

Quality of Life and Use of Human Services among Households

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Introduction

Quality of life⁴ as a concept has changed over time (Cooley, 1998). In recent years, efforts to monitor and systematically describe and analyze the current state of quality of life have been given new priority. The improvement in living conditions and quality of life are among the main goals of government at all levels. There is less agreement, however, about what promotes good quality of life (Andrews & Withey, 1976).

A number of studies have examined the relationship between quality of life and other variables. These other variables can be grouped as (1) demographic and social variables, e.g., age, gender, education, income, and the length of residence; (2) psychological variables, e.g., satisfaction with family life, satisfaction with work, stress indicators, and perceptions of happiness; and (3) subjective evaluations of quality in various specific areas of life, e.g., self evaluation of achievement in work, family, and capability; relationships; comparison with other people; etc. (Andrews & Withey, 1976).

The purpose of this study was to identify and measure the factors that affect quality of life, as well as to determine the relationships among quality of life and other variables such as individual characteristics (age, gender, etc.), household characteristics (number of people in household, household income, household internal resources, etc.), and use of community-based human services (transportation, income support services, etc.). This study investigates the quality of life as affected by variables in three vectors: individual characteristics, household characteristics and use of community human services (in the form of social services and income supports⁵).

The overarching question of this study is "How is reported quality of life among Lexington-Fayette County, Kentucky residents related to the use of human services?" This broad question can be broken down into two sub-questions:

- (1) What is the overall reported quality of life among respondents?
- (2) What is the relationship among elements of the three vectors of personal characteristics, household characteristics, and use of human services on perceptions of quality of life within the population?

The unique approach taken in this research was built on three perspectives: (1) theory, the use of economic theory to investigate the quality of life; (2) measurement, the use of subjective measures for the dependent variable and both subjective and objective measures of independent variables related to community human services, in addition to the usual individual characteristics and household characteristics; and (3) application, this study investigates the reported quality of life in the community, what factors comprise the quality of life, and what government agencies, community service providers, or private businesses can do to improve people's quality of life. The present research investigates the relationship of quality of life and community human services.

As technological advances occur and economies develop, people's needs, job requirements, and living environment change as well, thus the overall quality of life may change. Two realities are obvious. First, the research to date has been relatively limited with regard to quality of life as related to the use of community-based human services or with regard to quality of life and the use of household internal⁶ and external resources⁷. Second, many community human services are provided according to the profit principle, funding source preference, or resources availability. There is little evidence to support a perception that those who make the decisions about what community human services to provide have used research-based findings when choosing the services to provide because the research on the effect of those services on quality of life is so sparse. So a gap between theoretical approaches and actions taken by social service providers to improve quality of life exists. Thus, state government and public and private agencies are trying many different ways to improve quality of life through community services without truly understanding what services actually impact upon perceptions of quality of life.

The present research accepts the challenge to investigate quality of life and the detailed effects of community human services in order to address this gap. The research tests whether certain aspects of community-based human services have an effect on perceived quality of life.

Literature Review

This study focused on how quality of life is related to individual characteristics, household characteristics, and use of community-based human services (in the form of social services and income support). The review of literature focuses on two subtopics: (a) economic theory and the quality of life; and (b) quality of life indicators and measurement issues.

Economic Theory and the Quality of Life

Economics has long been defined as a scientific study that deals with the allocation of scarce resources among alternative uses to satisfy unlimited human wants. Traditional economic theory would lead us to believe that quality of life is related to objective variables such as household's income, Gross National Product (GNP), employment rate, and other quantifiable measures of economic status (Campbell, Converse, & Rodgers, 1976). Economists also join other social scientists in adding such independent variables as age, gender, education, health status, housing, and other absolute variables to realize social equality or equal distribution of scarce resources in the society (Andrew & Withey, 1976).

Early in 19th Century, economists, W. S. Jevons, Leon Walras, and Alfred Marshall built theories to develop the economic principle of the greatest good for the greatest number by assuming that interpersonal utility is measurable (Campbell, 1981). Individuals were considered to possess cardinal utility. Human nature is more complex than any simple summation of happiness and dissatisfaction (Baier & Rescher, 1969). The ordinal utility school deserted the assumption that interpersonal utility is comparable, but they still require that a rational individual's preferences be consistent and transitive, that is, the more resources you have, the better. As a result, objective variables: economic growth in GNP or real income per capita has been a dominating policy goal with near universal support for much of the 20th Century. But, problems of human action and behavior were not comprehensively touched (Robins, 1985).

Based on probability and statistical methods, modern positive economists insist on objective variables, without emotion or value judgment, they follow the argument that ethical value judgment has no place in scientific analysis, because ethical conclusions cannot be evaluated in the same way that scientific hypotheses are tested and verified (Robins, 1985). However, it is not valid on the basis of this observation, to preclude economists from studying or examining the consequences of various value judgments.

The complexity of the post-industrial society requires that economists step out from the orthodox framework of pure competition, guaranteed full employment, efficient production and accelerated growth. More consideration of both subjective and relative variables is needed. For example, externalities, social costs, depleted nature resources, polluted environments, and a number of other social problems adversely affect our quality of life. Thus, the approach that includes such measures taken by some economists provides a more accurate framework for the study of quality of life from the perspective of economics.

"Quality of life" is a new name of an old notion. It denotes a set of wants, the satisfaction for which makes people happy. It reflects a combination of the subjective feelings and objective status of the "well-being" of people and the environment in which they live at a particular point in time. Dissatisfaction with the GNP as an accurate measure of social welfare, using the growth of the GNP as an accurate measure of increasing social welfare as a goal for national life, has led to a desire for social indicators that can be used to set policy priorities, and measure the extent to which we are satisfied with our human and environmental conditions. In addition to the concern about efficient production with limited resources to meet those unlimited human wants, welfare economists stress even more an equitable system of distribution among groups and regions as well. In spite of the rapid growth in per capita income and the highest level of living standard among all nations in the world, dissatisfaction among the citizens in the U.S. grows at an increasing rate with the social, political and environmental problems such as urban crimes, ghetto slums, the generation of waste and environmental pollution, etc. (Liu, 1976).

The status of the quality of life for any individual is interdependent in the following three mechanisms: "the intrapersonal capability of the individual, the interpersonal aspects with other individuals, and the political system or society in which they all live as members, namely, the self, the other, and the societal system" (Scott, 1971). These three aspects—the self, the other and the societal system—are analogous to the three vectors under consideration in the present research; individual characteristics, household characteristics, and community-based human services. This paradigm is also in accordance with family resource theory that classifies resources/services as internal or external.

So we can interpret quality of life regarding the household resources availability, where the quality of life that each individual (i) attempts to maximize may be expressed as an output function with two factor inputs--the

Internal (IN) and the External (EX) – a portion of which one owns and a portion of which one shares with other people in the community at any given point of time (t):

$$QoL_{it} = F(IN_{it}, EX_{it}) \quad (1)$$

Where “i” stands for any individual, 1, 2, 3 ...n;

“t” stands for a point of time, 1, 2, 3...n;

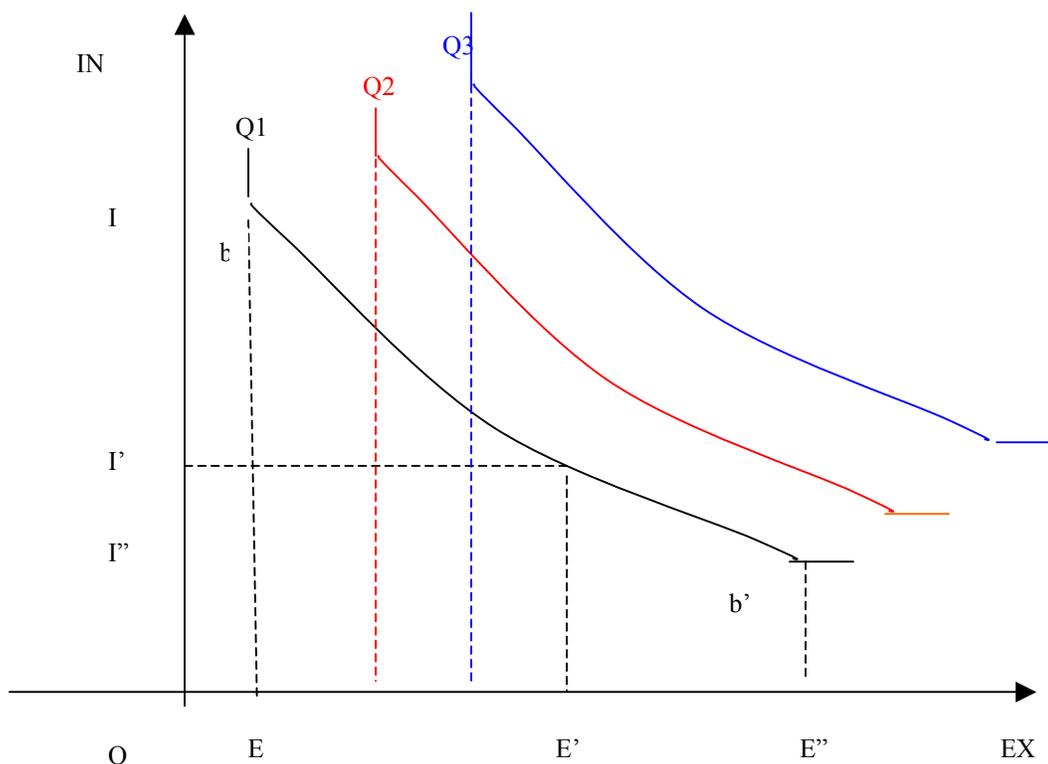
It should be noted that the input factors are not completely independent; they can be employed in varying proportions in the production of quality of life. As for resources, we assume the more the better, but because of some welfare regulations or scarcity of resources, we classify resources into internal or external.

It is possible that the internal inputs can be used as substitutes to a certain extent for the external inputs and likewise external inputs as substitutes for internal inputs. In fact, both IN and EX play an important role in determining the quality of life in the family system. In many cases, IN and EX can not be substituted fully for each other, for example, Medicare, as an external resource, can substitute for internal resources at certain level, but a further increase in Medicare would not increase a person’s education level or marital situation. So in this model, IN and EX are generally not perfect substitutes.

Equation (1) is also represented in Figure 1— iso-quality curves, that are representations of combinations of factor inputs (IN) and (EX) so that the level of quality of life produced is the same for all combinations of the two input factors. Along this iso-quality curve, the availability of additional input from one category while holding the amount of the other input constant, beyond a certain level, will not enable an individual to acquire a better quality of life. For example, an input of OI” of (IN) and OE” of (EX) will produce the same level of quality of life, Q1, as does the combination of OI and OE, or OI’ and OE’ of (IN) and (EX), respectively. However, given (IN) input of OI,” any additional input of (EX) in excess of OE” units will not produce a greater level of quality of life than Q1. In the same way, neither will any additional (IN) in excess of OI with a given OE of (EX) increase the level of quality of life to Q2. There is a saturation level with both the inputs beyond both points of b and b’. The higher levels of quality of life are represented by iso-quality curves Q2 and Q3, which lie uniformly above Q1. Improvements in quality of life can be achieved by greater amounts of both inputs IN and EX.

In conclusion, IN and EX are generally not perfect substitutes. Convexity is assumed in the sense that the marginal rate of substitution between these two inputs is diminishing. For a given iso-quality curve, $d(QoL) = 0$.

Figure 1
Quality of Life Levels of Two Different Inputs – Internal and External Resources of the Household



Quality of Life Indicators and Measurements

The search for quality of life indicators is an attempt to obtain new information that will be useful to evaluate the past, guide the actions of the present, and plan for future improvement. The empirical measures of various levels of quality of life used by Americans are aimed at the identification of strengths and weaknesses of the national health so that decision makers, public or private, can be assisted as they seek to evaluate, guide, and plan for a better quality of life.

In relation to quality of life, there is little agreement about the meaning of the term itself. There are rival factions each strongly urging the adoption of a different approach and a lot of measures purporting to address quality of life. As a consequence, there are doubts about the wisdom of using quality of life as an outcome that could influence the lives of the general public (Andrews & Withey, 1976).

This situation has been perpetuated by two common and somewhat contradictory attitudes among researchers on the topic. The first attitude is exemplified by those who state categorically that there is general agreement on the components that make up quality of life. This statement is, however, never supported by information about who was involved in this general agreement, or where and when it was achieved (Campbell, Converse, & Rodgers, 1976). That such a consensus does not exist is evidenced by the fact that there are in existence a number of models of quality of life, that are by no means in agreement about the structure of the concept. In fact it is acknowledged that there is wide dissent about the meaning of the term -- quality of life, how to measure it, and whether it should be measured at all. Clinicians, economists, psychologists, sociologists, philosophers and health research scientists, all have different perspectives which, most often, reflect the preoccupations of their particular discipline. In addition, the stance adopted may be influenced by the requirements of funding bodies, both public and private that have their own agendas (Andrew & Withey, 1976).

The researchers who are of the second attitude justify a *laissez faire* use of measures by pointing out that there is no gold standard for quality of life. This statement apparently confers the freedom to measure in any way and or any means that the researcher fancies or finds convenient. Thus quality of life may appear as health status, physical functioning, perceived health status, subjective health, health perception, symptom, need satisfaction, individual cognition, functional disability, psychiatric disturbance, well-being, and often, several of these at the same time. "Thus indicators of quality of life have ranged from the purely physiological through functional capacity to complex series of questionnaires on social activities and psychological problems" (Hunt, 1997).

Although the disagreement exists, currently there are three basic approaches to the measurement of quality of life.

(1) There are those measures that come under the rubric of health-related quality of life and that were originally developed to assess some aspect of health status, using functional scales, symptom check lists, and measures of psychological or psychiatric problems. Some of these were designed to be completed by patients and some by observers. "The assumption behind the use of all of the measurements is that aspects of functional health status must have an impact on quality of life" (p207) (Hunt, 1997). Examples are health situations related to quality of life, like gender, age, sleeping hours, behavioral symptoms, before/after treatment medical indexes or observations, etc.

(2) Measures stemming from the field of Health Economics, colloquially known as quality-adjusted life years, attempt to combine some estimate of life's length with the quality of that life. "The basic assumption under this notion is that, if offered the choice, a rational person would prefer a life that is shorter but coupled with a satisfactory state of health, to a longer life with a considerable handicap or serious discomfort" (p207)(Hunt, 1997). Examples are income and insurance effects, lifestyle, spending style, stress and stress management skills, etc.

(3) There have been a few attempts to develop conceptual models or theories of quality of life. For example, quality of life has been construed as the emotional response to circumstances, the match between expectation and reality, the ability to meet his or her needs and an individual cognitive approach. The so-called "needs model" posits that quality of life is at its best when all, or most, of a person's needs are met and gets progressively worse as fewer needs are met (Hunt, 1979). In addition, using the individual cognitive approach, the self-evaluation instrument for quality of life assumes that quality of life is an idiosyncratic perception that can be measured only at individual level. Judgment analysis is used to derive an index score from an individual's choice of important vectors of his or her life and the relative values attached to those vectors (Hunt, 1979). "Examples are research on income and needs assessment at different levels: basic living needs, love needs, self realization needs; hopes and fears, value order prioritizing, etc." (Hunt, 1979).

The above three approaches of indicators and measurements employ two types of independent variables. The so-called "objective" (Andrews & Withey, 1976) measures are selected and refined from the Census and other repositories of regularly collected statistical data. Examples for "objective" items are population, employment status, education level, health index, age, gender, housing, recreation, and income. The so-called "subjective" (Andrews &

Withey, 1976) indicators are obtained through polls and surveys asking people about their quality of life as they experience it and/or perceive it from their environment. Examples are mental health and happiness, self-rated stress, financial well-being and satisfaction.

Richard Easterlin (1974, 1995) was one of the first economists to study statistics over time on the reported level of happiness. His 1974 paper suggested that individual happiness appears to be the same across poor countries and rich countries. Researchers should think of people as obtaining utility from a comparison of themselves with others close to them, "Happiness is relative." Because individuals are all moving up together, the benefit of higher total national income will mean less to an individual. He also found that economic growth does not raise well-being. By testing whether reported happiness rose as national income did, he concluded: "In the one time series studied, that for the United States since 1946, higher income was not systematically accompanied by greater happiness."

Blanchflower, Oswald (1996), Warr, Jackson, and Banks (1988) examined whether there is an upward trend in well-being after controlling for demographic and other compositional changes in the American economy. Their results showed a positive time trend, but very slight. They also found that the rise in happiness has not been spread evenly across gender. American men have become happier while American women have experienced little growth in subjective well-being. Blanchflower and Oswald (1996) also found that the young are becoming relatively happier than the old.

Andrew Oswald analyzed subjective well-being and estimated a well-being regression equation of the form "reported well-being = f (personal characteristics)." Oswald found that the equation held true "across different periods, different countries, and even different measures of well-being." This finding illustrates two points as follows: (1) "Reported happiness is high among those who are married, high income, women, whites, the well-educated, the self-employed, the retired, and those looking after the home" (p1795)(Oswald ,1997); and (2) "Unemployed people are very unhappy" (Oswald, 1997). This is in accord with the Eurobarometer data (Warr et al, 1988).

To explore the idea that money buys happiness, Humphry (1992) discussed the notion of and evidence for rational suicide. Oswald (1997) revealed the fact that "total suicide deaths reached their maximum in the Great Depression, which is consistent with the idea that economics may have some role to play in this area." (p.1801) Charlton, Kelly, Evans, Jenkins, and Wallis (1992) showed that "the suicide death rate is largely independent of social class." Thus generally speaking, people of different income levels treat their lives in the same way. But they also found the exception that "men unemployed and seeking work at census, were at 2-3 fold greater risk of suicide death than the average. ... But married men commit suicide — holding age constant—only one third as often as other" (p.92) (Charlton, Kelly, Evans, Jenkins, & Wallis, 1992).

Campbell, Converse, and Rodgers (1976) were prominent among the first investigators to attempt to analyze quality of life by sorting out various "vectors of life experience" and examining them separately before relating them to an overall judgment of quality of life. The vectors they used are economic condition, employment, education, family, health, and social participation.

Identified variables can include gender, race, age, marital status, education, etc. as discussed below. They are pervasive qualities that affect a person's social standing so that all of them might be expected to have an important impact on one's quality of life, but this has not been uniform. Most studies on the relationship between quality of life and gender have found no relationship or a relatively low correlation. Age has yielded the largest variety of results. Cantril (1965) reported that the quality of life and age were highly correlated, but Watts and Free (1973, 1974) reported no relationship. It has been found that older people tend to report a higher level of life satisfaction than younger people because "older people are usually closer to retirement or are already retired and thus may experience less pressure from work" (McCoy & Filson, 1996). Race has also been found to have a consistent relationship with quality of life. In fact all of the major national studies of quality of life have found that white people are more likely to rate their quality of life ("satisfaction," "wellbeing," or "happiness") higher than non-white people, especially Black people. Education level is highly correlated with financial "well being," job satisfaction, and income level. There exists a race difference in education levels and there is still disagreement on whether education level is positively related to happiness in life (McCoy & Filson, 1996). Marital status has an important impact on a person's life. Marital status (being married, never married, divorced, separated, or widowed) restricts social interaction. Many national studies showed a positive correlation between marital status and quality of life. "Marital instability tends to jeopardize quality of life," (Acock & Deseran, 1986), but being married rather than single is more likely to be associated with higher perceived quality of life (McCoy & Filson, 1996). In essence, research showed that married people reported their quality of life higher than single, separated, divorced, or widowed people.

Household variables are often used to investigate the relationship of quality of life and the household characteristics because quality of life may be influenced by family type and family size (number of people in the

household, number of children, or number of seniors in the household). “In the society and especially in rural areas and most especially in the south, family life is highly valued,” (Oswald, 1997) this leads to the expectation that those having children in their household would rate their quality of life higher. There is also the argument that having children is expensive and demands some commitment, so there is the opposite expectation. Almost all of the studies of quality of life use income as the major indicator of individual/household conditions. It has been found that income is positively correlated with quality of life (McCoy & Filson, 1996). However, Wilkening and McGranahan (1978) reported “respondents’ subjective evaluation of their income such as how they feel about their income levels, was a better determinant of their life satisfaction and happiness than such objective measures as gross income.” All the above mentioned suggests that response differences are the reason why the majority of researchers currently use both subjective and objective indicators of a person’s quality of life (Liu, 1976).

As mentioned above, quality of life is a subjective and a comparative notion. Perceptions of one’s financial situation can combine subjective and objective standards and reflect personal subjective perceptions, i.e., the comparison of one’s previous situation instead of comparison to someone else’s situation. This can be applied to all income levels. Examples of these kinds of variables are: sufficient money for monthly bills, emergencies in basic needs, or anyone in the family saving or investing for retirement? Housing (ownership of the residence) is highly correlated with well-being and quality of life. Income is also found highly correlated with health, and both variables affect the quality of life, especially for senior citizens (Liu, 1976).

Community quality of life is also multi-dimensional; it is contingent on the social science field of interest and the specific focus of research. Proshansky and Fabian (1996) have suggested that a better understanding of community quality of life will be obtained from research questions that are more specific in their focus. For example, the research question is “What kind of quality, for what kinds of people, and in what kinds of places?”

Researchers have examined and illustrated numerous resources in different communities that serve to impact the welfare of the individual (Shin, 1980). These resource indicators can be grouped under categories such as economic, social, political, health and education, and environmental conditions. Underwood (2000) suggested that community quality of life research should adhere to the policy-based nature, only those resources indicators subject to reasoned policy choice qualify as proper components of community quality of life measure. Since many resources affecting quality of life (e. g., climatic conditions, geography, etc.) are not subject to modification by government, business, and community service agents; they should not be included as part of the conceptualization and measurement of community quality of life (Shin, 1980). The resource indicators measured in the Shin study included public schools, medical care, housing, government services, and neighborhood safety.

A predictive model of community quality of life was developed by Widgery (1982) and focused on both community and neighborhood. Wagner (1995) conducted a study with the Regional Plan Association and Quinnipiac College Polling Institute of Hamden Connecticut. “The survey covered five metropolitan areas in an attempt to pin down how community residents define quality of life.” (p.18) At the top of the list were low crime and safe streets, followed by important issues like “high-quality public schools, a good personal financial situation, strong family, and good health.” (p20)

The research to date, however, has been relatively limited with regard to quality of life and community-based human services, or with regard to quality of life and internal and external household resources. The task of measuring quality of life is a difficult and relatively unconventional one.

Based on a new hypothesis that absolute levels of community resources might explain the variations that are seen in perceptions of quality of life and that relative levels of access to community resources might also explain variations seen in perceptions of quality of life, this research investigates quality of life using individual characteristics, household characteristics, and community-based human services. It provides community leaders with a more refined tool to determine the specific perceptions of quality of life in the community by the residents, as well as to improve the quality and use of human service in the community.

Empirical Model

This section outlines the research methodology used in the study. First, models of three vectors are identified. Second, methodology is discussed in two parts: a) the sampling procedure is described, and b) operationalizing variables and analytic procedures are outlined. Third, sample characteristics are provided.

Development of the Model

This study employs the theoretical approach of economic theory. In any household or community, an individual can be a member of a household or a member of a community of the world. So one can view that the quality of life is a function of individual characteristics, household characteristics, and use of community-based human services, as shown in the following equation:

$$QoL_i = \Sigma (I_i, H_i, C_i) \quad (2)$$

Where: QoL – quality of life, the dependent variable;

“i” stands for any individual, 1, 2, 3, ...n;

“I” stands for vector of individual characteristics;

“H” stands for vector of household characteristics, and

“C” stands for vector of community-based service availability.

The variables in this model are also shown in Figure 2. This model reflects the academic shift to meanings and perceptions in family studies research. Figures 2 and 3 illustrate the equation in the following two senses. First, in any household, resources or services can be classified into two categories, internal and external. Regarding sources of resources, there are limited internal and external resources. Second, at household level, looking inwardly there are individual household members; looking outwardly there are external environment in the community. Both internal individual level and external community level resources/services will influence the overall perceptions of quality of life for the individual or household.

People usually obtain the convenient available resources internally. But when internal resources are limited or not available, people will search for external ones. Some internal resources for a household are external resources for the individual, and in the same way, some community internal resources are external resources for a household.

Figure 2
Internal/External Resources Relative to an Individual, a Household, and the Community

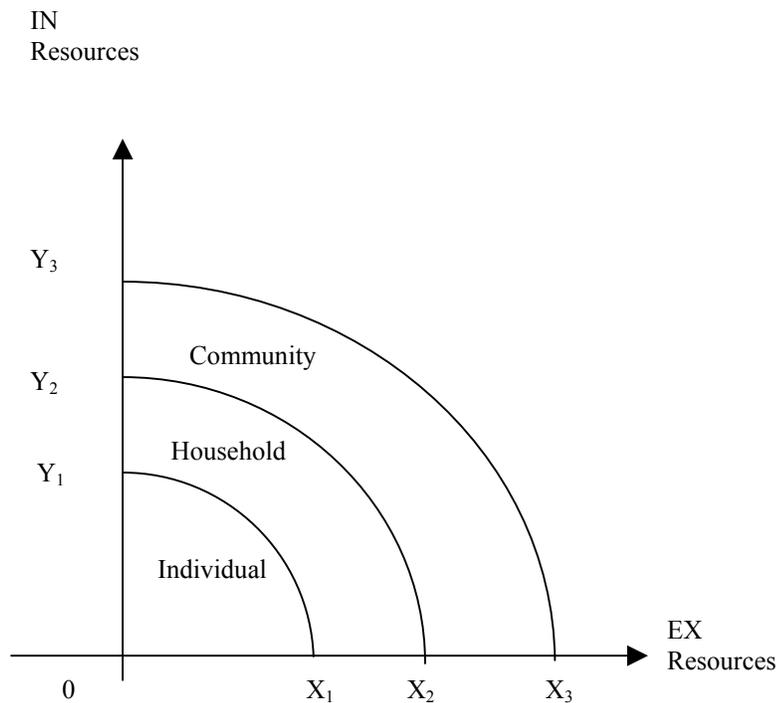


Figure 3
Variables in the Models

Empirical Model: QoL = Σ (I, H, C)	
Dependent variable: quality of life -- Overall how do you perceive your situation in life? In Crisis or At-risk = 1 Stable = 2 Safe = 3 Thriving = 4	
Independent variables in 3 vectors:	
Vector 1: (I)	Individual characteristics: gender, racial/ethnic back-ground, education, housing, whether married, and age.
Vector 2: (H)	Household characteristics: number of people in the household, whether any child in the household, whether any senior citizen in the household, whether household makes enough money to pay bills, rate household's overall physical health, whether anyone in the household had an urgent need for basic needs, household income group.
Vector 3(C)	Human services at community level: neighborhood safety; transportation mode; activities for teenagers; types of financial assistance: a) family or friends, b) church or clergy, c) bank, d) Lexington Housing Authority, e) utility companies, f) Community Action Council or Department of Commonwealth based services, g) Food banks, h) the Salvation Army, i) Catholic Social Services, j) other persons or agencies; during the past 12 months received income from: a) Social Security/Survivor Income, and b) Medicare.

A more detailed design is shown in Figure 2 for our study on the quality of life. Personal and social characteristics and needs have great influence on the quality of life. We will analyze the residents' quality of life in three vector models.

(1) Vector 1 model --- Individual characteristics of life situation as measured by objective variables, e.g., gender, age, racial/ethnic background, housing, marital status (whether married or other), and education. They are all objective variables.

(2) Vector 2 model --- Household characteristics, e.g., number of people in household, children or senior citizens in the household, sufficient household income to pay bills, rating of household's overall physical health, whether anyone in the household had an urgent requirement for basic needs, household income group. In this vector, both objective and subjective variables are used in order to investigate the situation in the household.

(3) Vector 3 model --- Community human services availability, e.g., neighborhood safety; transportation a): whether use Lextran service, and b): whether have family or friends to help; whether sufficient activities in Lexington for teenagers aged 14-17; financial assistance: a) family or friends, b) church or clergy, c) bank, d) Lexington housing authority, e) utility companies, f) Community Action Council or Department of Community-based Services, g) food banks, h) the Salvation Army, i) Catholic Social Services, j) other persons or agencies; and whether during the past 12 months received income from: a) Social Security/Survivor Income, and b): Medicare. In this vector, more subjective variables are used than the first two vectors and the variables are used to investigate the relationship of quality of life and the use of community human services, and the percentage of the population using the existing services. Each of the above-mentioned vectors has direct influence on feelings of satisfaction or dissatisfaction in the vectors that in the end influence the overall household quality of life.

Methodology

This section explains the methodology applied to this research in two subjects: (a) sampling and data collection, and (b) operationalizing variables and analysis.

Sampling and Data Collection

Heath (2003) at the University of Kentucky Research Center for Families and Children (RCFC) conducted a study to assess knowledge and use of human services in the Lexington-Fayette County area. The Self-Assessment Study (Heath, 2003) was conducted by the Research Center for Families and Children with survey assistance by the University of Kentucky Survey Research Center. Both centers are located at the University of Kentucky. The study was funded by LexLinc--a nonprofit organization in Lexington, Kentucky.

The sample was initially drawn using the Info Time Polk Directory distributed by Equifax (2002). This directory has listed information for all households in Lexington-Fayette County, Kentucky. A simple random sample of 11,500 households was drawn across all census tracts in Lexington-Fayette County to ensure that there would be

enough households in the sample pool to complete both the telephone and mailed phases of the study. After the matching and cleaning process to obtain telephone numbers where none were originally listed, a smaller random sample of 4,700 was drawn resulting in 3,606 households for the telephone survey sample and the remaining 1,094 for the mailed survey sample. Calls were conducted by the University of Kentucky Survey Research Center from March 22-April 18, 2002. Up to 22 attempts were made by telephone per sample household at various times during the day and evening (Heath, 2003).

Mailed surveys were used to reach households drawn in the sample who did not have telephone service or for which no number was found. Statements in Spanish inviting participation in the survey through either a phone interview in Spanish or a mailed survey in Spanish were included in a cover letter. The mailed portion of the study began May 10, 2002 and was completed June 25, 2002.

The number of completed surveys was 1561 (1237 telephone surveys and 324 mailed surveys). “The margin-of-error for the survey is less than $\pm 2.5\%$ at the 95% confidence level” (Heath, 2003). Individuals must have been 18 years old of age or older to participate in the interview. Randomly selected Lexington residents answered questions regarding their financial needs, income support, needs of the elderly, employment, childcare needs, physical and mental health needs, and characteristics such as ethnicity, last grade of school completed, marital status, and number of people in their household.

The data for this research were organized into three vectors according to the family systems theoretical model: Vector 1: data on individual characteristics, Vector 2: data on household characteristics, and Vector 3: data on use of community-based human services. The questions addressed in the three vectors are shown in Figure 1. In Vector 1, the variables are gender, age, racial/ethnic background, education, marital status, and ownership of residence. In Vector 2, the variables are number of people in the household, household income, whether children in the household, whether senior citizens in the household, household financial situation, household income supports, and whether household experienced an urgent basic need. And in Vector 3, neighborhood safety, awareness of availability of social services, transportation services, childcare, financial emergency services, and overall needs are investigated.

The dependent variable was assessed at the end of the overall assessment of needs questionnaire, the key question is “Thinking about the needs of you and your household and thinking about the issues in this survey, overall how do you perceive your situation in life? Would you say you are: (1) thriving, (2) safe, (3) stable, (4) at-risk, or (5) in-crisis?” This question with resulting response options was derived for use based on the development and use of this same scale by Community Action Council as the basis on which to judge clients’ needs. The scale has also been adopted by the local Salvation Army for use in their assessment of clients.

Operationalizing the Empirical Model

According to the research model and data, variables are organized by the three vectors (see Figure 3). As the first step of model testing, frequency analyses, crosstabular, and correlation methods are used to avoid small cell count problems and multicollinearity of variables, thus avoiding possible misleading statistic results. Recoding the dependent variable was the first step taken to avoid cell problems in the data analysis: the first two response categories (in-crisis and at-risk) are combined into one category and other categories: stable, safe, and thriving remaining as originally determined (See Table 1). In order to deal with missing household income, missing data analysis within SPSS was used to estimate the missing data for the income groups and then replaced the missing data with the regression results of predictors of race, gender, and education. Detailed variable information is shown in Table 1 and Figure 3.

Data were arranged according to the three vectors illustrated in the model. The models used in this study can be expressed in the following equations:

$$QoL_{\text{vector-1}} = F(I) = B_0 + (B_1\text{Marstat} + B_2\text{Ownres} + B_3\text{Gender} + B_4\text{Race} + B_5\text{Educ} + B_6\text{Age}) + e \quad (3)$$

Where: “ $QoL_{\text{vector-1}}$ ” stands for dependent variable --- quality of life in Vector 1 Model,

“I” stands for individual characteristics,

“ B_{1-6} ” stands for constant or coefficients,

“ e_1 ” stands for errors in Vector 1 model;

$$QoL_{\text{vector-2}} = F(H) = C_0 + (C_1\text{NumHH} + C_2\text{ChlHH} + C_3\text{SrHH} + C_4\text{PayBills} + C_5\text{HHHealth} + C_6\text{UrgNeed} + C_7\text{HHInc}) + e_2 \quad (4)$$

Where: “ $QoL_{\text{vector-2}}$ ” stands for dependent variable --- quality of life in Vector 2 Model,

“H” stands for household characteristics,

“ C_{1-7} ” stands for constant or coefficients,

“ e_2 ” stands for errors in Vector 2 Model;

$$QoL_{\text{Vector-3}} = F(C) = D_0 + (D_1 \text{NSafety} + D_2 \text{Transpta} + D_3 \text{Transptb} + D_4 \text{TeenActs} + D_5 \text{FAFF} + D_6 \text{FACorC} + D_7 \text{FABank} + D_8 \text{FAHousing} + D_9 \text{FAUtility} + D_{10} \text{FACACS} + D_{11} \text{FAFBank} + D_{12} \text{FASArmy} + D_{13} \text{FACatho} + D_{14} \text{FAOther} + D_{15} \text{SSI} + D_{16} \text{Medicare}) + e_3 \quad (5)$$

Where “QoL_{Vector-3}” stands for dependent variable --- quality of life in Vector 3 Model,
 “C” stands for community human services,
 “D₁₋₁₆” stands for constant or coefficients,
 “e₃” stands for errors in Vector 3 Model;

The models were tested using a sample composed of 1,211 valid respondents. Reliability analysis of the variables was conducted using SPSS program with Crombach’s Alpha value equals to .52.

The analyses involved two main steps. The first step was to statistically develop the empirical model. Where analysis indicated a small cell count, values were collapsed to allow use of the variable in the empirical model. In the second step, multinomial regressions were used to investigate relationships between each of the three vectors and the full model, and quality of life. In order to make the statistical results more intuitively understandable, reverse recoding was used – using “at risk and in crisis” as the reference category. Pseudo R-square of Nagelkerke coefficients were reported for goodness of fit, Chi-square value, degree of freedom and significance at p< .05 level were reported.

Table 1
 Variables in the Research Model

Variables	Variable Description
Dependent Variable:	
QoL	Self report on quality of life In Crisis or At-risk = 1 Stable = 2 Safe = 3 Thriving = 4
Independent Variables in Vector 1:	
Marstat: Marital status	Whether currently married Not currently married = 0 Currently married (Married) = 1
OwnRes: Own residence	Ownership of the residence Rent or other = 0 Own (OwnR) = 1
Gender	Gender of respondent Female = 0 Male (Male) = 1
Race	Race of respondent Nonwhite = 0 White (White) = 1
Educ: education	Education level of respondent High school diploma/ GED or less = 1 Some college but no degree/Vocational-technical degree (ColOrVT) = 2 Bachelor's degree or some graduate school (BORGS) = 3 Graduate or some professional degree (GradOrProf) = 4
Age	Age of respondent in years 18-34 = 1 35-44 (35To44) = 2 45-54 (45To54) = 3 55 and above (55OrAbove) = 4

Table 1 (continued)

Variables in the Research Model

Independent variables in Vector 2:

NumHH: number household	in	Including the respondent, number of people living in the household 1 person = 1 2 people (H2) = 2 3 people (H3) = 3 4 or more people (H4OrMore) = 4
ChilHH: in household	child	Whether child (under 18) currently in the household No = 0 Yes (ChildH) = 1
SrHH: household	senior in	Whether senior citizen (over 65) currently in the household No = 0 Yes (SrH) = 1
PayBills: pay bills		Whether household makes enough money to pay bills No = 0 Yes (PayBill) = 1
HHHealth: household health		Self rate by respondent of household's overall physical health Poor or Fair = 0 Good or Excellent (HHealthG) = 1
UrgNeed: urgent need		In past 12 months, anyone in the household had an urgent basic need, such as food, shelter, or paying a bill such as gas? No = 0 Yes (UrgN) = 1
WFood: worry for food		We worry whether food will run out before we get money to buy more No = 0 Yes = 1
WRent: worry for rent		We worry whether we will be able to pay mortgage or rent No = 0 Yes = 1
WUtility: worry for utility		We worry whether we will able to pay a utility bill No = 0 Yes = 1
Prex: Prescription		Whether the respondent have enough income to pay for prescription drugs the family needs No = 0 Yes = 1
Med: needs	Medical	Whether the respondent have enough income to pay for the family's medical needs No = 0 Yes = 1
Housing: housing	family	Whether the respondent have enough income to pay for family housing No = 0 Yes = 1
HHInc: household income		The previous year household income from all sources before taxes Equal to or below \$25,000 (IncG1) = 1 \$25,001- \$50,000 (IncG2) = 2 \$50,001 or over (IncG3) = 3

Table 1 (continued)

Variables in the Research Model

Independent Variables in Vector 3:			
NSafety: neighborhood safety	Neighborhood safety (NSafe)= 1	No = 0	Yes
Transpta: Use Lextran	Whether use LexTran services (LextranY) = 1	No = 0	Yes
Transptb: family/friend to pick up	Whether has family or friends to pick up No = 0	Yes (TranspbY)= 1	
TeenActs: activities for teenagers	Whether sufficient appropriate activities in Lexington for teenagers (aged 14-17) to frequent or attend Yes (TeenActY) = 1	No = 0	
FAFF: financial assistance from family or friends	When need financial assistance, turning to family or friends No = 0	Yes (FAFFY) = 1	
FACorC: financial assistance from church/clergy	When need financial assistance, turning to church or clergy No = 0	Yes (FACorCY)= 1	
FABank: financial assistance from Bank	When need financial assistance, turning to Bank No = 0	Yes (FABankY) = 1	
FALHA: financial assistance from Housing Authority	When need financial assistance, turning to Lexington Housing Authority No = 0	Yes (FALexHY)=1	
FAUtility: financial assistance from Utility Company	When need financial assistance, turning to Utility Company No = 0	Yes (FAUtilityY) = 1	
FACACS: financial assistance from CAC/DCS	When need financial assistance, turning to Community Action Council or Department of Community-based Services No = 0	Yes (FACACSY)=1	
FAFBank: financial assistance from Food Banks	When need financial assistance, turning to Food Banks No = 0	Yes (FAFBankY) =1	
FASArmy: financial assistance from Salvation Army	When need financial assistance, turning to the Salvation Army No = 0	Yes (FASArmyY)=1	
FACatho: financial assistance from Catholic Social Services	When need financial assistance, turning to Catholic Social Services No = 0	Yes (FACathoY)= 1	
FAOther: financial assistance from other person or agency	When need financial assistance, turning to other person or agency No = 0	Yes (FAOtherY)= 1	
SSI	During the past 12 months received income: Social security/survivor income No = 0	Yes (SSIY)= 1	
Medicare	During the past 12 months received income: Medicare No = 0	Yes (MedY)= 1	

Sample Description

This section reports the sample and characteristics using descriptive statistics in the order of the three vectors of individual, household, and community. When the respondent was asked to think, overall, about himself or herself, their household, and the issues of the survey, respondents report their perceived quality of life (n=1547): 6.0 percent reported in-crisis or at risk, 35.3 percent stable, 29.2 percent safe, and 29.5 percent thriving (see Table 2).

Table 2
Frequencies of Reported Quality of Life (n =1561)

QoL	Frequency	Percent	Valid percent
In crisis or at risk	93	6.0	6.0
Stable	546	35.0	35.3
Safe	451	28.9	29.2
Thriving	457	29.3	29.5
Missing	14	.9	
Total	1561	100.0	100.0

Characteristics of Respondents' Individual Characteristics.

Of the respondents, 61.5 percent were female. Respondents' average age is within the range of 35-44 years, with a mode of 55 years old or above; 88.4 percent identified themselves as white. Almost three out of five (58.4%) were currently married. About three quarters of respondents (77.1%) own their residence. Regarding education, 21.2 percent had a high school diploma, GED or less, 27.4 percent had some college but no degree/Vocational-technical degree; 51.4 percent had bachelor degree or more (see Table 3).

Table 3
Individual Characteristics of Respondents

Variables	Percent
Gender (n=1555)	
Female	61.5
Male	38.5
Age (n=1540)	
18-34	24.9
35-44	23.4
45-54	22.3
55 and above	29.4
Marital status (n=1558)	
Currently married	58.4
All other	41.6
Residence Ownership (n=1554)	
Rent or other	22.9
Own	77.1
Race (n=1544)	
Nonwhite	11.6
White	88.4
Education (n=1549)	
High school diploma/ GED or less	21.2
Some college but no degree/Vocational-technical degree	27.4
Bachelor's degree or some graduate school	30.5
Graduate or some professional degree	20.9

Characteristics of Respondents' Household.

Regarding household, the average household size is 2.48 with 22.7 percent of the households with only one member, and 38.8 percent of households with two people; 64.9 percent of households reported no child under the age of 18 in the household (see Table 4). In the 35.1 percent of households with a child under the age of 18, the average number of children was 1.76. For 20.1 percent of households with someone 65 years of age or older, the average size of the household is 1.36 persons. 82.3 percent of households report overall physical health as good or excellent compared to 17.7 percent of households report overall physical health as poor or fair. Regarding income, 17 percent reported income at \$25,000 or below, 33 percent reported between the ranges of \$25,001 - \$50,000; and 50 percent reported \$50,001 or above.

Table 4

Basic Characteristics of the Household

Basic Characteristics of Household	Percent
Number of people in household (n=1556)	
1 person	22.7
2 people	38.8
3 people	15.4
4 or more	23.1
Whether children under 18 in household (n=1561)	
No	64.9
Yes	35.1
Whether senior in household (n=1558)	
No	79.9
Yes	20.1
Whether household makes enough money for bills (n=1556)	
No	12.0
Yes	88.0
Household's overall Physical Health (n=1555)	
Poor or fair	17.7
Good or excellent	82.3
Household Urgent Need in the past 12 months (n=1553)	
No	94.1
Yes	5.9
Household income group (n=1561)	
Equal or below \$25,000	17
\$25,001-50,000	33
\$50,001 or over	50

Characteristics of Respondents in Vector 3: Community-based Human Services.

Regarding community-based human services, the majority of respondents (92.5%) reported living in a safe neighborhood. At least 93 percent reported not using Lextran -- the public transportation service, 75.9 percent reported not having friends or family pick them up. Regarding financial assistance, approximately 50 percent reported turning to family or friends, 20 percent reported turning to church or clergy, 26 percent reported turning to banks, 5.6 percent reported turning to Lexington Housing Authority, 9 percent reported turning to utility companies, 9.4 percent reported turning to Community Action Council or Department of Community-based Services, 11 percent reported turning to food banks, 11 percent reported turning to the Salvation Army, 8.6 percent reported turning to Catholic Social Services, and about 6 percent report turning to other person or agency. Regarding income support during the past twelve months, 21.8 percent of households reported support from social security/survivor income, and 19.3 percent reported support from Medicare (see Table 5).

Table 5

Human Services in the Community

Basic Characteristics of Community Services	Percent
Whether neighborhood safe (n =1555)	
No	7.5
Yes	92.5
Whether use Lextran for transportation (n =1561)	
No	93.1
Yes	6.9
Whether have friends or family to pick up as transportation mode (n =1561)	
No	75.9
Yes	24.1
Whether sufficient activities in Lexington for teenagers 14-17 (n=1274)	
No	54.2
Yes	45.8
Financial assistance a) turn to family or friends (n=1561)	
No	50.6
Yes	49.4
Financial assistance b) turn to church or clergy (n=1561)	
No	80.1
Yes	19.9
Financial assistance c) turn to bank (n=1561)	
No	73.7
Yes	26.3
Financial assistance d) turn to Lexington Housing Authority (n=1561)	
No	94.4
Yes	5.6
Financial assistance e) turn to utility companies (n=1561)	
No	91.0
Yes	9.0
Financial assistance f) turn to Community Action Council or Dept. of Comm. Based Services (n=1561)	
No	90.6
Yes	9.4
Financial assistance g) turn to food banks (n=1561)	
No	88.9
Yes	11.1
Financial assistance h) turn to the Salvation Army (n=1561)	
No	88.9
Yes	11.1
Financial assistance i) turn to Catholic Social Services (n=1561)	
No	91.4
Yes	8.6
Financial assistance j) turn to other person or agency (n=1561)	
No	94.1
Yes	5.9
During the past 12 months received income from: Social Security Retirement/Survivor Income (n=1540)	
No	78.2
Yes	21.8
During the past 12 months received income from: Medicare (n=1542)	
No	80.7
Yes	19.3

Analyses

In this section, results of the study are reported using multinomial regression of the four models.

Multinomial Regression Models

According to the model design of three vectors, multinomial logistic regression was used to investigate the association of quality of life and individual characteristics, household characteristics, and the community human services. The Nagelkerke value of Pseudo R-Square of the three vector are .18, .31 and .15 respectively, that reflect the goodness of fit of the models to the data.

Then, the full model with all the variables in the above three domains was tested. Again, multinomial regression analysis was used with Nagelkerke value of Pseudo R-Square .41, which reflects the goodness of fit of the model to the data.

Vector 1 Model: Individual Characteristics.

In Vector 1, four out of the six independent variables were statistically significant at the level of .05, they are whether married, own residence, education, and age. The Nagelkerke value of this model is .18.

With quality of life being “in crisis or at risk” as the reference category, parameter estimates are reported using regression coefficients, significance, and odds ratio –Exp (B) as Table 6 shows.

Table 6
Parameter Estimates in Vector 1 Model (n = 1507)

Vector 1 items	Regression coefficient: B						Odds ratio: Exp (B)		
	Thriving	Safe	Stable	Thriving	Safe	Stable	Thriving	Safe	Stable
Married	.96 ***	.66 *	.50	2.60	1.93	1.66			
Own Residency	1.56 ***	1.26 ***	.67 *	4.73	3.52	1.95			
Male	.21	.49	.38	1.23	1.62	1.47			
White	.40	.53	.23	1.49	1.70	1.25			
Graduate Or Professional	3.36 ***	2.97 ***	1.96 **	28.67	19.50	7.09			
Bachelor Or some Graduate Studies	1.43 ***	.99 **	.13	4.17	2.68	1.14			
College Or Vocational Tech	.73 *	.53	.07	2.07	1.69	1.07			
55 Or Above	-.32	-.61	.32	.72	.54	1.37			
45 To 54	-.67	-1.10 **	-.32	.51	.33	.72			
35 To 44	-.63	-1.10 ***	-.63	.53	.33	.53			

Note: QoL –“In crisis or at risk” is set as the reference category.

***: significant at the 0.001 level (2-tailed).

**: significant at the 0.01 level (2-tailed).

*: significant at the 0.05 level (2-tailed).

Nagelkerke value of this model: .18.

(1) The odds of being in “thriving” vs. being “in crisis or at risk” for those who are currently married are 2.60 times higher than for those who are currently not married; the odds for those who own their residence are 4.73 times higher than for those who do not own; the odds for those of graduate or professional degree are 28.67 times higher than for those of the high school diploma/GED or less, the odds for those of bachelors or some graduate school 4.17 times higher than for those of the high school diploma/GED or less; the odds for those of some college but no degree/vocational-technical degree are 2.07 times higher than for those of the high school diploma/GED or less.

(2) The odds of being in “safe” vs. being “in crisis or at risk” for those who are currently married are 1.93 times higher than for those who are currently not married, the odds for those who own their residence are 3.52 times higher than for those who do not own; the odds for those of graduate or professional degree are 19.50 times higher than for those of the high school diploma/GED or less, the odds for those of bachelors or some graduate school 2.68 times higher than for those of the high school diploma/GED or less; the odds for those of aged 45 to 54 are .33 lower than the youngest group of aged 18 to 34, the odds for those of aged 35 to 44 are .33 lower than the youngest group of aged 18 to 34.

(3) The odds of being “stable” vs. being “in crisis or at risk” for those who own their residence are 1.95 times higher than for those who do not own; the odds for those of graduate or some professional degree are 7.09 times higher than for those of the high school diploma/GED or less.

From the above results, we can draw the conclusion that the individual characteristics (from Vector 1 Model) of owning a residence and having higher educational attainment were the two predictive variables for all levels (thriving, safe, stable) of higher quality of life versus in crisis or at risk. The two variables: age and whether married, can also predict the higher quality of life, but not at all three levels.

Vector 2 Model: Household Characteristics.

In Vector 2, four out of seven independent variables are statistically significant ($p < .05$), they are whether household makes enough money every month to pay bills, household’s overall physical health, household’s urgent needs, and household income group.

With quality of life being “in crisis or at risk” as the reference category, parameter estimates are reported by regression coefficient (B), significance, and odds ratio –Exp (B) as Table 7 shows.

Table 7
Parameter Estimates in Vector 2 Model (n = 1526)

Vector 2 items	Regression coefficient B and significance						Odds ratio: Exp (B)		
	Thriving	Safe	Stable	Thriving	Safe	Stable	Thriving	Safe	Stable
4 or More in household	.37	-.37	.19	1.45	.69	1.21			
3 in household	1.13	.62	.94	3.10	1.86	2.56			
2 in household	.64	.29	.48	1.90	1.34	1.61			
Child in Household	-.06	.10	-.34	.94	1.11	.72			
Senior in Household	.27	.34	.41	1.31	1.41	1.51			
Pay Bills	3.29 ***	3.33 ***	2.35 ***	26.79	27.86	10.51			
Household Health Good	1.97 ***	1.98 ***	.94 ***	7.16	7.24	2.57			
Urgent Need	-1.84 ***	-1.39 **	-1.35 ***	.16	.25	.26			
Income Group 3	1.34 **	1.35 **	.02	3.83	3.87	1.02			
Income Group 2	.06	.49	-.21	1.06	1.63	.81			

Note: QoL –“In crisis or at risk” is set as the reference category.

***: significant at the 0.001 level (2-tailed).

** : significant at the 0.01 level (2-tailed).

*: significant at the 0.05 level (2-tailed).

Nagelkerke value of this model: .31.

(1) The odds of being in “thriving” vs. being “in crisis or at risk” for those who have enough money to pay bills are 26.79 times higher than for those who have not; the odds for those who rate their overall household health as good or excellent are 7.16 times higher than for those who rate their overall household health as poor or fair; the odds for those who have had urgent needs during the past 12 months are .16 times lower than for those have no urgent needs during the past 12 months; the odds for those of the group of \$50,000 or above are 3.83 times higher than for those of the group of \$25,000 or below.

(2) The odds of being in “safe” vs. being “in crisis or at risk” for those who have enough money to pay bills are 27.86 times higher than for those who have not; the odds for those who rate their overall household health as good or excellent are 7.24 times higher than for those who rate their overall household health as poor or fair; the odds for those who have had urgent needs during the past 12 months are .25 times lower than for those have no urgent needs during the past 12 months; the odds for those of the income group of \$50,000 or above are 3.86 times higher than for those of the group of \$25,000 or below.

(3) The odds of being “stable” vs. being “in crisis or at risk” for those who have enough money to pay bills are 10.51 times higher than for those who have not; the odds for those who rate their overall household health as good or excellent are 2.57 times higher than for those who rate their overall household health as poor or fair; the odds for those who have had urgent needs during the past 12 months are .26 times lower than for those who have no urgent needs during the past 12 months.

From the above results, we can draw the conclusion for the household characteristics (Vector 2 model), whether the household has enough money to pay bills, the household’s overall physical health, and whether the household has had an urgent need in the past 12 months were the three predictive variables for all levels (thriving, safe, stable) of higher quality of life versus in crisis or at risk. Household income also was a predictive variable for the higher quality of life but not at all three levels.

Vector 3 Model: Community-based Human Services.

In Vector 3 model, eight out of sixteen independent variables are significant (p< .05). They are neighborhood safety, transportation: family or friends to provide transportation, whether sufficient activities in Lexington for teenagers 14-17, financial assistance: turning to family or friends, turning to bank, turning to utility companies, turning to Community Action Council or Department of Community-based Services, and during the past 12 months received income from: Medicare.

With quality of life – “in crisis or at risk” as the reference category, parameter estimates are reported by regression coefficient (B), significance, and odds ratio –Exp (B) as Table 8 shows.

Table 8
Parameter Estimates in Vector 3 Model (n = 1251)

	Regression coefficient B and significance						Odds ratio: Exp (B)		
	Thriving		Safe		Stable		Thriving	Safe	Stable
Neighbor Safe	.99	**	1.14	**	.75	*	2.68	3.12	2.12
Use Lextran	-.49		-.84		-.20		.61	.43	.82
Have family or friends to pick up	-.92	***	-.89	**	-.75	**	.40	.41	.47
Enough Teen Activities	.40		.44		.01		1.49	1.56	1.01
Family or friends church/clergy	-1.52	***	-1.43	***	-1.03	**	.22	.24	.36
Bank	.75	*	.86	**	.92	**	2.11	2.37	2.52
Housing Authority	.07		.10		-.24		1.07	1.11	.78
Utility Company	-.44		.56		.38		.64	1.75	1.47
CAC/DCS	-.64		-.73		.44		.53	.48	1.56
Food Bank	-.53		-.12		-.54		.59	.89	.59
Salvation Army	1.10		.45		.52		3.00	1.56	1.68
Catholic Social Services other person or agency	-.59		-.91		-1.23	*	.55	.40	.29
SSI	.51		-.04		.65		1.66	.96	1.91
Medicare	-.98		-.15		.01		.38	.87	1.01

Note: QoL –“in crisis or at risk” is set as the reference category

***: significant at the 0.001 level (2-tailed).

**: significant at the 0.01 level (2-tailed).

*: significant at the 0.05 level (2-tailed).

Nagelkerke value of this model: .15.

(1) The odds of being in “thriving” vs. being “in crisis or at risk” for those who consider the neighborhood safe are 2.68 times higher than for those who don’t rate the neighborhood safe; the odds for those who need family or friends to provide transportation are .40 times lower than for those not having family or friends provide transportation. As for who to turn to when financial assistance is needed, the odds of being in “thriving” vs. being “in crisis or at risk” for those who turn to family and friends are .22 times lower than for those who do not turn to family and friends; the odds for those who turn to banks are 2.11 times higher than for those who do not turn to banks.

(2) The odds of being in “safe” vs. being “in crisis or at risk” for those who consider the neighborhood safe are 3.12 times higher than for those who don’t rate the neighborhood safe; the odds for those have family or friends to provide transportation are .41 times lower than for those not having family or friends to provide

transportation. As for who to turn to when financial assistance is needed, the odds of being in “safe” vs. being “in crisis or at risk” for those turn to family and friends are .24 times lower than for those who do not turn to family and friends; the odds for those who turn to banks are 2.37 times higher than for those who do not turn to banks.

(3) The odds of being “stable” vs. being “in crisis or at risk” for those who consider the neighborhood safe are 2.12 times higher than for those who don’t rate the neighborhood safe; the odds for those who have family or friends to provide transportation are .47 times lower than for those not having family or friends to provide transportation. As for who to turn to when financial assistance is needed, the odds of being “stable” vs. being “in crisis or at risk” for those who turn to family and friends are .36 times lower than for those who do not turn to family and friends; the odds for those who turn to banks are 2.52 times higher than for those who do not turn to banks, the odds for those who turn to Catholic Social Services are .29 times lower than for those do not turn to Catholic Social Services.

From the above results, we can draw the conclusion for the community human services (Vector 3 model), neighborhood safety, whether the respondent relied on friends or family for transportation, whether turned to friends or family, or turned to the bank for financial assistance were the four predictive variables for all levels (thriving, safe, stable) of higher quality of life versus in crisis or at risk. In addition, turning to the Community Action Council or Department of Community-based Services, or to the utility companies for financial assistance, receiving income from Medicare during the past 12 months, and considered there to be sufficient activities for teenagers (aged 14-17) in Lexington were also predictive variables for the higher quality of life but not at all three levels.

Full Model.

In the full model, seven out of twenty-nine independent variables are significant ($p < .05$). They are education, whether household makes enough money every month to pay bills, Household’s overall physical health, Household’s urgent needs, household income group, financial assistance: turning to utility companies, and turning to Community Action Council or Department of Community-based Services.

With quality of life – “in crisis or at risk” as the reference category, parameter estimates are reported by regression coefficient (B), significance, and odds ratio –Exp (B) as Table 9 shows.

(1) The odds of being in “thriving” vs. being “in crisis or at risk” for those who are currently married are 2.77 times higher than for those who are currently not married; the odds for those with a graduate or professional degree are 26.68 times higher than for those with the high school diploma/ GED or less, the odds for those who have enough money to pay bills are 35.19 times higher than for those who have not; the odds for those who rate their overall household health as good or excellent are 6.55 times higher than for those who rate their overall household health as poor or fair; the odds for those who had urgent needs during the past 12 months are .09 lower than for those having no urgent needs during the past 12 months.

(2) The odds of being in “safe” vs. being “in crisis or at risk” for those who are currently married are 2.78 times higher than for those who are currently not married; the odds for those with a graduate or professional degree are 14.72 times higher than for those with a high school diploma/ GED or less; the odds for those of 45-54 age group are .32 times lower than for those of 18-35 age group; the odds for those who have enough money to pay bills are 37.79 times higher than for those who have not; the odds for those who rate their overall household health as good or excellent are 5.44 times higher than for those who rate their overall household health as poor or fair; the odds for those who had urgent needs during the past 12 months are .15 times lower than for those having no urgent needs during the past 12 months; the odds for those of the income group of \$50,000 or above are 3.12 times higher than for those of the group of \$25,000 or below.

(3) The odds of being “stable” vs. being “in crisis or at risk” for those who are currently married are 2.45 times higher than for those who are currently not married; the odds for those with a graduate or professional degree are 9.42 times higher than for those with a high school diploma/GED or less; the odds for those who have enough money to pay bills are 14.89 times higher than for those who have not; the odds for those who rate their overall household health as good or excellent are 2.30 times higher than for those who rate their overall household health as poor or fair; the odds for those who had urgent needs during the past 12 months are .19 times lower than for those who had no urgent needs during the past 12 months. As for who to turn to when financial assistance is needed, the odds of being “stable” vs. being “in crisis or at risk” for those who turn to Community Action Council or Department of Community Based Services are 3.73 times higher than for those who do not turn to these services.

Table 9
 Parameter Estimates in Full Model (n = 1211)

Full Model Items	Regression coefficient B and significance						Odds ratio: Exp (B)		
	Thriving	Safe	Stable	Thriving	Safe	Stable	Thriving	Safe	Stable
Married	1.02 *	1.02 *	.90 *	2.77	2.78	2.45			
Own Residency	.33	.07	-.21	1.39	1.07	.81			
Male	.06	.37	.39	1.07	1.45	1.48			
White	-.27	-.20	-.21	.76	.82	.81			
Graduate Or Professional	3.28 **	2.69 *	2.24 *	26.68	14.72	9.42			
Bachelor Or some Graduate Studies	.64	.18	-.39	1.90	1.20	.68			
College Or Vocational Tech	.49	.06	-.28	1.63	1.06	.75			
55 Or Above	-.51	-.88	-.24	.60	.42	.78			
45 To 54	-1.01	-1.14 *	-.51	.37	.32	.60			
35 To 44	-.34	-.73	-.33	.71	.48	.72			
4 Or More in household	-.34	-1.45	-.69	.71	.24	.50			
3 in household	.68	-.13	.34	1.98	.88	1.40			
2 in household	.55	-.05	.23	1.73	.96	1.26			
Child in Household	-.03	.18	-.03	.97	1.20	.98			
Senior in Household	.06	.04	-.23	1.06	1.04	.81			
Pay Bills	3.56 ***	3.63 ***	2.70 ***	35.19	37.79	14.89			
Household Health Good	1.88 ***	1.69 ***	.83 *	6.55	5.44	2.30			
Urgent Need	-2.42 ***	-1.87 ***	-1.66 ***	.09	.15	.19			
Income Group 3	.93	1.14 *	-.09	2.52	3.12	.91			
Income Group 2	.01	.57	-.16	1.01	1.78	.85			
Neighbor Safe	-.08	.22	.21	.93	1.25	1.23			
Use Lextran	.92	.30	.47	2.51	1.35	1.60			
Family or friends to pick up	-.62	-.63	-.67	.54	.54	.51			
Enough Teen Activities	-.41	-.42	-.67	.66	.66	.51			
Family or friends	-.39	-.47	-.31	.68	.63	.73			
church/clergy	.44	.58	.30	1.55	1.79	1.34			
Bank	.05	.24	.55	1.05	1.27	1.73			
Housing Authority	-.35	-.13	-.42	.70	.88	.66			
Utility Company	.07	1.20	.78	1.07	3.31	2.18			
CAC/DCS	.62	.47	1.32 *	1.86	1.61	3.73			
Food Bank	-.48	-.08	-.49	.62	.93	.62			
Salvation Army	.44	-.51	-.14	1.55	.60	.87			
Catholic Social Services	-.66	-.91	-1.03	.52	.40	.36			
other person or agency	-.33	.24	.03	.72	1.27	1.03			
SSI	-.03	-.72	-.19	.98	.49	.83			
Medicare	.10	.98	.75	1.11	2.67	2.11			

Note: QoL –“in crisis or at risk” is set as the reference category.

***: significant at the 0.001 level (2-tailed).

** : significant at the 0.01 level (2-tailed).

* : significant at the 0.05 level (2-tailed).

Nagelkerke value of this model: .41.

From the above results, one can draw the conclusion that when all variables of the three domains were included and of equal importance, the variables relating to individual characteristics (Vector 1) and family situations (Vector 2) were predictive of the quality of life, but the influence of variables relating to community human services (Vector 3) were fewer. Within Vector 3, only two variables remained statistically significant. They were whether the respondent turned to utility companies or whether the respondent turned to Community Action Council or Department of Community-based Services for financial assistance. This finding indicates the need to further investigate potential relationships between community human services, urgent needs and the quality of life.

Summary and Implications

The purpose of this study was to investigate the quality of life and the use of human services among households. To do this, two steps were taken: first, a model of three vectors (individual characteristics, household characteristics, and community human services) was developed, and descriptive statistical analyses were conducted on the three vectors; second, multinomial regression analyses were used to investigate the three vector models and the full model. In this Section, discussions of the findings are conducted in two parts: (a) summary that covers discussion on the study results and the models, and (b) addresses implications, limitations, and future research.

Summary

This part summarizes the findings of this study; it covers the discussions on the study results and the models.

Discussion on the Study Results and the Models.

From the study results and models, the conclusions we can obtain are the following:

First, this study revealed that the majority (58%) of the respondents perceived their quality of life in safe and thriving categories, and only 6.0 percent reported in-crisis or at risk. This reflected the current status of quality of life in households.

Second, from individual characteristics (marital status, residence ownership, gender, race, education, and age), people currently married reported to perceive higher quality of life than those not currently married (never married, separated, divorced or widowed). This result is in accordance with most of the previous studies that married people reported their quality of life higher than single, separated, divorced or widowed people. This could be because, from family systems theory, marriage is the unit of cooperation, loving, stability, and reliability, while all the other categories may have a lack of some of these positive feelings. Those who own their residence may perceive a higher quality of life than those who do not own. This could be because residence ownership gives people some sense of security or stability, which will have a positive effect on quality of life. Education is a highly predictive variable for high levels of quality of life. Those of the higher education level turn out to perceive a higher quality of life, as previous studies have showed that education level is highly correlated with financial well-being. Income level also has a positive effect on perceptions of quality of life. Quality of life is also influenced by age. This study showed that the younger group (aged from 18 to 34) perceived a higher quality of life compared with those of the middle aged group (35-54), or the older group (55 or older). This result turned out opposite to that of McCoy and Filson (1996). Their conclusion was that older people tend to report a higher level of life satisfaction than younger people. But in fact the "sandwich generation" may experience higher level of stress for the family members and the older group may also experience the failing health conditions. There is no gender and race difference in perceived quality of life in this study.

Third, from the household characteristics perspective, quality of life is mostly influenced by household income and health situations. Those reported having higher incomes, making enough money to pay bills, or having no urgent needs perceive higher quality of life than the counterparts. This can be explained with the family systems theory that within the system, resources are limited in the same way that income resources are limited. The more the "better" principle applies. In addition, family member's health situation not only affects one member's quality of life, but also affects all the other members' quality of life in the consumption of limited resources of time, money, physical and mental care. No differences were observed based on the number of people in the household, or whether there was a child or senior citizen in the household.

Fourth, from the community-based human services perspective: neighborhood safety was an important factor influencing quality of life. Those who value neighborhood safety more would also perceive higher quality of life. There are also income and age differences regarding neighborhood safety. The higher income group may value neighborhood safety more than the lower income groups. The younger group value neighborhood safety more than the older group. Neighborhood safety is not correlated with quality of life for the older respondents. This may be

due to the fact that the older aged groups are living in a more stable area than the younger aged group. They do not have children under 18 living with them as does the younger group. For transportation, having family or friends to help would be more important than public transportation service. This showed the tendency that in search for transportation assistance, people may use internal resources as the priority rather than public transportation. Those who are aware of activities for teenagers turn out to perceive higher quality of life compared to their counterparts. As for financial assistance: turning to family or friends, banks, utility companies, Community Action Council or Department of Community-based Services, and Medicare are more commonly used services than turning to church or clergy, food banks, the Salvation Army, social/survivor income, and other person or agency.

Fifth, from a more comprehensive perspective, the full model confirmed the above-mentioned model results in the following ways: (1) currently married and higher education level perceived higher quality of life; (2) household income and health situation are highly influential factors in one's quality of life. Higher household income is a predictor for whether there is sufficient income to pay bills, and whether there was an urgent requirement for basic needs, that directly influence the quality of life of the individual and the household. And (3) among the community-based human services investigated, when financial assistance is need, utility companies and the Community Action Council or Department of Community-based Services were the most used services for the general population.

The full model also revealed the fact that when we put all the variables of the three domains to a system of equal variable importance, individual characteristics and family situations revealed stronger influences in the quality of life. The influence of variable of community human services was weak. Only two variables remained statistically significant, they were financial assistance: turning to utility companies, and turning to Community Action Council or Department of Community-based Services. This result supports the opinion of Proshansky and Fabian (1996) that a better understanding of community quality of life will be obtained from research questions that are more specific in their focus, for example, for what kinds of people, and with regard to what specific needs.

Implications, Limitations, and Future Research

In this section, the discussion is focused on the implications and limitations of this study and the future research direction.

Implications

Based on the economic theory, the investigation into perceptions of quality of life was addressed in three vectors: individual characteristics, household characteristics, and community human services. This approach is a contribution to the research on quality of life as it applies a new way of looking at the components of quality of life. Specifically, the impact of community-based human services and urgent needs on perceptions of quality of life was addressed.

In addition, this study provides baseline information concerning perceptions of quality of life and community human services among households in Lexington-Fayette County, Kentucky. The findings provide insights into residents' perceptions of quality of life with their individual characteristics, household characteristics, and community human services as components contributing to perceptions of quality of life.

Policy makers, educators, and social service providers can benefit from the findings of this study. Specifically, their efforts to improve quality of life should focus on those variables that have been shown to predict enhanced quality of life. In Vector 1 (Personal Characteristics), it was found that owning a residence, having a higher educational attainment, and being married were predictive of a higher quality of life. Thus, in order to improve quality of life, policies and services should be addressed that (1) expand the opportunities and programs for home ownership, (2) broaden the opportunities for educational attainment and (3) assist married couples in efforts to enrich their marital relationships. In Vector 2 (Household Characteristics), it was found that households making enough money every month to pay bills, households in good physical health, household with no urgent needs, and higher household income were predictive of a higher quality of life. Thus, in order to improve quality of life, policies and services should also be addressed that (4) design and expand programs for improvement of household health conditions, (5) increase the possibility of household income sources, (6) enhance education programs for improvement of household's ability to deal with family crisis and urgent needs successfully. In Vector 3, (Community Human Services), it was found that having a safe neighborhood, transportation with family or friends for help, sufficient activities for teenagers, and financial assistance by turning to family or friends, turning to bank, turning to utility companies, turning to Community Action Council or Department of Community-based Services, and having received assistance from Medicare during the past 12 months were predictive of a higher quality of life. Thus, in order to improve quality of life, policies and services should also be addressed that (7) design and improve programs for a safer community, and increase communication and understanding for people or families in the community, (8) design activities for children, adults and the aged group for better understanding and support

networking, (9) local banks, utility companies, Community Action Council or Department of Community-based Services, Medicare or businesses should also be actively involved in community enhancement activities by contributing different forms of resources, for example, financial support, consultant services, technology support, shelter options, etc.

Limitations.

The findings of this study are limited by their focus on primarily Lexington-Fayette County population. The sample reflected the quality of life with urgent needs of lower income population. As a result these findings do not accurately describe what factors contribute to the perceptions of quality of life and the association of quality of life with urgent needs and the community-based human services

Although there are limitations in this study, there are several significant conclusions that can be drawn as mentioned above, and the methodology can be applied to future research.

Future Research.

Regarding future research, three perspectives are worth considering. (1) Not only the use of community human services, but also the quality of the services should be paid attention. For example, the service may be available, but the satisfaction level for the users of the service may be low, that may even have worse effect on ones perceptions of quality of life than no service. (2) Perception of quality of life is highly associated with urgent needs like worry for food, worry for utility bills, etc. Future research can prioritize to urgent needs and investigate the cause of the urgent needs, thus helping to eliminate poverty and improve quality of life. (3) The importance of the empirical demonstration of the impact of the availability and quality of human services on perceptions of quality of life cannot be underestimated. This study made some initial inroads, however future research may require longitudinal research designs that monitor changes in variables over time. Future research with the above-mentioned factors will build a broader and deeper understanding of the quality of life construct, thus contributing to research and the improvement of quality of life.

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Endnotes

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⁴Quality of life is an individual's subjective feelings about one's conditions or status of life regarding the needs or wants given limited resources or services available. In regional or community research, it is a term used to indicate a person's overall perceptions of life quality as affected by personal factors such as income, housing, marital status, gender, and community factors (community human services) one shares with other people in the community at any given point of time.

⁵ Income supports: In this study, they are specific forms of external resources/services provided by the society or community; they are closely related to both long-term and short-term government welfare policy and community support systems. The most common income supports are social security retirement or survivor income, Medicare, Social Security disability income or insurance, government housing, food stamps, etc. All these income supports have numerical values in finance that differ from other external resources/services as employment service, public safety services, or information services.

⁶Internal resources/services: Based on the systems theory model, resources/services are limited and can be classified as within or outside the system. Quality of life is influenced by a portion of what one owns and a portion of what one shares with other people in the community at any given point of time, the portion one owns is the portion one exclusively uses and also is termed as internal resources.

⁷External resources/services are the resources/services available to someone from outside one's ability or family to generate at any given point of time.