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DETERMINANTS OF FARMERS' SATISFACTIONS WITH FARMING AND WITH LIFE: A REPLICATION AND EXTENSION

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ABSTRACT

The purpose of this study is to broaden the understanding of the determinants of farmers' satisfactions with life as a whole and with farming per se by replicating and extending Molnar's 1985 study of the overall subjective well-being of Alabama farmers. Data from a 1982 study of Kentucky farmers are used to accomplish this objective. Molnar's conclusions regarding the individual and structural determinants of farmers' global well-being are generally confirmed. In addition, the farmer's global satisfaction with life is shown to be related to his satisfaction with farming but the structural determinants of global and farm satisfaction differ. Net farm income, but not total family income or off-farm work time, determine farm satisfaction while the converse is true for global satisfaction with life. Education is shown to specify farmers who have relatively large farms but low net farm incomes and dissatisfaction with farming and with life. Perceived rewards of farming are important determinants of both satisfaction domains. It is argued that farmers' opportunities to construct their workplaces explains the irrelevance of farm size to subjective well-being.

INTRODUCTION

Research on satisfaction/dissatisfaction with farm life during the past decade (Barlett, 1986; Campbell, 1981; Coughenour and Christenson, 1980; Coughenour and Tweeten, 1986; Garkovich and Bokemeier, 1988; Heffernan, 1982; Molnar, 1985; Schroeder et al., 1985; Tweeten et al., 1980; Wilkening, 1982) has not alleviated the public perception that the quality of farm life is deteriorating (e.g., Davidson, 1990; National Mental Health Association, 1988; Porter, 1989; Strange, 1988; U. S. Congress, 1986). Even so, studies of farm families early in the decade largely resolved several much debated issues: (1) whether farm families are more satisfied than others with the quality of their lives [they usually are, but often are less happy than others], and (2) whether the quality of life for

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families with small farms is superior to that for families with large farms [it generally is *not*, although there are important differences in lifestyle]. In other words, farm folk are usually relatively satisfied with their lifestyle whatever it may be. However, understanding of the subjective well-being of farm operators and their families is still quite limited.

Research has shown that farmers' subjective well-being is more closely linked to their perceptions of the conditions of life and work (Coughenour and Swanson, 1988; Coughenour and Tweeten, 1986), and to their commitment to, and control of, work and life conditions (Garkovich and Bokemeier, 1988; Molnar, 1985) than to the objective conditions themselves. In other words, farmers' perceptions of work life and psychological states mediate external conditions and their feelings of overall satisfaction.

How or why these relationships hold on the one hand and how satisfaction with different aspects of life relates to overall satisfaction with life on the other hand is not well understood. Research has shown that there are important interactions between types of workplace structures and the kinds of subjective rewards workers obtain as well as of the levels of satisfaction (Campbell, 1981). Farmers and other similarly independent entrepreneurs tend to be highly satisfied with their work and overall quality of life, primarily because of their control of the workplace.

While explanations of the dynamics of subjective well-being require analysis of data over time, further progress can still be made by analysis of single-time data that replicates and extends other studies. Replication facilitates identification of explanatory factors and increases confidence in their generality. Such is the purpose of this paper: To replicate and extend Molnar's (1985) study of determinants of subjective well-being of Alabama farm operators using data from a 1982 sample of Kentucky male farmers.[1]

Molnar's study is particularly interesting because of its broad conceptual perspective, analytical frame and important substantive findings. This study primarily differs in its location — Kentucky — and associated types of farm enterprises, in the measures of subjective well-being used — satisfactions with farming and with life — and in the addition of perceived farm rewards and values as mediating variables. While the similarities facilitate replication of Molnar's study, the differences permit expansion of the determinants of farm and life satisfactions.

[1]Due to the lack of data, Molnar's analysis of expected quality of life in the future can not be replicated.

THEORETICAL ORIENTATION

Molnar (1985) was interested in explaining the overall quality of life of farm operators and used measures of *overall* subjective well-being as the criteria.[2] The satisfaction of farm operators with life was conceptualized as dependent on structural relationships — off-farm employment arrangements, income, and size of farm — and individual factors — age, education, growth plans, commitment to farming, economic constraints, and self-perception. By considering these two most important sets of influences on subjective well-being (Loscocco and Roschelle, 1991), Molnar outlined a comprehensive approach to its understanding.

Despite Molnar's interest in the global well-being of farm operators, the determinants analyzed are mostly farm-related structural and individual characteristics. Although global well-being is arguably dependent on one's work experience (Campbell, 1981; Campbell et al., 1976; Loscocco and Roschelle, 1991) — especially so for farmers, considering the centrality of farm work (Wilkening, 1982) — global well-being is dependent on much else besides farm work, e.g., the quality of one's health, marriage, the community and environment, each with its own configuration of determinants.[3] Since the determinants used pertain to farming, a more appropriate criterion would be measures of the quality of work life, rather than of overall well-being.

At a more general level, however, there is an issue of the relationship between subjective well-being in various domains of life and one's global sense of well-being, or more narrowly between the quality of work life and non-work life. Although the two domains usually are correlated, McKennell and Andrews (1980) have shown that the connection is caused by common underlying cognitive and affective components rather than to a cognitive process of summing up the satisfactions and dissatisfactions. During the past decade, considerable research has been devoted to the whether the relationship results from a "spillover" of cognitive beliefs and affective sentiments, the formation of "compensatory" beliefs and sentiments, or the "segmentation" of work and non-work life in which no relationship exists (Loscocco and Roschelle, 1991). Although previous research supports an hypothesis that satisfaction with farm work would

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[2]Molnar adapted Cantril's Self-Anchoring Striving Scale (Cantril 1965) for this purpose. Other researchers have used a single-item index of satisfaction (Coughenour and Swanson, 1988) or a composite index (Garkovich and Bokemeier, 1988; Tweeten et al., 1986) derived from satisfaction toward various domains of farm life.

[3]See Marans and Rogers, 1975; Moxley, 1980; Spanier and Lewis, 1980.

"spill over" onto feelings of global well-being, there is need for further empirical evaluation.

Coughenour and Swanson's (1988) adaptation of Kalleberg's (1977) theory of job satisfaction to farm work provides a useful starting point for development of an integrative model of the structural and individual determinants of the quality of farm work life. That study found that the rewarding aspects of farm work are generally organized in terms of an *economic factor* and a *noneconomic factor.*[4] The importance or value of these conditions of work to the farmer, however, varies along a single dimension. Consistent with prior research on job satisfaction (Kalleberg, 1977), satisfaction with farming was shown to be positively related to the farmer's perception of the economic and noneconomic rewards of farming. Satisfaction with farming also was found to be positively, but not signficantly, related to the perceived value of these rewards, which was inconsistent with the negative relationship expected on the basis of both theory and prior research.[5]

In this study, the rewards and values of farming are conceptualized as mediators of the relationships between satisfaction with farming and both individual sociopyschological characteristics and socioeconomic conditions of the farm and community. In turn, the effects of satisfaction with farming and perceived rewards and values of farming hypothetically spill over onto the farmer's global satisfaction with life. Specific hypothetical relationships are outlined in the following sections.

Structural Characteristics and Quality of Farming

Based on previous literature, Molnar (1985) expected to find global well-being positively related to the operator's and spouse's off-farm employment, total family income, and size of farm. Except for farm size, which was not signifantly related to subjective well-being, the data supported these hypotheses. Conceptually, however, the quality of farm work is a proximate criterion of the farmer's experience in the structure of work

[4]The economic dimension was defined by the beliefs that farming provides a good income, good chance for success, and no time pressure. The noneconomic dimension was defined by farmers' beliefs that farming provided freedom of decision, interesting work, pleasant physical surroundings, opportunity to develop own abilities, a chance to make friends, and convenience in getting to work.

[5]While Coughenour and Swanson (1988) speculate that the positive sign may be due to the lack of orthogonality between rewards and values, it is also due to their use of a truncated sample.

while the global quality of life is a more distal criterion. Consequently, these hypothesized relationships need to be re-examined.

Size of farm. Along with other self-employed entrepreneurs, farmers tend regard their work as "challenging" and are more highly satisfied than are employed workers (Campbell 1981). Coughenour and Swanson (1988) have shown that freedom of decision and the opportunity to develop their own abilities, which imply situational control, are important noneconomic rewards of farmers. Independent entrepreneurs, people who control their workplace, are especially likely to actualize values that are associated with agrarianism, such as pride in work, achievement and economic independence (Dalecki and Coughenour, 1992). Farming is distinctive in these respects, i.e., the opportunity, even the necessity, of the person to design his workplace (farm) and his own work. High satisfaction with life thus is due not merely to the farmer's agrarian activities and attachment to land, but primarily to the opportunity to be one's own boss (for example, see Mooney, 1988). This central determinant of satisfaction with farm work is not restricted merely to those with small farms.

This perspective is consistent with research findings that generally show no relationship between the global quality of life of farmers and size of the farm (Coughenour and Tweeten, 1986).[6] Consequently, no relationship between quality of farm work and farm size is hypothesized.

Farm and family income. Molnar's and other studies indicate that the total income of farm families, as of non-farm families, has the most pervasive influence on subjective well-being (Coughenour and Tweeten, 1986). The income of farm families, however, increasingly is derived from non-farm sources. Family income, therefore, is a less valid objective indicator of farming success than is net farm income. Other things being equal, this supports the hypothesize that satisfaction with farming is positively related to net farm income and that farm income is a more important determinant of satisfaction with farming than is total family income, while the latter is a more important determinant of global well-being.

Many desire a farm lifestyle and farm families have been found to rate the quality of their life higher than do non-farm families (Coughenour and Tweeten, 1986). Other things being equal, families who are able to sustain

[6]These findings also are consistent with the failure to find support for the hypothesized relationship between small-farm size and the quality of community life (Swanson 1988) or resource conservation (Lovejoy and Napier 1986). However, the lack of a relationship between the scale of farming and satisfaction with farm work still leaves open the question whether greater satisfaction is derived from farm work that is less mechanized and done by one's own hands rather than from work done with machines or by hired hands.

themselves by farming alone may have a higher level of overall subjective well-being than those who must depend on both farm and non-farm work. Such factors as the proportionate share of farm income in total family income or the number of days worked off the farm are indicators of the relative importance of the farm in the family's economic activity, which may be related to global well-being. Researchers have found, as expected, that global quality of life is related both to farm income's share of family income and to days worked off the farm (Garkovich and Bokemeier, 1988; Molnar, 1985). Hypothetically, satisfaction with farming is unrelated to the relative importance of farming in family economic activity, but that global well-being is positively related to the relative importance of farming.

Individual Factors

The global well-being of Alabama farmers in the early 1980s was signficantly related, as Molnar (1985) expected, to their commitment to farming, economic constraints, farm operator status-role self-definition, age and education, but unrelated to their farm growth plans. Unfortunately for present purposes, measures of the perceived growth plans, commitments, economic constraints and self-definitions of Kentucky farmers were not included in this study. Data are available on the operator's age, education, various indicators of personal background and socioeconomic outlook. The expected relationships between satisfaction with farming and global well-being and these factors are examined in the following paragraphs.

Age and tenure. As Loscocco and Roschelle (1991) remark, the age-work satisfaction relationship has been the most studied. Research has consistently found that "older employees are more satisfied, more job-involved and more committed to their work" (p. 189). This has been true of farmers as well (Coughenour and Tweeten, 1986). Tenure of employment, of course, tends to be related to age, but tenure is a more reliable indicator than age of an employee's career stage. Studies indicate that satisfaction with the job is curvilinearly related to tenure (Loscocco and Roschelle, 1991), and that "tenure ... is a more stable predictor of job satisfaction than chronological age" (Bedeian and Ferris, 1992: 45). Among nonacademic university employees, Bedeian and Ferris (1992) find that relationships with tenure vary depending on the aspect or facet of the job under consideration. It is conceivable that perceived noneconomic rewards of farming increase with tenure while the perceived economic rewards do not. However, satisfaction with farming and with life as a whole are hypothesized to be a positive function of age and length of time

farming.

Education. Education increases the person's resources and the capacity to achieve goals but also it expands one's awareness of alternatives and the rewards expected from one's activities. In other words, the gap between expectation and accomplishment tends to increase with education, which depresses both one's global and job-related sense of well-being (Campbell et al., 1976; Loscocco and Roschelle, 1991). However, the positive relationship between life satisfaction and education, which has been found in several previous studies (Coughenour and Tweeten, 1986; Molnar, 1985),[7] supports the hypothesis that the farmer's education contributes to his feeling of control of his situation, which in turn enhances his feelings of well-being. On this basis, satisfaction with farming is hypothesized to be positively related to education.

Farm legacy. The large majority of present-day farmers have grown up on a farm. A substantial proportion of farmers have been operating the same farm for many years, many the farm that they grew up on. The legacy of farming presumably strengthens commitment to farming and, thereby, increases satisfaction with farming.

Farm optimism-pessimism outlook. Although there have been times since World War II when farmers prospered (although farmers seldom have considered themselves to have been prosperous at the time), more often than not substantial numbers of American farmers have had difficulty in making a middle class living. As Coughenour and Swanson (1988) point out, most farmers have the attitude that farming is poorly rewarded economically. Even so, USDA data strongly suggests that since the 1970s America's farmers generally have been better off than their non-farm neighbors (Browne, et al., 1992). Even in the farm recession of the mid-1980s, few farms actually were terminated at the auction block (Wu et al., 1991). Although farmers' complaints about their economic circumstances are legendary, most remain committed to farming, optimistic about the future, and relatively satisfied with farming. In fact, the persistence of an optimistic future outlook, especially in poor economic circumstances, is symptomatic of the person's commitment to farming (Coughenour, 1976). The person's commitment to farming has been found to be an important determinant of satisfaction with work and life (Garkovich and

[7] Garkovich and Bokemeier (1988) found a non-significant, negative relationship between life satisfaction and education.

Bokemeier, 1988; Molnar, 1985).[8] Consequently, satisfaction with farming is expected to be positively related to optimism for the future of farming.

RESEARCH METHODOLOGY

Sample

Data for this study were obtained from a statewide random sample of Kentucky farmers through a mail survey conducted in the spring of 1982. The sample of farmers was drawn from county Agricultural Stabilization and Conservation Service lists. The analysis is based on the 1,386 male farmers operating farms with $1,000 or more sales in 1981.[9] The sample is biased toward larger farms; 18 percent of the sample farms had fewer than 50 acres in 1981 compared with 36 percent of Kentucky farms in 1982 according to the Census of Agriculture. Also, 24 percent had sales less than $5,000 in 1981 compared with 39 percent of the Census farms in 1982.[10] The estimated mean level of satisfaction with farming thus is biased upward because of the positive relationship between satisfaction and farm size, but neither the regression coefficients nor the correlations among variables should be biased.

Measures

Subjective well-being. Satisfaction with farming is measured by the respondent's indication of his satisfaction "with my farm work." The 7-point scale ranged from "very dissatisfied" to "very satisfied."[11] The respondent's global satisfaction with life is the sum of two 7-point satisfaction scores: satisfaction "with what I am accomplishing in life" and "with how I feel about life as a whole." The estimated alpha reliability is .75.

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[8]This goes beyond a simplistic psychodynamic interpretation that regards optimism for the future as a function of satisfaction with present circumstances in recognizing that both present satisfaction and future optimism are functions of dissonance reduction processes engendered by commitment to an existing course of action (Cf. Kiesler, 1968).

[9]Only male farm operators are included since 93 percent of the sample respondents were male and the small number of female respondents does not permit analysis by gender.

[10]The difference between the distributions of farm sales for the sample farms in 1981 and the Census farms in 1982 is partly due to the poorer farm economy in the latter year.

[11]The item, which was adapted from Campbell et al., 1976, has been shown to be a valid indicator of quality of life with reliability in the range of 65% to 70% (Andrews and McKennell, 1980).

Farm structure. Farm size is measured by reported gross farm sales in 1981. To attenuate the effect of skewness, a logarithmic transformation is used in the analysis.

Off-farm work days of the operator was reported in four categories: none, under 100 days, 100 to 249 days, 250 or more days. A spouse working fewer than 250 days days off the farm is considered to be working on the farm.

Farm and family income. Respondents reported the dollar value of net farm income in 1981 and indicated the total family income class on a six category array, ranging from under $1,000 to $40,000 or more. A logarithmic transformation of net farm income is used in the analysis to attenuate the effects of skewness.

Personal characteristics. Social and attitudinal characteristics are represented by five variables. Respondent's reported age and the years as a farm operator indicate the life cycle stage and farm career stage, respectively. Education was defined in eight categories ranging from "never attended school" to "some graduate school." Farm background is indicated by the reported years farm has been owned, at least partially, by the family.

Large-farm optimism/small-farm pessimism in outlook is measured by a factor weighted scale of six attitudinal items with Cronbach's Alpha of .70.[12]

FINDINGS

Correlations between the two measures of subjective well-being — satisfaction with farm job and with life as a whole — and measures of rewards, values, outlook, personal and structural characteristics are reported in Table 1. Satisfaction with life generally and with farm work specifically are highly correlated, supporting the notion that farm satisfaction may spill over into life satisfaction. Life satisfaction is notably correlated with the rewards of farming, farming optimism and net farm income. These measures along with farm values also correlate significantly with satisfaction with farming. Except for net farm income, the quality of life and work, as expected, correlate more strongly with personal

[12]The attitudinal items in a five point "Strongly Agree" to "Strongly Disagree" format are: "tax policies have favored large scale farming," "commodity price supports have led to larger farming operations," "large producers get better prices for their products than small producers," "farm credit policies favor large scale farmers," and "large farmers have been able to get the biggest production quotas." Items were factor analyzed and factor score coefficients were used to weight individual items in the optimism scale.

Table 1. Means, standard deviations and inter-correlations among satisfaction, farm rewards, individual and farm structure variables.

Variables†	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. With life															
2. With farming	50														
3. Non-econ rewards		24	30												
4. Econ rewards	27	24	16												
5. Farm values	07	16	52	18											
6. Age	08	04	02	05	-03										
7. Years farming	07	03	-02	06	04	78									
8. Years own farm	-04	-05	-04	-04	-05	29	36								
9. Education	-07	-08	01	-20	-20	-38	-43	03							
10. Farming optimism	14	12	04	07	-06	-13	-10	-01	17						
11. Gross farm sales		01	04	01	-01	02	-17	00	13	25	29				
12. Net farm income	12	12	08	22	09	07	14	04	-19	-02	13				
13. Total family income	10	01	04	05	-02	-22	-22	-07	33	15	36	15			
14. Wife on farm	08	03	00	03	-02	15	13	-04	-12	00	02	06	-11		
15. Days worked off farm	01	-05	-02	-07	-06	-27	-35	-22	20	-07	-36	-15	25	-05	
Mean	11.65	6.12	4.02	2.13	5.12	48.9	23.4	30.5	4.83	3.38	2.58*	0.90*	3.93	.66	2.42
Standard deviation	2.60	1.27	.55	.85	.57	13.45	14.45	25.82	1.65	.82	1.34	2.89	1.46	.47	1.36

† Coefficients ± .05 are significant. P<.05, N=1,000

* Logarithmic score

perceptions and attitudes than with characteristics of either the individual or farm structure.

There is little evidence of significant relationships between either measure of subjective well-being and the size of the farm business in gross sales, the days worked off the farm by the operator, or the number of years that the farm has been owned. However, the correlation between life satisfaction and days worked off the farm is positive, rather than negative as expected, and this relationship is more fully examined below.

The negative relationship between both measures of life quality and education is surprising since it is contrary to that reported for Alabama farmers (Molnar, 1985) and does not support the hypothesis that education increases the operator's ability to control his situation thereby increasing his satisfaction. The relationship between farm size (gross farm sales) and education is positive as expected, but the relationship between net farm income and education is unexpectedly negative. Also surprisingly, education has negative relationships with economic rewards and values of farming. The pattern of correlations is consistent with a hypothesis that education is associated with relatively high expectations that have not been rewarded. This possibility is explored later on in the analysis.

The negative correlations between education and age and years farming, of course, are expected due to generational increases in educational levels. The strength of these associations suggest the possibility that some of the relationships with the quality-of-life measures may be distorted.

Life cycle, career stage and quality of life. There is a strong relationship between the operator's age and the years farming, indicators of life cycle stage and career stage, respectively. The relationships between both of the quality-of-life measures and these operator characteristics are positive but weak. Global well-being is more strongly correlated with both of these operator characteristics than is satisfaction with farming. However, stronger correlations were expected, and on the basis of prior research with other occupations, a somewhat stronger relationship was expected between age and satisfaction with work and career stage. If the relationship between quality of life and life cycle or career stage is curvilinear, which Molnar and others have found, the Pearsonian correlation underestimates the degree of the relationship.

To check the shape of these relationships, as well as the possibility of interactions between farm size, age and quality of life, mean satisfaction for life cycle and career stage categories were plotted for all farmers and for different size-of-farm groups. The results are shown in Figure 1. The set of bars for "all farmers" indicates a positive and slightly curvilinear relationship between age and satisfaction with life, much like that which

Molnar found among Alabama farmers. Similar relationships are evident for the smallest and largest size-of-farm groups. However, the similar shapes of the distributions indicate that, regardless of farm size, the oldest farmers are most satisfied with the quality of their lives.

Satisfaction with farming for all farmers and by farm size classes (Figure 1) indicates the reason for the lower correlation for satisfaction with farming than with the overall quality of life. The relationship for all farmers has a U-shape, and it is most pronounced for the smallest and largest size-of-farm classes. Clearly, the youngest, and presumably the newest, and the oldest farmers are most satisfied with the rewards that they obtain from farming. Again, there is no evidence of interaction.

Mean satisfactions of years-farming groups by farm-size class also were run but none of the relationships was significant. It is apparent that in contrast with other types of occupations, the farmer's career stage, in the sense of years farming, has less sociopsychological significance than age in determining work satisfaction.

Type of work status and quality of life. The wife's participation in farming is weakly associated with her husband's subjective well-being (r= .08) but not with his satisfaction with farm work (r= .03). The farm operator's work off the farm is negatively associated with his satisfaction with farming (r= -.05) but not with his satisfaction with life (r= .01). The simple correlations thus do not suggest that the husband's and wife's work statuses have much bearing on the quality of their lives, although interaction and suppressor effects due to covariates are possible.

In the study of Alabama farmers, Molnar did not find that global subjective well-being varied significantly by the pattern of family work statuses. To check this finding, a general multivariate model with satisfaction with life as the dependent variable and the work statuses of the husband and wife as main effects and the man's age, education, and net farm income as covariates was analyzed. A model with satisfaction with farming as the dependent variable also was analyzed.

For the man's global satisfaction with life, the findings (Table 2) parallel Molnar's in that the work statuses of husband and wife have marginal significance at best on the quality of life and the interaction of the two work statuses have no effect whatsoever. However, the covariates do impact the man's subjectve well-being in significant ways. The quality of work and of life as a whole are again negatively, although not significantly, related to education. The analysis using satisfaction with farming as the dependent variable produced similar results and is not shown.

Farm rewards, values, and socioeconomic characteristics. Regression analyses of global satisfaction with life and satisfaction with farming for variables significantly correlated with these measures are reported in Table

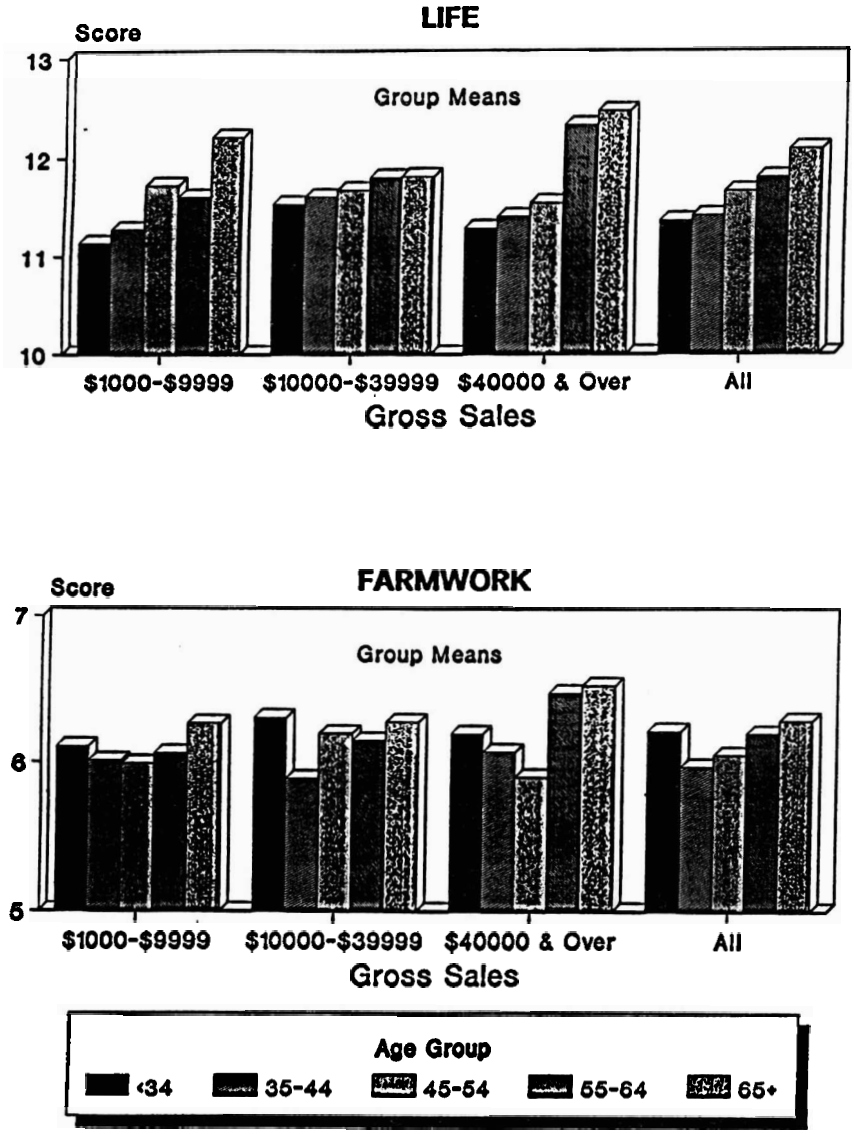

Figure 1. Satisfaction with Life and with Farm Work

Table 2. Adjusted mean satisfaction scores of husband and wife off-farm work status categories controlling age, education and net farm income.

Satisfaction measure	Work Status: Husband employed	Wife employed	Both employed	Neither employed	Analysis of Variance F-Ratios: Factors H	W	HxW	Covariates† age	education	net farm income
Life as a whole (R^2=.029)	11.92	11.26	11.58	11.57	3.7*	3.5*	.01	1.96** (b=.013)	-1.44 (b=-.079)	3.02*** (b=.086)
With farming (R^2=.020)	6.16	6.16	6.01	6.13	.15	.77	1.16	-.44* (b=-.014)	-1.88 (b=-1.89)	3.21*** (b=.044)

* P<.1
** P<.05
*** P<.001
† (b = unstandardized regression coefficient)

3. Following conventional procedure, the regression coefficient is indicated for each variable in the equation followed by its beta in parenthesis.

The first three models report determinants of satisfaction with farming. Model I repeats the analysis of an additive model of farm satisfaction which was initially reported by Coughenour and Swanson (1988).[13] As reported in the initial study, only economic and noneconomic rewards are significant determinants of satisfaction with farming, and the relatively low coefficient of determination strengthens the inference that there are additional important factors. Interestingly, the partial regression of farm satisfation on values is negative, although not significantly so, despite the positive bivariate correlation with farm satisfaction (see Table 1). Clearly, the relatively strong bivariate relationship between farm satisfaction and values (r= .52) distorts the underlying bivariate relationship between farm satisfaction and values.

Model II indicates that a small, although significant, amount of the variance in the farmer's satisfaction with farming (R^2 = .033) is explained by one structural and two individual factors. At the individual level, farm satisfaction is negatively related to the level of education but positively related to an optimistic outlook on farming. The negative sign of the education-farm satisfaction relationship differs from that found by Molnar (1985) and requires revision of the theoretical perspective.

An optimistic attitude about farming is the strongest individual determinant of satisfaction with farming.[14] The argument is that it reflects commitment to farming as well as the expectation of future rewards which may incline the committed to be better satisfied with their present circumstances. Moreover, while optimism declines with age, satisfaction with farming increases across the age range (see Figure 1). This pattern of relationships is examined in greater detail below.

Among the farm structure variables only net farm income is a significant determinant of work satisfaction. Molnar (1985) did not have a farm income variable in his analysis. On the other hand, total family income, which Molnar used in the analysis, is not a significant determinant of satisfaction with farming (but see Models V and VI). The greater relevance of farm income than total income to farm satisfaction, of course, is consistent with theoretical expectations.

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[13]Coughenour and Swanson (1988) reported an adjusted R^2 of .144 for this model. The difference is due to their use of a sample restricted to those less than 65 years of age.

[14]Beta is .13 which is 1.5 times larger than the Betas for education (-.086) and net farm income (.092).

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Table 3. Regressions of satisfaction with farming and with life as a whole on farm rewards, values, farm structure and individual characteristics.

Independent variables	Satisfaction with farming			Satisfaction with life as a whole		
	I	II	III	IV	V	VI
Perceived farm rewards/values						
Non-econmic rewards	.59(.24)***		.59(.24)***	1.03(.20)***		.99(.19)***
Economic rewards	.29(.18)***		.24(.15)***	.71(.21)***		.61(.18)***
Values	-.015(-.005)		-.025(-.010)	-.35(-.065)*		.30(.056)***
(Sheaf coefficient)			(.26)			(.24)
Individual						
Age		.001(.013)	.00(.006)		.019(.010)***	.018(.091)***
Education		-.067(-.086)	-.049(-.063)*		-.13(-.018)**	-.94(-.059)*
Farm optimism		.21(.13)***	.17(.11)***		.48(.15)***	.40(.12)***
(Sheaf coefficient)		(.14)	(.11)		(.18)	(.15)
Farm Structure						
Net farm income		.046***(.092)	.028(.057)**		.084(.083)**	.048(.047)
Total Family Income		.009(.010)	-.006(-.007)		.18(.097)***	.15(.081)**
Days operation off farm		-.007(-.008)	-.003(-.003)		.10(.053)	.11(.056)*
(Sheaf coefficient)		(.08)	(.046)		(.11)	(.087)
R^2	.101	.033	.118	.090	.052	.123
F-ratio	51.96***	7.86***	20.62***	45.34**	12.57***	21.21***
Number	1386	1386	1386	1386	1386	1386

* P<.05
** P<.01
*** P<.001

Model III, which includes farm rewards and values, explains a greater amount of variation in farm satisfaction (R^2= .118) than either Model I or II. The amount of variation explained by Model III is more than double that explained by Model II. As indicated by the sheaf coefficients,[15] perceived rewards are the most important determinants of farm satisfaction.

Among the rewards of farming, noneconomic rewards are more important to farm satisfaction than economic rewards or values. Values, although tending to suppress satisfaction, contribute little to its explanation.

In Model III, education and farming optimism remain important determinants of farm satisfaction as also does net farm income. The reduction in sizes of the respective unstandardized coefficients in Model III, however, suggests that part of the relationships with farm satisfaction has been interpreted by farm rewards.

With Models IV-VI, the focus shifts to the farmer's satisfaction with life as a whole. In Model IV, life satisfaction is shown to be a postive function of both noneconomic and economic rewards and a negative function of values. As was true of the farm satisfaction-farm values relationship, the relatively strong bivariate correlation between noneconomic rewards and values distorts the underlying negative relationship between life satisfaction and farm values. In this case, however, strong farm values significantly depress the level of life satisfaction.

Model V indicates that life satisfaction is determined by all of the selected individual and farm structural characteristics except the days worked by the operator off the farm. In other words, the farmer's satisfaction with his life is not contingent on the amount of time spent farming. Life satisfaction, like farm satisfaction, is negatively related to education. Clearly, the better educated farmers in 1982 were less satisfied both with farming and with their lives as a whole than those less-well educated. The sheaf coefficients indicate that the selected individual characteristics are more important determinants of life satisfaction than the structural ones. However, the coefficient of determination (R^2= .052)

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[15]Sheaf coefficients indicate the relative block effects of groups of variables, and are analogous to multiple partial-beta coefficients (Heise, 1981:79). Sheaf coefficients are estimated by a three-step procedure: (1) the full regression equation with all the variables is estimated; (2) the unstandardized coefficients are used as weights to develop a linear composite scale score for each block, and (3) the dependent variable is regressed on the block scales or indices. The standardized beta coefficient for each block is its sheaf coefficient (Coleman, 1976:1).

for all the variables is quite small, indicating that life satisfaction is determined primarily by other factors.

Model V is similar to Molnar's (1985) model.[16] Of the variables included in both analyses — age, education, total family income and days worked off the farm — only the last of these is not a significant determinant of overall life satisfaction for this sample of Kentucky farmers. The difference is a minor one, however, as the operator's off-farm work is estimated to be significant in Model VI. As already noted, the most notable difference between the Alabama and Kentucky farmers is the negative sign of the relationship with education. This is examined further below.

Model VI, which includes all three sets of variables, explains the most variance of life satisfaction (R^2= .12). The most important determinants of life satisfaction, as the betas make plain, are the personal attitudes about economic and noneconomic rewards and optimism about farming. Among the objective factors, the largest betas are for age and total family income. The sheaf coefficients indicate that farm rewards and values as a block contribute the most to the determination of life satisfaction and the farm structure variables the least.

Comparison of the coefficients of determination for Models I-III and IV-VI indicates that these sets of farm-related variables are better predictors of satisfaction with life as a whole than of farm satisfaction. On the one hand, this tends to confirm the belief that the farm situation is central to the life satisfaction of farmers. On the other hand, this contradicts the hypothesis of a closer relationship of farm satisfaction than global satisfaction with these determinants. The failure to confirm the hypothesis in this case could be an artifact of measurement, i.e., due to the greater reliability of the composite measure of overall life satisfaction than the single indicator of farm satisfaction. However, the larger coefficients for Model VI than Model III force consideration of the possibility that perceived farm rewards, values, structural and individual characteristics have more to do with global satisfaction with life than with farming per se.

Another notable difference in the determinants of farm and of life satisfaction is the shift in relative importance of net farm income and total family income. As expected, net farm income is a more important determinant of farm satisfaction than is total family income whereas the

[16]The coefficient of determination for the Alabama sample was .206 which is considerably larger than for model V (.052). The difference is probably due to somewhat different measurement of the variables.

reverse is true for life satisfaction. Finally, as expected, age and the time that the operator works off the farm are more important as a determinants of life satisfaction than of farm satisfaction.

DISCUSSION

Perhaps the most interesting difference in the determinants of subjective well-being among Alabama and Kentucky farmers is the difference in sign of the relationship with education — positive for Alabama farmers, negative for Kentuckians. The basic data for Kentucky farmers were gathered one year later — early 1982 — than for the Alabama farmers. Historical data indicate that the downward spiral of total farm family income and of net farm income from their apex in the early 1970s extended through through the mid-1980s with only brief interruptions (McKinzie et al., 1987:62). Farm income in Kentucky mirrored national trends; the gap between receipts and expenditures progressively narrowed. By 1982, net farm income had been trending downward for several years (Kentucky Agricultural Statistics, 1981, 1982, 1983). Unlike other periods, it was not merely the least able farm managers who were being squeezed. As McKinzie et al. (1987:87) conclude with reference to Illinois farmers during this period: "Many of ... [the] severely stressed farmers ... rank among the more able producers ... Most appear to be average or better farm businessmen." The Kentucky data, which were obtained in 1981, become meaningful in these terms.

To summarize, as one would expect, the better farm managers in terms of educational level in Kentucky had the largest farming operations (r= .25). Those with the largest farms tended to have the largest net farm incomes, but the correlation was relatively weak (r= .13); for all farmers as well as for each size class of farms, net farm income was negatively related to education (all farmers: r= -.19). In other words, the better-educated farm operators, who doubtless generally regarded themselves as better farmers, were not being rewarded accordingly. That the better-educated farmers not only were being under-rewarded but also perceived this to be so is indicated by the negative correlation between education and economic rewards (r= -.20). The difficult encounter of many better-educated managers with economic reality in the early '80s translates both directly and indirectly through low economic rewards into dissatisfaction with farming and with life.

Why were numbers of the better-educated farmers suffering financially in the early '80s? Many of them were relatively young (r= -.38), had been farming a relatively short time (r= -.43), but had relatively large farms, which they had established during the previous decade, most likely by

borrowing at relatively high rates of interest; the economic downturn placed them in a severe cash flow bind. This is the scenario of the 1980s farm depression, which forced many farmers to restructure their financial arrangements and led some to enter or expand their participation in the non-farm labor market (McKinsie et al., 1987; Wu et al., 1991).

The effects of satisfaction with farming were expected to "spill over" and enhance life satisfaction. The argument for this effect is supported by a higher mean satisfaction with farming (6.12) than with life satisfaction (average item score= 5.83) and the strong correlation between the two satisfaction measures (r= .50). However, apart from the measurement reliability problem, which was referred to earlier, the correlation together with the relatively better determination of life satisfaction than of farm satisfaction by these predictors also leads to the opposite inference, i.e., that for many the spill-over has been from satisfaction with one's life to satisfaction with farming. Without additional extensive analysis, the issue of the direction of the spill-over can not be resolved.

Farm rewards and values were expected to mediate the relationships between the measures of well-being and the individual and farm-structure characteristics. Comparison of the regression coefficients for different models indicates that the coefficients of nearly all of the individual and farm structure factors are smaller when farm rewards and values are in the equation than when they are omitted.[17] However, relationships that were significant in the reduced form of the equation remain significant in the full equation. In other words, farm rewards and values only partially mediate the effects of these factors on satisfaction with farming and with life.

CONCLUSION

To a subsantial degree, the findings of this study of Kentucky farmers support Molnar's conclusions regarding the subjective well-being of Alabama farmers. The replication of findings, despite use of different criterion variables, strengthens confidence in the importance of the particular explanatory variables and the general theoretical perspective. While additional replications, especially outside the Southern region, would strengthen the generalizability of these findings, the important individual and structural determinants of satisfaction are not closely related to regional culture and structure and unlikely thereby to be

[17]Compare the coefficients in models II with III with those in models V and VI, respectively.

regionally specific. Equally important, of course, is the stronger basis provided for rejecting those plausible hypotheses that do not find empirical support in either study. Notable in the latter regard is the failure in either study to find that satisfaction with life or with farming was influenced by (1) the particular pattern of work statuses of the husband and wife, or (2) the scale or size of the farm business. Moreover, in this study there was no support for the plausible hypothesis that a farm background influenced subjective well-being.

However, the dependence of satisfaction with life and with farming on stage of the life cycle is reaffirmed in this study. Stage of the life cycle also is shown to be more important than career stage as a determinant of psychodynamic processes affecting subjective well-being. A plausible explanation is that the lack of bureaucratic structures of advancement and completion of a farming career does not make the time spent farming a meaningful experience.

The educational background of the farmer was confirmed as an important determinant of present subjective well-being of both life and work. In the Alabama study, it was a positive factor in commitment to farming, to managerial expertise and farm size, to off-farm occupation, and through these activities to farm and family income and satisfaction with farming and with life. However, among Kentucky farmers, one year later in the economic downturn of the 1980s, education was negatively related to net farm income, to economic rewards from farming, and to the subjective quality of life despite its positive impacts on farming optimism (commitment), farm size and total family income. The most plausible explanation is that education not only contributes to the farmer's control of his work and life situation but also elevates expectations of material success. When these are not fulfilled, the farmer feels under-rewarded and dissatisfied. In this respect, education is a pivotal determinant of two psychodynamic processes that differentially impact the quality of life depending on whether or not external conditions are supportive.

An important conclusion of the Alabama study was that "(w)ell-being was consistently linked to commitment to farming as a way of life" (Molnar, 1985:158) for all size classes of farmers. The Kentucky data lend support to this conclusion in that the optimism about farming, which is a recognized indicator of commitment, is a significant determinant of satisfaction with farming and with life.

The theoretical perspective on quality of life and work is sharpened in several respects by analysis of the determinants of each domain. Although satisfactions with both domains of life respond to several of the same determinants, the determinants for each domain differ in key respects, indicating a different dynamic in each case. Net farm income, for

example, is found to be an important determinant of satisfaction with farming but to be of little importance in satisfaction with life as a whole. On the other hand, in the Alabama study as well as this one, total family income is an important determinant of the global quality of life; however, this study shows it to be irrelevant to satisfaction with farming.

The amount of work time spent off the farm seems to function similarly. While there is little evidence that satisfaction with farming is either enhanced or diminished by off-farm work, overall life satisfaction is increased marginally by such activity net of its impact on total family income. It is apparent, therefore, that farmers perceive that the global quality of their lives is improved by engaging in a non-farm career.

This study expands conclusions about the function of the rewards and values of farming in the quality of farming and life in several respects. First, it indicates that Coughenour and Swanson's (1988) problem of the positive sign of the farm satisfaction-farm values relationship, when a negative sign had been expected, is largely a methodological problem, i.e., of the restricted sample used in the earlier study and distortion produced by the strong positive relationship between values and rewards. When farmers of all age groups are included, the partial relationship with farm satisfaction is negative as expected, although not signficantly so in this sample.

Second, it indicates that farm rewards are more important determinants of satisfaction with life than of farming. The data suggest that perceived rewards of farming have more to do with life satisfaction than with farming per se. The strong correlation of the two measures of satisfaction reinforces the assumed interweaving of farm work and life on farms. The direction of the spill-over of effects and the bases of this relationship, however, will require further analysis.

Finally, farm rewards and values only partially mediate the effects of personal and farm characteristics on satisfactions with farming and with life. While the importance of personal and farm characteristics as determinants is reduced when farm rewards and values are added to the equation, these objective factors continue to have explanatory significance. In particular, this research points out the important interactions between subjective attributes of a job and the organization of the workplace. Since farmers (including part-time farmers) as independent entrepreneurs tend to have high subjective attachments to farming, farm work is highly valued regardless of scale of operation or the amount of total income gained. Assessment of the magnitudes of the direct and indirect paths from personal and farm characteristics to satisfaction with farming and with life, however, requires separate analysis and study.

REFERENCES

Andrews, Frank M. and Aubrey C. McKennell. "Measures of self-reported
1980 well-being: their affective, cognitive, and other components." *Social Indicators Research*, 8:127-155.

Barlett, Peggy F. "Part-time farming: saving the farm or saving the
1986 lifestyle?" *Rural Sociology*, 51 (3):289-313.

Barlett, Peggy F. "Motivations of Part-time farmers." Chapter 3 in M.C.
1991 Hallberg, Jill L. Findeis, and Daniel A. Lass (eds.), *Multiple Job-Holding Among Farm Families*. Ames: Iowa State University Press.

Bedeian, Arthur G. and Gerald R. Ferris. "Age, tenure, and job
1992 satisfaction: a tale of two perspectives." *Journal of Vocational Behavior*, 40:38-48.

Browne, William P., Jerry R. Skees, Louis E. Swanson, Paul Thompson,
1992 and Laurian Univer. *Sacred Cows and Hot Potatoes: Agrarian Myths in Agricultural Policy*. Boulder: Westview Press.

Campbell, Angus. *The Sense of Well-being in America*. New York:
1981 McGraw-Hill.

Campbell, Angus, Philip E. Converse, and Willard L. Rodgers. *The*
1976 *Quality of American Life. Perceptions, Evaluations, and Satisfactions*. New York: Russell Sage Foundation.

Cantril, Hadley. *The Pattern of Human Concerns*. New Brunswick:
1965 Rutgers.

Coleman, James C. "Regression analysis for the cmparison of school and
1976 home effects." *Social Science Research*, 15:1-20.

Coughenour, C. M. "A theory of instrumental activity and farm enterprise
1976 commitment applied to woolgrowing in Australia." *Rural Sociology*, 41 (1):76-98.

Coughenour, C. Milton and James A. Christenson. "Is the small farm
1980 beautiful? A study of agricultural structure and quality of life." Paper presented to the 5th World Congress of Rural Sociology, Mexico City, Mexico.

Coughenour, C. Milton and Louis E. Swanson. "Rewards, values, and
1988 satisfactions with farm work." *Rural Sociology*, 53(4):442-459.

Coughenour, C. Milton and Luther Tweeten. "Quality of life perceptions
1986 and farm structure." Chapter 6 in Joseph J. Molnar (ed.), *Agricultural Change*. Boulder: Westview Press.

Dalecki, Michael and C. Milton Coughenour. "Agrarianism in American
1992 society." *Rural Sociology* (forthcoming).

Davidson, Osha Gray. *Broken Heartland*. New York: Anchor.
1990

Fite, Gilbert C. *American Farmers. The New Minority.* Bloomington:
1981 Indiana University Press.

Garkovich, Lorraine and Janet L. Bokemeier. "Factors associated with
1988 women's attitudes toward farming." Chapter 8 in Lionel J. Beaulieu (ed.), *The Rural South in Crisis. Challenges for the Future.* Boulder: Westview Press.

Heffernan, William D. "Structure of agriculture and quality of life in rural
1982 communities." Chapter 33 in Don A. Dillman and Daryl J. Hobbs (eds.), *Rural Society in the U.S.: Issues for the 1980s.* Boulder: Westview Press.

Heise, David. "Employing nominal variables, induced variables, and block
1981 variables in path analysis." Chapter 3 in P. V. Marsden (ed.), *Linear Models in Social Research.* Beverly Hills: Sage Publishers.

Kalleberg, Arne. "Work values and job rewards: a theory of job
1977 satisfaction." *American Sociological Review*, 42 (1):124-143.

Kentucky Crop and Livestock Reporting Service. *Kentucky Agricultural*
1981 *Statistics, 1980-81*. Louisville: Kentucky Dept. of Agriculture and U.S. Dept. of Agriculture.
1982 *Kentucky Agricultural Statistics, 1981-82*. Louisville: Kentucky Dept. of Agriculture and U.S. Dept. of Agriculture.
1983 *Kentucky Agricultural Statistics, 1982-83*. Louisville: Kentucky Dept. of Agriculture and U.S. Dept. of Agriculture.

Kiesler, Charles A. "Commitment." Chapter 37 in Robert P. Abelson, 1968 Eliot Aronson, William McGuire, Theodore M. Newcomb, Milton J. Rosenberg and Percy H. Tannenbaum (eds.), *Theories of Cognitive Consistency: A Sourcebook*. Chicago: Rand McNally.

Loscocco, Karyn and Anne R. Roschelle. "Influences on the quality of 1991 work and nonwork life: Two decades in review." *Journal of Vocational Behavior*, 39:182-225.

Marans, R. W. and W. L. Rogers. "Toward an understanding of 1974 community satisfaction." In Amos Hawley and V. Rock (eds.), *Metropolitan America: Papers on the State of Knowledge*. Washington: National Academy of Sciences.

McKennell, Aubrey C. and Frank M. Andrews. "Models of cognition and 1980 affect in perceptions of well-being." *Social Indicators Research*, 8:257-298.

McKinzie, Lance, Timothy G. Baker and Wallace Tyner. *A Perspective on* 1987 *U.S. Farm Problems and Agricultural Policy*. Boulder: Westview Press.

Molnar, Joseph J. "Determinants of subjective well-being among farm 1985 operators: Characteristics of the individual and the firm." *Rural Sociology*, 50(2): 141-162.

Mooney, Patrick H. *My Own Boss. Class, Rationality, and the Family* 1988 *Farm*. Boulder: Westview Press.

Moxley, Robert L. *Studies of the Quality of Life in Localities and* 1980 *Regions*. Raleigh: North Carolina State University Dept. of Sociology and U. S. Dept. of Agriculture, Report SOC 71.

National Mental Health Association. Report of the National Action 1988 Commission on the Mental Health of Rural Americans. Alexandria, Va.: National Mental Health Association.

Porter, Kathyrn. *Povery in Rural America: A National Overview.* 1989 Washington, D.C.: Center on Budget and Policy Priorities.

Schroeder, Emily H., Frederich C. Fliegel and J. C. van Es. "Measurement
1985 of the lifestyle dimensions of farming for small-scale farmers." *Rural Sociology*, 50(3):305-322.

Spanier, Graham B. and Robert A. Lewis. "Marital quality: a review of
1980 the seventies." *Journal of Marriage and the Family*, 42 (4):825-839.

Strange, Marty. *Family Farming*. Lincoln: University of Nebraska Press.
1988

Swanson, Louis E. (ed.). *Agriculture and Commmunity Change in the*
1988 *U.S.; The Congressional Research Reports*. Boulder: Westview Press.

Tweeten, Luther, Gilead Mylay and Ann Delenbarger. "Using a quality of
1980 life index to measure marginal utility of income." Stillwater: Oklahoma State University Dept. of Agricultural Economics, memo.

U. S. Congress. Senate Committee on Governmental Affairs,
1986 Subcommittee on Intergovernmental Relations. *Governing the Heartland: Can Rural Communities Survive the Farm Crisis?* 99th Cong., 2nd Sess., Draft Committee Print. Washington: U.S. Government Printing Office.

Wilkening, Eugene A. "Subjective indicators and the quality of life."
1982 Chapter 16 in R.M. Hauser, D. Mechanic, A.O. Haller, and T.S. Hauser (eds.), Social Structure and Behavior: *Essays in Honor of William Hamilton Sewell*. New York: Academic Press.

Wu, Huoying, Jerry R. Skees, and Louis E. Swanson. "Farm adjustments:
1991 a discrete-choice model for the analysis of panel data." Lexington: University of Kentucky Depart. of Agricultural Economics, Staff Paper 288.