

Education and Income: Significant Factors in Life Satisfaction of Farm Men and Women¹

**HARRIETT K. LIGHT, PH.D.², DORIS HERTSGAARD, PH.D.²
AND RUTH E. MARTIN, PH.D.²**

The purpose of this study was to determine if life satisfaction as perceived by farm men and farm women differed significantly according to their age, gender, income, or education level. The Neugarten Life Satisfaction Index A (LSIA) was completed by 760 randomly selected farm residents in an upper midwest state. Significant differences were found between mean LSIA scores according to education level and income of subjects. Individual LSIA item analysis revealed significant differences on eleven out of twenty statements according to education level and on ten statements according to income level. Generally, as education and income level increased, life satisfaction also increased.

Farm families are a relatively neglected sample population in the research literature on family studies while life satisfaction has been the subject of numerous studies.

The purpose of the present study was to determine if there were significant differences in perceived life satisfaction of farm men and women according to their age, educational level, income, and sex. The 20 item Life Satisfaction Index A (LSIA) developed by Neugarten, Havighurst, and Tobin [13] was used to determine life satisfaction.

Farm families tend to be similar to nonfarm families in terms of structure, life style, income, and education [16]. In this sense, Guttman's [7] statement that positive life events are positively related to life satisfaction should apply to members of farm families. People who are younger, better educated, who see their own capabilities in a positive way and who see themselves in control of life events should have higher life satisfaction [1; 9; 10].

Yet, farming as a psycho-social situation may have different life events which may influence life satisfaction. These situations include: variability of income; family members working together on a continuing and constant basis; nonseparation of work and home space; and being relatively isolated from social contacts and activities [16]. The change from farming as a subsistence type of agriculture, where the family produced goods to meet their own needs, to a commercial type with a high level of dependency on markets and suppliers has made the farm family vulnerable to worldwide economic and political events. Thus, the farm family experiences a sense of loss of control over critical aspects of their well-being, especially income [8].

Examination of the research literature shows that several demographic variables influence life satisfaction.

Education has consistently shown a relationship to life satisfaction. However, there seems to be conflicting views on its predictive power and whether the relationship is a linear or a curvilinear one. Adams [1] stated that education is positively related to life satisfaction. Other researchers state that this relationship may be a small one when statistical controls are introduced [5; 14]. Larson [9] stated that the present research may be masking a curvilinear relationship, with the highest life satisfaction at the middle levels of education.

Income, like education, consistently has been related to life satisfaction [17] and the association appears to be stronger at the lower levels of income [3; 5; 10].

Although the literature consistently indicates that gender is not related to life satisfaction [9], one of the important findings of Medley's [12] research shows that while life satisfaction is relatively high for both sexes across the age span of 22 to 65 years, independent variables may differ by sex in predictive power. It is to be noted that life satisfaction scores change over the age span according to sex. The differences in life satisfaction scores between the sexes are substantial during early (22-34 years) and late adulthood (65 and older). However sex differences are inconsequential for early (35-44) and late middle age (45-64). Differences such as these have implications for the understanding of sex differences in relation to life satisfaction [12], even though sex in general seems to have no relationship to life satisfaction [9].

According to Bortner and Hultsch [2] the individual's appraisal of situations in which they are embedded is related to their life satisfaction. There are several situations in which farm families find themselves that might be related to their life satisfaction. For instance, Dunn [4] argued that there are inevitable difficulties associated

¹Funded by The American Home Economics Foundation and the North Dakota State University Agricultural Experiment Station.

²From Child Development and Family Relations, North Dakota State University, Fargo, ND 58105.

with rural life. These difficulties included geographical isolation leading to decreased access to health and other types of services, lack of public transportation, inability to commute long distances to institutions of higher learning, and limited job options. Furthermore, Dunn believed these difficulties may contribute to alcoholism, spouse and child abuse, incest, and suicide.

Rural women, stated Dunn, are more likely to experience these adverse effects to a greater degree than rural men because, "Women, as part of their home management duties, are generally required to gain access to services; it is the mother who takes children to the doctor, the dentist, the clothing store, and to major school events. When these services are distant, and the mother has no transportation, it is generally her life that is made more difficult" [4, p. 1]. Likewise, because traditional rural culture views men as breadwinners and women as helpmates, it is often the rural female who foregoes college in order for the male to pursue college preparation in order to earn a higher income.

METHOD

Sample

Two thousand farm residents were randomly selected for participation in this study. Their names were drawn from a list of farm operators in an upper midwestern state. Seven-hundred-sixty mail questionnaires (38%) were returned. Usable data was obtained from 721 questionnaires and comprise the data base for this study.

The mean age of the 721 subjects was 47.29 years. The mean annual income was \$27,900. There were 259 males and 437 females. The vast majority (630) were currently married, 52 were never married, 32 were widowed, 4 were divorced and 3 were separated. The subjects had an average of 3.2 children.

One hundred thirty-eight had not graduated from high school, 239 were high school graduates, 155 had attended but had not graduated from college, 65 had earned a two-year college associate or a trade/technical school degree and 124 had earned four-year college degrees.

TABLE 1

Results of Analysis of Variance Test of Differences Between LSIA Mean Scores According to Education, Sex, Age, and Income

Variable	df	SS	F	Prob.
Education	4	574.91	8.16	.0001*
Sex	1	19.07	1.08	.2986
Age	1	6.22	0.35	.5524
Income	4	242.69	3.44	.0086*

* Significant Difference

Data Collection Procedures

The LSIA (Life Satisfaction Index A) [13], a demographic-biographic data questionnaire and a cover letter explaining the study and requesting their cooperation were mailed to the subjects. A stamped, addressed envelope was enclosed for the return of the research instruments within a two-week arbitrarily imposed deadline. Confidentiality agreements prevented any follow-up by telephone or mail to request the response of unreturned instruments.

The LSIA contains 20 statements descriptive of satisfaction with one's life. Subjects are instructed to respond agree, disagree, or uncertain, marked in the appropriate provided space, to indicate their feeling about the statement. A scoring key is used to identify the response that is indicative of satisfaction in the life area that is typed by each statement. The potential score range is 0 to 20. The norm score on the LSIA is 12.4 with a standard deviation of 4.4. No reliability estimates are reported for the LSIA [6].

RESULTS

The results of this study were analyzed using a four-way ANOVA procedure (Table 1). Significant differences in LSIA mean scores were found according to the subject's level of education ($F = 8.16, p < .0001$) and annual net income ($F = 3.44, p < .008$). There were no significant differences in mean life satisfaction scores according to age or sex. Interactions were not significant. The mean LSIA scores according to education and income, with age as a co-variate, are shown in Table 2. The life satisfac-

TABLE 2

Mean Life Satisfaction Scores According to Education Level and Income With Age As Covariate

Variable	N	Mean LSIA Score	Age
EDUCATION			
Less than High School	138	11.22	58.34
High School Graduate	239	12.84	46.49
Attended, But Not Graduated From College	155	14.26	44.64
Two-Year Associate Degree, Trade/Technical School Graduate	65	14.29	41.02
Four-Year College Graduate	124	14.62	40.91
ANNUAL INCOME			
\$12,000 or less	118	11.89	51.70
\$12,001-20,000	158	12.98	45.46
\$20,001-30,000	144	14.16	45.51
\$30,001-40,000	51	13.65	44.72
\$40,000 or more	113	14.06	45.64

TABLE 3
Life Satisfaction According to Education Level N = 721

Statement	Less Than	High	Some	2-Yr	4-Yr
	High School N = 138 %	School N = 239 %	College N = 155 %	Degree N = 65 %	Degree N = 124 %
1. I have gotten more of the breaks in life than most of the people I know.	30	42	52	58	60
2. This is the dreariest time of my life.	23	11	12	17	09
3. I am just as happy as when I was younger.	57	67	74	75	77
4. These are the best years of my life.	33	50	60	66	57
5. When I think back over my life, I didn't get most of the important things I wanted.	48	19	16	12	12
6. I've gotten pretty much what I expected out of life.	67	65	74	66	75
7. In spite of what people say, the lot of the average person is getting worse, not better.	39	26	23	15	18
8. I expect some interesting and pleasant things to happen to me in the future.	64	80	84	88	89
9. I feel old and somewhat tired.	34	19	14	11	15
10. Compared to other people my age, I've made a lot of foolish decisions in my life.	24	21	11	14	10
11. I have made plans for things I'll be doing a month or a year from now.	51	56	74	68	80

tion mean scores increased as the level of education and income increased.

In order to determine which specific statements of the LSIA generated significantly different responses according to education and income, chi-square analysis was used. Significant differences found between responses according to education level are shown in Table 3.

Education

Significant differences according to educational level were found among responses on 11 of the 20 LSIA items. Generally, as the level of education increased, a greater percentage of subjects agreed they had gotten more breaks in life ($\chi^2 = 35.25$, $df = 4$, $p < .0001$), are just as happy as when they were younger ($\chi^2 = 14.61$, $df = 4$, $p < .005$), these are the best years of their life ($\chi^2 = 35.33$, $df = 4$, $p < .0001$), expected interesting things in their future ($\chi^2 = 23.02$, $df = 4$, $p < .0001$), and felt they had gotten what they expected out of life ($\chi^2 = 11.04$, $df = 4$, $p < .02$).

As the level of education increased, a greater percentage of subjects disagreed that this was the dreariest time of their life ($\chi^2 = 20.46$, $df = 4$, $p < .0004$), they felt old and tired ($\chi^2 = 29.78$, $df = 4$, $p < .0004$), they had made a lot of foolish decisions in their life ($\chi^2 = 20.15$, $df = 4$, $p < .0005$), they didn't get most of the important things they wanted in life ($\chi^2 = 75.37$, $df = 4$, $p < .0001$), and that

the lot of the average person was getting worse, not better ($\chi^2 = 11.04$, $df = 4$, $p < .02$).

A comparison of mean percentages, shown in Table 3, reveals some striking differences in life satisfaction statements. For purposes of discussion, the group with the least education and the group with the most education will be compared. Twice as many subjects with four years or more of college (60%) agreed that they had gotten more breaks in life than most people they knew than subjects who had not graduated from high school (30%). Responses followed the same pattern for a similar statement, "When I think back over my life, I didn't get most of the important things I wanted." Only 12% of the subjects with a college education agreed, while four times as many (48%) of the subjects who had not graduated from high school agreed with that statement.

Three statements referring to the future revealed the relative optimism of the four-year college graduate group as compared with the group who did not graduate from high school. Eighty-nine percent of the college graduate group expected interesting things to happen to them in the future; only 64% of the less than high school group expected interesting things. "I have made plans for things I'll be doing a month or year from now" drew an 80% positive response from the four-year college graduate group compared with 51% positive response from the less than high school group. Only 18% of the four-year col-

TABLE 4
Life Satisfaction According to Income Level (N = 584*)

Statement	Less Than	\$12,001-	\$20,001-	\$30,000-	More Than
	\$12,000	20,000	30,000	40,000	\$40,000
	N = 118	N = 158	N = 144	N = 51	N = 113
	%	%	%	%	%
1. As I grow older, things seem better than I thought they would be.	43	51	63	53	58
2. I have gotten more of the breaks in life than most people I know.	30	49	52	56	54
3. I am just as happy as when I was younger.	66	65	72	76	76
4. My life could be happier than it is now.	57	50	36	47	46
5. These are the best years of my life.	39	70	56	64	55
6. I feel old and somewhat tired.	30	20	15	16	17
7. As I look back on life, I am fairly well satisfied.	77	84	85	80	89
8. When I look back over my life, I didn't get most of the things I wanted.	42	16	17	21	15
9. I've gotten pretty much what I expected out of life.	59	69	73	67	76
10. In spite of what people say, the lot of the average person is getting worse, not better.	30	30	17	39	21

* Income was not reported by all subjects.

lege group felt the lot of the average person is getting worse, not better. More than twice as many (39%) subjects in the less than high school group agreed that things were getting worse for the average person.

Income

Generally, the mean scores on the LSIA increased as the annual income increased (Table 4). However, the subjects in the \$30,000-\$40,000 category had a mean score that was .5 point lower (13.64) than the subjects in the \$20,000-\$30,000 category (14.16). In spite of this, the subjects in the upper levels of income had higher life satisfaction scores than did the subjects in the lower income groups. Especially obvious was the lower mean scores of those subjects earning \$12,000 or less annually; the mean LSIA scores of the subjects in the three categories over \$20,000 were relatively similar. (This finding appears to be related to the conclusion of other researchers that the relationship between income and life satisfaction is stronger at lower income levels [10; 17].)

Significant differences were found between the responses of subjects, in the different income categories, to ten of the twenty LSIA statements. The following statements drew significantly different responses: As I grew older, things seem better than I though they would be ($\chi^2 = 16.57$, $df = 4$, $p < .002$); I have gotten more of the breaks in life than most people I know ($\chi^2 = 18.64$, $df = 4$, $p < .0009$); I am just as happy as when I was younger ($\chi^2 = 10.82$, $df = 4$, $p < .02$); my life could be happier than it is now ($\chi^2 = 12.01$, $df = 4$, $p < .01$); these are the best years of my life ($\chi^2 = 20.68$, $df = 4$, $p < .004$); I feel old and

somewhat tired ($\chi^2 = 10.08$, $df = 4$, $p < .03$); as I look back on life, I am fairly well satisfied ($\chi^2 = 36.75$, $df = 4$, $p < .0001$); I've gotten pretty much what I expected out of life ($\chi^2 = 14.65$, $df = 4$, $p < .005$); in spite of what people say, the lot of the average person is getting worse, not better ($\chi^2 = 16.04$, $df = 4$, $p < .003$).

Marked differences were revealed between the group earning \$12,000 or less annually and the group earning more than \$12,000 (See Table 4). Especially noticeable are the differences in responses between the lowest and the highest income categories.

A lower percentage (43%) of the \$12,000 group than the \$40,000 and over group (58%) agreed that things seemed better than anticipated, and that they had gotten more breaks in life (30% vs. 54%) than most people. Similarly, fewer subjects in the \$12,000 category (59%) agreed that they had gotten pretty much what they expected out of life, compared to 76% of the subjects in the over \$40,000 category who agreed with that statement. Almost three times as many subjects in the \$12,000 category (42%) agreed that they didn't get most of the things they really wanted in life, as did the subjects in the highest income category (15%).

DISCUSSION

The results of this study indicate that life satisfaction of farm men and women is influenced by their level of income and their level of education, thus supporting the work of other researchers [1; 9; 10] who found income and education related to life satisfaction of urban residents. Also similar to Larson's [9] findings, this study

did not find that life satisfaction of farm residents was related to their gender. While the influence of age on life satisfaction appears, according to Medley [12], to be related to the gender of the individual, this study did not find significant differences among the age groups.

It is not surprising that income would emerge as a highly significant variable in life satisfaction of farm men and women. Extensive literature supports the argument that economic stress is common for farm families with relatively low incomes [11; 15]. Farm families with higher income would feel greater satisfaction because they are not as likely to experience as much stress from lack of financial resources as the lower income families. Additionally, higher income would allow the family to enjoy a higher standard of living.

In view of the significant differences in life satisfaction according to income, it is logical that there would be significant differences according to the subject's level of education. Education and income are commonly used as predictors of socio-economic status. It is usually assumed that education and income are positively related. For farm men and women, education could be expected to result in more efficient management practices, wiser use of resources and increased understanding of the environmental factors (markets, world situations) that impact on farm families' well-being.

An analysis of individual statements suggests that the subjects who had relatively higher levels of education and income were more satisfied as they reflected on their lives than were subjects with lower income and education levels. For instance, their expectations for life seemed to be in line with what they actually had gotten out of life. This may indicate that income and education are resources that allow one to obtain those things in life that are perceived as important and desired.

Similarly, the higher education and income groups appeared to be more optimistic in their outlook on life. A significantly higher percentage of both groups disagreed that the lot of the average person is getting worse. Education may help put circumstances and events in perspective, especially historical perspective, and adequate financial resources would likely make life look better rather than worse.

IMPLICATIONS

The results of this study suggest that life satisfaction of farm men and women is influenced by the same factors that influence life satisfaction of urban men and women: education and income appear to be the salient features. Therefore, it is proposed that services to enhance the quality of life in rural areas, and especially for farm families, have strong educational and career preparation components.

The educational component could be of two types: informational without college credit or classes with college credit toward an academic degree. The informational courses could have enrichment or practical and applied knowledge as their objective. The college credit classes should be brought to the farming community through the

services of university continuing education, or similar divisions. Program planning through such services would require universities to adapt and modify their residence requirements, common to most institutions of higher learning, and other policies that are designed primarily for the student directly out of secondary schools.

Career preparation for residents of farming communities need not be directed only toward the male farmer with the goal of replacing farming with a different occupation. However, given the financial exigency of many farm families, that might be a relevant goal. Farm women, traditionally employed in low-paying and dead-end jobs, could benefit from career preparation that would allow them to move into higher income jobs. Because career options are limited in rural communities, a useful focus would be on self-employment and small business ventures, capitalizing on opportunities that are potential sources of income.

The results of this study also have significance for the children in farm families. The importance of education and income to life satisfaction should be a strong consideration of teachers, counselors, parents and other adults who have influence on young people. Encouragement to continue their education should be given to males and females. Additionally, exploration of ways to finance continued education for these young people should be a major concern of adults.

REFERENCES

1. Adams, P. Correlates of satisfaction among the elderly. *Gerontologist*, 1971, 11, 64-68.
2. Bortner, R.W., and Hultsch, D.F. A multivariate analysis of correlates of life satisfaction in adulthood. *Journal of Gerontology*, 1970, 25, 41-47.
3. Culter, S. Volunteer association participation and life satisfaction: A cautionary research note. *Journal of Gerontology*, 1973, 28, 96-100.
4. Dunn, F. The conflicting needs of America's rural women. *The Rural Education*, 1980, 2, 1-5.
5. Edwards, J., and Klemmock, P. Correlates of life satisfaction: A reexamination. *Journal of Gerontology*, 1973, 28, 497-502.
6. George, L.K., and Beason, L.B. *Quality of life in older persons*. Human Sciences Press: New York, 1980.
7. Guttman, D. Life events and decision making by older adults. *The Gerontologist*, 1978, 18, 462-467.
8. Kliebenstein, J.B., Heffernan, W.D., and Peck, Deborah A. Stress and stress management in farming. *Journal of the American Society of Farm Managers and Rural Appraisers*, 1983, 47, 22-28.
9. Larson, R. Thirty years of research on the subjective well-being of older Americans. *Journal of Gerontology*, 1978, 33, 109-129.
10. Mancini, J.A. Effects of health and income on control orientation and life satisfaction among aged public housing residents. *International Journal of Aging and*

Human Development, 1980-81, 12, 215-220.

11. Marotz-Baden, R. Stress and coping: A rural-urban comparison. Paper presented at the National Council of Family Relations Annual Meeting, St. Paul, MN. October 12-15, 1983.

12. Medley, M.L. Life satisfaction across four stages of adult life. *International Journal of Aging and Human Development*, 1980, 11, 193-209.

13. Neugarten, B.L., Havighurst, R.J., and Tobin, S.S. The measurement of life satisfaction. *Journal of Gerontology*, 1961, 16, 134-143.

14. Palmore, E., and Luikart, C. Health and social fac-

tors related to life satisfaction. *Journal of Health and Social Behavior*, 1972, 13, 68-80.

15. Rosenblatt, P., and Keller, L.O. Economic vulnerability and economic stress in farm couples. *Family Relations*, 1983, 32, 567-573.

16. Rosenblatt, R.C., Nevaldine, A., and Titus, S.L. Farm families: Relation of significant attributes of farming to family interaction. *International Journal of Sociology of the Family*, 1978, 8, 89-99.

17. Spreitzer, E., Snyder, E., and Larsen, P. The relative effects of health and income on life satisfaction. *International Journal of Aging and Human Development*, 1979, 10, 283-288.