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**ECONOMIC HARDSHIP AND STRESS AMONG FARM
OPERATORS IN NORTH DAKOTA: THE
BUFFERING EFFECT OF SOCIAL SUPPORT**

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INTRODUCTION

The changing economic character of American agriculture is producing more than just surplus crops, it is also producing measurable increases in stress. This stress is a consequence of the faltering economic conditions in rural America (Cogner et. al., 1986; Farmer, 1986), which has significant implications for the well-being of our rural population. Long term depression, increased suicide rates, family strain and violence are all results of this economic change (Farmer, 1986).

Farmer (1986), characterized the rural sector as financially, emotionally, and socially troubled. These troubles are directly linked to the economic crisis rural America is experiencing. Social scientists and mental health professionals have expressed concern about the effects of the rural crisis on the farm population. Excessive and widespread financial difficulties have promoted increased concern which has led to psychological stress.

The concept of "stress" is a generic term usually associated with mental tension or strain. For all its popularity, the term has only recently found its way into the medical vocabulary. One of the primary reasons for this omission has been the lack of an adequate or standardized definition of the concept (Wallis, 1983). Empirical indicators of stress have ranged from migraine headaches and stomach cramps, to insomnia, lethargy, and confusion. Consequently, few studies operationalize stress the same way.

It is apparent that an individuals' physical and social environments are influenced by the constraints placed upon them. It is believed that if constraints are significant enough, they will be reflected in the adaptive behavior undertaken by individuals. Adaptive behavior that attempts to restore a balance in one's life, is also a form of stress (Dohrenwend and Dohrenwend, 1974; Dooley and Catalano, 1980). These constraints, whether short or long term, have been referred to as stressful life events. Stres-

stressful life events refer to either positive or negative disruptive events that call for individuals to adjust their behavior. Rush (1977) found that different types of life events tend to cluster. One dichotomy separates economic and noneconomic events. This distinction can be used to highlight economic events as a unique type of stressful life event.

These stressful life events are associated with physiological and psychological disorders (Dohrenwend and Dohrenwend, 1974; Myers et. al., 1971, 1972; Paykel, 1974; Kaplan, 1983). However, research suggests that social support may help moderate the effect of stressful life events (Alloway and Bebbington, 1987; Cohen and Wills, 1985; Gore, 1978). Cobb (1976), noted that social support is important since it facilitates adapting to change or coping with crisis. This paper will test the hypothesis that social support acts to "buffer" or protect individuals from perceived stress induced by economic hardship.

CONSEQUENCES OF STRESS

A review of the relevant literature, leads to the conclusion that stressful life events are related to the occurrences of mental disorders and illness (Dean and Lin, 1977; Lin et. al., 1986; Rahe, 1974; Turner, 1983). The origin of this line of thought can be traced to the work of W.B. Cannon (1929), who used laboratory experiments to demonstrate that the application of a strong stimuli could produce physiological change in laboratory animals. Based on his experiments, Cannon proposed that illness in humans could be a product of prolonged exposure to some stressful stimuli. His research demonstrated a link between life events, physiological reactions, and illness.

Cannon's studies were followed by A. Meyers' research in the 1930's. Meyers demonstrated that life charts could be used as a diagnostic tool in identifying life events, and that life events were important in the etiology of disease (Thoits, 1983). Meyers emphasized that all life events were important in this process, not just catastrophic events.

The next noteworthy contribution to the stress literature was H. Selye's (1956) research and writing on the medical perspective of stress. Selye's work focused on stressors and what he called the General Adaptation Syndrome (GAS). Selye believed that without adequate defenses against stressors, "diseases of adaptation" would result due to the body's failure or inability to cope with the stressor (Selye, 1976).

The pioneering work of Cannon, Meyers, and Selye enhanced the view that both physical and psychological stimulus could become potential stressors. This is one of the central concepts of a popular approach in stress literature, known as the life events perspective. The life events perspective conceptualizes stress as a physiological or psychological reaction to the readjustment in behavior resulting from a disruptive stimuli. Stressful life events are viewed as an objective experience that the individual feels threatened by, therefore causing a substantial change in his/her behavior (Dohrenwend and Dohrenwend, 1969; Holmes and Rahe, 1967).

Dooley and Catalano (1980) have identified economic factors as one type of disruptive force that individuals may experience and which results in behavior readjustment. When a person experiences a change in economic status, some of the behavioral adjustments that an individual may exhibit include changes in consumption levels or selling of assets. The economic constraints affect the quality of both the social and physical environment in which we live. These economic constraints also affect the way individuals will seek to restore equilibrium to their environment. Furthermore, any economic phenomena that disrupt the normal operation of life enough to call for a change will also affect the value of the adjustments that are available (Dooley and Catalano, 1980).

STRESS AND SOCIAL SUPPORT

Emile Durkheim (1917), wrote that stable rules of conduct and tradition provide a sense of certainty and integration in a persons' life. He noted that if the regulations of society were disrupted, either positively or negatively, individuals would temporarily be freed from authority. This disruption of the regulative effect of society leaves an individual vulnerable to what Durkheim called anomic social currents. For him, social integration was the key determinant of psychological well-being. It protected a person from the despair and uncertainty which is related to stress (Spaulding and Simpson, trans., 1951).

Since the relationship between stressors and illness is well documented, it is important to identify factors which moderate this relationship. Research has focused upon social support as one moderating factor of stressful life events. The negative effects of stressful life events appear to be mitigated by social support networks which have a buffering effect on stress impacts.

Research has shown that people with strong social support networks are healthier physically and psychologically than those without (Broadhead et. al., 1983). Conceptualizing social support as a measure of social integration enables researchers to measure the development and maintenance of a persons' social identity that should have a positive effect on a persons' self-esteem. The moderating effect of social support is thought to influence the link between change or adjustment and perceived stress symptoms. This moderator could help explain variations found in the level of stress experienced. This also supports the contention that the ability of individuals to adapt to life events is partly a function of the social support that is available to them (Dean and Lin, 1977; Lin et. al., 1986; Cohen and Syme, 1985).

Recent studies by rural sociologists and mental health professionals document the psychological toll of the current financial crisis on farm families (Beery et. al., 1984; Blundall and Weigal, 1985; Bultener et. al., 1985, 1986; Heffeman and Heffeman, 1986; Geller et. al., 1988). A study of Missouri farm families who lost their farms found that a majority of those families experienced depression, withdrawal from friends and family, insomnia, feelings of worthlessness, and steep mood swings (Heffeman and Heffeman, 1986). Blundall and Weigal (1985) have observed that the grieving process experienced by families losing their farms is analogous to the loss of a family member. Additionally,

a recent study in North Dakota suggests that some of the stress resulting from economic hardship on the farm, may be manifesting itself through an increased probability of experiencing a farm accident (Geller and Ludtke, 1988).

MODEL OF ECONOMIC HARDSHIP, SOCIAL SUPPORT, AND STRESS

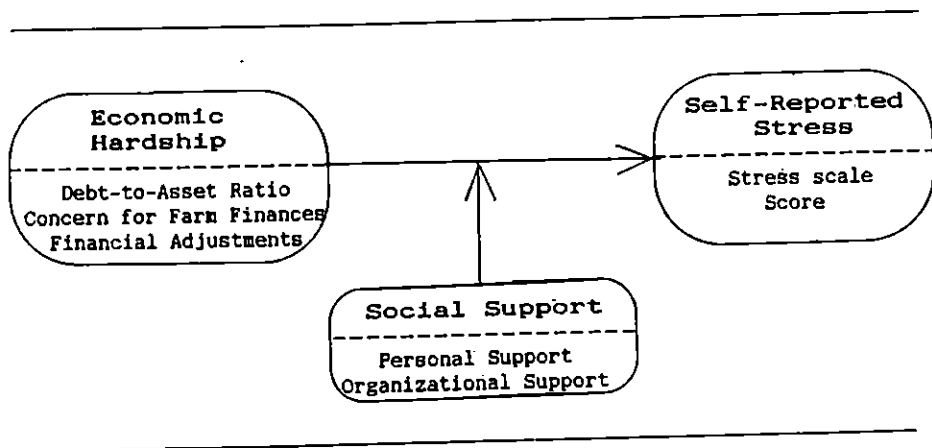
The review of the literature can be summarized in a number of key points. First, there are serious consequences of stress, whether it is included by physical or psychological stimuli. The psychological stressors include both economic and non-economic events. These events may be manifested in lifestyle adjustments which act as stressors themselves.

Secondly, social support, a component of social integration, has a positive effect on the physical and psychological well-being of individuals. Thus people who are experiencing economic stress, which may be compounded by adjustments which they make in the financial dealings, should benefit from social support in their lives. That is, support should reduce the amount of stress which they experience.

The application of this model is presented in Figure 1, along with the indicators used. Theoretical constructs are denoted in bold face type and the empirical indicators based on the sample of North Dakota farm operators are found below each construct. The model suggests that economic hardship has a direct impact on self-reported stress, with social support acting as a buffer.

Figure 1.

Model of Economic Hardship, Stress, and Moderating Factor.



HYPOTHESES

Thus two sets of variables appear to be important. First, variables that measure economic hardship and adjustment are hypothesized to be positively related to farm operators' stress levels (Hypothesis 1). Those individuals who have the highest financial burdens, who make the most adjustments in their lives, and who report the most concern for their farms' financial condition will report the highest levels of stress.

Second, the relationship between stress and social support should be negative (Hypothesis 2). That is, those farm operators who have good social support networks will be less likely to experience high stress levels. Finally, the relationship between economic hardship variables and stress should be lessened or neutralized by the presence of social support (Hypothesis 3). That is, those individuals who report high social support will be less likely to experience the effect of the economic hardship variables on stress levels. Thus, social support should serve as a buffer against the harmful effects of these stressful events. This would mean that people with high social support should be more able to cope with stressful life adjustments and economic hardship, while those with low support will be more vulnerable to the stress caused by these adjustments.

PROCEDURES

SAMPLING

The data used in this study were gathered through the 1987 North Dakota Rural Life Poll. This Poll is an annual state-wide survey of the rural residents in North Dakota conducted by the Social Science Research Institute at the University of North Dakota. The poll involved a mail survey of samples of farm operators and rural nonfarm residents. The farm operators sample, used here, was drawn from a list of active farm operators supplied by the Agricultural Stabilization and Conservation Service of North Dakota. The questionnaire was sent to a total of 953 farm operators during January and February of 1987. The survey employed one postcard follow-up and a second questionnaire mailing to non-respondents. Of the 953 surveys mailed out, 450 were returned complete, yielding a response rate of forty-seven percent. This response rate is comparable to other rural life polls and demographic comparisons of the sample and the population indicate that the sample is representative of the general farm population of the state.

MEASURES

Three primary indicators of economic hardship were obtained from the respondents. They were debt-to-asset ratio, concern for farm finances, and economic adjustments. Debt-to-asset ratio (D/A) is a widely used indicator of economic hardship and is

considered an indicator of possible cash flow problems. Respondents were asked to estimate their total farm assets and their total farm debts. A debt-to-asset ratio was then computed from this information by dividing the total liabilities by the total assets. It is commonly held that as this debt-to-asset ratio increases the farm operator becomes more at risk of financial failure, and consequently has a greater chance of stress (Beeson and Johnson, 1987). Farm operators with a debt-to-asset ratio of greater than forty percent are considered to be facing serious financial problems. The debt-to-asset ratios were categorized as: 0.10 or less, 0.11 to 0.40, 0.41 to 0.70, and greater than 0.70. Our sample of farm operators had a mean debt-to-asset ratio of 0.413, with a range of 0.0 to 3.98. This level is comparable to those found in previous studies carried out in North Dakota (Rathge et. al., 1987).

The second indicator of economic hardship was a single item question. Farm operators were asked how concerned they were about their farms' financial condition. Survey recipients were asked to rate the level of concern they had for their financial condition on a Likert type scale. Response categories ranged from (1) very concerned to (5) not concerned at all about their farms' financial condition.

The last economic hardship indicator was a life style adjustment scale. To obtain an indication of financial adjustment that farmers had made in the last twelve months, they were asked to indicate any adjustments they had made on a list of thirteen possible financial adjustments. Each item was ranked from (1) no adjustments to (3) major adjustments. Responses were summed and a cumulative adjustment score was obtained, these items are presented in Table 1. These adjustments are indications of how many changes a farm operator may have instituted to enable him/her to cope with economic stress. Making financial adjustments is one way to deal with economic hardship. These adjustments are seen as an attempt to restore equilibrium, and are viewed as a source of stress themselves. The mean adjustment score was 18.76, from a range of 13 to 37. Cronbach's alpha (1951), was then computed as a measure of internal consistency. The overall alpha coefficient was 0.830, well within an acceptable range.

To develop a perceived stress scale for farm operators, survey recipients were asked to indicate how often they had experienced any of eleven specified emotions in the past year. The questionnaire specifically asked, "In the past year, how often you have felt each of the following emotions?" A list of these items is presented in Table 2. Responses for each emotion were ranked on a

Table 1. Percentage of Responses for Financial Adjustment

"Have you or your family made any of the following adjustments during the last 12 months?"

<u>Item</u>	<u>Major Adjustments</u>	<u>Minor Adjustments</u>	<u>No Adjustments</u>
Postponed Household Purchase	37.5	27.6	34.9
Postponed Farm Purchase	57.9	21.5	20.6
Reduced Life Insurance	13.8	11.6	74.6
Reduced Health Insurance	10.1	11.4	78.5
Changed Eating/Buying Habits	12.3	36.7	51.0
Used More Credit	13.2	23.6	63.3
Cut Back Entertainment	35.1	32.9	32.0
Taken Off-Farm Job	26.5	15.3	58.3
Postponed Medical Care	10.7	17.9	71.4
Sold Some Land	4.5	2.5	93.0
Sold Some Machinery	6.3	11.1	82.6
Forfeited Land Contract	5.7	3.0	91.3
Unable to Pay Property Taxes	5.7	7.2	87.1

Range = 13 to 37

Mean = 18.76

five item Likert type scale, ranging from (1) never to (5) very often. A perceived stress scale was calculated by summing the respondent's scores for the eleven specified emotions. The mean stress score was 29.16, with a range of 11 to 52. Cronbach's alpha was again computed as a measure of internal consistency, and the eleven items had an overall alpha coefficient of 0.856.

Table 2. Univariate Statistics for Stress Scale

"In the past year, how often have you felt each of the following emotions?"

<u>Item</u>	Never	Almost Never	Percent Some- time	Fairly Often	Very Often
Felt you did not have Opportunity	21.0	17.3	41.0	12.0	8.8
Felt confident	20.1	40.5	27.9	5.4	6.1
Felt could not solve problems	17.5	23.5	42.2	11.3	5.5
Felt little you could do to change things	14.0	21.4	39.5	16.6	8.5
Felt what happens to you depends on you	29.9	34.5	22.5	8.1	5.1
Felt you were being pushed around	23.3	26.0	30.2	10.6	9.9
Felt that you could do anything	15.8	35.5	34.1	11.8	2.8
Felt that you had little control	11.8	22.5	37.5	18.5	9.7
Felt nervous and stressed	8.1	15.7	40.0	19.4	16.9
Felt angered because no control	5.5	13.6	41.8	22.3	16.8
Felt difficulties were piling up	24.2	31.1	31.8	7.8	5.1

Range 11 to 52

Mean = 29.691

Finally, all survey recipients were asked to indicate the amount of emotional support they felt they had received over the past twelve months from six possible sources. Responses were recorded on a four item Likert type scale, with responses ranging from (1) no support to (4) a great deal of support. The mean of the social support scale was 13.33, with a range of 6 to 24. The social support scale was than factor analyzed and two support factors emerged, these factors seem to represent personal support and organizational support. A review of the pertinent literature indicated that two or more factors should be expected (Lin et. al., 1986). The six support items and the results of this analysis are presented in Table 3.

Table 3. Factor Analysis of Support Scale

<u>Factor</u>	<u>Eigenvalue</u>	<u>% of Var</u>	Total Variance explained
1	2.568	42.8	62.6%
2	1.167	19.4	

Factor Matrix with a PC Extraction, Varimax Rotation

<u>Item</u>	<u>Rotated Factor Matrix</u>	
	<u>Factor 1</u>	<u>Factor 2</u>
Your Family	.78349	-.05223
Friends & Neighbors	.79181	.14748
Local Church	.63994	.35233
Farm Org.	.35343	.67391
Social Service Org.	-.20983	.78480
Local Community Org.	.43722	.71074

ANALYSIS STRATEGY

We employed several statistical analyses in the presentation of this data. First, univariate statistics were used to examine the extent of stress, economic hardship, and social support among farm operators. Next, bivariate statistics for stress and economic hardship were calculated to determine the strength and direction of the hypothesized relationship. Finally, we used multiple regression analysis to determine if social support acts to buffer the effects of economic hardship on perceived stress levels for North Dakota farm operators.

Two sets of separate regression equations were run for each of the economic hardship variables. One set of equations for personal support and one set for organizational support. The social support factors were dummy coded, with high support (one standard deviation above the mean) coded as 1, and low support (one standard deviation below the mean) coded as 0. Each economic hardship variable was entered first into a regression equation, followed by the dummy coded support variable and finally, an interaction term was added into the equation. These interaction (buffering) terms were constructed by multiplying each economic hardship indicator with the dummy coded support variable described above. An example of this would be: (debt-to-asset ratio X dummy coded organizational support) (Kerlinger and Pedhazur, 1973).

FINDINGS

Univariate Analysis: Financial Adjustment, Levels of Stress,
Concern, and Support

Percentages of responses to the financial adjustment variable are found in Table 1. Clearly, farm purchases bore the brunt of the sacrifices which the operators made. Fifty-eight percent of the farmers reported that they made major adjustments by postponing farm purchases. In fact, only one-fifth of the respondents reported no reduction of farm purchases. Other categories where substantial cutbacks were reported were household purchases and entertainment. Two worrisome cutback areas were reduction in health insurance mentioned by nearly one-quarter of the farmers and postponement of health care on the part of over one-quarter of the sample.

The percentage of responses for each of the eleven items on the stress scale are presented in Table 2. The Table indicates that over one-third (39%) of the respondents reported feeling angered because of a lack of control in their life either fairly often or very often. Also thirty-six percent of the responding farm operators reported feeling nervous and stressed either fairly often or very often. The Table further indicates that only eleven percent of the respondents reported feeling confident in dealing with the problems of life fairly often or very often, while at the same time approximately two-thirds (64%) of the operators reported never or almost never feeling that what happens to them in the future mostly depends on them. Finally, sixty percent of the respondents reported never or almost never feeling confident in dealing with problems.

Table 4 indicates the percentages of responses for the economic hardship variable, concern for the financial condition of their farm. The Table indicates that forty-five percent of the farm operators felt very concerned for their farm's financial condition. While only thirteen percent of the respondents reported not being concerned at all for their farm's financial condition, a total of eighty-five percent registered some level of concern.

Table 4. Univariate Statistics for Concern for Farm Finances

"How Concerned are you about your farm's financial condition?"

<u>Item</u>	<u>Percent</u>
Very concerned	45.1
Moderately concerned	25.7
Uncertain	2.0
Slightly concerned	13.8
Not concerned	13.3

Finally, the percentages of responses for the social support scale are found in Table 5. Fifty-eight percent of the respondents reported feeling that they had received a great deal of support from their families. At the same time, seventy-seven percent of the farm operators felt they had received no support from their social service organizations. It is interesting to note that farm operators were split almost evenly on the amount of support they felt they had received from their local church. At one extreme twenty-four percent of the respondents reported they had received no support from the church, while at the other end of the scale, twenty-three percent said they had received a great deal of support from the local church.

Table 5. Univariate Statistic for Social Support Scale

"How much Emotional Support do you feel you have received for the following services?"

<u>Item</u>	<u>Percent</u>			
	No Support	Some Support	Moderate Support	A Great Deal of Support
Your Family	4.7	12.8	24.5	58.0
Friends and Neighbors	7.5	37.4	32.7	22.4
Local Church	23.6	28.4	25.5	22.5
Social Service Org.	77.0	15.3	6.3	1.5
Local Community Org.	48.9	28.3	18.6	4.1
Farm Org.	45.3	34.7	16.1	3.9

Range = 6 to 24

Mean = 13.33

BIVARIATE ANALYSIS; ECONOMIC HARDSHIP AND STRESS

The bivariate relationship for the three economic hardship variables and the stress scale is presented in Table 6. First, the relationship between debt-to-asset ratio and stress indicates that those farm operators who reported the higher debt-to-asset ratios were also found to have higher stress levels. Next, the relationship between concern for farm finances and the stress scale also shows that those farm operators who reported having high concern for their farm finances were found to have higher stress scores. Finally, those farm operators who reported the highest levels of financial adjustment were found to have higher stress scale scores. The relationships between the three economic hardship variables and stress are all statistically significant, and are in the predicted direction of and consistent with Hypotheses 1.

Table 6. Bivariate Statistics: Economic Hardship Variables and the Stress Scale.

Stress by Debt/Asset Ratio

<u>D/A Ratio</u>	<u>Mean Stress Score</u>	
.10 or less	25.670	
.11 to .40	27.750	
.41 to .70	31.813	
.71 or greater	32.605	
Analysis of Variance:	F	Sig.
	17.633	.0000

Stress by Concern about Farm Finances

<u>Item</u>	<u>Mean Stress Score</u>	
Very Concerned	32.609	
Moderately Concerned	29.070	
Uncertain	25.667	
Slightly Concerned	26.390	
Not Concerned	22.053	
Analysis of Variance:	F	Sig.
	27.150	.0000

Stress by Financial Adjustment

<u>Level of Adjustment</u>	<u>Mean Stress Score</u>	
Low Adjustment	25.175	
Moderate Adjustment	29.392	
High Adjustment	34.537	
Analysis of Variance:	F	Sig.
	35.318	.0000

REGRESSION ANALYSIS: SOCIAL SUPPORT AND STRESS

The stress buffering effect of social support is examined next. Initially, we hypothesized that the relationship between economic hardship and stress should be weakened in the presence of social support. This interaction effect should indicate that the economic hardship-stress relationship is strongest when social support is minimal and weakest when social support is at a maximum. To test this hypothesis, a multiple regression analysis was run, where a multiplicative term was constructed to reflect the interaction effect between the economic hardship variables and social support.

The data in Table 7 and 8 present the results of the regression analysis. The results suggest that all the economic hardship indicators are positively related with psychological stress. The statistical interpretation of these findings suggest that the relationship between economic hardship and stress (i.e., the regression slope) is significantly different in the presence of high and low social support. Furthermore, the negative sign associated with the interaction term suggests that the relationship between economic hardship and stress is greater in the presence of low support, and lower in the presence of high support. Finally, it should be noted that this is true for two of the economic hardship indicators, debt-to-asset ratio and concern for farm finances. The interaction term was not statistically significant when incorporated in the regression equation examining financial adjustments. A similar pattern was found with the personal support measure. Again, there were significant interaction terms for the debt-to-asset ratios and concern for farm finances. The interaction term was not statistically significant in the regression equation examining financial adjustments. A similar pattern was found with the personal support measure. Again, there were significant interaction terms for the debt to asset ratios and the concern for farm finances with personal support. The signs were also negative, supporting the earlier suggestion that the relationship between economic hardship and stress is greater under conditions of low support. The interaction term involving financial adjustments and personal support was not significant, also reinforcing the pattern established earlier with the social support variables.

Table 7.
Organizational Support:
Standardized Regression Coefficients of
Economic Hardship Variables, Personal Support, and Interaction on Stress

	<u>Beta</u>	<u>T value</u>
D/A ratio	.2738	4.165 **
Organizational Support	-.1153	-1.762
D/A X Support	-.2863	-2.217 *
Adjustments	.3794	5.999 **
Organizational Support	-.1515	-2.408 *
Adjustment X Org. Support	-.1534	-0.580
Concern	.5024	8.500 **
Organizational Support	-.1530	-2.614 **
Concern X Org. Support	-.5371	-3.021 **

** = Prob. < .01, * = Prob. < .05

Table 8.
Personal Support:
Standardized Regression Coefficients of
Economic Hardship Variables, Personal Support, and Interaction on Stress

	<u>Beta</u>	<u>T value</u>
D/A ratio	.2981	3.436 **
Personal Support	-.0307	-0.352
D/A X Personal Support	-.4113	-2.166 *
Adjustments	.3952	4.733 **
Personal Support	-.0742	-0.880
Adjustment X Per. Support	-.3707	-0.992
Concern	.4712	5.877 **
Personal Support	-.1262	-1.545
Concern X Per. Support	-.4941	-1.943 *

** = Prob. < .01, * = Prob. < .05

These results seem to indicate that social support acts to buffer passive types of stressors such as debt-to-asset ratios and concern for farm finances better than it does for active stressors like the amount of adjustments. These passive stressors are present or have the potential to create stress but do not require overt or active behavioral changes, in that respect the social support that farm operators receive may be more effective on these types of stressors.

SUMMARY AND CONCLUSIONS

This paper has attempted to examine the role of social support with regard to the relationship between economic hardship and stress for North Dakota farm operators. As predicted, the three economic hardship variables were positively related to stress levels. Both the bivariate and regression analysis indicate that this relationship is statistically significant. Farm operators who are experiencing high levels of either economic hardship are significantly different in terms of their stress levels than farm operators who report less economic hardship. Those farm operators with debt-to-asset ratios greater than forty percent reported stress scale scores 5.5 points higher than those farm operators with debt-to-asset ratios of forty percent or less. Also, there is almost a ten point difference on stress scale scores for farm operators who report high levels of adjustment (34.54) and those reporting low levels of adjustment (25.18).

There are two forms of stressors experienced by farmers. The first is an active stressor, which occurs because of the undertaking of specific behavioral activities in adapting to changing economic circumstances. This points to the fact that lifestyle adjustment is both a "resistance resource" which an individual

applies to resolve the tension or stress (Butler, 1974), and a stressor in itself. The use of resistance resources works as one mitigating factor that the individual applies. In this case, it takes the form of changing ones lifestyle by making certain financial adjustments. Resistance resources, require that the individual be a dynamic part of the stress buffering process, which means that the individual be actively involved in making financial adjustments.

The second type of stressor is a passive stressor and social support appears to buffer this type of stressor better. These passive stressors may be derived from a general concern for the farm operators' situation or from the farm operators' debt-to-asset ratio. A high debt-to-asset ratio is not an evident factor in everyday life, yet it is a constant potential stressor. The reduction of passive stressors may require more than specific life style changes. Stone, Helder and Schneider (1988), state that; "Social support can be viewed as both a mode of coping with stressful situations and as a moderator of the stress process,...". Our regression analysis results, while mixed, indicate that social support acts to buffer the effects of passive stressors better. Social support may function better as a buffer for these passive stressors for which other coping mechanisms may be necessary. This is a particularly problematic issue for farm operators, who take special pride in being independent and self-sufficient.

Future research needs to examine the distinction between active and passive stressors. This may be supplemented by the identification of those farm operators who were actively involved in support seeking. These people are important because such farm operators have appraised themselves as in a crisis and are attempting to deal with the situation. The cognitive decision that something is wrong is the first step in the support seeking process.

Overall, since the social support North Dakota farm operators feel they received does buffer the effects of economic hardship on stress levels, efforts must be made to enhance support-giving interactions. Mechanisms which encourage both interpersonal and organizational support can be facilitated by public and private agencies. Given the magnitude of the current rural crisis, every avenue must be explored to provide relief to a traumatized population.

BIBLIOGRAPHY

- Alloway, R & P. Bebbington
1987 "The Buffer Theory of Social Support: A Review of the Literature." Psychological Medicine 17: 91-108.
- Beery, K., J. Blundall, D. Flynn, R. Weigel & B. Abbot
1984 Farm Families Facing Economic Hardship. Ames, Iowa: Assist-4 report, Cooperative Extension Service, Iowa State University.
- Beeson, P.G. & D.R. Johnson
1987 "A Panel Study of Change (1981-1986) in Rural Mental Health Status: Effects of the Rural Crisis." Paper presented at The National Conference on Mental Health Statistics. Denver, CO.
- Blundall, D. and D. Weigel
1985 Death of a Farm. Ames, Iowa: Assist-5 report, Cooperative Extension Service, Iowa State University. Ames, Iowa.
- Broadhead, W.B., Kaplan, S. James, E. Wagner, V. Schoenbach, R. Grimson, S. Heyden, G. Tibblin, and S. Gehlbach
1983 The Epidemiologic Evidence for a Relationship Between Social Support and Health. American Journal of Epidemiology. 117: 521-537.
- Bultena, G., P. Lasley, and J. M. Geller
1985 The Farm Crisis: Profiles of Dislocated and At-risk Operators in Iowa. Paper presented at the annual meetings of Rural Sociology Society. Blacksburg, Virginia.
- Bultena, G., P. Lasley, and J. M. Geller
1985 "The Farm Crisis: Patterns and Impacts of Financial Distress Among Iowas Farm Families". Rural Sociology 51(4), 436-448.
- Cohen, S. & T.A. Wills
1985 "Stress, Social Support and the Buffering Hypothesis." Psychological Bulletin 98 (2): 310-357.
- Cohen, S. & L. Syme, eds.
1985 Social Support and Health. Orlando: Academic Press Inc.
- Cobb, S.
1976 "Social Support as a Moderator of Life Stress." Presidential address, Psychosomatic Medicine 38 (5): 300-314.

- Conger, R.D., P. Lasley & D. Flynn
1986 Testimony, presented to Select Committee on Children, Youth and Families of the U.S. House of Representatives. Quality of Rural Family Life Under Conditions of Economic Hardship: Revisiting the 1930's Depression. Galesburg, IL. August.
- Dean, A., & N. Lin
1977 "The Stress-Buffering Role of Social Support." Journal of Nervous and Mental Disease 165: 403-417.
- Dohrenwend, B.S. and B.P. Dohrenwend
1969 Social Status and Psychological Disorder. New York: John Wiley & Sons, Inc.
- Dohrenwend, B.S. and B.P. Dohrenwend
1974 Stressful Life Events: Their Nature and Effects. New York: John Wiley & Sons, Inc.
- Dohrenwend, B.S. and B.P. Dohrenwend
1978 Stressful Life Events and Their Contexts. Series in Psychosocial Epidemiology, Vol. 2. New Brunswick: Rutgers University Press.
- Dohrenwend, B.S. and B.P. Dohrenwend
1984 Stressful Life Events and Their Contexts. Series in Psychosocial Epidemiology, Vol 2. New Brunswick: Rutgers University Press.
- Dooley, D. & R. Catalano
1980 "Economic Change As a Cause of Behavioral Disorder." Psychological Bulletin 87 (3): 450-468.
- Durkheim, E.
1951 Suicide: A Study in Sociology. Trans. J.A. Spaulding and G. Simpson. New York: Free Press.
- Farmer, V.
1986 "Broken Heartland." Psychology Today 54-63.
- Geller, J. M., G. Buttana and P. Lasley
1988 "Stress on the Farm: A Test of the Life-Events Perspective Among Iowa Farm Operators". The Journal of Rural Health. Volume 4, (2): 43-57.
- Geller, J. M. and R. L. Ludtke
1988 "Patterns of Farm Accidents in North Dakota". Paper presented to the Great Plains Sociological Association. Fargo, North Dakota.
- Gore, S.
1978 "The Effect of Social Support in Moderating the Health Consequences of Unemployment." Journal of Health and Social Behavior 19: 157-165.

- Heffernan, W. D., and B. Heffernan
1986 "The Impact of the Farm Crisis on Rural Families and Communities". The Rural Sociologist. 6, 160-170.
- Holmes, T. H. & R. H. Rahe
1967 "The Social Readjustment Rating Scale." Journal of Psychosomatic Research 11: 212-218.
- Husaini, B.A., J.A. Neff, J.R. Newbrough & M.C. Moore
1982 "The Stress-Buffering Role of Social Support and Personal Competence among the Rural Married." Journal of Community Psychology. 10 (October): 409-426.
- Kaplan, R. M.
1985 "Social Support and Social Health." in Social Support: Theory, Research and Applications. I.G. Sarason and B.R. Sarason, (eds.), 95-113. Dordrecht: Martinus Nijhoff Publishers.
- Kaplan, H.B., ed.
1983 Psychosocial Stress: Trends in Theory and Research. New York: Academic Press, Inc.
- Kerlinger, F. & E. Pedhazur
1973 Multiple Regression in Behavioral Research. New York: Holt, Rinehart and Winston, Inc.
- Leavy, R.L.
1983 "Social Support and Psychological Disorder: a Review." Journal of Community Psychology 11: 3-21.
- Lin, N., R.S. Simeone, W.M. Ensel & W. Kuo
1979 "Social Support, Stressful Life Events, and Illness: A Model and an Empirical Test." Journal of Health and Social Behavior 20: 108-119.
- Lin, N., M.W. Swoelfel & S.C. Light
1985 "The Buffering Effect of Social Support Subsequent to an Important Life Event." Journal of Health and Social Behavior 26 (September): 247-263.
- Lin, N., A. Dean & W. Ensel, eds.
1986 Social Support, Life Events, and Depression. Orlando: Academic Press, Inc.
- Myers, J.K., J. Lindenthal and M.P. Pepper
1971 "Life events and Psychiatric Impairment." Journal of Nervous and Mental Disease. 152, 149-157.
- Myers, J.K., J. Lindenthal, M.P. Pepper & D.R. Ostrander
1972 "Life Events and Mental Status: A Longitudinal Study." Journal of Health and Social Behavior. 13, 398-406.

- Paykel, E.S.
1974 "Life Stress and Psychiatric Disorder: Applications of the Clinical Approach" in Stressful Life Events: Their Nature and Effect. Dohrenwend and Dohrenwend (eds.) 135-149, John Wiley: New York.
- Pooyan, A.
1987 "Farm Stress and its Psychological and Behavioral Consequences among North Dakota Farm Families." *North Dakota Economic Studies*, 45 (May).
- Procidano, M.E., & K. Heller
1983 "Measures of Perceived Social Support From Friends and From Family: Three Validation Studies." American Journal of Community Psychology 11 (1): 1-24.
- Rahe, R.H.
1974 "The Pathway Between Subjects' Recent Life Changes and Their Near-Future Illness Reports: Representative Results and Methodological Issues." in Stressful Life Events: Their Nature and Effect. Dohrenwend and Dohrenwend (eds.), 73-86, John Wiley: New York.
- Rathge, R., L. Leistritz & G. Goreham
1987 "A Demographic Profile of Displaced Farmers Due to Economically Depressed Times." Paper presented at the Annual Meeting of the Rural Sociology Society, Madison, WI, (August).
- Rush, L.O.
1977 "A Multidimensional Analysis of the Concept of Life Change." Journal of Health and Social Behavior 18: 71-83.
- Sarason, I.G. & B.R. Sarason eds.
1985 Social Support: Theory, Research and Applications. Dordrecht: Martinus Nijhoff Publishers.
- Selye, H.
1976 The Stress of Life. New York: McGraw-Hill Book Co.
- Stone, A., L. Helder & M. Schneider
1988 "Coping with Stressful Events: Coping Dimensions and Issues." in Life Events and Psychological Functioning: Theoretical and Methodological Issues. Cohen Lawrence (ed.), 182-210. Newbury Park: SAGE.
- Swindle, R.E. Jr., K. Heller & B. Lakey
1988 "A Conceptual Reorientation to the Study of Personality and Stressful Life Events." in Life Events and Psychological Functioning: Theoretical and Methodological Issues. Cohen Lawrence (ed.), 237-269. Newbury Park: SAGE.

Thoit, P.A.

- 1982a "Conceptual, Methodological, and Theoretical Problems in Studying Social Support as a Buffer Against Life Stress." Journal of Health and Social Behavior 23 (June): 145-59.

Thoit, P.A.

- 1982b "Life Stress, Social Support, and Psychological Vulnerability: Epidemiological Considerations." Journal of Community Psychology 10 (October): 341-362.

Thoit, P.A.

- 1983a "Multiple Identities and Psychological Well-being: A Reformulation and Test of the Social Isolation Hypothesis." American Sociological Review 48 (April): 174-187.

Thoit, P.A.

- 1983b "Dimensions of Life Events that Influence Psychological Distress: An Evaluation and Synthesis of the Literature." in Psychological Stress: Trends in Theory and Research. H.B. Kaplan (ed.), 33-78. New York: Academic Press.

Turner, J.R.

- 1983 "Direct, Indirect, and Moderating Effects of Social Support on Psychological Distress and Associated Conditions." in Psychosocial Stress: Trends in Theory and Research. H.B. Kaplan (ed.), 105-155. New York: Academic Press, Inc.