

# Stress and Self-Esteem Among Urban and Rural Adolescents in North Dakota

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Depressed economic conditions such as those recently experienced in many areas of North Dakota intensify stress levels within families. Tight budgets, gloomy economic uncertainties, and the loss of friends and neighbors can spawn feelings of frustration, anxiety, and bitterness among parents and children. Although the greatest trauma probably occurs for those who have to switch careers and/or move, survey evidence has revealed that such emotional strain permeates all segments of the community (Leistriz et al., 1987) and is shared, in varying degrees, by all members of the family (Rosenblatt and Anderson, 1981).

Adolescents are one group that easily can be caught in the middle of such economic crises. For example, Lewko (1987) found that adolescents observe and experience stress communicated to them through other family members. This finding would suggest that those youth whose parents are particularly strained by an economic downturn (i.e., the sons and daughters of farmers or farm-related business owners) may experience higher levels of stress themselves. This notion has been supported by Mullis, Rathge, and Mullis (1987), who found that among adolescents, farm youth were especially sensitive to the state's recent troubled economy and, in turn, were most likely to report that it was producing growing levels of stress in their family.

Adolescent stress is a particular concern to researchers and practitioners because of its deleterious consequences. For example, there is evidence that increased levels of stress hamper school performance (Fontana and Dovidio, 1984), intensify classroom burnout (Fimian and Cross, 1986) and lead to delinquent conduct (Novy and Donahue, 1985). In addition, researchers have found that stress lowers the self-esteem of adolescents (Youngs et al., in press; Johnson and McCutcheon, 1980).

These findings have raised serious questions regarding stress and North Dakota's youth. First, what is the overall level of adolescent stress in the state? Second, are stress levels different in rural areas than in urban areas? And, finally, what is the impact of stress on North Dakota's adolescents? Each of these questions deserves additional discussion.

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## OVERALL STRESS LEVELS FOR NORTH DAKOTA ADOLESCENTS

The first question focuses on overall adolescent stress in North Dakota and requires that effective techniques be established for measuring stress. A technique frequently used in research on stress has been to ask youth to indicate how many stressful events they have experienced out of a predetermined list of such events. Presumably, the more items checked in the list, the more stress a person has experienced.

This approach to measuring overall stress has some hidden complexities. The same stressful event may be perceived as a positive event by some adolescents and as a negative event by others. For example, adolescents whose parents have divorced may view the divorce as a family disaster or as a welcomed resolution to family conflict. This distinction is important in measuring stress because the impact of negative stress may be more detrimental than the impact of positive stress (Youngs et al., 1989; Swearingen and Cohen, 1985; Zautra and Reich, 1983). Therefore, our study not only asks adolescents to indicate whether they experienced an event, but also to indicate whether they perceived each experienced event as positive or negative.

Some researchers (Johnson and McCutcheon, 1980; Sarason, Johnson and Siegel, 1978) have argued that measures of stress should also include measures of the perceived intensity of the stress. This is often accomplished by asking respondents to indicate on a scale (e.g. from -3 to +3) their perceptions of the intensity of stress associated with each event they have experienced. However, recent research (Youngs et al., in press), questions whether information on the perceived intensity of stressful events adds to our understanding of stress and its consequences. The present study will simply measure adolescent stress in North Dakota by reporting the number of stressful events (positive, negative, and total) which adolescents indicate they have experienced on average.

## RURAL VERSUS URBAN STRESS

Our second research question focuses on a comparison of stress levels between rural and urban adolescents. There are two issues to be addressed with respect to this question: Does one group have more stress than the other, and do rural and urban youth perceive specific, stressful events differently?

It is difficult to predict whether urban or rural youth will have the most stress. Our earlier discussion of the economic crisis in North Dakota suggests that farm adolescents may be

experiencing more stress than urban adolescents. However, if an adolescent's stress level is largely a product of the number of events he or she has experienced, there is reason to argue that urban adolescents may be as stressed or more stressed on average than rural adolescents. A commonly held belief is that urban teens are exposed to more diverse life experiences than are adolescents from rural towns or farms. This suggests that urban youth may be exposed to more stressful events and actually have higher stress levels than rural youth even during this period of economic crisis. We will explore this comparison in our data analysis.

We will also explore a related issue, the perception of stressful experiences. It is possible that urban and rural youth experience a similar number of stressful events but perceive those events differently. Specifically, one group of adolescents may be more prone to view certain life events as positive while the other group views the same events as negative. Adapting to a new (especially a large) school, for example, may be more problematic for rural youth than it is for urban youth. As a result, rural adolescents may view this life event as negative while urban adolescents view it as positive. We will examine the relative tendency to rural and urban youth to identify specific, experienced events as either positive or negative.

## THE CONSEQUENCE OF STRESS

The final question we wish to explore is the impact of stress on North Dakota's adolescents. As noted earlier, stress has a negative effect on several dimensions of adolescent life (e.g., school performance). Our concern will focus on the impact of stress on self-esteem. This is of special concern because prior research has demonstrated that stress lowers adolescent self-esteem (Youngs et al., 1989), and self-esteem has been shown to be a key factor in developing good mental health and a productive life style (Walker and Greene, 1986; Ziemann and Benson, 1983).

We are especially interested in examining the relation between stress and self-esteem for rural youth and for urban youth separately. The impact of stress on self-esteem may differ for these groups. Perhaps rural adolescents are exposed to fewer stressful events than urban adolescents, but rural youth may experience a more adverse reaction to those events to which they are exposed, and this may trigger a stronger, negative relation between stress and self-esteem for rural as opposed to urban youth. Similarly, if rural and urban adolescents differ in their tendency to view various stressful events as positive or negative, the impact of the positive and negative stress on self-esteem for the two groups may also differ. To examine these issues, we will focus on measures of stress which assess the number of events experienced. Specifically, we will examine the impact of total stress (the number of positive and negative events combined), negative stress, and positive stress on self-esteem for rural youth and for urban youth independently.

## METHODS

### Procedures

The present study was part of a larger investigation focusing on adolescent career decision-making (Mullis, Rathge and Mullis, 1987). Questionnaires were used to collect data in the fall of 1986 from a random selection of 18 high schools in North Dakota, including six urban schools (schools in communities of more than 2,500) and 12 rural schools.

The surveys contained several standardized instruments designed to measure, among other things, stress and self-esteem. School staff administered the questionnaires to 2,154 students of which 1,236 were from urban schools and 918 were from rural schools.

### Participants

The characteristics of the urban and rural adolescents who participated in the study were quite similar. They ranged in age from 14 to 19 with roughly equal proportions of males and females responding to the questionnaire. Most students came from two-parent homes (85 percent, urban; 90 percent, rural) with either one or two brothers or sisters. Youth who attended urban schools reported living slightly longer in their present home, on average, than those who attended rural schools (10.2 years and 8.8 years, respectively). Additionally, fathers and mothers of urban high school youth typically had attended college (52 percent) and were employed in skilled occupations (42 percent and 37 percent, respectively) or in professional occupations (33 percent for both parents). In contrast, fewer parents of rural adolescents had attended college (38 percent) and their primary occupation was farming (37 percent of fathers) or homemaking (41 percent of mothers).

### Instruments

Standard instruments for stress and for self-esteem were included on the questionnaire. Stress was measured using the Life Experience Survey (LES) which consists of a list of 36 life-events (Sarason, Johnson and Siegel, 1978). The list covered a range of topics including: a) a change in school or residence; b) other changes (e.g., change in sleeping habits, in eating habits, or in closeness of family members); c) illness; d) work and work problems; e) boyfriend or girlfriend relationships; f) failing exams or courses; g) academic probation; h) law violation; i) family changes (e.g., gaining a new family member or divorce); and j) finances. For each event, adolescents were asked to indicate whether or not they had experienced the event. Teens who had experienced an event were then asked to indicate whether the encounter was positive or negative.

A similar standardized instrument was used to measure self-esteem (Coopersmith, 1981). It consisted of 58 statements measuring how adolescents felt about various topics. They were asked to check "like me" if the statement described how they usually felt, or alternatively to check "unlike me" if it did not represent their typical feelings. The range of topics included: a) general (e.g., "Things usually don't bother me."); b) social (e.g., "I'm a lot of fun to be with."); c) home and parents (e.g., "I get upset easily at home."); and d) school (e.g., "I find it very hard to talk in front of the class.").

Self-esteem scores were assigned to adolescents based on their responses to these 50 esteem items. The esteem score was calculated by totaling the number of items an adolescent marked in a manner that indicated high esteem. These totals were multiplied by two to establish a 100 point range with 100 being the highest possible esteem score.

## RESULTS

### Stress Levels for North Dakota Adolescents

The level of stress, as measured by the number of life events experienced, is relatively modest among adolescents in North Dakota. Ninety percent of our sample indicated that they had experienced fewer than half of all the listed events. Specifically, adolescents reported experiencing an

average of 9.2 events from our list of 36, and more of the experienced events were perceived as positive on average (4.8) than negative (3.2, see Table 1).

Nevertheless, all of the listed events had been encountered by at least some adolescents (see Table 2). The events which were experienced most commonly included: beginning a new job; an engagement; a reconciliation with a boyfriend/girlfriend; and receiving an outstanding personal achievement. Events which were least often experienced included: being fired from a job; detention in jail or an institution; and ending formal schooling. Thus, overall stress is modest and more positive than negative, but adolescents are experiencing stress, nevertheless.

### Rural Versus Urban Stress

To learn more about the nature of this stress, stress levels were compared for rural and urban youth. The comparison actually involved three groups: urban, rural/farm, and rural/nonfarm. Respondents were asked to indicate whether they lived in town (urban), on a farm (rural/farm), or in the country, but not on a farm (rural/nonfarm). Dividing

**Table 1. Average number of stress events experienced by adolescents from a list of 36 life events by residence.**

Stress Events Experienced	Total	Residence		
		Urban	Farm	Country
All Events (N)	9.2 (1470)	9.5 (946)	8.2 (370)	9.5 (150)
Negative Events (N)	3.2 (1470)	3.3 (946)	2.6 (370)	3.8 (150)
Positive Events (N)	4.8 (1470)	5.0 (946)	4.5 (370)	4.5 (150)

rural youth into farm and nonfarm subgroups permits a closer look at those adolescents most likely to be affected directly or indirectly by the farm crisis.

This analysis focused on two concerns. First, is there a difference in the number of stressful events experienced by rural and urban adolescents? Secondly, do rural and urban

**Table 2. Proportion of adolescents who experienced various life events and perceived them as positive.**

	Residence					
	Urban (946)		Rural (520)			
	%	#	Farm		Country	
	%	#	%	#	%	#
1. Beginning a new school experience	65.1	602	66.3	202	64.4	90
2. Changing to a new school	63.2	380	61.2	85	55.2	58
3. Academic probation	35.9	92	55.8	43	18.2	11
4. Failing an important exam	25.1	593	29.9	211	22.3	94
5. Failing a course	36.0	228	32.9	73	29.0	38
6. Dropping a course	37.4	190	55.2	58	44.0	25
7. Financial problems concerning school	30.8	130	26.7	45	17.7	17
8. Minor law problem	28.5	270	25.0	88	31.3	48
9. A close friend's unexpected pregnancy	38.2	186	29.3	75	21.2	33
10. Changed work situation	61.4	259	67.0	88	56.8	37
11. New job	83.3	299	89.7	58	81.1	37
12. Serious illness or injury of family member	31.8	446	27.8	162	17.6	74
13. Engagement	80.0	75	88.9	27	87.5	16
14. Breaking up with boyfriend/girlfriend	29.0	476	35.6	149	26.6	64
15. Leaving home for the first time	65.0	140	74.6	59	64.3	28
16. Reconciliation with boyfriend/girlfriend	84.3	299	87.6	89	78.4	37
17. Detention in jail or institution	31.8	44	66.7	9	0.0	6
18. Major change in sleeping habits	31.2	536	26.7	165	28.2	85
19. Death of close family member or friend	25.5	416	28.7	164	16.7	60
20. Major change in eating habits	48.4	492	49.7	169	44.4	81
21. Outstanding personal achievement	95.7	630	91.5	235	91.2	102
22. Trouble with employer	20.6	68	15.4	13	9.1	11
23. Major change in financial status	49.0	369	36.3	135	35.7	56
24. Major change in closeness of family member	54.1	479	53.2	143	50.7	75
25. Gaining a new family member	77.4	270	84.4	96	67.7	31
26. Change of residence	62.5	296	51.4	35	47.2	36
27. Major change in church activities	51.7	379	51.8	139	51.9	52
28. Major change in type/amount of recreation	74.1	548	75.1	117	74.7	75
29. Borrowing money	49.0	249	58.4	113	41.3	46
30. Being fired from a job	27.5	40	33.3	6	0.0	5
31. Major personal illness or injury	21.9	187	32.2	59	18.2	22
32. Major change in social activities	76.8	685	77.3	251	64.4	101
33. Major change in family living conditions	70.5	237	74.2	66	67.6	37
34. Divorce in family	30.0	160	25.0	32	27.8	18
35. Serious injury or illness of close friend	27.1	144	40.4	52	43.8	16
36. Ending of formal schooling	54.0	50	77.8	18	66.7	6

youth differ in their perceptions of stressful events? Answers to these questions will help in determining whether some adolescents are more in need of help in coping with stress than others.

**The Number of Events Experienced.** It was suggested earlier that arguments can be made to either predict more or less stress for rural youth versus urban youth. In fact, little difference was found across groups in the average number of stressful events experienced (see Table 1). The averages for urban youth and for rural non-farm youth were the same (9.5), while rural/farm youth experienced slightly fewer events (8.2). Similarly, farm adolescents reported experiencing the fewest number of negative events (2.6) followed by urban youth (3.3) and rural non-farm youth (3.8). Finally, both rural/farm and rural/nonfarm youth reported experiencing 4.5 positive events on the average while the mean for urban youth was slightly higher (5.0). In sum, the average levels of stress, whether positive, negative, or overall, are quite similar for adolescents regardless of residential location, although there is a hint that rural/farm adolescents actually experience less stress than the other groups despite the farm crisis.

**Perceptions of Stressful Events.** While rural and urban adolescents are similar in the number of stressful events they have experienced, they still may differ in their reactions to these events. The diversity of reactions to the listed events is shown in Table 2. Every life event was viewed positively by at least some of the adolescents surveyed. Even events which are commonly thought of as extremely negative such as failing a course, being fired from a job, and detention in jail or an institution were seen by some adolescents as advantageous.

Farm youth tended to be the most optimistic. This group had the highest proportion rating an experience as positive in 21 of the 36 events listed. In contrast, rural/non-farm adolescents were the least optimistic. In 28 of the 36 events listed, rural/non-farm youth showed the lowest proportion rating the experience as positive. These results suggest that rural/farm adolescents not only experience slightly fewer stressful events than other groups, but are slightly more likely to view the events they experience as positive. This raises the question of whether rural/farm adolescents are also less likely than other groups to experience the detrimental effects of stress on important personal characteristics such as self-esteem.

### Stress and Self-Esteem

To begin, we will examine the relation between stress and self-esteem for all types of stress (positive and negative) combined. Collapsing across all groups, the results show that stress does have a detrimental effect on self-esteem; as the number of experienced life-events increases, the level of self-esteem decreases (see Table 3). This relation is modest, but it is statistically significant. That is, it would only appear by chance in our sample 1 in 10,000 times. Further analysis reveals that this relation between stress and self-esteem is similar from group to group (see Table 3).

However, this modest overall relation between stress and self-esteem is masking a more informative finding. When the effects of negative and positive events are examined separately, we find the two are not equally correlated with self-esteem. For example, the results in Table 3 show a modest inverse relation between negative stress and self-esteem. As adolescents experience more negative life-events their level of self-esteem decreases. This moderate correlation is consistent across all groups.

**Table 3. Correlations between stress events and self-esteem by residence.**

Stress Events Experienced	Total	Residence		
		Urban	Farm	Country
All Events (N)	-.22*** (1251)	-.22*** (808)	-.25*** (309)	-.21* (131)
Negative Events (N)	-.27*** (1251)	-.29*** (808)	-.20** (309)	-.26** (131)
Positive Events (N)	-.06** (1251)	-.05 (808)	-.18** (309)	-.07 (131)

\*p < .05  
\*\*p < .005  
\*\*\*p < .0001

In contrast, the impact of positive stress on self-esteem is very small and the results are not consistent across groups. The results in Table 3 show a small, although statistically significant, downward impact of positive stress on self-esteem. The statistical significance associated with this substantially unimportant correlation is probably due to our large sample size. However, the relation between positive stress and self-esteem does appear to be substantially important for farm youth. Farm youth show a statistically significant moderate correlation. Apparently the self-esteem of farm youth is adversely impacted by both positive and negative life experiences, whereas urban youth and rural/nonfarm youth are only adversely affected by negative stress.

One possible explanation for this surprising finding may be found in Table 2. As noted earlier, Table 2 revealed that farm adolescents were the most likely to perceive events as having a positive impact on their life. Perhaps farm youth downplay the downside of negative events and more readily perceive truly detrimental events as positive. Persons working with farm youth need to be sensitive to this paradox.

### DISCUSSION

Adolescents in North Dakota are experiencing a modest number of stressful events, both positive and negative. The amount of stress they encounter is similar throughout the state with little appreciable difference noted among urban, farm, and rural/non-farm youth. This finding is both surprising and gratifying when we consider the economic and social turmoil families have faced as a result of the state's recent economic troubles.

However, some caution should be taken in interpreting these results. Our use of 36 life events to measure stress necessarily means that our assessment of an adolescent's stress is limited to this universe of events. While we believe the list is thorough and identifies events which adolescents in any of our three groups could experience, there may be some overlooked events which are unique to each group and could cause some reassessment of relative stress levels. Nevertheless, within the universe of the events listed in Table 2, there is little difference in stress from group to group.

The absence of any appreciable differences in stress levels among groups is surprising, but the impact of stress on self-esteem is not. Parents, counselors, and others dealing with adolescents must be alert to the negative impact that stress appears to have on self-esteem. Adolescents who experi-

ence greater numbers of stressful life-events tend to have less self-esteem than those adolescents who experience fewer such events. This finding is consistent with prior research (Johnson and McCutcheon, 1980; Youngs et al., 1989).

The experience of negatively perceived events appears to be the primary contributor to lowered self-esteem. The relation between the number of negatively experienced events and self-esteem is stronger than that between overall stress and self-esteem. Thus, parents, counselors and others dealing with adolescents must pay special attention to the impact on self-esteem of events which adolescents perceive to be negative.

For farm youth, self-esteem also may suffer if the event is perceived in a positive manner. While this detrimental effect of positive stress on self-esteem is modest, it is surprising, and it suggests the need to be cautious when adolescents, especially farm youth, report that a stressful event had a positive personal impact. Perhaps, even the experience of a positively perceived event ultimately leaves some adolescents with a subtle awareness that they are not as much in control of their lives as they would like to think.

In summary, stress does appear to have an adverse impact on self-esteem. The relation is modest and many other factors affect self-esteem as well, but the relation is strong enough that it needs to be called to the attention of such help-givers as parents, teachers, and counselors. These help-givers should focus not only on the immediate pain of the stressful experience but its potential damage to self-esteem as well. A lack of confidence in oneself may reduce youth's willingness to fully utilize their talents, challenge their intellect, and even investigate new friendships. In turn, these disquieting effects can be the source of additional strain on the family. Sensitivity to these issues may be especially important for those people working with farm families and their adolescents because these adolescents on occasion appear to be adversely affected by events which the adolescents, themselves, perceive to be positive.

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