233
Household Location (Outside city, not farm/ranch reference)								
Subdivision	0.494	-0.035	-0.068	0.103	0.946*	-0.041	-0.183	0.224
Income Inequality	-9.371***	0.788	0.994	-1.782	2.599***	-0.157	-0.493	0.650

Note: Non-core insignificant variables are excluded. A complete list is found in Appendix I. $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*

a 10.5% and 12.8% greater likelihood of positive future perceptions, respectively. Satisfaction with consumer services, significant at the $p<0.05$ level, is associated with a 7% greater likelihood of positive future perceptions of individual well-being, given a one unit increase in satisfaction. Older homeowners are less likely to be optimistic about individual future well-being, but those who are unemployed and actively looking for a job are more likely to be optimistic. A greater distance from a metro area, as measured by the Rural Urban Continuum Code, increased the likelihood of respondents predicting their future well-being as "better off." Similar to the author-created indexes, income inequality was significantly positively correlated with future individual well-being, meaning the greater the inequality at the county level, the more likely they are to view their future well-being as "better off." Marginal effects for all independent variables can be found in Table 9.

When comparing the regressions from the author-created indexes to the factor analysis factors, the results look somewhat similar. On the community side, satisfaction with education and community amenities as well as satisfaction with nature carried a lot of predictive power regardless of which method was used. However, community resilience was only significant in the author-created indexes, whereas community needs and feelings about the community were significant only when using factor analysis. Looking at the individual-level models, similarities are found in satisfaction with consumer services, employment, and personal finance, as well as personal resilience. Certain demographics are also significant in individual models. Community resilience was significant in individual models only when using factor analysis. Distance from a metro area, income inequality, and unemployed but looking had similar correlations between the two models.

CHAPTER 7: DISCUSSION AND CONCLUSIONS

This study sought to determine what factors most influence perceptions of future community and individual well-being in rural Nebraska. Filkins et al. (2000) began this process by examining the influences on current community satisfaction, finding both economic and noneconomic factors were significant considerations for policy makers and community development practitioners. Many facets of community development, including well-being, satisfaction, community attachment, and migration intentions, are complex and highly variable, depending on the individual, community, and point in time (Ulrich-Schad et al., 2013). Similarly, this study finds complex, interrelated factors that contribute both economically and socially to the makeup of communities and residents' experiences, and thus to the perceived future well-being of both communities and individuals.

The study found that communities which are resilient, meet the needs of their residents, and are friendly, trusting, and supportive are more likely to have residents that view the community's future well-being optimistically. Residents who have lived in the community for longer, as well as those who are unemployed but looking for a job are less likely to have positive perceptions about the community's future. This may be largely influenced by their current situation. For example, those who are currently job-seeking may think "If I can't find a job now, why would the job situation improve in the future?" They may be placing more emphasis on job availability than other amenities. Similarly, residents who have lived in the community longer may be comparing the current and future situation to what has happened in the past. If little positive change has occurred historically, why would the situation change in the future?

Additionally, satisfaction with education services and other community amenities (parks, libraries, etc.) strongly influences positive perceptions, but certain services are more important than others. This supports the findings of Filkins et al. (2000). However, one exception is satisfaction with nature. Respondents who are more satisfied with the nature aspect of their community view future well-being in worse terms. This may be because respondents with high quality natural amenities are less likely to have other amenities, such as shopping, restaurants, quality schools, etc. Residents may see their community as "too rural" and, because of that, predict that their community won't improve past where it is now. From a strictly empirical perspective, the nature variable may not be measuring anything effectively because other indexes are capturing the amenities. With such a large model with a number of variables, errors in measurement or method-design could have occurred. While unexpected, this finding points to the need for further research. In community models, most county typology codes carry a negative correlation to future community well-being, suggesting that diversification within a county may be more desirable for future well-being.

Individuals interpret their future well-being from satisfaction with economic factors (employment and personal finance), as well as consumer services. Resilience, particularly personal resilience[12], was found to strongly predict individual future well-being expectations. Public safety was negatively correlated with future individual well-being, which was an unexpected finding. It could be that certain public safety services aren't readily available in all rural communities, or that multiple small communities share the resources of a fire or police force. Somewhat surprisingly, an increased distance from a metro area (measured by

[12] Community resilience was found to be a predictor of future individual well-being in addition to personal resilience when the factor analysis method was used.

the Rural Urban Continuum Code (RUCC)), was associated with a greater likelihood of positive perceptions of future individual well-being. The RUCC are calculated at the county level, bringing into question that validity of this finding, but it could be inferred that rural living is viewed as more desirable for future well-being.

Homeownership was found to be a significant predictor of future well-being at the individual level, but carried a negative correlation. This is somewhat supportive of previous literature which found mixed results. Grinstein Weiss et al. (2012) argued that homeownership created positive externalities, but our research failed to support their finding. On the other hand, Fitz et al. (2016) determined that homeownership negatively affects an individual's social life aspects, but was not correlated with overall community satisfaction. While our findings were not entirely unexpected, it appears that homeownership may carry certain positive externalities, but when it comes to future individual well-being, homeowners' perceptions may be dampened by their mortgage payment other homeowner expenses and upkeep. Additional research is needed to more confidently determine the effects of owning a home on future well-being.

People tend to view their future well-being positively regardless of occupation, even if they are unemployed. Manufacturing-dependent counties are positively correlated to future individual well-being, but caution must be exercised again due to county typology being measured at the county level rather than the community level.

One of the most unexpected findings was the positive relationship between income inequality (and percentage below the poverty line) and future individual well-being. These variables are again measured at the county level, so results may be skewed, or they may be

tied to a respondents' current socioeconomic status. Those with a higher current income may not care about a larger income gap as long as they remain financially stable. In addition, income inequality may be slightly correlated to population that the analysis was unable to catch. There is need for further research in this area.

Based on previous research (Fitz et al., 2016; Glaeser et al., 2002; Peters, 2019; Ulrich-Schad et al., 2013; Zhang et al., 2020), social capital was expected to be a significant predictor of future well-being both at the individual and community level, but this was not the case. Because there is no single effective measure of social capital, and because resilience and social capital are closely related concepts, the significance of social capital may have been captured and measured elsewhere in the model (i.e. resilience, satisfaction).

Including future community well-being in the individual model and vice versa resulted in similar findings. This speaks to strength of the model, as well as the indication that the two (community and individual well-being) are closely tied together. A factor analysis was conducted to re-create composite indexes for variables. This analysis depicted the interrelationships between many variables, namely social capital and resilience, but ultimately yielded very similar results. Again, this speaks to the descriptive strength of the original model.

Overall, this study found that resilience seems to be more important than social capital when it comes to predicting future well-being, but the two are very closely related. Satisfaction with education (at the community level) and consumer services (at the individual level) are key in influencing future well-being, yet other economic factors, such as employment satisfaction and income inequality matter as well. This points to a well-rounded

development approach that supports building resilience as well as providing amenities that satisfy needs of consumers. For the most part, location of a community isn't a major factor, although it might be considered secondarily. This suggests that it doesn't matter how rural or urban a place is or what the economic base is but rather what is offered in the community and the social structure of a place.

Although this study helps explain the factors influencing future perceptions of well-being, it raises additional questions to be answered. Future research is needed on the specific reasoning behind certain negative correlations in satisfaction indexes and why respondents perceive future well-being negatively when they are more satisfied with certain amenities. The distinction between resilience and social capital remains a bit blurred, and more refined measurement of these concepts could generate more concrete results as well as more specific policy recommendations.

Including other states or regions would be another opportunity to expand upon these results. This data describes rural Nebraska, but other states may experience different predictors of future well-being. Additionally, urban areas could be included as a reference point. By including both rural and urban respondents in the study, comparisons can be made between the two groups. This study focused on a single year of data, but widespread shocks may have influenced responses. Additional work that incorporates multiple years of data would strengthen findings. Furthermore, similar work has been done to characterize counties or communities by capital stocks or other economic indicators, such as Nebraska's Thriving Index, Economic Opportunity Maps from Texas A&M University, or Community Capital Stocks from Colorado State University and University of Missouri (Gashler, 2021; Texas

A&M AgriLife Extension, n.d.; Thompson et al., 2020). Research comparing these other databases or utilizing additional data from various sources would help with finding more robust conclusions.

While future well-being was chosen as the dependent variable, almost any of the independent variables could have been chosen instead. Many of the concepts included in this model are very closely related and subject to interpretation. Due to a lack of a singular definition or measurement technique for many of these variables, policy makers and community development practitioners should be cautious in using results from a single study (this or any other) in prescribing changes. More refined techniques that take into account the unique characteristics of each particular community and its residents, as well as the location and general state of the economy would provide a stronger base for policy choices. You can't change the location of a community, but you can build resilience through disaster preparedness, communication with residents, etc.; improve satisfaction with services by asking why residents are unsatisfied or what other amenities they would like to see; and provide opportunities for social capital and community attachment to create a place where people feel connected.

REFERENCES

Bartholomew, D., Knott, M., & Moustaki, I. (2011). *Latent Variable Models and Factor Analysis: A Unified Approach* (3rd ed.). John Wiley & Sons, Ltd.

Bernard, J. (2015). Community Satisfaction in Czech Rural Communities: A Multilevel Model. *Sociologia Ruralis*, *55*(2), 205–226. https://doi.org/10.1111/soru.12060

Bonanno, G. A., Romero, S. A., & Klein, S. I. (2015). The Temporal Elements of Psychological Resilience: An Integrative Framework for the Study of Individuals, Families, and Communities. *Psychological Inquiry*, *26*(2), 139–169. https://doi.org/10.1080/1047840X.2015.992677

Brehm, J. M., Eisenhauer, B. W., & Krannich, R. S. (2004). Dimensions of Community Attachment and Their Relationship to Well-Being in the Amenity-Rich Rural West*. *Rural Sociology*, *69*(3), 405–429. https://doi.org/10.1526/0036011041730545

Cantarero, R., & Potter, J. (2014). Quality of Life, Perceptions of Change, and Psychological Well-Being of the Elderly Population in Small Rural Towns in the Midwest. *The International Journal of Aging and Human Development*, *78*(4), 299–322. https://doi.org/10.2190/AG.78.4.a

Carpiano, R. M. (2006). Toward a neighborhood resource-based theory of social capital for health: Can Bourdieu and sociology help? *Social Science & Medicine*, *62*(1), 165–175. https://doi.org/10.1016/j.socscimed.2005.05.020

Cicognani, E. (2014). Social Well-Being. In A. C. Michalos (Ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 6193–6197). Springer Netherlands. https://doi.org/10.1007/978-94-007-0753-5_2797

Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *American Journal of Sociology*, *94*, S95–S120.

Cook, C. C., Crull, S. R., Bruin, M. J., Yust, B. L., Shelley, M. C., Laux, S., Memken, J., Niemeyer, S., & White, B. J. (2009). Evidence of a Housing Decision Chain in Rural Community Vitality*. *Rural Sociology*, *74*(1), 113–137. https://doi.org/10.1526/003601109787524124

Cope, M. R., Currit, A., Flaherty, J., & Brown, R. B. (2016). Making Sense of Community Action and Voluntary Participation—A Multilevel Test of Multilevel Hypotheses: Do Communities Act? *Rural Sociology*, *81*(1), 3–34. https://doi.org/10.1111/ruso.12085

Crowe, J. (2010). Community attachment and satisfaction: The role of a community's social network structure. *Journal of Community Psychology*, *38*(5), 622–644. https://doi.org/10.1002/jcop.20387

DeFilippis, J. (2001). The myth of social capital in community development. *Housing Policy Debate*, *12*(4), 781–806. https://doi.org/10.1080/10511482.2001.9521429

Dewees, S., Lobao, L., & Swanson, L. E. (2003). Local Economic Development in an Age of Devolution: The Question of Rural Localities*. *Rural Sociology*, *68*(2), 182–206. https://doi.org/10.1111/j.1549-0831.2003.tb00134.x

Dillman, D. A. (1978). *Mail and telephone surveys: The total design method* (Vol. 19). Wiley.

DiPasquale, D., & Glaeser, E. L. (1999). Incentives and Social Capital: Are Homeowners Better Citizens? *Journal of Urban Economics*, *45*(2), 354–384. https://doi.org/10.1006/juec.1998.2098

DiStefano, C., Zhu, M., & Mîndrilã, D. (2009). Understanding and Using Factor Scores: Considerations for the Applied Researcher. *Practical Assessment, Research, and Evaluation*, *14*(20). https://doi.org/10.7275/DA8T-4G52

Dutta-Bergman, M. J. (2005). The Antecedents of Community-Oriented Internet Use: Community Participation and Community Satisfaction. *Journal of Computer-Mediated Communication*, *11*(1), 97–113. https://doi.org/10.1111/j.1083-6101.2006.tb00305.x

Filkins, R., Allen, J. C., & Cordes, S. (2000). Predicting Community Satisfaction among Rural Residents: An Integrative Model*. *Rural Sociology*, *65*(1), 72–86. https://doi.org/10.1111/j.1549-0831.2000.tb00343.x

Fitz, B. M., Lyon, L., & Driskell, R. (2016). Why People Like Where They Live: Individual- and Community-Level Contributors to Community Satisfaction. *Social Indicators Research*, *126*(3), 1209–1224. https://doi.org/10.1007/s11205-015-0922-9

Flora, C. B., Flora, J. L., & Gasteyer, S. P. (2018). *Rural Communities: Legacy and Change* (6th ed.). Westview Press, Inc.

Fukuyama, F. (2001). Social Capital, Civil Society and Development. *Third World Quarterly*, *22*(1), 7–20.

Fukuyama, F. (2002). Social Capital and Development: The Coming Agenda. *SAIS Review*, *22*(1), 23–37. https://doi.org/10.1353/sais.2002.0009

Gashler, K. (2021). *Farm marketing success linked to natural, cultural assets*. Cornell Chronicle. https://news.cornell.edu/stories/2021/07/farm-marketing-success-linked-natural-cultural-assets

Glaeser, E. L., Laibson, D. I., Scheinkman, J. A., & Soutter, C. L. (2000). Measuring Trust. *The Quarterly Journal of Economics*, *115*(3), 811–846.

Glaeser, E. L., Laibson, D., & Sacerdote, B. (2002). An Economic Approach to Social Capital. *The Economic Journal*, *112*(483), F437–F458.

Granovetter, M. S. (1973). The Strength of Weak Ties. *American Journal of Sociology*, *78*(6), 1360–1380.

Grigsby, W. J. (2001). Community vitality: Some conceptual considerations. *Rural Development Paper*, *6*, 1–16.

Grinstein-Weiss, M., Key, C., Yeo, Y. H., Yoo, J., Holub, K., Taylor, A., & Tucker, J. (2012). Homeownership, Neighbourhood Characteristics and Children's Positive Behaviours among Low- and Moderate-income Households. *Urban Studies*, *49*(16), 3545–3563. https://doi.org/10.1177/0042098012443861

Grootaert, C. (2003). *Measuring Social Capital: An Integrated Questionnaire*. World Bank Publications.

Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor Retention Decisions in Exploratory Factor Analysis: A Tutorial on Parallel Analysis. *Organizational Research Methods*, *7*(2), 191–205. https://doi.org/10.1177/1094428104263675

Helliwell, J. F., & Putnam, R. D. (2007). Education and Social Capital. *Eastern Economic Journal*, *33*(1), 1–19.

Hoyt, D. R., Donnell, D. O., & Mack, K. Y. (1995). Psychological Distress and Size of Place: The Epidemiology of Rural Economic Stress. *Rural Sociology*, *60*(4), 707–719.

Hunter, L. M., Boardman, J. D., & Onge, J. M. S. (2005). The Association Between Natural Amenities, Rural Population Growth, and Long-Term Residents' Economic Well-Being. *Rural Sociology*, *70*(4), 452–469. https://doi.org/10.1526/003601105775012714

Huppert, F. A., Marks, N., Clark, A., Siegrist, J., Stutzer, A., Vittersø, J., & Wahrendorf, M. (2009). Measuring Well-being Across Europe: Description of the ESS Well-being Module and Preliminary Findings. *Social Indicators Research*, *91*(3), 301–315. https://doi.org/10.1007/s11205-008-9346-0

Introduction to Cronbach's Alpha. (2016, September 7). *Dr. Matt C. Howard*. https://mattchoward.com/introduction-to-cronbachs-alpha/

Israel, G. D., Beaulieu, L. J., & Hartless, G. (2001). The Influence of Family and Community Social Capital on Educational Achievement*. *Rural Sociology*, *66*(1), 43–68. https://doi.org/10.1111/j.1549-0831.2001.tb00054.x

Johnson, A., & Backman, K. F. (2010). Leisure and community type as indicators of overall quality of life. *World Leisure Journal*, *52*(2), 104–115. https://doi.org/10.1080/04419057.2010.9674635

Johnson, K. M., & Lichter, D. T. (2019). Rural Depopulation: Growth and Decline Processes over the Past Century. *Rural Sociology*, *84*(1), 3–27. https://doi.org/10.1111/ruso.12266

Johnson, K. M., & Lichter, D. T. (2020). Metropolitan Reclassification and the Urbanization of Rural America. *Demography*, *57*(5), 1929–1950. https://doi.org/10.1007/s13524-020-00912-5

Jolliffe, I. T. (2002). *Principal Component Analysis* (Second). Springer.

Kaiser, M., Barnhart, S., & Huber-Krum, S. (2020). Measuring Social Cohesion and Social Capital within the Context of Community Food Security: A Confirmatory Factor Analysis. *Journal of Hunger & Environmental Nutrition*, *15*(5), 591–612. https://doi.org/10.1080/19320248.2019.1640161

Kassab, C., Luloff, A. E., & Schmidt, F. (1995). The Changing Impact of Industry, Household Structure, and Residence on Household Well-Being. *Rural Sociology*, *60*(1). http://search.proquest.com/docview/1290964410/citation/1F194B15F9644C4APQ/1

Lev-Wiesel, R. (2003). Indicators constituting the construct of "perceived community cohesion." *Community Development Journal*, *38*(4), 332–343. https://doi.org/10.1093/cdj/38.4.332

Leykin, D., Lahad, M., Cohen, O., Goldberg, A., & Aharonson-Daniel, L. (2013). Conjoint Community Resiliency Assessment Measure-28/10 Items (CCRAM28 and CCRAM10): A Self-report Tool for Assessing Community Resilience. *American Journal of Community Psychology*, *52*(3–4), 313–323. https://doi.org/10.1007/s10464-013-9596-0

Li, Y., Westlund, H., & Liu, Y. (2019). Why some rural areas decline while some others not: An overview of rural evolution in the world. *Journal of Rural Studies*, *68*, 135–143. https://doi.org/10.1016/j.jrurstud.2019.03.003

Markantoni, M., Steiner, A. A., & Meador, J. E. (2019). Can community interventions change resilience? Fostering perceptions of individual and community resilience in rural places. *Community Development*, *50*(2), 238–255. https://doi.org/10.1080/15575330.2018.1563555

Maynard, L. J., Kelsey, T. W., Thee, R. J., & Fousekis, P. (1997). Rural Migration: What Attracts New Residents to Non-metropolitan Areas. *Community Development Society. Journal*, *28*(1), 131–141. https://doi.org/10.1080/15575339709489799

McCall, L. (2002). Social Capital, Civic Engagement, and Civic Literacy: Reviewing, Refining, and Defining the Concepts. *Public Performance & Management Review*, *25*(4), 440–445. https://doi.org/10.2307/3381139

McLaughlin, D. K., Shoff, C. M., & Demi, M. A. (2014). Influence of Perceptions of Current and Future Community on Residential Aspirations of Rural Youth. *Rural Sociology*, *79*(4), 453–477. https://doi.org/10.1111/ruso.12044

Murray, A. T., & Grubesic, T. H. (2019). Evolving Regional Analytics in a Rural World. *International Regional Science Review*, *42*(5–6), 374–399. https://doi.org/10.1177/0160017619827071

Norris, F. H., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., & Pfefferbaum, R. L. (2008). Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness. *American Journal of Community Psychology*, *41*(1), 127–150. https://doi.org/10.1007/s10464-007-9156-6

Olberding, M. (2019, April 18). *Census: Nebraska's big counties keep growing, while rural counties decline*. JournalStar.Com. https://journalstar.com/business/local/census-nebraskas-big-counties-keep-growing-while-rural-counties-decline/article_c411fa3b-af1a-5659-91c9-87d6ef290247.html

Peters, D. J. (2019). Community Resiliency in Declining Small Towns: Impact of Population Loss on Quality of Life over 20 Years. *Rural Sociology*, *84*(4), 635–668. https://doi.org/10.1111/ruso.12261

Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*, *24*, 1–24.

Portes, A. (2000). The Two Meanings of Social Capital. *Sociological Forum*, *15*(1), 1–12.

Putnam, R. (n.d.). Robert D. Putnam Website-Research. *Robert D. Putnam*. Retrieved April 5, 2021, from http://robertdputnam.com/bowling-alone/research/

Putnam, R. (1995a). Bowling Alone: America's Declining Social Capital. *Journal of Democracy*, *6*(1), 65–78. https://doi.org/10.1353/jod.1995.0002

Putnam, R. (1995b). Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America. *PS: Political Science and Politics*, *28*(4), 664–683. https://doi.org/10.2307/420517

Putnam, R. (2001). Social capital: Measurement and consequences. *Canadian Journal of Policy Research*, *2*(1), 41–51.

Reyment, R., & Joreskog, K. G. (1993). *Applied Factor Analysis in the Natural Sciences* (Second). Cambridge University Press.

Ryan, V. D., Agnitsch, K. A., Zhao, L., & Mullick, R. (2005). Making Sense of Voluntary Participation: A Theoretical Synthesis*. *Rural Sociology*, *70*(3), 287–313. https://doi.org/10.1526/0036011054831198

Sampson, R. J., & Graif, C. (2009). Neighborhood Social Capital as Differential Social Organization: Resident and Leadership Dimensions. *American Behavioral Scientist*, *52*(11), 1579–1605. https://doi.org/10.1177/0002764209331527

Schmidt, K. (2020, February 3). It's just hard to bring them in and keep them. *News Nebraska*. https://nebraskanewsservice.net/news/its-just-hard-to-bring-them-in-and-keep-them/

Sharp, J., & Adua, L. (2009). The Social Basis of Agro-Environmental Concern: Physical versus Social Proximity. *Rural Sociology*, *74*(1), 56–85. https://doi.org/10.1526/003601109787524061

Sherrieb, K., Norris, F. H., & Galea, S. (2010). Measuring Capacities for Community Resilience. *Social Indicators Research*, *99*(2), 227–247. https://doi.org/10.1007/s11205-010-9576-9

Sirgy, M. J., & Cornwell, T. (2002). How Neighborhood Features Affect Quality of Life. *Social Indicators Research*, *59*(1), 79–114. https://doi.org/10.1023/A:1016021108513

Sirgy, M. J., Rahtz, D. R., Cicic, M., & Underwood, R. (2000). A method for assessing residents' satisfaction with community-based services: A quality-of-life perspective. *Social Indicators Research*, *49*(3), 279–316. https://doi.org/10.1023/A:1006990718673

Smith, M. D., Krannich, R. S., & Hunter, L. M. (2001). Growth, Decline, Stability, and Disruption: A Longitudinal Analysis of Social Well-Being in Four Western Rural Communities*. *Rural Sociology*, *66*(3), 425–450. https://doi.org/10.1111/j.1549-0831.2001.tb00075.x

Stedman, R. C., Parkins, J. R., & Beckley, T. M. (2004). Resource Dependence and Community Well-Being in Rural Canada*. *Rural Sociology*, *69*(2), 213–234. https://doi.org/10.1526/003601104323087589

Texas A&M AgriLife Extension. (n.d.). *Economic Opportunity Maps*. Retrieved July 25, 2021, from https://communities.tamu.edu/economic-opportunity-maps/

Theodori, G. L. (2001). Examining the Effects of Community Satisfaction and Attachment on Individual Well-Being*. *Rural Sociology*, *66*(4), 618–628. https://doi.org/10.1111/j.1549-0831.2001.tb00087.x

Thiede, B. C., Butler, J. L. W., Brown, D. L., & Jensen, L. (2020). Income Inequality across the Rural-Urban Continuum in the United States, 1970–2016*. *Rural Sociology*, *85*(4), 899–937. https://doi.org/10.1111/ruso.12354

Thompson, E., Herian, M., & Dority, B. (2020). *Nebraska Thriving Index*. 82.

Tieken, M. C. (2020). "We Don't Know How to Do This": Rural Parents' Perspectives on and Roles in Enrollment at a Private, Selective Liberal Arts College. *Rural Sociology*, *85*(3), 706–729. https://doi.org/10.1111/ruso.12316

Ulrich-Schad, J. D., Henly, M., & Safford, T. G. (2013). The Role of Community Assessments, Place, and the Great Recession in the Migration Intentions of Rural Americans. *Rural Sociology*, *78*(3), 371–398. https://doi.org/10.1111/ruso.12016

University of Nebraska-Lincoln. (n.d.). *Rural Poll. Website.* Retrieved May 5, 2021, from https://ruralpoll.unl.edu

US Census Bureau. (2020, March 26). *Most of the Counties with the Largest Population Gains Since 2010 are in Texas*. The United States Census Bureau. https://www.census.gov/newsroom/press-releases/2020/pop-estimates-county-metro.html

USDA ERS. (n.d.). *County Typology Codes*. Retrieved May 6, 2021, from https://www.ers.usda.gov/data-products/county-typology-codes/

USDA ERS. (n.d.). *Rural-Urban Continuum Codes*. Retrieved May 6, 2021, from https://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx

USDA Rural Development. (n.d.). *Success Stories*. Retrieved May 5, 2021, from https://www.rd.usda.gov/newsroom/success-stories

Vogt, R., Burkhart-Kriesel, C., Lubben, B., McElravy, L. J., Meyer, T., Schulz, S., & Weigle, J. (2020). *Well-Being in Nonmetropolitan Nebraska: 25 Years of Trends*. University of Nebraska-Lincoln. https://ruralpoll.unl.edu/pdf/20communityandwellbeing.pdf

Wolfe, A. W., Black, L. W., & Welser, H. T. (2020). Sense of Community and Migration Intentions among Rural Young Professionals. *Rural Sociology*, *85*(1), 235–257. https://doi.org/10.1111/ruso.12289

Wright, W., & Annes, A. (2016). Farm Women and the Empowerment Potential in Value-Added Agriculture. *Rural Sociology*, *81*(4), 545–571. https://doi.org/10.1111/ruso.12105

Yang, K. (2007). Individual Social Capital and Its Measurement in Social Surveys. *Survey Research Methods*, *1*(1), 19–27. https://doi.org/10.18148/srm/2007.v1i1.48

Zhang, R., Zheng, H., Zhang, H., & Hu, F. (2020). Study on the Influence of Social Capital on Farmers' Participation in Rural Domestic Sewage Treatment in Nanjing, China. *International Journal of Environmental Research and Public Health*, *17*(7). https://doi.org/10.3390/ijerph17072479

APPENDICES

APPENDIX A: LIST OF SURVEY ITEMS IN EACH COMPOSITE INDEX

List of Survey Items in Each Author-Created Index

- Social Capital
  - Community Social Capital
    - My community is…unfriendly vs. friendly
    - My community is…distrusting vs. trusting
    - My community is…hostile vs. supportive
    - This community helps me fulfill my needs
    - I have a say about what goes on in my community
    - People in this community are good at influencing each other
    - People in my community help each other
    - My community treats people fairly no matter what their background is
    - People in my community work together to improve the community
    - People in my community trust public officials
    - There is trust among the residents of my community
    - Relations amongst the various groups in my community are good
    - Differences in opinion on how to address issues are driving people in my community apart (reverse coded)
  - Personal Social Capital
    - I can get what I need in this community
    - I feel like a member of this community
    - I belong in this community
    - I feel connected to this community
    - I have a good bond with others in this community
    - I can depend on people in my community to come to my assistance in a crisis
    - I know how to use my relationships within my community to overcome community setbacks
    - Your family satisfaction
    - Your friends satisfaction
    - Your marriage satisfaction
- Resilience
  - Community Resilience
    - My community is powerless to control its own future (reverse coded)
    - My community looks at its successes and failures so it can learn from the past
    - I believe in the ability of my community to overcome an emergency situation
    - My community has priorities and sets goals for the future
    - My community actively prepares for future disasters
    - I trust local leaders to respond to emergency situations
    - My community keeps people informed (for example, via television, radio, newspaper, Internet, phone, neighbors) about issues that are relevant to them
  - Personal Resilience
    - Life has changed so much in our modern world that most people are powerless to control their own lives (reverse coded)
    - When something bad happens in my community, I can help improve the situation
    - When my community faces a major problem, I know I can help find a way to solve it
    - I take setbacks in my community's progress in stride, finding ways to keep moving forward
    - I think of community hardships as an opportunity for me to grow
    - I know how to use resources in my community to help us overcome challenges
    - In times of adversity in my community, I find that I can refocus on the immediate needs of the community

List of Survey Items in Each Author-Created Index

Community Attachment

- Assume you were to have a discussion in your household about leaving your community for a reasonably good opportunity elsewhere. Some people might be happy to live in a new place and meet new people. Others might be very sorry to leave. How easy or difficult would it be for your household to leave your community?

Satisfaction Indexes: Thinking about availability, cost, quality, and any other considerations important to you, how satisfied or dissatisfied are you with each item listed below in your community?

- Infrastructure
  - Cost of housing
  - Quality of housing
  - Streets and roads
  - Sewage/waste disposal
  - Public transportation services
  - Community recycling
  - Parks and Recreation
- Civic Services
  - Local government
  - Civic/nonprofit organizations
- Public Safety
  - Law enforcement
  - Fire protection
- Education (Satisfaction)
  - Education (K-12)
  - Access to higher education (college, technical, etc.)
  - Library services
  - Head Start or early childhood education programs
- Human Services
  - Nursing home care
  - Child day care services
  - Senior centers
  - Religious organizations
- Consumer Services
  - Retail shopping
  - Restaurants
  - Entertainment
  - Arts/cultural activities
- Health Services
  - Medical care services
  - Mental health services
- Telecommunication
  - Internet service
  - Cellular phone service
- Nature
  - Greenery and open space
  - Clean air
  - Clean water
- Quality of Life
  - Your transportation
  - Your housing
  - Your education
  - Your religion/spirituality

List of Survey Items in Each Author-Created Index

- Your day to day personal safety
- Your spare time
- Your health
- Your general quality of life

Community Overall

Employment

- Your job
- Your job security
- Your job opportunities

Personal Finance

- Your current income level
- Your financial security during retirement
- Your ability to build assets/wealth
- Your ability to afford your residence
- General standard of living satisfaction

APPENDIX B: TABLE 2. PREDICTION OF FUTURE COMMUNITY WELL-BEING BY SOCIAL CAPITAL, RESILIENCE, COMMUNITY ATTACHMENT AND SATISFACTION (COMPLETE)

Table 2. Prediction of Future Community Well-Being by Social Capital, Resilience, Community Attachment and Satisfaction

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Social Capital							
Community Social Capital	-0.035	-0.002	-0.055	0.117	-0.083	-0.044	-0.103
	(0.326)	(0.327)	(0.319)	(0.305)	(0.313)	(0.324)	(0.323)
Personal Social Capital	-0.368	-0.363	-0.396	-0.355	-0.379	-0.344	-0.320
	(0.326)	(0.327)	(0.321)	(0.302)	(0.314)	(0.324)	(0.324)
Resilience							
Community Resilience	0.836***	0.816***	0.862***	0.998***	0.855***	0.814***	0.908***
	(0.283)	(0.283)	(0.275)	(0.256)	(0.271)	(0.281)	(0.281)
Personal Resilience	0.243	0.268	0.296	0.132	0.242	0.279	0.282
	(0.246)	(0.248)	(0.242)	(0.230)	(0.239)	(0.246)	(0.244)
Community Attachment	0.102	0.105	0.098	0.063	0.100	0.098	0.098
	(0.067)	(0.067)	(0.066)	(0.060)	(0.065)	(0.066)	(0.067)
Satisfaction Indexes							
Infrastructure	-0.195	-0.193	-0.137	-0.213	-0.143	-0.199	-0.227
	(0.211)	(0.211)	(0.205)	(0.192)	(0.205)	(0.206)	(0.210)
Civic Services	0.191	0.196	0.151	0.111	0.134	0.210	0.150
	(0.172)	(0.172)	(0.166)	(0.159)	(0.166)	(0.171)	(0.171)
Public Safety	-0.171	-0.177	-0.147	-0.165	-0.159	-0.165	-0.148
	(0.150)	(0.150)	(0.149)	(0.142)	(0.146)	(0.149)	(0.150)
Education (Satisfaction)	0.708***	0.694***	0.717***	0.478***	0.670***	0.696***	0.687***
	(0.181)	(0.182)	(0.178)	(0.164)	(0.176)	(0.181)	(0.181)
Human Services	-0.059	-0.077	-0.059	-0.026	-0.022	-0.064	-0.074
	(0.197)	(0.198)	(0.192)	(0.179)	(0.190)	(0.197)	(0.196)
Consumer Services	0.066	0.067	0.064	0.137	0.092	0.050	0.056
	(0.130)	(0.130)	(0.126)	(0.119)	(0.123)	(0.129)	(0.129)
Health Services	0.149	0.140	0.133	0.100	0.158	0.144	0.143
	(0.133)	(0.133)	(0.130)	(0.119)	(0.129)	(0.132)	(0.132)
Telecommunication	0.004	0.002	-0.017	0.018	0.004	0.016	0.002
	(0.104)	(0.104)	(0.102)	(0.093)	(0.100)	(0.102)	(0.104)
Nature	-0.305**	-0.305**	-0.322**	-0.294**	-0.317**	-0.314**	-0.295*
	(0.154)	(0.154)	(0.149)	(0.143)	(0.148)	(0.152)	(0.153)
Quality of Life	0.093	0.086	0.083	0.226	0.058	0.078	0.100
	(0.284)	(0.284)	(0.277)	(0.263)	(0.277)	(0.283)	(0.282)
Overall Community	0.584***	0.583***	0.555***	0.390***	0.512***	0.583***	0.571***
	(0.165)	(0.165)	(0.162)	(0.148)	(0.158)	(0.165)	(0.165)
Employment	-0.101	-0.092	-0.086	-0.105	-0.102	-0.097	-0.105
	(0.143)	(0.144)	(0.140)	(0.133)	(0.138)	(0.143)	(0.142)
Personal Finance	0.022	0.019	0.023	0.049	0.061	0.018	0.028
	(0.175)	(0.175)	(0.171)	(0.152)	(0.170)	(0.175)	(0.174)
Respondent Demographics							
Age	-0.002	-0.002	-0.001		0.005	-0.002	-0.002

Table 2. Prediction of Future Community Well-Being by Social Capital, Resilience, Community Attachment and Satisfaction

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	(0.012)	(0.012)	(0.011)		(0.010)	(0.012)	(0.012)
Gender (Female)	0.052	0.053	0.040		0.081	0.050	0.077
	(0.201)	(0.201)	(0.197)		(0.194)	(0.201)	(0.201)
Household Size	-0.183	-0.178	-0.155		-0.160	-0.187	-0.175
	(0.130)	(0.130)	(0.127)		(0.123)	(0.129)	(0.129)
Presence of Children	0.159	0.137	0.112		0.198	0.184	0.101
	(0.367)	(0.367)	(0.360)		(0.353)	(0.365)	(0.365)
Length of Residence	-0.012*	-0.012*	-0.013*		-0.013**	-0.011*	-0.011
	(0.007)	(0.007)	(0.007)		(0.006)	(0.007)	(0.007)
Education	-0.437**	-0.472**	-0.499***		-0.525***	-0.272	-0.493***
	(0.202)	(0.203)	(0.187)		(0.189)	(0.197)	(0.185)
Education^2	0.014**	0.015**	0.016**		0.017***	0.009	0.016**
	(0.007)	(0.007)	(0.006)		(0.006)	(0.007)	(0.006)
Homeownership	0.416	0.422	0.495		0.413	0.378	0.357
	(0.427)	(0.427)	(0.418)		(0.415)	(0.421)	(0.426)
Ethnicity (Hispanic)	-0.449	-0.462	-0.462		-0.390	-0.380	-0.511
	(0.693)	(0.693)	(0.684)		(0.675)	(0.688)	(0.690)
Race (nonwhite)	0.277	0.254	0.090		0.219	0.362	0.343
	(0.746)	(0.746)	(0.742)		(0.718)	(0.743)	(0.746)
Log(Income)	0.307	0.295	0.283		0.325*	0.302	0.337
	(0.209)	(0.209)	(0.205)		(0.193)	(0.208)	(0.207)
Household Occupation(s)							
Not working	-0.403	-0.432	-0.336	-0.522		-0.428	-0.362
	(0.657)	(0.658)	(0.646)	(0.630)		(0.655)	(0.656)
Not working, looking	-2.727***	-2.786***	-2.463***	-1.978**		-2.742***	-2.377**
	(0.947)	(0.949)	(0.936)	(0.911)		(0.945)	(0.938)
Homemaker	-0.157	-0.159	-0.143	-0.203		-0.118	0.010
	(0.477)	(0.478)	(0.463)	(0.432)		(0.476)	(0.467)
Retired	0.083	0.091	0.090	-0.132		0.148	0.124
	(0.378)	(0.379)	(0.372)	(0.331)		(0.376)	(0.376)
Healthcare/Public Safety	0.099	0.095	0.148	0.119		0.092	0.156
	(0.295)	(0.295)	(0.292)	(0.266)		(0.294)	(0.293)
Food Service/Personal Care	-0.313	-0.311	-0.311	-0.405		-0.335	-0.284
	(0.421)	(0.421)	(0.417)	(0.387)		(0.417)	(0.419)
Agriculture	-0.515	-0.495	-0.518*	-0.577**		-0.416	-0.445
	(0.318)	(0.319)	(0.314)	(0.292)		(0.301)	(0.316)
Production/Transportation	-0.381	-0.349	-0.332	-0.251		-0.379	-0.364
	(0.311)	(0.312)	(0.308)	(0.288)		(0.309)	(0.311)
Construction	-0.048	-0.029	-0.049	-0.069		-0.069	-0.033
	(0.332)	(0.333)	(0.326)	(0.299)		(0.330)	(0.330)
Sales	-0.380	-0.391	-0.347	-0.344		-0.386	-0.303
	(0.298)	(0.298)	(0.292)	(0.274)		(0.297)	(0.294)
Management/Education	-0.194	-0.181	-0.156	0.048		-0.208	-0.155
	(0.281)	(0.281)	(0.279)	(0.248)		(0.278)	(0.280)
Distance from metro area	0.045	0.052		0.024	0.056	0.045	0.019
	(0.081)	(0.080)		(0.076)	(0.078)	(0.081)	(0.078)

Table 2. Prediction of Future Community Well-Being by Social Capital, Resilience, Community Attachment and Satisfaction

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
County Typology (nonspecialized reference)							
Farming	-0.652*	-0.646*		-0.609*	-0.572*	-0.623*	-0.321
	(0.353)	(0.344)		(0.324)	(0.343)	(0.351)	(0.297)
Manufacturing	-0.776**	-0.783***		-0.748***	-0.700**	-0.769**	-0.539*
	(0.305)	(0.303)		(0.280)	(0.295)	(0.303)	(0.297)
Government	-0.269	-0.234		0.044	0.035	-0.288	0.138
	(0.937)	(0.935)		(0.827)	(0.922)	(0.932)	(0.927)
Recreation	-1.937**	-1.851*		-1.617*	-1.789*	-2.007**	-1.896*
	(0.977)	(0.979)		(0.879)	(0.961)	(0.967)	(0.969)
Household Location (Outside city, not farm/ranch reference)							
City	0.518	0.497	0.518	0.478	0.617*		0.431
	(0.342)	(0.342)	(0.338)	(0.318)	(0.325)		(0.339)
Subdivision	0.320	0.326	0.357	0.153	0.508		0.179
	(0.486)	(0.486)	(0.481)	(0.459)	(0.459)		(0.482)
Farm/Ranch	0.611	0.630	0.661*	0.538	0.707*		0.479
	(0.405)	(0.406)	(0.401)	(0.369)	(0.365)		(0.404)
Region (Tri-Cities reference)							
North 81	-0.034	-0.056		-0.007	-0.070	-0.047	0.128
	(0.376)	(0.376)		(0.348)	(0.364)	(0.375)	(0.369)
Northeast	-0.157	-0.176		-0.233	-0.175	-0.198	-0.056
	(0.378)	(0.379)		(0.356)	(0.361)	(0.376)	(0.374)
Panhandle	-0.366	-0.390		-0.763*	-0.354	-0.396	-0.345
	(0.465)	(0.460)		(0.415)	(0.447)	(0.462)	(0.457)
Sandhills	-0.331	-0.347		-0.151	-0.371	-0.388	-0.467
	(0.440)	(0.440)		(0.398)	(0.422)	(0.436)	(0.438)
Siouxland	0.457	0.479		-0.050	0.347	0.443	0.324
	(0.697)	(0.695)		(0.639)	(0.674)	(0.694)	(0.662)
Southeast	-0.327	-0.320		-0.207	-0.315	-0.340	-0.252
	(0.372)	(0.366)		(0.348)	(0.361)	(0.371)	(0.356)
Southwest	-0.244	-0.282		-0.246	-0.189	-0.253	-0.156
	(0.406)	(0.407)		(0.376)	(0.390)	(0.405)	(0.399)
Community Population	0.001		0.001	0.001	0.001	0.001	
	(0.001)		(0.001)	(0.001)	(0.001)	(0.001)	
Log(Population)		0.079					
		(0.072)					
Income Inequality	-9.237***	-9.343***	-7.357***	-7.206***	-7.133***	-8.619***	
	(0.047)	(0.048)	(0.033)	(0.404)	(0.035)	(0.049)	
% Below Poverty Level	-0.052	-0.055	-0.022	-0.052	-0.052	-0.048	
	(0.047)	(0.047)	(0.039)	(0.041)	(0.044)	(0.046)	
Observations	517	517	517	571	532	517	517

Note: Numbers in parentheses are standard errors *$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*

APPENDIX C: TABLE 3. MARGINAL EFFECTS FOR FUTURE COMMUNITY WELL-BEING (COMPLETE)

Table 3. Marginal Effects for Future Community Well-Being

	Worse Off	About the Same	Better Off
Social Capital			
Community Social Capital	0.003	0.004	-0.007
Personal Social Capital	0.028	0.040	-0.068
Resilience			
Community Resilience	-0.064***	-0.090***	0.154***
Personal Resilience	-0.019	-0.026	0.045
Community Attachment	-0.008*	-0.011*	0.019*
Satisfaction Indexes			
Infrastructure	0.015	0.021	-0.036
Civic Services	-0.015	-0.021	0.035
Public Safety	0.013	0.018	-0.033
Education (Satisfaction)	-0.054***	-0.077***	0.131***
Human Services	0.005	0.006	-0.011
Consumer Services	-0.005	-0.007	0.012
Health Services	-0.011	-0.016	0.027
Telecommunication	0	0	0.001
Nature	0.023**	0.033**	-0.056**
Quality of Life	-0.007	-0.010	0.017
Overall Community	-0.045***	-0.063***	0.108***
Employment	0.008	0.011	-0.019
Personal Finance	-0.002	-0.002	0.004
Respondent Demographics			
Age	0	0	0
Gender (Female)	-0.004	-0.006	0.010
Household Size	0.014	0.020	-0.034
Presence of Children	-0.012	-0.018	0.030
Length of Residence	0.001*	0.001*	-0.002*
Education	0.033**	0.047**	-0.081**
Education^2	-0.001**	-0.001**	0.003**
Homeownership	-0.037	-0.032	0.070
Ethnicity (Hispanic)	0.041	0.033	-0.074
Race (nonwhite)	-0.019	-0.036	0.055
Log(Income)	-0.023	-0.033	0.057
Household Occupation(s)			
Not working	0.036	0.031	-0.067
Not working, looking	0.493***	-0.264***	-0.229***

Table 3. Marginal Effects for Future Community Well-Being

	Worse Off	About the Same	Better Off
Homemaker	0.013	0.015	-0.028
Retired	-0.006	-0.009	0.016
Healthcare/Public Safety	-0.007	-0.011	0.019
Food Service/Personal Care	0.027	0.027	-0.055
Agriculture	0.044	0.044	-0.088
Production/Transportation	0.033	0.033	-0.065
Construction	0.004	0.005	-0.009
Sales	0.032	0.034	-0.066
Management/Education	0.015	0.021	-0.036
Distance from metro area	-0.003	-0.005	0.008
County Typology (Nonspecialized reference)			
Farming	0.053*	0.064*	-0.117*
Manufacturing	0.073**	0.054**	-0.126**
Government	0.023	0.023	-0.046
Recreation	0.301**	-0.098**	-0.202**
Household Location (Outside city, not farm/ranch reference)			
City	-0.042	-0.050	0.092
Subdivision	-0.022	-0.041	0.063
Farm/Ranch	-0.041	-0.082	0.122
Region (Tri-Cities reference)			
North 81	0.003	0.004	-0.006
Northeast	0.013	0.015	-0.028
Panhandle	0.032	0.030	-0.062
Sandhills	0.028	0.028	-0.057
Siouxland	-0.029	-0.064	0.093
Southeast	0.028	0.029	-0.057
Southwest	0.020	0.023	-0.043
Community Population	0	0	0
Income Inequality	0.707***	0.998***	-1.705***
% Below Poverty Level	0.004	0.006	-0.010

*Note: * p<0.1; ** p<0.05; ***p<0.01*

APPENDIX D: TABLE 4. PREDICTION OF FUTURE INDIVIDUAL WELL-BEING BY SOCIAL CAPITAL, RESILIENCE, COMMUNITY ATTACHMENT AND SATISFACTION (COMPLETE)

Table 4. Prediction of Future Individual Well-Being by Social Capital, Resilience, Community Attachment and Satisfaction

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Social Capital							
Community Social Capital	0.315	0.301	0.202	0.402	0.228	0.320	0.300
	(0.340)	(0.342)	(0.328)	(0.304)	(0.325)	(0.337)	(0.337)
Personal Social Capital	-0.248	-0.235	-0.200	0.011	-0.089	-0.310	-0.245
	(0.340)	(0.339)	(0.333)	(0.305)	(0.326)	(0.337)	(0.338)
Resilience							
Community Resilience	0.384	0.384	0.322	0.302	0.348	0.401	0.352
	(0.285)	(0.284)	(0.272)	(0.249)	(0.273)	(0.283)	(0.284)
Personal Resilience	0.799***	0.801***	0.772***	0.582**	0.712***	0.733***	0.708***
	(0.258)	(0.259)	(0.251)	(0.228)	(0.251)	(0.256)	(0.254)
Community Attachment	-0.071	-0.073	-0.045	-0.046	-0.077	-0.054	-0.075
	(0.072)	(0.072)	(0.070)	(0.061)	(0.070)	(0.071)	(0.071)
Satisfaction Indexes							
Infrastructure	0.068	0.060	0.001	-0.079	0.111	-0.005	0.097
	(0.229)	(0.229)	(0.220)	(0.199)	(0.219)	(0.223)	(0.228)
Civic Services	0.133	0.135	0.121	0.053	0.115	0.111	0.173
	(0.180)	(0.180)	(0.173)	(0.158)	(0.172)	(0.179)	(0.179)
Public Safety	-0.389**	-0.384**	-0.365**	-0.251*	-0.410***	-0.357**	-0.390**
	(0.162)	(0.162)	(0.159)	(0.141)	(0.156)	(0.159)	(0.161)
Education (Satisfaction)	-0.100	-0.102	-0.079	-0.030	-0.124	-0.079	-0.090
	(0.184)	(0.184)	(0.180)	(0.159)	(0.178)	(0.184)	(0.183)
Human Services	-0.277	-0.280	-0.276	-0.409**	-0.211	-0.221	-0.247
	(0.209)	(0.210)	(0.203)	(0.184)	(0.202)	(0.208)	(0.209)
Consumer Services	0.230*	0.230*	0.139	0.190	0.188	0.248*	0.236*
	(0.137)	(0.137)	(0.133)	(0.122)	(0.130)	(0.136)	(0.136)
Health Services	0.224	0.229*	0.239*	0.176	0.194	0.175	0.212
	(0.139)	(0.139)	(0.136)	(0.121)	(0.135)	(0.138)	(0.138)
Telecommunication	0.032	0.036	0.058	-0.087	0.030	-0.019	0.043
	(0.112)	(0.112)	(0.109)	(0.095)	(0.105)	(0.109)	(0.112)
Nature	-0.138	-0.126	-0.175	-0.048	-0.083	-0.056	-0.125
	(0.161)	(0.160)	(0.154)	(0.143)	(0.153)	(0.159)	(0.160)
Quality of Life	-0.012	-0.022	0.069	-0.027	-0.030	-0.025	-0.037
	(0.298)	(0.298)	(0.289)	(0.266)	(0.291)	(0.295)	(0.297)
Community Overall	-0.081	-0.085	-0.077	-0.153	-0.054	-0.040	-0.093
	(0.163)	(0.163)	(0.158)	(0.144)	(0.157)	(0.161)	(0.162)
Employment	0.417***	0.411***	0.354**	0.388***	0.365***	0.400***	0.413***
	(0.150)	(0.150)	(0.146)	(0.134)	(0.141)	(0.149)	(0.149)
Personal Finance	0.502***	0.507***	0.583***	0.373**	0.533***	0.515***	0.518***
	(0.181)	(0.181)	(0.176)	(0.153)	(0.176)	(0.178)	(0.180)
Respondent Demographics							

Table 4. Prediction of Future Individual Well-Being by Social Capital, Resilience, Community Attachment and Satisfaction

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Age	-0.083***	-0.083***	-0.072***		-0.072***	-0.083***	-0.082***
	(0.014)	(0.014)	(0.013)		(0.012)	(0.013)	(0.013)
Gender (Female)	-0.406*	-0.406*	-0.305		-0.378*	-0.395*	-0.417*
	(0.218)	(0.218)	(0.211)		(0.208)	(0.215)	(0.217)
Household Size	0.115	0.111	0.102		0.119	0.126	0.090
	(0.155)	(0.155)	(0.151)		(0.146)	(0.153)	(0.154)
Presence of Children	-0.214	-0.210	-0.084		-0.050	-0.265	-0.118
	(0.410)	(0.410)	(0.402)		(0.395)	(0.408)	(0.406)
Length of Residence	-0.003	-0.003	-0.003		-0.004	-0.004	-0.003
	(0.007)	(0.007)	(0.007)		(0.006)	(0.007)	(0.007)
Education	-0.029	0.005	0.053		-0.275	-0.292	-0.020
	(0.217)	(0.219)	(0.195)		(0.204)	(0.212)	(0.198)
Education^2	-0.001	-0.002	-0.004		0.007	0.007	-0.001
	(0.007)	(0.007)	(0.007)		(0.007)	(0.007)	(0.007)
Homeownership	-1.294**	-1.303***	-1.115**		-1.127**	-1.134**	-1.297***
	(0.505)	(0.506)	(0.493)		(0.488)	(0.497)	(0.502)
Ethnicity (Hispanic)	-0.128	-0.165	0.040		0.002	-0.341	-0.114
	(0.782)	(0.780)	(0.759)		(0.767)	(0.784)	(0.770)
Race (nonwhite)	-0.281	-0.299	-0.332		-0.143	-0.466	-0.375
	(0.748)	(0.744)	(0.735)		(0.742)	(0.750)	(0.742)
Log(Income)	0.006	0.005	-0.017		-0.044	-0.024	-0.031
	(0.224)	(0.224)	(0.218)		(0.206)	(0.224)	(0.222)
Household Occupation(s)							
Not working	-0.167	-0.182	-0.235	-0.544		0.050	-0.146
	(0.734)	(0.735)	(0.717)	(0.688)		(0.744)	(0.725)
Not working, looking	3.063**	3.036**	2.460**	3.059**		2.919**	2.823**
	(1.287)	(1.290)	(1.251)	(1.219)		(1.290)	(1.290)
Homemaker	0.879*	0.882*	0.674	1.009**		0.843	0.812
	(0.526)	(0.526)	(0.513)	(0.481)		(0.522)	(0.526)
Retired	0.578	0.590	0.502	-0.452		0.533	0.583
	(0.378)	(0.377)	(0.369)	(0.328)		(0.371)	(0.374)
Healthcare/Public Safety	0.452	0.466	0.454	0.754***		0.436	0.438
	(0.326)	(0.326)	(0.321)	(0.280)		(0.322)	(0.324)
Food Service/Personal Care	-0.073	-0.056	-0.087	-0.144		-0.137	-0.022
	(0.432)	(0.432)	(0.423)	(0.382)		(0.426)	(0.431)
Agriculture	-0.331	-0.321	-0.207	-0.089		-0.360	-0.363
	(0.329)	(0.329)	(0.319)	(0.288)		(0.313)	(0.328)
Production/Transport	0.027	0.033	0.014	0.030		-0.027	0.063
	(0.325)	(0.326)	(0.319)	(0.286)		(0.320)	(0.322)
Construction	-0.420	-0.408	-0.347	0.154		-0.369	-0.379
	(0.356)	(0.356)	(0.344)	(0.306)		(0.351)	(0.353)
Sales	0.152	0.152	0.041	-0.085		0.172	0.125
	(0.308)	(0.308)	(0.297)	(0.267)		(0.305)	(0.305)
Management/Education	0.195	0.204	0.185	0.257		0.185	0.205
	(0.299)	(0.299)	(0.293)	(0.252)		(0.292)	(0.299)
Distance from metro area	0.170*	0.155*		0.048	0.110	0.148*	0.166*

Table 4. Prediction of Future Individual Well-Being by Social Capital, Resilience, Community Attachment and Satisfaction

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	(0.089)	(0.088)		(0.077)	(0.083)	(0.088)	(0.086)
County Typology (nonspecialized reference)							
Farming	-0.072	-0.142		-0.213	0.040	-0.158	-0.563*
	(0.382)	(0.373)		(0.333)	(0.365)	(0.379)	(0.317)
Manufacturing	0.722**	0.699**		0.363	0.560*	0.632**	0.534*
	(0.317)	(0.315)		(0.282)	(0.307)	(0.312)	(0.307)
Government	-0.324	-0.331		0.175	0.101	-0.479	-0.681
	(1.056)	(1.061)		(0.884)	(1.042)	(1.043)	(1.033)
Recreation	-0.839	-0.899		-0.689	-1.087	-0.804	-0.964
	(0.973)	(0.973)		(0.832)	(0.942)	(0.967)	(0.963)
Household Location (Outside city, not farm/ranch reference)							
City	-0.680*	-0.673*	-0.648*	-0.448	-0.513		-0.584
	(0.370)	(0.371)	(0.358)	(0.323)	(0.346)		(0.365)
Subdivision	0.868	0.874	0.802	0.960*	0.823		0.968*
	(0.587)	(0.587)	(0.572)	(0.520)	(0.534)		(0.583)
Farm/Ranch	-0.407	-0.419	-0.433	-0.535	-0.327		-0.357
	(0.428)	(0.429)	(0.415)	(0.367)	(0.383)		(0.424)
Region (Tri-Cities Reference)							
North 81	-0.403	-0.369		-0.327	-0.240	-0.347	-0.496
	(0.405)	(0.405)		(0.350)	(0.386)	(0.402)	(0.394)
Northeast	0.453	0.450		0.421	0.480	0.595	0.343
	(0.411)	(0.412)		(0.361)	(0.391)	(0.409)	(0.406)
Panhandle	-0.257	-0.333		-0.289	-0.178	-0.109	-0.385
	(0.514)	(0.508)		(0.434)	(0.486)	(0.504)	(0.501)
Sandhills	-0.031	-0.067		0.114	0.136	0.129	-0.025
	(0.462)	(0.463)		(0.401)	(0.449)	(0.452)	(0.461)
Siouxland	0.761	0.680		0.658	0.614	0.877	1.014
	(0.738)	(0.733)		(0.628)	(0.703)	(0.734)	(0.703)
Southeast	0.517	0.454		0.320	0.429	0.585	0.309
	(0.406)	(0.400)		(0.355)	(0.390)	(0.401)	(0.390)
Southwest	-0.403	-0.436		-0.118	-0.188	-0.264	-0.542
	(0.443)	(0.444)		(0.393)	(0.421)	(0.433)	(0.437)
Community Population	0.001		-0.0001	0.001	0.001	0.001	
	(0.001)		(0.001)	(0.001)	(0.001)	(0.001)	
Log(Population)		0.035					
		(0.077)					
Income Inequality	1.364***	1.949***	-0.955***	3.474***	-0.010	2.014***	
	(0.046)	(0.048)	(0.028)	(0.416)	(0.033)	(0.046)	
% Below Poverty Level	0.090*	0.092*	0.088**	0.009	0.080*	0.082	
	(0.050)	(0.050)	(0.041)	(0.043)	(0.048)	(0.050)	
Observations	505	505	505	558	521	505	505

Note: Numbers in parentheses are standard errors *$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*

APPENDIX E: TABLE 5. MARGINAL EFFECTS FOR FUTURE INDIVIDUAL WELL-BEING (COMPLETE)

Table 5. Marginal Effects for Future Individual Well-Being

	Worse Off	About the Same	Better Off
Social Capital			
Community Social Capital	-0.018	-0.061	0.079
Personal Social Capital	0.014	0.048	-0.062
Resilience			
Community Resilience	-0.022	-0.074	0.096
Personal Resilience	-0.046***	-0.154***	0.200***
Community Attachment	0.004	0.013	-0.017
Satisfaction Indexes			
Infrastructure	-0.004	-0.013	0.017
Civic Services	-0.008	-0.026	0.033
Public Safety	0.022**	0.075**	-0.097**
Education (Satisfaction)	0.006	0.019	-0.025
Human Services	0.016	0.053	-0.069
Consumer Services	-0.013*	-0.044*	0.057*
Health Services	-0.013	-0.043	0.056
Telecommunication	-0.002	-0.006	0.008
Nature	0.008	0.027	-0.035
Quality of Life	0.001	0.002	-0.003
Overall Community	0.005	0.016	-0.020
Employment	-0.024***	-0.080***	0.104***
Personal Finance	-0.029***	-0.097***	0.125***
Respondent Demographics			
Age	0.005***	0.016***	-0.021***
Gender (Female)	0.023*	0.078*	-0.101*
Household Size	-0.007	-0.022	0.029
Presence of Children	0.013	0.041	-0.053
Length of Residence	0	0.001	-0.001
Education	0.002	0.006	-0.007
Education^2	0	0	0
Homeownership	0.047**	0.244**	-0.291**
Ethnicity (Hispanic)	0.008	0.024	-0.032
Race (nonwhite)	0.018	0.052	-0.070
Log(Income)	0	-0.001	0.001
Household Occupation(s)			
Not working	0.010	0.031	-0.042
Not working, looking	-0.060**	-0.402**	0.462**

Table 5. Marginal Effects for Future Individual Well-Being

	Worse Off	About the Same	Better Off
Homemaker	-0.036*	-0.172*	0.208*
Retired	-0.027	-0.114	0.142
Healthcare/Public Safety	-0.023	-0.089	0.112
Food Service/Personal Care	0.004	0.014	-0.018
Agriculture	0.020	0.062	-0.082
Production/Transportation	-0.002	-0.005	0.007
Construction	0.028	0.076	-0.104
Sales	-0.008	-0.030	0.038
Management/Education	-0.011	-0.038	0.049
Distance from metro area	-0.010*	-0.033*	0.042*
County Typology (Nonspecialized reference)			
Farming	0.004	0.014	-0.018
Manufacturing	-0.035**	-0.142**	0.176**
Government	0.021	0.059	-0.080
Recreation	0.069	0.130	-0.199
Household Location (Outside city, not farm/ranch reference)			
City	0.037*	0.131*	-0.168*
Subdivision	-0.036	-0.170	0.207
Farm/Ranch	0.026	0.075	-0.101
Region (Tri-Cities reference)			
North 81	0.026	0.073	-0.100
Northeast	-0.022	-0.090	0.112
Panhandle	0.016	0.048	-0.064
Sandhills	0.002	0.006	-0.008
Siouxland	-0.032	-0.150	0.182
Southeast	-0.025	-0.102	0.127
Southwest	0.026	0.074	-0.100
Community Population	0	0	0
Income Inequality	-0.078***	-0.263***	0.341***
% Below Poverty Level	-0.005*	-0.017*	0.022*

*Note: * p<0.1; ** p<0.05; ***p<0.01*

APPENDIX F: TABLE 6. PREDICTION OF FUTURE WELL-BEING BY SOCIAL CAPITAL, RESILIENCE, COMMUNITY ATTACHMENT, SATISFACTION, AND WELL-BEING (COMPLETE)

Table 6. Prediction of Future Well-Being by Social Capital, Resilience, Community Attachment, Satisfaction, and Well-Being

	Community Well-Being		Individual Well-Being	
	Model 1	Model 2	Model A	Model B
Social Capital				
Community Social Capital	-0.035	-0.086	0.315	0.346
	(0.326)	(0.330)	(0.340)	(0.344)
Personal Social Capital	-0.368	-0.328	-0.248	-0.231
	(0.326)	(0.334)	(0.340)	(0.342)
Resilience				
Community Resilience	0.836***	0.764***	0.384	0.254
	(0.283)	(0.286)	(0.285)	(0.290)
Personal Resilience	0.243	0.137	0.799***	0.802***
	(0.246)	(0.252)	(0.258)	(0.261)
Community Attachment	0.102	0.121*	-0.071	-0.079
	(0.067)	(0.067)	(0.072)	(0.072)
Satisfaction Indexes				
Infrastructure	-0.195	-0.185	0.068	0.088
	(0.211)	(0.213)	(0.229)	(0.231)
Civic Services	0.191	0.179	0.133	0.101
	(0.172)	(0.175)	(0.180)	(0.181)
Public Safety	-0.171	-0.112	-0.389**	-0.360**
	(0.150)	(0.152)	(0.162)	(0.162)
Education (Satisfaction)	0.708***	0.706***	-0.100	-0.205
	(0.181)	(0.184)	(0.184)	(0.187)
Human Services	-0.059	-0.033	-0.277	-0.286
	(0.197)	(0.201)	(0.209)	(0.209)
Consumer Services	0.066	0.027	0.230*	0.238*
	(0.130)	(0.132)	(0.137)	(0.137)
Health Services	0.149	0.114	0.224	0.215
	(0.133)	(0.136)	(0.139)	(0.140)
Telecommunication	0.004	0.014	0.032	0.028
	(0.104)	(0.105)	(0.112)	(0.113)
Nature	-0.305**	-0.303*	-0.138	-0.097
	(0.154)	(0.156)	(0.161)	(0.163)
Quality of Life	0.093	0.040	-0.012	-0.029
	(0.284)	(0.287)	(0.298)	(0.300)
Community Overall	0.584***	0.607***	-0.081	-0.177
	(0.165)	(0.167)	(0.163)	(0.166)
Employment	-0.101	-0.159	0.417***	0.463***
	(0.143)	(0.146)	(0.150)	(0.151)

Table 6. Prediction of Future Well-Being by Social Capital, Resilience, Community Attachment, Satisfaction, and Well-Being

	Community Well-Being		Individual Well-Being	
	Model 1	Model 2	Model A	Model B
Personal Finance	0.022	-0.012	0.502***	0.477***
	(0.175)	(0.180)	(0.181)	(0.181)
Individual Future Well-Being		0.580***		
		(0.169)		
Community Future Well-Being				0.598***
				(0.184)
Respondent Demographics				
Age	-0.002	0.011	-0.083***	-0.083***
	(0.012)	(0.012)	(0.014)	(0.013)
Gender (Female)	0.052	0.126	-0.406*	-0.435**
	(0.201)	(0.206)	(0.218)	(0.220)
Household Size	-0.183	-0.214	0.115	0.145
	(0.130)	(0.131)	(0.155)	(0.157)
Presence of Children	0.159	0.265	-0.214	-0.232
	(0.367)	(0.375)	(0.410)	(0.414)
Length of Residence	-0.012*	-0.012*	-0.003	-0.001
	(0.007)	(0.007)	(0.007)	(0.007)
Education	-0.437**	-0.462**	-0.029	-0.011
	(0.202)	(0.208)	(0.217)	(0.220)
Education^2	0.014**	0.015**	-0.001	-0.002
	(0.007)	(0.007)	(0.007)	(0.007)
Homeownership	0.416	0.534	-1.294**	-1.331***
	(0.427)	(0.442)	(0.505)	(0.507)
Ethnicity (Hispanic)	-0.499	-0.484	-0.128	0.034
	(0.693)	(0.698)	(0.782)	(0.798)
Race (nonwhite)	0.277	0.376	-0.281	-0.361
	(0.746)	(0.757)	(0.748)	(0.750)
Log(Income)	0.307	0.300	0.006	-0.013
	(0.209)	(0.211)	(0.224)	(0.224)
Household Occupation(s)				
Not working	-0.403	-0.626	-0.167	-0.059
	(0.657)	(0.691)	(0.734)	(0.757)
Not working, looking	-2.727***	-2.917***	3.063**	3.604***
	(0.947)	(0.976)	(1.287)	(1.304)
Homemaker	-0.157	-0.273	0.879*	0.852
	(0.477)	(0.477)	(0.526)	(0.528)
Retired	0.083	-0.065	0.578	0.566
	(0.378)	(0.381)	(0.378)	(0.380)
Healthcare/Public Safety	0.099	0.103	0.452	0.448
	(0.295)	(0.303)	(0.326)	(0.330)
Food Service/Personal Care	-0.313	-0.309	-0.073	-0.037
	(0.421)	(0.423)	(0.432)	(0.435)
Agriculture	-0.515	-0.448	-0.331	-0.322

Table 6. Prediction of Future Well-Being by Social Capital, Resilience, Community Attachment, Satisfaction, and Well-Being

	Community Well-Being		Individual Well-Being	
	Model 1	Model 2	Model A	Model B
	(0.318)	(0.320)	(0.329)	(0.332)
Production/Transport	-0.381	-0.397	0.027	0.056
	(0.311)	(0.312)	(0.325)	(0.327)
Construction	-0.048	-0.017	-0.420	-0.457
	(0.332)	(0.336)	(0.356)	(0.358)
Sales	-0.380	-0.384	0.152	0.214
	(0.298)	(0.301)	(0.308)	(0.312)
Management/Education	-0.194	-0.264	0.195	0.224
	(0.281)	(0.285)	(0.299)	(0.300)
Distance from metro area	0.045	-0.001	0.170*	0.166*
	(0.081)	(0.084)	(0.089)	(0.089)
County Typology (nonspecialized reference)				
Farming	-0.652*	-0.680*	-0.072	0.049
	(0.352)	(0.360)	(0.382)	(0.388)
Manufacturing	-0.776**	-0.940***	0.722**	0.862***
	(0.305)	(0.312)	(0.317)	(0.321)
Government	-0.269	-0.209	-0.324	-0.303
	(0.937)	(0.935)	(1.056)	(1.070)
Recreation	-1.937**	-1.814*	-0.839	-0.568
	(0.977)	(0.986)	(0.973)	(0.983)
Household Location (Outside city, not farm/ranch reference)				
City	0.518	0.559	-0.680*	-0.794**
	(0.342)	(0.350)	(0.370)	(0.374)
Subdivision	0.320	0.181	0.868	0.755
	(0.486)	(0.494)	(0.587)	(0.585)
Farm/Ranch	0.611	0.617	-0.407	-0.494
	(0.405)	(0.413)	(0.428)	(0.433)
Region (Tri-Cities reference)				
North 81	-0.034	0.081	-0.403	-0.405
	(0.376)	(0.380)	(0.405)	(0.406)
Northeast	-0.157	-0.086	0.453	0.487
	(0.378)	(0.389)	(0.411)	(0.414)
Panhandle	-0.366	-0.294	-0.257	-0.223
	(0.465)	(0.479)	(0.514)	(0.516)
Sandhills	-0.331	-0.134	-0.031	-0.006
	(0.440)	(0.448)	(0.462)	(0.464)
Siouxland	0.457	0.261	0.761	0.650
	(0.697)	(0.708)	(0.738)	(0.749)
Southeast	-0.327	-0.346	0.517	0.587
	(0.372)	(0.379)	(0.406)	(0.409)
Southwest	-0.244	-0.161	-0.403	-0.382
	(0.406)	(0.414)	(0.443)	(0.443)
Community Population	0.001	0.0004	0.001	0.001

Table 6. Prediction of Future Well-Being by Social Capital, Resilience, Community Attachment, Satisfaction, and Well-Being

	Community Well-Being		Individual Well-Being	
	Model 1	Model 2	Model A	Model B
	(0.001)	(0.001)	(0.001)	(0.001)
Income Inequality	-9.237***	-11.244***	1.364***	2.806***
	(0.047)	(0.046)	(0.046)	(0.051)
% Below Poverty Level	-0.052	-0.050	0.090*	0.103**
	(0.047)	(0.048)	(0.050)	(0.051)
Observations	517	505	505	505

Note: Numbers in parentheses are standard errors. *$p<0.1$; **$p< 0.05$; ***$p<0.01$

APPENDIX G: TABLE 7. MARGINAL EFFECTS FOR FUTURE WELL-BEING (COMPLETE)

Table 7. Marginal Effects for Future Well-Being

	Community Well-Being			Individual Well-Being		
	Worse Off	About the Same	Better Off	Worse Off	About the Same	Better Off
Social Capital						
Community Social Capital	0.007	0.009	-0.016	-0.019	-0.067	0.086
Personal Social Capital	0.025	0.034	-0.059	0.013	0.045	-0.058
Resilience						
Community Resilience	-0.058***	-0.080***	0.138***	-0.014	-0.050	0.063
Personal Resilience	-0.010	-0.014	0.025	-0.044***	-0.156***	0.201***
Community Attachment	-0.009*	-0.013*	0.022*	0.004	0.015	-0.020
Satisfaction Indexes						
Infrastructure	0.014	0.019	-0.033	-0.005	-0.017	0.022
Civic Services	-0.014	-0.019	0.032	-0.006	-0.020	0.025
Public Safety	0.008	0.012	-0.020	0.020**	0.070**	-0.090**
Education (Satisfaction)	-0.053***	-0.074***	0.128***	0.011	0.040	-0.051
Human Services	0.003	0.004	-0.006	0.016	0.056	-0.072
Consumer Services	-0.002	-0.003	0.005	-0.013*	-0.046*	0.060*
Health Services	-0.009	-0.012	0.021	-0.012	-0.042	0.054
Telecommunication	-0.001	-0.001	0.003	-0.002	-0.005	0.007
Nature	0.023*	0.032*	-0.055*	0.005	0.019	-0.024
Quality of Life	-0.003	-0.004	0.007	0.002	0.006	-0.007
Overall Community	-0.046***	-0.064***	0.110***	0.010	0.035	-0.044
Employment	0.012	0.017	-0.029	-0.025***	-0.090***	0.116***
Personal Finance	0.001	0.001	-0.002	-0.026***	-0.093***	0.119***
Community Future Well-Being				-0.033***	-0.117***	0.149***
Individual Future Well-Being	-0.044***	-0.061***	0.105***			
Respondent Demographics						
Age	-0.001	-0.001	0.002	0.005***	0.016***	-0.021***
Gender (Female)	-0.010	-0.013	0.023	0.024**	0.084**	-0.108**
Household Size	0.016*	0.022*	-0.039*	-0.008	-0.028	0.036
Presence of Children	-0.020	-0.029	0.049	0.013	0.045	-0.058
Length of Residence	0.001*	0.001*	-0.002*	0	0	0
Education	0.035**	0.048**	-0.083**	0.001	0.002	-0.003
Education^2	-0.001**	-0.002**	0.003**	0	0	-0.001
Homeownership	-0.049	-0.035	0.084	0.046***	0.252***	-0.298***
Ethnicity (Hispanic)	0.044	0.032	-0.077	-0.002	-0.007	0.008
Race (nonwhite)	-0.024	-0.050	0.074	0.023	0.066	-0.089
Log(Income)	-0.023	-0.031	0.054	0.001	0.002	-0.003
Household Occupation(s)						
Not working	0.061	0.034	-0.095	0.003	0.011	-0.015
Not working, looking	0.536***	-0.310***	-0.226***	-0.059***	-0.425***	0.484***

Table 7. Marginal Effects for Future Well-Being

	Community Well-Being			Individual Well-Being		
	Worse Off	About the Same	Better Off	Worse Off	About the Same	Better Off
Homemaker	0.023	0.023	-0.046	-0.034	-0.169	0.203
Retired	0.005	0.007	-0.012	-0.026	-0.113	0.139
Healthcare/Public Safety	-0.008	-0.011	0.019	-0.022	-0.089	0.111
Food Service/Personal Care	0.026	0.026	-0.052	0.002	0.007	-0.009
Agriculture	0.038	0.038	-0.076	0.019	0.061	-0.080
Production/Transportation	0.034	0.033	-0.066	-0.003	-0.011	0.014
Construction	0.001	0.002	-0.003	0.029	0.084	-0.113
Sales	0.032	0.033	-0.065	-0.011	-0.042	0.053
Management/Education	0.020	0.027	-0.047	-0.012	-0.044	0.056
Distance from metro area	0	0	0	-0.009	-0.032	0.041
County Typology (Nonspecialized reference)						
Farming	0.055*	0.064*	-0.119*	-0.003	-0.010	0.012
Manufacturing	0.091***	0.055***	-0.145***	-0.039	-0.170	0.209
Government	0.017	0.019	-0.036	0.019	0.056	-0.075
Recreation	0.270*	-0.079*	-0.191*	0.040	0.098	-0.138
Household Location (Outside city, not farm/ranch reference)						
City	-0.045	-0.052	0.097	0.041**	0.155**	-0.195**
Subdivision	-0.013	-0.021	0.034	-0.032	-0.151	0.182
Farm/Ranch	-0.040	-0.081	0.121	0.031	0.091	-0.122
Region (Tri-Cities reference)						
North 81	-0.006	-0.009	0.015	0.026	0.075	-0.100
Northeast	0.007	0.009	-0.015	-0.023	-0.097	0.120
Panhandle	0.025	0.025	-0.050	0.013	0.042	-0.055
Sandhills	0.011	0.013	-0.023	0	0.001	-0.001
Siouxland	-0.018	-0.032	0.050	-0.027	-0.130	0.158
Southeast	0.029	0.029	-0.058	-0.027	-0.117	0.144
Southwest	0.013	0.015	-0.028	0.024	0.071	-0.095
Community Population	0	0	0	0	0	0
Income Inequality	0.850***	1.180***	-2.031***	-0.154***	-0.547***	0.701***
% Below Poverty Level	0.004	0.006	-0.009	-0.006**	-0.020**	0.026**

*Note: *p<0.1; **p<0.05; ***p<0.01*

APPENDIX H: LIST OF SURVEY ITEMS IN EACH FACTOR

List of Survey Items in Each Factor

- Social Capital
  - Community Social Capital
    - My community is…unfriendly vs. friendly
    - My community is…distrusting vs. trusting
    - My community is…hostile vs. supportive
  - Personal Social Capital
    - Your family satisfaction
    - Your friends satisfaction
    - Your religion/spirituality satisfaction
  - Community Needs
    - I can get what I need in this community
    - This community helps me fulfill my needs
  - Community Belonging
    - I feel like a member of this community
    - I belong in this community
    - I have a say about what goes on in my community
    - I feel connected to this community
    - I have a good bond with others in this community
- Resilience
  - Community Resilience
    - I believe in the ability of my community to overcome an emergency situation
    - My community has priorities and sets goals for the future
    - My community actively prepares for future disasters
    - I trust local leaders to respond to emergency situations
    - My community keeps people informed (for example, via television, radio, newspaper, Internet, phone, neighbors) about issues that are relevant to them
    - I can depend on people in my community to come to my assistance in a crisis
    - People in this community are good at influencing each other
    - People in my community help each other
    - My community treats people fairly no matter what their background is
    - People in my community work together to improve the community
    - People in my community trust public officials
    - There is trust among the residents of my community
    - Relations amongst the various groups in my community are good
    - My community looks at its successes and failures so it can learn from the past
    - Your community satisfaction
  - Personal Resilience
    - When something bad happens in my community, I can help improve the situation
    - When my community faces a major problem, I know I can help find a way to solve it
    - I take setbacks in my community's progress in stride, finding ways to keep moving forward
    - I think of community hardships as an opportunity for me to grow
    - I know how to use resources in my community to help us overcome challenges
    - In times of adversity in my community, I find that I can refocus on the immediate needs of the community
    - I know how to use my relationships within my community to overcome community setbacks
- Community Attachment
    - Assume you were to have a discussion in your household about leaving your community for a reasonably good opportunity elsewhere. Some people might be happy to live in a new place and meet new people. Others might be very sorry to leave. How easy or difficult would it be for your household to leave your community?

List of Survey Items in Each Factor

Satisfaction Indexes: Thinking about availability, cost, quality, and any other considerations important to you, how satisfied or dissatisfied are you with each item listed below in your community?

- Infrastructure
  - Cost of housing
  - Quality of housing
  - Streets and roads
- Civic Services
  - Religious organizations
  - Parks and Recreation
  - Sewage/waste disposal
  - Local government
  - Civic/nonprofit organizations
  - Law enforcement
  - Fire protection
  - Education (K-12)
  - Access to higher education (college, technical, etc.)
  - Library services
- Human Services
  - Public transportation services
  - Child day care services
  - Senior centers
  - Head Start or early childhood education programs
- Consumer Services
  - Retail shopping
  - Restaurants
  - Entertainment
  - Arts/cultural activities
- Health Services
  - Medical care services
  - Mental health services
  - Nursing home care
- Telecommunication
  - Internet service
  - Cellular phone service
- Nature
  - Greenery and open space
  - Clean air
  - Clean water
- Quality of Life
  - Your transportation
  - Your housing
  - Your day to day personal safety
  - Your spare time
  - Your health
  - Your general quality of life
  - General standard of living satisfaction
  - Your marriage
- Employment
  - Your job
  - Your job security

List of Survey Items in Each Factor

Your job opportunities
Your education

Personal Finance

Your current income level
Your financial security during retirement
Your ability to build assets/wealth
Your ability to afford your residence

APPENDIX I: TABLE 9. PREDICTION OF FUTURE INDIVIDUAL WELL-BEING USING FACTOR ANALYSIS BY SOCIAL CAPITAL, RESILIENCE, COMMUNITY ATTACHMENT AND SATISFACTION (COMPLETE)

Table 9. Prediction of Future Individual Well-Being Using Factor Analysis by Social Capital, Resilience, Community Attachment and Satisfaction

	Community Well-Being				Individual Well-Being			
	Model 1	Worse Off	About the Same	Better Off	Model 2	Worse Off	About the Same	Better Off
Social Capital								
Community Social Capital	0.290*	-0.024	-0.031	0.055	-0.011	0.001	0.002	-0.003
	(0.168)				(0.178)			
Personal Social Capital	-0.019	0.002	0.002	-0.004	0.050	-0.003	-0.010	0.013
	(0.169)				(0.174)			
Community Needs	0.263*	-0.022	-0.028	0.050	-0.152	0.009	0.029	-0.038
	(0.145)				(0.150)			
Community Belonging	0.063	-0.005	-0.007	0.012	-0.076	0.005	0.014	-0.019
	(0.192)				(0.208)			
Resilience								
Community Resilience	0.258	-0.022	-0.027	0.049	0.604**	-0.036	-0.115	0.151
	(0.286)				(0.306)			
Personal Resilience	0.211	-0.018	-0.022	0.040	0.516**	-0.031	-0.098	0.129
	(0.217)				(0.227)			
Community Attachment	0.105	-0.009	-0.011	0.020	-0.038	0.002	0.007	-0.009
	(0.066)				(0.072)			
Satisfaction Indexes								
Civic Services/Amenities	0.582**	-0.049	-0.062	0.111	-0.201	0.012	0.038	-0.050
	(0.265)				(0.275)			
Consumer Services	0.020	-0.002	-0.002	0.004	0.278**	-0.017	-0.053	0.070
	(0.132)				(0.141)			
Human Services	0.106	-0.009	-0.011	0.020	-0.154	0.009	0.029	-0.039
	(0.178)				(0.190)			
Infrastructure	0.117	-0.010	-0.012	0.022	-0.076	0.005	0.014	-0.019
	(0.136)				(0.148)			
Healthcare	0.162	-0.014	-0.017	0.031	0.119	-0.007	-0.023	0.030
	(0.146)				(0.153)			
Telecommunications	-0.039	0.003	0.004	-0.007	0.025	-0.001	-0.005	0.006
	(0.103)				(0.111)			
Quality of Life	0.414	-0.035	-0.044	0.079	-0.018	0.001	0.003	-0.005
	(0.257)				(0.265)			
Employment	-0.126	0.011	0.013	-0.024	0.418**	-0.025	-0.079	0.105
	(0.161)				(0.170)			
Personal Finance	-0.043	0.004	0.005	-0.008	0.510***	-0.031	-0.097	0.128
	(0.145)				(0.151)			

Table 9. Prediction of Future Individual Well-Being Using Factor Analysis by Social Capital, Resilience, Community Attachment and Satisfaction

	Community Well-Being				Individual Well-Being			
	Model 1	Worse Off	About the Same	Better Off	Model 2	Worse Off	About the Same	Better Off
Nature	-0.379**	0.032	0.040	-0.072	-0.142	0.009	0.027	-0.036
	(0.153)				(0.157)			
Respondent Demographics								
Age	0.005	0	0	0.001	-0.077***	0.005	0.015	-0.019
	(0.011)				(0.013)			
Gender (Female)	0.154	-0.013	-0.016	0.029	-0.350	0.021	0.066	-0.087
	(0.197)				(0.213)			
Household Size	-0.182	0.015	0.019	-0.035	0.138	-0.008	-0.026	0.034
	(0.128)				(0.151)			
Presence of Children	0.295	-0.024	-0.033	0.057	-0.123	0.008	0.023	-0.031
	(0.358)				(0.401)			
Length of Residence	-0.012*	0.001	0.001	-0.002	-0.004	0	0.001	-0.001
	(0.007)				(0.007)			
Education	-0.318	0.027	0.034	-0.060	-0.038	0.002	0.007	-0.009
	(0.201)				(0.216)			
Education2	0.010	-0.001	-0.001	0.002	-0.001	0	0	0
	(0.007)				(0.007)			
Homeownership	0.177	-0.016	-0.016	0.032	-1.220**	0.048	0.230	-0.278
	(0.414)				(0.497)			
Ethnicity (Hispanic)	-0.462	0.047	0.032	-0.078	-0.058	0.004	0.011	-0.015
	(0.689)				(0.785)			
Race (nonwhite)	0.209	-0.016	-0.025	0.042	-0.399	0.029	0.070	-0.099
	(0.729)				(0.768)			
Log(Income)	0.242	-0.020	-0.026	0.046	0.084	-0.005	-0.016	0.021
	(0.201)				(0.214)			
Household Occupation(s)								
Not working	-0.483	0.049	0.032	-0.081	-0.250	0.017	0.045	-0.062
	(0.642)				(0.716)			
Not working, looking	-2.908***	0.554	-0.311	-0.243	3.126**	-0.064	-0.404	0.467
	(0.924)				(1.272)			
Homemaker	-0.086	0.007	0.009	-0.016	0.958*	-0.041	-0.185	0.226
	(0.475)				(0.536)			
Retired	-0.228	0.021	0.021	-0.042	0.562	-0.028	-0.110	0.138
	(0.375)				(0.371)			
Healthcare/Public Safety	0.024	-0.002	-0.003	0.005	0.380	-0.021	-0.074	0.095
	(0.289)				(0.317)			
Food Service/Personal Care	-0.253	0.023	0.022	-0.045	0.025	-0.001	-0.005	0.006
	(0.416)				(0.432)			
Agriculture	-0.356	0.032	0.032	-0.064	-0.196	0.012	0.037	-0.049
	(0.316)				(0.329)			
Production/Transport	-0.250	0.023	0.023	-0.045	-0.038	0.002	0.007	-0.009

Table 9. Prediction of Future Individual Well-Being Using Factor Analysis by Social Capital, Resilience, Community Attachment and Satisfaction

	Community Well-Being				Individual Well-Being			
	Model 1	Worse Off	About the Same	Better Off	Model 2	Worse Off	About the Same	Better Off
	(0.305)				(0.318)			
Construction	0.002	0	0	0	-0.366	0.025	0.066	-0.091
	(0.321)				(0.342)			
Sales	-0.362	0.033	0.032	-0.065	0.124	-0.007	-0.024	0.031
	(0.290)				(0.300)			
Management/Education	-0.263	0.022	0.027	-0.050	0.188	-0.011	-0.036	0.047
	(0.278)				(0.297)			
Distance from metro area	0.027	-0.002	-0.003	0.005	0.188**	-0.011	-0.036	0.047
	(0.080)				(0.088)			
County Typology (Nonspecialized reference)								
Farming	-0.594*	0.053	0.057	-0.110	-0.073	0.004	0.014	-0.018
	(0.349)				(0.374)			
Manufacturing	-0.691**	0.069	0.049	-0.118	0.759**	-0.038	-0.147	0.185
	(0.298)				(0.315)			
Government	0.503	-0.035	-0.072	0.106	-0.214	0.014	0.039	-0.053
	(0.903)				(1.047)			
Recreation	-1.798*	0.286	-0.082	-0.204	-1.010	0.094	0.139	-0.233
	(0.958)				(1.005)			
Household Location (Outside city, not farm/ranch reference)								
City	0.546	-0.049	-0.051	0.100	-0.538	0.031	0.103	-0.134
	(0.342)				(0.367)			
Subdivision	0.494	-0.035	-0.068	0.103	0.946*	-0.041	-0.183	0.224
	(0.480)				(0.574)			
Farm/Ranch	0.556	-0.041	-0.072	0.114	-0.435	0.029	0.078	-0.108
	(0.402)				(0.424)			
Region (Tri-Cities reference)								
North 81	0.161	-0.013	-0.019	0.032	-0.530	0.038	0.092	-0.130
	(0.368)				(0.397)			
Northeast	-0.180	0.016	0.017	-0.033	0.241	-0.013	-0.047	0.060
	(0.364)				(0.394)			
Panhandle	-0.432	0.042	0.032	-0.075	-0.300	0.020	0.054	-0.075
	(0.464)				(0.513)			
Sandhills	-0.271	0.025	0.024	-0.049	-0.051	0.003	0.010	-0.013
	(0.437)				(0.461)			
Siouxland	0.697	-0.045	-0.107	0.152	0.576	-0.028	-0.113	0.141
	(0.679)				(0.729)			
Southeast	-0.296	0.027	0.026	-0.053	0.415	-0.022	-0.081	0.103
	(0.368)				(0.401)			
Southwest	-0.246	0.022	0.022	-0.045	-0.470	0.033	0.083	-0.116
	(0.399)				(0.438)			
Community Population	0.0002	0	0	0	0.001	0	0	0

Table 9. Prediction of Future Individual Well-Being Using Factor Analysis by Social Capital, Resilience, Community Attachment and Satisfaction

	Community Well-Being				Individual Well-Being			
	Model 1	Worse Off	About the Same	Better Off	Model 2	Worse Off	About the Same	Better Off
	(0.001)				(0.001)			
Income Inequality	-9.371***	0.788	0.994	-1.782	2.599***	-0.157	-0.493	0.650
	(0.043)				(0.045)			
% Below Poverty Level	-0.054	0.005	0.006	-0.010	0.080	-0.005	-0.015	0.020
	(0.046)				(0.049)			
Observations	520				509			

Note: Numbers in parentheses are standard errors. *$^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$*