

Strategies to Enhance and Maintain Quality of Life: The Case of Nonmetropolitan Illinois

Adee Athiyaman

Illinois Institute for Rural Affairs
Western Illinois University
A-Athiyaman@wiu.edu

Norman Walzer

Illinois Institute for Rural Affairs
Western Illinois University
N-Walzer@wiu.edu

Abstract

This paper posits that one experiences a sense of well-being (quality of life [QOL]) when the needs one feels are appreciably satisfied. Local public officials and managers can promote policies and take actions to create an environment where these needs are addressed. Based on an empirical analysis of QOL perceptions among nonmetropolitan residents in Illinois, this research offers guidelines for managing QOL perceptions at the community level. Specifically, satisfaction with K–12 education and basic medical services plays a prominent role in influencing QOL perceptions. In summary, the paper not only highlights the meaning of QOL but also suggests how it could be managed.

1.0 Introduction

Elected officials and policy makers strive to find programs that improve QOL¹ for the largest number of constituents (Michalos, 1978). For this reason they have a vested interest in monitoring measures that reflect the current conditions and perceived status residents' well-being (Baker, 2003). Unfortunately, measuring and documenting QOL has been an elusive endeavor. Nevertheless, without policies that generate or maintain an acceptable QOL in a place, residents are more prone to leave a place that can trigger adverse economic conditions or limit future development.

A decade ago, Lichter, McLaughlin, and Cornwell (1995) demonstrated the out-migration woes of rural communities. Specifically, their research demonstrated a causal link between QOL perceptions and residents' decisions to move from the community. In general, research supports the view that lack of economic opportunities and less than ideal living conditions have contributed to rural out-migration (Liao, 2000). This finding is in line with the prediction of economic theories of migration such as the cost-benefit models (Cebula and Vedder, 1973) that suggest residents' QOL perceptions play a role in migration (see Cebula and Vedder's discussions about the "psychic advantages" of communities).

Half of all the nonmetro counties in the United States lost population from 2000 to 2005 (Fluharty, 2007). Given such out-migration rates it is no surprise that many,

if not most, nonmetro cities have programs to attract and retain population (Hindi, 2007) and for this reason must be concerned about residents' attitudes regarding QOL and programs that can improve these perceptions.

Early attempts to assess consumer well-being focused on objective indicators such as national income and other material measures, such as housing and education (Bognar, 2005). Subjective measures such as life satisfaction were seen as less useful partly because it is difficult to find agreement on how to measure them (Sirgy, Michalos, Ferriss, Easterlin, Patrick, and Pavot, 2006).

QOL is affected by both material factors and perceptions of situations and events. For instance, an individual may be exposed to objectively better employment or housing than other individuals in the community but may subjectively feel that QOL is no better because of lack of social cohesion in the community.

This paper examines perceptual evaluations of QOL. Drawing on theories such as the Burnswick's Lens model (Norman, 1969), we contend that what is important in QOL evaluations is what is perceived, not necessarily what exists. Put another way, individuals choose to live in communities perceived to offer a certain QOL (Gutman, 1982).

Section 2.0 sets forth the context of our research. Specifically, the relevance of examining QOL perceptions of nonmetro residents is examined. This is followed by a discussion of the theoretical frameworks employed to explain and manage QOL perceptions. Section 4.0 outlines the study methodology, and research results are presented in Section 5.0. Section 6.0 discusses the implications of the study for public policy and Section 7.0 contains concluding thoughts.

2.0 Context of the Study: Nonmetropolitan Communities

The U.S. population has transitioned away from mainly rural living to mainly urban living. For instance, in 1790 the United States had five urban regions with 10,000 or more people; approximately 80% of the 3.9 million residents lived in rural areas. In 1990, the reverse was true: 75% of the 248.7 million people lived in or near the 39 metropolitan areas with one million or more residents (Dahmann and Dacquel, 1992). Today, only 20% of the U.S. population lives in nonmetro areas (Tarmann, 2003; U. S. Government Accountability Office, 2006).

Social biologists and anthropologists claim that human nature is not well suited for urban living; the theory is that urban environments overstimulate perceptual functions and understimulate motor functions, resulting in ill health (Maddox, 1982); in reality, the need for economic well-being influences individuals to out-migrate from rural communities to urban locations (Dillman, 1979; Junming, 1997; Vennhoven, 1994). Support for the economic hypothesis of urban location is clear. Table 1 shows life satisfaction in a sample of nations categorized as developed and developing. Life satisfaction scores of both rural and urban populations are presented. For purposes of analysis, rural was defined as a community with less

¹Quality of life has been labeled as *welfare* by economists and philosophers, *happiness* or *life satisfaction* by sociologists, and *subjective well-being* by psychologists (Bognar, 2005). In this paper, we employ the term *quality of life* to imply all of the above. This reasoning is in line with the business definition of the concept where the focus is on a combination of economic, social, and psychological indicators (see, e.g., http://www.bizjournals.com/edit_specal/41).

than 10,000 inhabitants, and urban or large city as a community with 100,000 or more inhabitants. On average, life satisfaction does not differ among rural and big-city residents in economically developed nations. On the other hand, life satisfaction is usually higher among large-city residents in the developing nations.

Table 1. *Life Satisfaction in Rural vs. Urban Locations: The Impact of Economic Development*

Nations	Average life satisfaction score: 0 (low) to 10 (high)	
Developing	Rural	Large city
Brazil	4.3	5.2
India	3.6	4.2
Philippines	4.8	5.2
Sierra Leone	7	7.6
Developed		
Austria	4.9	5.0
European Community	6.8	6.6
Netherlands	8.5	9.0
USA	6.1	6.1

Note. Adapted from *How satisfying is rural life? Fact and value* (Working Paper), R. Vennhoven, 1994. Rotterdam, Erasmus University. Scores were derived from the World Database of Happiness (<http://worlddatabaseofhappiness.eur.nl/>).

This is not to say that rural residents in the United States have little or no social or economic gaps between themselves and their urban counterparts. In fact, compared to the urban areas, rural America exhibits lower wages and incomes, lower educational attainment, and higher unemployment and poverty rates (Hindi, 2007; Rowley and Freshwater, 2001). Perhaps rural Americans report comparable levels of life satisfaction as their urban counterparts because out-migration has made rural life sustainable at an acceptable standard of living (Gimpel and Karnes, 2006). A case in point is the community of Youngstown, Ohio. The city, since its peak as the third-largest steel-producing city in the 1950s, has lost more than half of its population. The city coped with population loss by shutting down power grids and closing streets. A Wall Street Journal article (“Urban Planning,” 2007) reported that Youngstown demolished 400 crumbling vacant schools, houses, and churches in the last two years. The city hopes to enhance the quality of life of residents by turning vacant lots into parks.

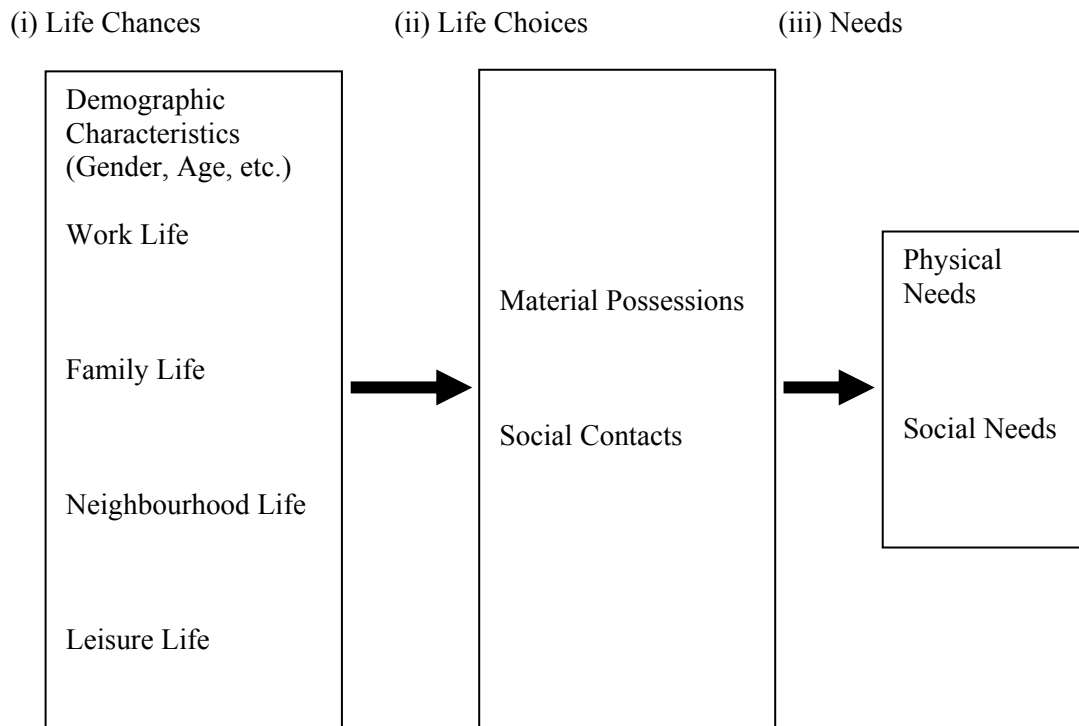
Rowley and Freshwater (2001) posit that it is not the funding for rural areas that is lacking (from 2002 to 2004, for example, 86 programs provided approximately \$200 billion in economic development funding for rural areas [GAO, 2006]), but

rather the wrong direction in which it is maintained via bureaucratic inertia and politics (Rowley and Freshwater 2001, p. 4). Put another way, QOL in rural areas could be enhanced by linking funding to relevant social and economic programs. The current research outlines a procedure that could help communities link relevant programs to QOL perceptions.

3.0 Theoretical Models

A theory often employed to assess welfare of individuals is based on preference satisfaction theory (Griffin, 1986). A basic principle of the theory is “need satisfaction.” Briefly, the theory argues that one experiences a sense of well-being when the needs one feels are appreciably reduced (Arndt, 1981; LaGory, Fitzpatrick, and Ritchey, 2001; Meader, Uzzell, and Gatersleben, 2006; Schuessler and Fisher, 1985). In 1946, Weber theorized that “need-satisfaction,” and hence quality of life, is based on ‘life chances’ and “life choices.” Life chances pertain to physical and social circumstances, such as residential and community environment, economic resources, and demographic characteristics. These combine with various life choices, such as accepting and nurturing social support, to determine QOL. Figure 1 is a schematic representation of relationships among concepts. For expository purposes, only a few of the causal relationships among the elements of the scheme are indicated.

Figure 1. Selected relationships among the components of QOL.



The essence of the framework is that life chances provide the arenas of action through which need fulfillment occurs. For instance, work life provides opportunities to acquire material possessions in life (choice) and this in turn results in physical need fulfillment. Similarly, work life, family life, neighborhood life and leisure life facilitate social contacts, which in turn fulfill social needs. It is

essential to note that Weber's concepts of life chances and choices are often inextricably related in everyday life. However, these theoretical concepts do provide mechanisms for us to conceptualize and research QOL.

In scientific analysis, description of a phenomenon is often followed by an explanation of its relationships with other concepts (Carnap, 1946; Kerlinger, 1973). As applied to QOL research, a description of the QOL of residents in a community should be related to predictors of QOL such as resident satisfaction with housing conditions (see the Life Chances concepts in Figure 1) and the effects of QOL, such as moving out of the community. The question is how to theoretically link both the antecedents and the consequences of QOL and offer normative prescriptions about public policy in rural areas. A psychological theory called the "theory of reasoned action" (Fishbein, 1967) provides the answer.

The major psychological concepts that can be used to explain residents' decisions to live in a community are beliefs, evaluation, and intention (Best, 2005; Fishbein, 1967; Hogarth, 1988). Briefly, an individual associates positive and negative characteristics about an act or behavior. Associated with each of these characteristics is an affective or emotional response. These responses combine linearly to form an assessment about performing the act. This theoretical framework can be expressed algebraically as (Ajzen, 1988):

Assessment about performing the act = $\Sigma B_i e_i$,

where B_i = beliefs = the probability or improbability that an outcome is associated with the behavior; and e_i = the goodness or badness of the belief. Beliefs can be assumed to have "unit" importance in which case "assessment about performing the act" reduces to ΣB_i .

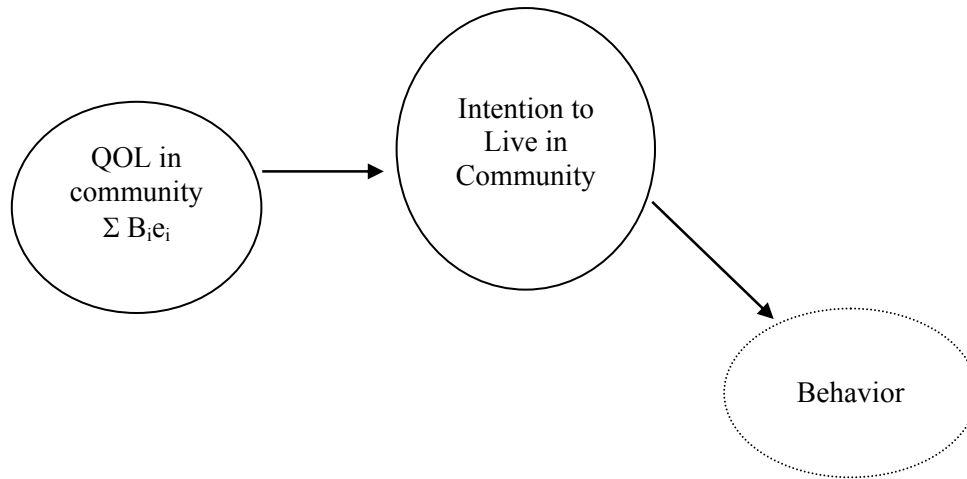
As applied to QOL research, the model states that a resident's assessment of QOL in a community includes one or more salient community characteristics and beliefs regarding each characteristic. Note that the salient beliefs associated with the community, and the feeling attached to these beliefs, combine additively to constitute "QOL assessment for the resident community" ($\Sigma B_i e_i$). The causal order of the variables is as follows. At the first level, one's assessment of QOL in a community causes one's behavioral intention to live in the community. At the second level, behavioral intention causes actual behavior (Figure 2).

4.0 Methods

Measures of QOL and their correlates were obtained from a sample survey of residents in nonmetro Illinois. The Office of Management and Budget (1999) grouped Illinois into 28 metropolitan counties and 74 nonmetropolitan counties.² The target population includes all households in the nonmetro counties. A simple random sampling procedure was employed to select 2,000 households. The mail survey procedure used an alert postcard informing potential respondents that a survey is being conducted and that they will soon be mailed a survey instrument, followed by a first mailing of the questionnaire with a cover note requesting cooperation. Then a reminder postcard was sent followed by mailing a second questionnaire to those who did not complete and return the first.

²See <http://www.whitehouse.gov/omb/inforeg/msa-bull99-04.html.%20In%201999>.

Figure 2. Consequences of QOL.



4.1 Measures

Table 2 lists the operational definitions of concepts used in the study and examples of measures employed in the research (Carnap, 1946). While measures for concepts such as QOL and life chances are relatively straightforward, measures which deal with the correlates of QOL need justification for inclusion in the research. Specifically, in the following two sections we provide the rationale for including the variables given in Appendices A and B.

Predictors of QOL in the Past Five Years

As Peterson aptly observed (1981), local governments are unable to manipulate in any significant way such contextual variables as air pollution or scenic beauty. Hence the focus is on changeable variables such as allocational or developmental variables (Nelson, 1999; Peterson, 1981). Allocational indicators include essential, but often economically neutral, services such as police, fire, and sanitation. On the other hand, developmental services aim to improve the economic position of the community. Some examples of developmental variables include education, industrial parks, and roads.

In research on local governments in Alabama, Baker (2003) identified a set of 14 allocational and developmental variables considered essential for quality living. The list included items such as police, cable television, and public transportation (Baker, 2003, Table 5). The relevance of these variables for rural Illinois was assessed by an expert panel of academics affiliated with a publicly funded rural research center. While the expert panel retained most of the items highlighted in Baker's study, the panel recommended including the following additional items in the questionnaire: Head Start programs, daycare services, senior centers and services, basic medical care services, mental health services, retail shopping, restaurants, and entertainment (see Appendix A for a complete list of the 16 items).

Table 2. *Measures Related to QOL*

Concept	Definition	Examples of Measures
Quality of life	A general sense of well-being. For policy development purposes, it is often categorized into community-specific QOL or public QOL and family-related QOL or private QOL.	During the past five years has the QOL in your community become...? In the next five years will the QOL in your community be ...? Measured on a 5-step “Much Worse” to “Much Better” scale.
Life chances	Individual’s physical and social circumstances. These include individual’s financial circumstances and personal characteristics such as gender, age, and income.	Compared with a year ago is your financial situation today...? Measured on a 5-step “Much Worse” to “Much Better” scale. Are you: Male <input type="checkbox"/> Female <input type="checkbox"/> ? In what year were you born? _____.
Allocational services ^a	Resident satisfaction with community services related to economically neutral areas such as police and fire.	How satisfied are you with each item below in your community? <ul style="list-style-type: none"> • Law enforcement • Solid waste disposal ... Measured on a 5-step “Very Dissatisfied” to “Very Satisfied” Scale.
Developmental services ^a	Resident satisfaction with services aimed at improving the community’s economic position.	How satisfied are you with each item below in your community? <ul style="list-style-type: none"> • Retail shopping • Entertainment ... Measured on a 5-step “Very Dissatisfied” to “Very Satisfied” Scale.
Issues relevant to the future of the community ^b	Resident’s beliefs about issues that could affect the future of rural communities.	How much will each of the following issues affect the future of your community? <ul style="list-style-type: none"> • Jobs that pay a living wage • Small business closings Measured on a 3-step “Won’t Affect” to “Highly Affect” Scale.

^aWe use the terms *allocational* and *developmental services* to denote variables that are correlates of past QOL perceptions. See Appendix A for a list of measures. ^bAppendix B lists all 14 items.

Predictors of QOL in the Next Five Years

In order to understand residents' perceptions of QOL in the next five years, we relied on predictions from the "agenda-setting hypothesis" (McCombs and Shaw, 1972). The hypothesis asserts that expectations of future QOL in a community will be shaped by the socioeconomic news about the community published in the popular press. Sohn (1981) has demonstrated the validity of the hypothesis for rural areas and across a wide range of socioeconomic and demographic variables.

Independently, the marketing literature offers explanations for the robustness of future perceptions or judgmental forecasts by the general public. For example, the general public can foretell short-term shifts in the nation's economic growth rate (Linden, 1982). The theory is that while the average individual may not be a sophisticated processor of information about the economy, the individual responds to personal, day-to-day experiences. For instance, events such as unemployment in the community and hiring or lay-offs in local businesses shape an individual's view of business and economic trends.

Based on findings such as the above, the predictors of future QOL perceptions were identified using content analysis procedures. The content analysis was implemented as follows:

1. First, a basic keyword search for "rural America" was conducted in the Regional Business News online data base (see <http://web.ebscohost.com/>). This process generated 86 articles or news items ranging from economic development (for example, Reisinger, 2007) to alcohol and drug abuse (van Gundy and Duncan, 2006).
2. Next, the authors classified them into four categories as follows:
 - i. Business: News materials related to functioning of businesses in rural areas. Specific materials include "business closings" (New Hampshire Business Review, 2006) and shortage of skilled labor (FDCH Regulatory Intelligence Database, 2002).
 - ii. Community facilities and services: News related to services in the community such as access to health care, services for senior citizens, quality of schools, and public safety (see, for example, Foxman, 2007).
 - iii. Population: Materials that deal with the residents of the community (Andres, 2006). For example, out-migration from the community and in-migration to the community.
 - iv. General economy: Items pertaining to work and other economic conditions of the community such as security of family farms (FDCH Regulatory Intelligence Database, 2001).
3. Finally, a list of 14 issues that could affect the future of a rural community was developed.

These items were placed in a structured questionnaire and respondents were asked to state their perceptions about the severity of each issue for the future of their community (see Appendix B for a list of the 14 items).

4.2 Analysis Strategy

A two-stage approach is used to highlight the QOL perceptions in rural communities. The first stage relates to the structural properties or life chances variables beyond the control of an individual in the short term. Thus, during the first stage of the analysis, we present QOL perceptions of male and female, people in different age groups (for instance, people born between 1949 and 1965), and people in different financial situations.

The second stage of the analysis explores the relationship between “perceptions related to QOL in the past five years” (criterion) and controllable variables (predictors; the B_i in the theory of reasoned action). In addition, we assess the correlation between “perceptions related to QOL in the next five years” (criterion) and “issues that could affect the future of the community” (explanatory variables).

Note that while the first stage of the analysis describes QOL in the community, the second stage explores policy implications for managing QOL.

5.0 Results

The questionnaire yielded 640 usable responses. A majority of the respondents were female (53%), aged between 35 and 65 years (55%), with a household income not exceeding \$50,000 (67%).

As mentioned earlier, the first stage of the analysis focused on life chance indicators and their impact on QOL perceptions. Our objective is to test whether groups defined according to life chance indicators possess different opinions about QOL in community than the typical or average respondent in the population; that is, we compared average responses of the groups with the overall average QOL perceptions of all respondents. As shown in Table 3, the perceived financial status of the respondent affects community QOL perceptions. In general, the better the financial status of a respondent, the better are the QOL perceptions. In addition, respondents born after 1965 exhibit positive QOL perceptions. Other life chance groupings, such as male and female, do not show significant variations in QOL perceptions.

Having explored the differences in QOL perceptions among life-chance groupings, attention is now turned to issues relevant for managing QOL perceptions. What variables should be part of efforts to enhance community QOL perceptions? This question is addressed using a regression analysis involving the “QOL in community” variables and the predictors given in Appendices A and B.

5.1. Regression Analysis

The categorization of explanatory variables as allocational and developmental for analysis purposes masks the interrelationships between them. For example, it is reasonable to expect law enforcement, an allocational variable, to affect the use of public transportation by the residents, a developmental variable. Put another way, it is likely that QOL is determined by a number of interacting allocational and developmental variables.

Table 3. Mean QOL Perceptions: Group-level Analysis Based on Life Chance Indicators

Life Chance Variable	QOL in Community			
	Past 5 Years		Next 5 Years	
	Mean Score	z Value	Mean Score	z Value
Male	2.79	.66	2.86	-.33
Female	2.82	.33	2.88	.33
Born before 1949	2.79	.66	2.85	-.66
Born during 1949–1965	2.82	.33	2.87	0
Born after 1965	2.87	2	3	4.33
Worse Financial Situation	2.52	-9.66	2.56	-10.33
Same Financial Situation	2.90	3	2.94	2.33
Better Financial Situation	2.99	6	3.12	8.33
Grand Mean (μ_0)	2.81		2.87	

Note. $z \geq |1.96|$ is significant at $p \leq .05$.

A multiplicative model is an econometric specification that allows interactions at all levels of variables (Myers, 1990). Mathematically, the relationship between QOL and the predictors can be expressed as:

$$QOL = \beta_0 x_1^{\beta_1} x_2^{\beta_2} \dots x_n^{\beta_n} \quad (1)$$

Note that
$$\frac{\partial QOL}{\partial x_1} = \beta_0 \beta_1 x_1^{\beta_1-1} x_2^{\beta_2} \dots x_n^{\beta_n} \quad (2)$$

Since Equation 2 can be written as:

$$\frac{\partial QOL}{\partial x_1} = \frac{\beta_1 QOL}{x_1} \quad (3)$$

β_1 can be interpreted as:

$$\beta_1 = \eta_1 = \frac{\partial QOL}{\partial x_1} \times \frac{x_1}{QOL} \quad (4)$$

In other words, $\beta_i = \eta_i$ is the elasticity of QOL with respect to variable x_i .

The model in Equation 1 was linearized using log transformations. A stochastic random disturbance term ε was added to the model to capture other influences on QOL perceptions. The final model in Equation 5 was estimated for each of the life chance segments, for both the past and the future QOL perceptions, using the least squares criterion:

$$\ln QOL_{tg} = \ln \left[\hat{\beta}_0 + \sum_{i=1}^{16} \hat{\beta}_i x_i + \sum_{j=1}^{14} \hat{\beta}_j x_j + \varepsilon \right] \quad (5)$$

where,

t = {p, f}, where p = QOL in the past five years

f = QOL in the next five years

g = {a (male), b (female), c (born pre-1949), d (born during 1949–1965), e (born after 1965), f (worse financial situation), g (same financial situation), h (better financial situation)}

x_i = 1 to 16 allocational and developmental variables listed in Appendix A

x_j = 1 to 14 issues variables listed in Appendix B.

The results of the econometric analyses suggest that within the *younger* population, QOL perceptions depend on respondents' beliefs about (1) health services in the community and (2) recreational facilities, including restaurants. For example, a 1% increase in satisfaction with health services in the community will increase assessments of QOL by .83%. For people born between 1949 and 1965, satisfaction with K–12 education matters more. For example, if respondents believe that the quality of schools has increased in the community, then their QOL perceptions increase by a minimum of .42%. Regarding the *elderly* (people born before 1949), the availability of medical services in the community would enhance their QOL perceptions (Table 4).

Tables 4 and 5 list the significant predictors of QOL for each of the eight life chance segments. Note that while satisfaction with basic medical facilities and education influence QOL perceptions of the past five years (Table 4), it is mainly crime-free living that determines QOL in the next five years (Table 5).

6.0 Discussion

QOL is a forward-looking indicator of community success that measures how well residents will respond to community governance in the future. Other measures of community performance, such as retail sales and taxation, focus on past successes. They tell how well the community has done in the past, but not how well it will do in the future.

This paper highlights rural residents' perceptions of QOL. Overall, the perception is that QOL in a community is average (see Table 3, Grand Mean = 2.81 on a five-step scale).

Table 4. *Determinants of QOL in the Past Five Years*

Segment	Reduced Form Model: Significant Variables	Variable Labels	Model Fit (R^2)
Male	$QOL = .687x_6^{.27} x_7^{.32}$	X ₆ : Library services X ₇ : Education (K–12)	.413
Female	$QOL = .516x_1^{.3} x_{12}^{.29}$	X ₁ : Housing X ₁₂ : Basic medical services	.26
Born before 1949	$QOL = .50x_5^{.22} x_7^{.22} x_{13}^{.25}$	X ₅ : Parks and recreation X ₇ : Education (K–12) X ₁₃ : Mental health services	.32
Born during 1949 to 1965	$QOL = .92x_5^{.28} x_7^{.42}$	X ₅ : Parks and recreation X ₇ : Education (K–12)	.34
Born after 1965 ^a	$QOL = .20x_3^{.34} x_5^{.51} x_7^{.37} x_8^{.41} x_{10}^{.45} x_{12}^{.83} x_{15}^{.25}$	X ₃ : Waste disposal X ₅ : Parks and recreation X ₇ : Education (K–12) X ₈ : Public transit X ₁₀ : Daycare services X ₁₂ : Basic medical services X ₁₅ : Restaurants	.89
Worse financial situation	$QOL = .888x_7^{.34} x_{10}^{.49}$	X ₇ : Education (K–12) X ₁₀ : Day care services	.326
Same financial situation	$QOL = .756x_7^{.13} x_{12}^{.14}$	X ₇ : Education (K–12) X ₁₀ : Daycare services	.205
Better financial situation ^a	$QOL = -.55x_2^{.34} x_7^{.58} x_{12}^{.38}$	X ₂ : Streets X ₇ : Education (K–12) X ₁₂ : Basic medical services	.78

Table 5. *Determinants of QOL in the Next Five Years*

Segment	Reduced Form Model: Significant Variables	Variable Labels	Model Fit (R^2)
Male	$QOL = .86x_3^{-.12} x_{10}^{-.13} x_{12}^{-.20}$	X ₃ : Crime X ₁₀ : Alcohol and drug abuse X ₁₂ : Loss of high school graduates	.18
Female	$QOL = .913x_7^{-.25} x_{11}^{-.27}$	X ₇ : People leaving community X ₁₁ : Access to health care	.16
Born before 1949	$QOL = .818x_3^{-.33} x_{10}^{-.22} x_{12}^{-.24}$	X ₃ : Crime X ₁₀ : Alcohol and drug abuse X ₁₂ : Loss of high school graduates	.19
Born during 1949 to 1965	$QOL = .95x_8^{-.18}$	X ₈ : People moving into community	.13
Born after 1965 ^a	$QOL = 1.18x_6^{-.434} x_9^{-.47} x_{11}^{-.37}$	X ₆ : Shortage of skilled labor X ₉ : Decline in the quality of environment X ₁₁ : Access to health care	.38
Worse financial situation	$QOL = .676x_{11}^{-.27}$	X ₁₁ : Access to health care	.27
Same financial situation	$QOL = .98x_3^{-.22} x_8^{-.32}$	X ₃ : Crime X ₈ : People moving into community	.30
Better financial situation ^a	$QOL = .91x_3^{.15} x_7^{-.12} x_8^{.15} x_{11}^{.13}$	X ₃ : Crime X ₇ : People leaving community X ₈ : People moving into community X ₁₁ : Access to health care	.38

^aSegment perceives a better QOL than the average resident (see Table 3).

For rural communities to compete in the new economy, it is crucial that they attract and retain population (Gradeck and Paytas, 2000). More recent work by Florida has documented the importance of local services and amenities in attracting certain population groups, especially the so-called creative class (Florida, 2002). Many businesses incorporate QOL considerations into their investment decisions and locational choices (Gorgemans, 2007). Presumably, this higher perceived QOL working through business investment also contributes to a more stable population and more stable local economy (Marsella, Levi, and Ekbald, 1997).

In its most basic sense, QOL represents the ability of residents to meet needs or achieve a desired status. Local public officials and managers can promote policies and take actions to create an environment where these needs are addressed or the

status is achieved. This research offers the following guidelines for managing QOL perceptions at the community level:

Education (K–12): A 1% increase in satisfaction perception about this feature will increase QOL scores by at least .22% or to a maximum of about 0.58%. The largest impact of this factor would be felt by the population that feels its financial situation remains stable.

Basic medical services: A 1% increase in satisfaction perception about this service will enhance QOL in community by an average of about .50%. The young age group, that is, people born after 1965, will respond most positively to enhancements to the service.

Parks and Recreation: A maximum of .51% increase in QOL will result if community perception about this benefit is enhanced by one percentage point. In fact, the service is felt essential for quality living by respondents in all age groups.

Crime-free living: Another 0.12% to .33% gain in QOL can be obtained by minimizing the threat of crime in the community. This is especially relevant for the elderly population.

Alleviate the fear of shortage of skilled labor: A one unit increase in community perception about shortage of skilled labor could affect QOL *negatively* by as much as .43%.

Address the fear of little or no access to health care in the community: This is a concern for females, the young, and the economically disadvantaged. An additional .37% gain in QOL perceptions can be obtained by mitigating the fear of access to health care in the community.

Finally, it is interesting to note that people in their early 40s and mid 50s fear the threat of people moving into the community ($b_{x8} = -.18$). This fear could be based on the perception that new residents will compete for jobs in the area. On the other hand, people who believe that they are financially better off than the previous year perceive that new residents to the community will enhance QOL ($b = .13$). Further research is required to verify this divergence in thinking.

7.0 Conclusion

Our conceptualization of QOL is closely related to the preference satisfaction theory of welfare in philosophy. Philosophers posit that a person's welfare or QOL is enhanced by the satisfaction of the preferences the person has. Since preferences are dictated by needs, for example, one prefers a certain type of automobile based on needs such as commuting to work or transporting children to school, QOL is a consequence of attaining a state of need satisfaction. This theoretical position dictated how we measured QOL; it was an overall evaluation of one's QOL in various domains such as family and community.

Results of a mail survey conducted among residents in nonmetropolitan Illinois suggest that community services must be managed to enhance quality of life perceptions. Specifically, satisfaction with K–12 education and basic medical services plays a prominent role in influencing QOL perceptions.

In conclusion, to evaluate QOL in a community, we first must clarify QOL. This paper has not only highlighted its meaning but has also suggested how it could be managed.

8.0 References

- Andres, G. (2006, August 31). What is the matter with Kansas? *The Washington Times*, p. 5.
- Arndt, J. (1981). Marketing and the quality of life. *Journal of Economic Psychology*, 1, 283–301.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. United Kingdom: Open University Press.
- Baker, W. (2003). Defining quality of life in Alabama: A perceptual community based definition for local leaders. *International Journal of Public Administration*, 26(7), 733–751.
- Best, R. (2005). *Market-based management: Strategies for growing customer value and profitability*. Upper Saddle River, NJ: Prentice Hall.
- Bognar, G. (2005). The concept of quality of life. *Social Theory and Practice*, 31(4), 561–580.
- Carnap, R. (1946). Theory and prediction in science. *Science*, 104(2710), 520–521.
- Cebula, R. J., & Vedder, R. K. (1973). A note on migration, economic opportunity, and the quality of life. *Journal of Regional Science*, 13(2), 205–211.
- Dahmann, D. C., & Dacquel, L. T. (1992). *Residents of Farms and Rural Areas 1990: Current Population Reports*. Washington DC: U.S. Bureau of the Census.
- Dillman, D. (1979). Residential preferences, quality of life, and the population turnaround. *Journal of Agricultural Economics*, 61(5), 960–966.
- FDCH Regulatory Intelligence Database (2002). USDA announces availability of \$327 million for rural distance learning and telemedicine. Retrieved July 15, 2007, from <http://search.ebscohost.com/login.aspx?direct=true&db=bwh&AN=32W1520529777&site=ehost-live>
- FDCH Regulatory Intelligence Database (2001). 29 states to receive \$9 million in rural development assistance. Retrieved July 15, 2007, from <http://www.rurdev.usda.gov/rd/newsroom/news.htm>
- Fishbein, M. (1967). *Readings in attitude theory and measurement*. New York: John Wiley & Sons.
- Florida, R. (2002). *The rise of the creative class: And how it's transforming work, leisure, community and everyday life*. New York: Basic Books.
- Fluharty, C. (2007, February 13). Rural Development. *Capital Hill Hearing Testimony*, Congressional Quarterly, Congressional Testimony.
- Foxman, J. (2007, June 12). A wireless lifeline. *The Washington Times*, p.1.

- Gimpel, J. G., & Karnes, K. A. (2006, July). The rural side of the urban-rural gap. *PS: Political Science and Politics*, 467–472.
- Gorgemans, V. (2007). Worldwide quality of living survey. *Asia Pulse*, April 2, p. 5.
- Gradeck, B., & Paytas, J. (2000). Migration and Regional Growth. Retrieved July 16, 2007, from <http://www.smartpolicy.org/pdf/mig&growth.pdf>
- Griffin, J. (1986). *Well-being: Its meaning, measurement, and moral importance*. Oxford: Clarendon Press.
- Gutman, J. (1982). A means-end chain model based on consumer categorization processes. *Journal of Marketing*, Spring, 60–72.
- Hindi, S. (2007). N. C. State research shows worldwide demographic shift to urban areas. *University Wire*, May 31. p. 12.
- Hogarth, R. (1988). *Judgement and choice* (2nd ed.). Chichester, NY: Wiley.
- Junming, Z. (1997). *Multilevel Analysis of Outmigration in Guangdong, China*. Working Paper Series, Number 97.03. Cambridge, MA: Harvard Center for Population and Development Studies.
- Kerlinger, F. (1973). *Foundations of behavioral research* (2nd ed.). London: Holt, Rinehart and Winston.
- LaGory, M., Fitzpatrick, K., & Ritchey, F. (2001). Life chances and choices: Assessing quality of life among homeless. *The Sociological Quarterly*, 42(4), 633–651.
- Liao, P. (2000). *The effects of community attachment and quality of life on migration intention: A comparison of Taiwanese and Pennsylvania rural communities* (Working Paper). University Park, PA: Pennsylvania State University, Department of Agricultural Economics and Rural Sociology).
- Lichter, D. T., McLaughlin, D. K., & Cornwell, G. T. (1995). Migration and the loss of human resources in rural areas. In L. J. Beaulieuand & D. Mulkey (Eds.), *Investing in people: The human capital needs of rural America*. Boulder, CO: Westview Press.
- Linden, F. (1982). The consumer as forecaster. *The Public Opinion Quarterly*, 46(3), 353–360.
- Maddox, H. (1982). *Happiness, lifestyle and environment*. Daylesford, Australia: Freshet Press.
- Marsella, A. J., Levi, L., & Ekbald, S. (1997). The importance of including quality-of-life indices in international social and economic activities. *Applied & Preventive Psychology*, 6, 55–67.
- McCombs, M., & Shaw, D. L. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 36, 176–187.
- Meador, N., Uzzell, D., & Gatersleben, B. (2006). Cultural theory and quality of life. *Revue européenne de psychologie appliquée*, 56, 61–69.
- Michalos, A. C. (1978). *Foundations of decision making*. Ottawa, Ontario, Canada: Canadian Library of Philosophy.

- Myers, R. (1990). *Classical and modern regression with applications*. Boston: PWS- KENT Publishing Co.
- Nelson, P. B. (1999). Quality of life, nontraditional income, and economic growth: New development opportunities for the rural west. *Rural Development Perspectives*, 14(2), 32–37.
- New Hampshire Business Review (2006). Rural Northeast hit hard by job loss. *Business NH Magazine*, 23(6), 7.
- Norman, H. (1969). *Information-processing approaches to visual perception*. New York: Holt, Rinehart and Winston.
- Peterson, P. (1981). *City limits*. Chicago: University of Chicago Press.
- Reisinger, M. (2007). It was a record year for rural America. *Des Moines Business Record*, 25(3), 26.
- Rowley, T. D., & Freshwater, D. (2001). The rural dilemma. *Terrain.org: A Journal of the Built and Natural Environments*. Retrieved July 10, 2007, from <http://www.terrain.org/articles/10/ruraldilemma.htm>
- Schuessler, K. F., & Fisher, G. A. (1985). Quality of life research and sociology. *Annual Review of Sociology*, 11, 129–149.
- Sirgy, M. J., Michalos, A. C., Ferriss, A. L., Easterlin, R. A., Patrick, D., & Pavot, W. (2006). The quality of life research movement: Past, present, and future. *Social Indicators Research*, 76, 343–466.
- Sohn, A. B. (1981). Newspaper agenda-setting and community expectations. *Journalism Quarterly*, 61(4), 892–897.
- Tarmann, A. (2003). Fifty years of demographic change in rural America. Population Reference Bureau. Retrieved July 20, 2007, from <http://www.prb.org/Articles/2003/FiftyYearsofDemographicChangeinRuralAmerica.aspx>
- Urban Planning: Youngstown, Ohio, Hopes to Rebound by Shrinking. (2007, July 18). *The Wall Street Journal*, p. B10.
- U.S. Government Accountability Office (2006). *Rural Economic Development* (Report GAO-06-294). Retrieved July 16, 2007, from <http://searching.gao.gov/query.html?dt=&amo=0&ayr=0&bmo=0&byr=0&qt=gao-06-294&col=audprod&col=lgview&charset=iso-8859-1>
- van Gundy, K., & Duncan, C. M. (2006). Alcohol abuse plagues rural America. *New Hampshire Business Review*, 28(19), 25.
- Vennhoven, R. (1994). *How satisfying is rural life? Fact and value* (Working Paper). Rotterdam, Erasmus University.
- Weber, M. (1946). *From Max Weber: Essays in sociology*. Ed. & Trans., H. H. Gerth & C. Wright Mills. New York: Oxford University Press.

Appendix A

Variables Employed in the Regression Analyses to Model QOL In the Past Five Years

Variable	Mean	<i>SD</i>
Satisfaction with (5 = Very Satisfied)		
Housing	3.3	2
Streets	3.3	1.9
Solid waste disposal	3.3	1.9
Law enforcement	2.9	1.8
Parks and recreation	2.8	1.7
Library services	2.8	1.4
Education (K–12)	2.6	1.7
Public transit	2.6	1.8
Head Start programs	2.5	1.7
Day care services	2.4	1.6
Senior services	2.3	1.3
Basic medical services	2.1	1.4
Mental health services	2.1	1.4
Retail shopping	2	1.2
Restaurants	2.2	1.3
Entertainment	2.3	1.3

Appendix B

Variables Employed to Explore Association with QOL in Community in the Future

Beliefs about issues that could affect the future of the community (3 = Won't Affect)		
Jobs that pay a living wage	2.2	1.2
Quality of schools	2.2	1.2
Crime	2.3	1.3
Security of family farms	2.5	1.3
Small business closings	2.7	1.3
Shortage of skilled labor	2.8	1.2
People leaving community	2.7	1.3
People moving into community	2.8	1.4
Decline in quality of environment	2.0	1.5
Alcohol and drug abuse	2.1	1.5
Access to health care	2.5	1.6
Loss of high school graduates	2.6	1.6
Services for senior citizens	2.6	1.6
Closing of schools	2.7	1.7
