



DORDT COLLEGE

Digital Collections @ Dordt

---

Faculty Work: Comprehensive List

---

2002

## Aspirations of Rural Youth

Duane Bajema

*Dordt College*, [duane.bajema@dordt.edu](mailto:duane.bajema@dordt.edu)

W. Wade Miller

*Iowa State University*

David L. Williams

*Iowa State University*

Follow this and additional works at: [http://digitalcollections.dordt.edu/faculty\\_work](http://digitalcollections.dordt.edu/faculty_work)



Part of the [Agricultural Education Commons](#)

---

### Recommended Citation

Bajema, D. H., Miller, W. W., & Williams, D. L. (January 01, 2002). Aspirations of Rural Youth. *Journal of Agricultural Education*, 43, 3, 61-71.

This Article is brought to you for free and open access by Digital Collections @ Dordt. It has been accepted for inclusion in Faculty Work: Comprehensive List by an authorized administrator of Digital Collections @ Dordt. For more information, please contact [ingrid.mulder@dordt.edu](mailto:ingrid.mulder@dordt.edu).

---

# Aspirations of Rural Youth

## **Abstract**

The purpose of this study was to determine the aspirations of rural youth and to identify perceived support for and barriers to achieving their goals. The population included all seniors enrolled in public and private high schools in a five county area of northwest Iowa. The students were asked to indicate their educational and occupational aspirations. Likert-type scales were used to measure perceptions regarding support for and barriers to achieving their goals. Tenets of achievement motivation theory were observed in the rural students. Town and farm students alike had diverse educational and occupational aspirations. A high level of congruence was observed between the students' occupational aspirations and their educational goals, revealing that many students were following career paths. Students perceived that the environment provided by their schools was supportive of their aspirations. Barriers to achieving their goals were perceived as minimal.

## **Keywords**

rural youth, high school seniors, occupational aspirations, Iowa, educational aspirations, rural development

## **Disciplines**

Agricultural Education

## **Comments**

© *Journal of Agricultural Education*, a publication of the American Association for Agricultural Education, 2012

## ASPIRATIONS OF RURAL YOUTH

***Duane H. Bajema, Professor***

Dordt College

***W. Wade Miller, Professor***

***David L. Williams, Professor***

Iowa State University

### Abstract

*The purpose of this study was to determine the aspirations of rural youth and to identify perceived support for and barriers to achieving their goals. The population included all seniors enrolled in public and private high schools in a five county area of northwest Iowa. The students were asked to indicate their educational and occupational aspirations. Likert-type scales were used to measure perceptions regarding support for and barriers to achieving their goals. Tenets of achievement motivation theory were observed in the rural students. Town and farm students alike had diverse educational and occupational aspirations. A high level of congruence was observed between the students' occupational aspirations and their educational goals, revealing that many students were following career paths. Students perceived that the environment provided by their schools was supportive of their aspirations. Barriers to achieving their goals were perceived as minimal.*

### Introduction

Agriculture and rural America have changed. Changes in productivity, technologies, transportation, communication, and farm type and size have had a significant impact on agriculture and American society as a whole. Many of these changes have helped increase yields with fewer farmers while reducing farm labor demands and many of the risks associated with agricultural production. However, these changes have also had unanticipated effects including natural resource degradation, increasing cost of production, decline of family farms and farm population, and a decrease in rural community vitality (Center for Integrated Agricultural Systems, 1991). These changes impact all aspects of a rural life, including schools and the students they serve.

Rural education has been called inferior when compared to urban education. Research has identified gaps between urban and rural schools that may put rural youth at a disadvantage in a global economy

(National Center for Educational Statistics, 1995). However, Nachtigal (1982) argued that much of what is cherished in rural communities happens outside the classroom in so-called extracurricular activities. The rate of participation in extracurricular activities is much higher in rural schools than in urban schools. The leadership, character building, and socialization skills that come from FFA activities and other school-sponsored events become an important part of the instructional frame of rural schools. Local coverage of such events by newspapers, radio, and other mass media provide many students with recognition and attention, which generates feelings of self-worth, achievement, importance, and relevance to the community.

The aspirations developed by students have a profound impact on learning. Aspirations influence learning and guide students in making life choices (Walberg, 1989). The literature reports that rural youth have lower educational and career aspirations than their urban peers (Breen & Quaglia, 1991; Cobb, McIntire, and Pratt,

1989; Elliott, 1987; McCracken, Barcinas, & Wims, 1991; Schonert-Reichl, Elliott, & Bills, 1993). Breen and Quaglia (1991) reported that rural students "... aspire to lower levels of higher education, express lower levels of self-confidence in completing the degree requirements, and expect to pursue higher education for a shorter time than urban students" (p. 223). Haller and Virkler (1993) found that the difference between aspirations of rural youth and non-rural youth existed because of the lower socioeconomic status of many rural families. Youth aspire to what they know or can imagine. Due to the lack of role models and career diversity, the aspirations of rural youth are limited by the geographical and cultural context of their communities (Haller & Virkler, 1993).

### Theoretical Framework

The concepts of aspirations are rooted in psychology and guided by the theory of achievement motivation (Quaglia & Cobb, 1996). Achievement motivation theory postulates that people can learn to establish and acquire goals. Teachers, peers, parents, and other people who have a relationship with a person may affect that person's achievement motivation. Thus, education contributes to the process of aspiration formation.

Education helps people become more knowledgeable about the world, more sensitive and understanding of their relationship to it, and more eager to contribute to the civilizing process. It helps people develop the ability to discern opportunities and options that they may confront in their day-to-day activities. The formation of educational and occupational aspirations is integral to education, enabling students to better understand who they are and how they can function effectively for their own well being and for the betterment of society (Kozol, 1984).

The study of aspirations is also rooted in sociology and social comparison theory (Collier, 1994). People tend to compare themselves to groups with similar beliefs and abilities. "The group serves as a powerful anchor that limits the level of aspiration, particularly when the group is cut

off from other groups ... people tend to use others who are similar or have similar levels of ability as a source of social comparison" (Collier, 1994, p. 83).

Researchers have found that the aspiration level of youth in rural communities is more vulnerable to the social influences of a community due to factors of isolation, population size, and community culture. Pressure toward uniformity may be more prevalent in a rural setting than an urban setting, and differences in aspirations may be due to inherent factors present in a rural setting, especially an agricultural community where distance from post-secondary educational institutions can limit student achievement (Haller & Virkler, 1993; Howell, Tung, & Wade-Harper, 1996). Quaglia and Cobb (1996) stated that:

...expectations and standards of the group significantly impact the aspirations of its members regardless of their level of achievement motivation. In other words, the aspiration level of individual group members is buoyed by the prevailing group standard. Thus, even those with an inner drive to achieve limit their accomplishments to the level of the group; they fear being ostracized or alienated from the group. This tendency is more pronounced the more isolated the culture (p. 129).

The definition of aspirations has undergone development and refinement. Social comparison theory described the need and the pressure to assess beliefs and abilities which develop uniformity in a group (Festinger, 1954), and achievement motivation theory describes a conscious desire to perform well and reach high standards of excellence (McClelland, 1961). The definition of aspirations developed from these theories is the "student's ability to set goals for the future while being inspired in the present to work toward those goals" (Quaglia & Cobb, 1996, p. 130).

Agricultural education in public schools has a successful record of helping students set and achieve career and educational goals. Through the application of tenets of

psychology and sociology, agricultural education programs are designed to meet student and community needs (Barrick, 1989; Williams, 1991). Programs commonly feature the study of agricultural technologies in the classroom and laboratory, the development of leadership skills through the FFA, and the application and further development of skills through supervised agricultural experience programs conducted in the community. The National Research Council (1988) challenged agricultural education programs to feature activities that help students understand the connection between educational programs and professional careers.

Researchers have reported lower academic and occupational aspirations for rural youth than their urban peers. Variables studied include personal and educational factors, socioeconomic status, parental influence, religious influence, and student perceptions (Breen & Quaglia, 1991; McCracken, Barcinas, & Wims, 1991; Schonert-Reichl, Elliott, & Bills, 1993). Elliott (1987) identified isolation as a factor inhibiting the aspirations of rural youth: "this isolation translates into limited exposure and limited access to needed educational services...; in turn students fear new experiences and they are unwilling to risk exposure to unfamiliar surroundings" (p. 3).

Research on the aspirations of subsets of rural youth is limited. Schonert-Reichl, Elliott, and Bills (1993) reported that rural youth from farm families had more academic success than rural youth from non-farm families because of their access to social ties and experiences from growing up in a farm family. Farm youth, in comparison with rural non-farm youth, reported higher levels of extracurricular participation, leadership roles, and parental attachment.

### **Purpose and Objectives**

The purpose of this study was to determine the aspirations of rural youth in northwest Iowa and to identify support for and barriers to achieving their goals. The objectives were to: (1) determine the educational and occupational aspirations of

rural high school students, (2) identify support that rural youth receive in achieving their aspirations, (3) identify barriers that may keep rural youth from realizing their aspirations, and (4) compare town youth and farm youth on these variables. Schools included in the study met the U.S. Census (1998) criteria of rural schools: (1) located in a county with a population of 40,000 or less, (2) located in a county outside a metropolitan area, and (3) had a high school enrollment of less than 500 students. "Farm youth" was defined as the participating students who lived on an acreage or farm, and "town youth" was defined as those that lived in a town.

### **Methodology**

The population for this study included high school seniors enrolled in public and private schools in a geographical area of northwest Iowa called Area Education Agency IV (AEA 4). AEA 4 was selected because all the schools were classified as rural schools and all communities had a strong agricultural history. All towns in the school districts had a population of 5,000 or less. There were 17 high schools in AEA 4, 13 public and four private. Twelve of the 13 public schools included agricultural education in the curriculum but none of the private schools did. Enrollment in the senior class of these 17 high schools totaled 1,051 with 883 (81%) of them participating in this study. A census of this target population was conducted.

A questionnaire developed by the Northwest Regional Laboratory to measure aspirations of youth was adapted for use in this study (Ley, 1996). The instrument included demographic questions, open-ended questions, and Likert-type scales. Two open-ended questions were used for students to indicate their aspirations: (1) "If you attend a school after high school, what program of study will you enroll in?" and (2) "What job do you want to have when you are 30 years old?" Seven statements were used to identify perceived support and 18 statements were used to identify barriers related to achievement of goals. A panel of experts reviewed the instrument for content validity, and clarity was examined in a pilot

test with rural high school students not included in the study. The combined reliability coefficient for the two Likert scales was .87.

The principals of the 17 high schools agreed to cooperate in the study by administering the questionnaire to all seniors in their schools. The only major obstacle encountered was finding an appropriate time to administer the questionnaire to involve the largest number of students possible. The data were coded and analyzed using descriptive statistics.

## Findings

### *Demographic Characteristics*

Sixty percent of the participating students lived in a house or apartment in town (classified as town students) and 40% lived on an acreage or farm (classified as farm students). A total of 77% of the student attended public schools, 52% were male and 99% were Caucasian. Sixty-six percent reported that they attended church/synagogue weekly. A total of 57% indicated that they worked for pay 11 or more hours per week. A large percentage (85%) self-reported their parents' income as average or above; 80% had two or more siblings; and 78% of students' parents were listed as married, never divorced. Less than a third (29%) of the students had enrolled in one or more agricultural education courses and 18% had participated in FFA one or more years.

### *Educational Aspirations*

Ninety-six percent of the students indicated that they planned to pursue some type of post-secondary education; however, 8.6% were undecided on an area of study. Ten percent planned to attend a trade or business college, 32% planned to attend a community college, and 54% planned to attend a four-year college or university.

Table 1 reports the educational aspirations of students and compares the expected areas of study for students aspiring to post-secondary education by town and farm students. The most popular area of study (15.7% of all students) was "business/marketing/accounting/management" for both town and farm students. "Education" was the second most popular area of study by both groups with 9.8% and 6.3% for town and farm students, respectively. The only other area of study reported by 10% or more for either group was "agriculture" by the farm students – 10.5% compared to 3.9% of the town students. Other areas of post-secondary study reported by at least 5% of the town students were "health/ pre-medical/ nursing/ chiropractic" (6.7%), "health support/physical therapy/athletic training" (5.2%), and "psychology/social work" (5.2%).

Health-related areas were also reported as educational aspirations for over 5% of the farm students; 9.1% planned to study in the "health/pre-med./nursing/chiropractic" category and 5.3% in the area of "health support/physical therapy/athletic training."

Table 1  
*Educational Aspirations of Students*

Area of Post-Secondary Study**	All Students*		Town Students*		Farm Students*	
	f	%	f	%	f	%
Business, Marketing, Accounting, Management	117	15.7	86	18.7	31	10.9
Education (all types)	63	8.5	45	9.8	18	6.3
Health, Pre-Med., Nursing, Chiropractic	57	7.6	31	6.7	26	9.1
Agriculture	48	6.4	18	3.9	30	10.5
Health Support, Physical Therapy, Athletic Training	39	5.2	24	5.2	15	5.3
Physics, Chemistry	39	5.2	4	.9	2	.7
Psychology, Sociology, Work	39	5.2	24	5.2	15	5.3
Engineering, Architecture, Math, Computer-related fields	36	4.8	17	3.7	19	6.7
Arts, Design, Music	34	4.6	18	3.9	16	5.6
English, Communications, Journalism	33	4.4	17	3.7	16	5.6
Mechanics, Auto Body, Diesel	32	4.3	19	4.1	13	4.6
Construction, Carpentry, Electricity	27	3.6	19	4.1	8	2.8
Biology, Wildlife Management, Environmental Studies	25	3.4	13	2.8	12	4.2
General Studies	24	3.2	12	2.6	12	4.2
Personal Care, Cosmetology, Child Care, Massage	22	2.9	17	3.7	5	1.8
Law Enforcement	19	2.6	18	3.9	6	2.1
Military	18	2.4	11	2.4	7	2.5
Political Science, Pre-Law, Foreign Language	6	.8	3	.7	3	1.1
Secretarial Work	9	1.2	15	4.7	4	1.4
Aviation	9	1.2	3	.7	6	2.1
Undecided	4	.5	4	.9	0	0.0
	64	8.6	42	9.1	22	7.7

\*N = 745; 460 town and 285 farm students.

\*\*Listed in order based on highest frequency for "All Students."

The area of "engineering/architecture/math" (6.7%), "arts/design/music" (5.6%), and "computer-related fields" (5.6%) were selected by over 5% of the farm students. Over 9% of the town students compared to 7.7% of the farm students with post-secondary education plans were "undecided" with regard to their area of study after high school.

#### *Occupational Aspirations*

Table 2 reports the students' occupational aspirations categorized

according to the Standard Occupational Classifications (SOC) (Bureau of Labor Statistics, 1998) and compares town and farm students. All 23 of the SOC job categories were among the occupational aspirations of both town and farm students. Some of the responses could not be classified according to the SOC; thus, four additional categories were added in summarizing the data: "make money/good job," "housewife," "uncertain," and "other."

The highest percentage of all students indicated an intention to pursue jobs in

“healthcare practitioners/technical” (14.3%), “management” (13.9), and “education/training/library” (10.3%) categories. Other areas where five or more percent of the town students had occupational aspirations were “arts/design/entertainment/sports” (7.9%), “business/finance” (5.4%), and “life/physical/social science” (5.2%). The most frequent (5% or more) occupational aspirations among farm students were

“management” (18.3%), “healthcare practitioners/technical” (14.7%), “arts/design/entertainment/sports” (10.1%), and “education/training/library” (7.5%). Less than 1% of both groups aspired to enter jobs in the “farming/fishing/forestry” category; however, agriculturally related jobs can be found in several of the other job categories, e.g. “management” and “education/training/library.”

Table 2  
Occupational Aspirations of Students

Occupational Area**	All Students*		Town Students*		Farm Students*	
	f	%	f	%	f	%
Healthcare Practitioners, Technical Management	112	14.3	67	14	45	14.7
Education, Training, Library	109	13.9	53	11.1	56	18.3
Arts, Design, Entertainment, Sports	81	10.3	58	12.1	23	7.5
Life, Physical, Social Science	69	8.8	38	7.9	31	10.1
Business, Finance	36	4.6	25	5.2	11	3.6
Personal Care, Services	35	4.5	26	5.4	9	2.9
Computers, Math	29	3.7	20	4.2	9	2.9
Architecture, Engineering	27	3.4	16	3.3	11	3.6
Installation, Maintenance, Repair	28	3.6	17	3.6	11	3.6
Community, Social Service	24	3.1	17	3.6	7	2.3
Protective Services	23	2.9	14	2.9	9	2.9
Healthcare Support	23	2.9	12	2.5	11	3.6
Sales and Related	15	1.9	6	1.3	9	2.9
Construction, Extraction	15	1.9	12	2.5	3	1.0
Legal	15	1.9	8	1.7	7	2.3
Transportation, Material Moving	11	1.4	10	2.1	1	.3
Office, Administrative Support	10	1.3	9	1.9	1	.3
Food Preparation, Serving Related	9	1.1	4	.8	5	1.6
Military	8	1.0	4	.8	4	1.3
Production	7	.8	2	.4	5	1.6
Building, Grounds, Cleaning, Maintenance	5	.5	2	.4	3	1.0
Farming, Fishing, Forestry	4	.5	2	.4	2	.7
Make Money, Good Job#	4	.5	3	.6	1	.3
Housewife#	38	4.8	24	5.0	14	4.6
Uncertain#	21	2.7	12	2.5	9	2.9
Other#	16	2.0	11	2.3	5	1.6
	10	1.3	6	1.3	4	1.3

\*N = 784; 478 town and 306 farm students.

\*\*Listed in order based on highest frequency for "All Students."

#Not a category listed in the Standard Occupational Classification of the Bureau of Statistics

### *Support for Educational and Occupational Aspirations*

Students were asked to respond on a 5-point scale (1 = strongly agree to 5 = strongly disagree) to school-related support they had received for their aspirations. Table 3 shows the support students received in achieving their educational and

occupational goals and compares town and farm students. Both town and farm students reported positive support (below 3.0 on 5-point scale) from what they had learned in school and its relevance to everyday life, the safety they felt in their school, and the student-teacher relationships they had experienced.

Table 3  
*Support for Educational and Occupational Aspirations of Students*

Support**	All Students*		Town Students*		Farm Students*	
	Mean	SD	Mean	SD	Mean	SD
What I learn in school will benefit my future	1.74	.82	1.73	.83	1.74	.79
I feel safe at school	2.02	1.00	2.00	1.00	2.06	1.00
I have a teacher who is a role model	1.95	0.86	1.97	.87	1.93	.84
Teachers respect my thoughts	2.02	1.00	2.00	1.00	2.06	1.00
I am usually bored in school	2.40	.99	2.38	0.97	2.43	1.02
My courses help me understand my everyday life	2.45	1.05	2.44	1.04	2.46	1.09
Students show respect for teachers	2.65	.94	2.61	.96	2.67	.93
	2.76	.98	2.81	1.01	2.07	.95

Scale: 1 = Strongly Agree, 2 = Agree, 3 = Don't Know, 4 = Disagree, 5 = Strongly Disagree

\*N = 847; 519 town and 328 farm students

\*\*Listed in order based on lowest mean for "All Students"

Town and farm students rated the statement, "I am usually bored in school," as 2.44 and 2.46, respectively, indicating that students may not have felt fully challenged. The standard deviations (1.04 for town students and 1.09 for farm students) indicate a somewhat large variation in the students' responses for this variable.

#### *Barriers to Achieving Educational and Occupational Aspirations*

Students were asked to respond using a 3-point scale (1 = large barrier, 2 = somewhat of a barrier, and 3 = not a barrier) to factors that may be perceived as barriers to achieving their educational and occupational aspirations. The findings in Table 4 reveal that the factors studied were not major barriers to students achieving their aspirations. "Lack of money for education" had the lowest mean (2.13 and 2.16 for town and farm students, respectively), indicating "somewhat of a barrier" to students' aspirations.

The other 17 factors - level of school achievement, knowledge of career opportunities, self-confidence, home location, access to post-secondary education, transportation, family responsibilities, parental support, and discrimination - were not perceived as major barriers to the students in achieving their educational and occupational aspirations. The standard deviation for "lack of jobs in my community" was large (1.78) for the farm students, indicating a wide variance in their responses.

#### **Conclusions, Implications, and Recommendations**

Tenets of achievement motivation theory (Quaglia & Cobb, 1996) were observed in the rural students. Most of the students had set educational and occupational goals and perceived that support was available to help them realize their aspirations.

Table 4  
*Barriers to Achieving Educational and Occupational Aspirations of Students*

Barriers**	All Students*		Town Students*		Farm Students*	
	Mean	SD	Mean	SD	Mean	SD
Lack of money for education	2.14	.67	2.13	.68	2.16	.65
Don't know about career opportunities	2.58	.61	2.61	.61	2.54	.60
Don't get high enough grades	2.60	.58	2.57	.58	2.63	.56
Not good at school work	2.61	.62	2.60	.63	2.64	.61
Don't think I would be successful	2.64	.59	2.64	.60	2.63	.59
Job I want doesn't pay enough	2.67	.59	2.66	.59	2.68	.55
Didn't take the right courses	2.68	.56	2.68	.56	2.70	.57
Living in a rural area	2.68	.58	2.70	.58	2.64	.59
Lack of jobs in my community	2.69	1.20	2.67	.60	2.73	1.78
Don't have the necessary skills	2.73	.51	2.73	.50	2.72	.52
Can't get into school of my choice	2.76	.53	2.76	.54	2.77	.50
Family or home responsibilities	2.79	.49	2.81	.49	2.75	.50
Lack of transportation	2.82	.49	2.83	.49	2.81	.50
No school near my home to further my education	2.83	.45	2.83	.45	2.81	.46
Parents disapprove of my goals	2.84	.45	2.86	.45	2.82	.45
Not wanting to work hard	2.86	.41	2.85	.43	2.86	.39
Sexual discrimination	2.87	.43	2.89	.39	2.82	.44
Problem of racism	2.88	.43	2.88	.43	2.88	.42

Scale: 1 = Large Barrier, 2 = Somewhat of a Barrier, 3 = Not a Barrier.

\*N = 848; 520 town and 328 farm students.

\*\*Listed in order based on lowest mean for "All Students."

Almost all (96%) of the rural students in this study aspired to continue their education after high school. Types of institutions they aspired to attend included technical/business schools, community colleges, and four-year colleges and universities, indicating their awareness of post-secondary educational opportunities. Most of these educational opportunities would be outside their local communities. Students from towns and farms alike had a high frequency of intentions to study in the areas of business, health, and education. The percentage of farm students (10.5%) aspiring to study agriculture was over twice that of town students (3.9%). These findings may indicate an opportunity to help town

students to learn more about various careers in the broad field of food, agriculture, and natural resources, occurring more frequently off-the-farm than on-the-farm.

Careers related to health, management, and education were the most common occupational aspirations among both town and farm students. The high level of congruence observed between the students' occupational aspirations and their educational plans revealed that many students were following career paths. However, almost 10% of the responses could not be categorized into the Standard Occupational Classification (Bureau of Statistics, 1998), suggesting a need to

provide some rural students with additional career exploration opportunities.

The educational and occupational aspirations of both town and farm students were diversified. The limitations placed on the aspirations of rural youth identified by Haller and Virkler (1993) were not observed. Students perceived that the environment provided by their schools was supportive of their educational and occupational aspirations. Barriers to achieving their goals were reported as minimal by town and farm students alike.

Rural schools commonly serve both town and farm students, providing both educational challenges and opportunities. Challenges include meeting the needs of the students and the community and at the same time introducing students to career paths not available locally. Many times both educational and occupational aspirations of rural students must be achieved beyond the local community. Matriculation of students can be enhanced through the development of partnerships between rural schools and post-secondary institutions. Likewise, partnerships between rural schools and businesses in larger towns and cities can be developed to provide expanded educational opportunities for students. High school agricultural education programs have the capacity to help with such initiatives and should be considered as an addition to the curriculum of rural schools not offering such an opportunity. Programs can be developed to emphasize agricultural careers, showing the connection between educational preparation and agricultural leadership, business, and scientific occupations (National Research Council, 1988). Starting with the local community, farm and town resources can be activated to provide experiences for students beyond their home location. For example, town students can be placed on farms and farm students can be placed in town businesses through supervised agricultural experience programs. In addition, opportunities for rural students in agricultural businesses located in nearby larger towns and cities may be possible through job shadowing, internships, and other supervised occupational experience programs.

## References

- Barrick, R. K. (1989). Agricultural education: Building upon our roots. *Journal of Agricultural Education*, 30(4), 24-29.
- Breen, D. T., & Quaglia, R. (1991). Raising student aspirations: The need to share a vision. *The School Counselor*, 38, 221-228.
- Bureau of Labor Statistics. (1998). URL:[http://stats.bls.gov/soc/soc\\_deta.htm](http://stats.bls.gov/soc/soc_deta.htm).
- Center for Integrated Agricultural Systems. (1991). *Toward a sustainable agriculture: A teacher' Guide*. University of Wisconsin, Madison.
- Cobb, R. A., McIntire, W. G., & Pratt, P. A. (1989). Vocational and educational aspirations of high school students: A problem for rural America. *Journal of Research in Rural Education*, 6(2), 11-16.
- Collier, G. (1994). *Social origins of mental ability*. New York, NY: John Wiley & Sons.
- De Young, A. (Ed.). (1991). *Rural education: Issues and practices*. New York, NY: Garland Publishing, Inc.
- Elliott, J. (1987). *Rural students at risk*. Paper presented at the Annual Success for Students At-Risk conference, Chicago, February 4-7, 1987. Iowa City, IA: University of Iowa. (ERIC Document Reproduction Service No. ED 285 708).
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7, 117-140.
- Haller, E. J., & Virkler, S. J. (1993). Another look at rural-nonrural differences in students' educational aspirations. *Journal of Research in Rural Education*, 9(3), 170-178.
- Howell, F. M., Tung, Y. Y., & Wade-Harper, C. (1996). *The social cost of growing-up in rural America: Rural development and social change during the*

*twentieth century*. Social Science Research Center, Mississippi State University, Social Research Report Series 96-5.

Kozol, J. (1984). *The night is dark and I am far from home: A political indictment of the U. S. public schools*. New York, NY: Continuum Publishing Company.

Ley, J. (1996). *Northwest Regional Educational Laboratory 1996 youth aspirations study*. Portland, OR: Northwest Regional Educational Laboratory Rural Education Program.

McClelland, D.C. (1961). *The achieving society*. Princeton, NJ: Van Nostrand.

McCracken, D. J., Barcinas, J. D. T., & Wims, D. (1991). High school curriculum and aspirations of students in Ohio and southwest Georgia. In Ohio Agricultural Research Development Center, *School and Community Influences on Occupational and Educational Plans of Rural Youth*.

Nachtigal, P. (Ed.). (1982). *Rural education: In search of a better way*. Boulder, CO: Westview.

National Center for Educational Statistics. (1995). U. S. Department of Education, Office of Educational Research and Improvement. <http://nces.ed.gov/pubs>.

National Research Council. (1988). *Understanding agriculture: New directions*

*for education*. Washington, DC: National Academy Press.

Quaglia, R. J., & Cobb, C. D. (1996). Toward a theory of student aspirations. *Journal of Research in Rural Education*, 12(3), 127-132.

Schonert-Reichl, K. A., Elliott, J. P., & Bills, D. B. (1993). *The effects of rural schools and communities on adult adjustment: A ten-year follow-up of rural Iowa youth*. Vancouver, BC: Department of Educational Psychology and Special Education, University of British Columbia.

U.S. Bureau of Census. (1998). Population Estimates Program, Population Division, Washington, DC. URL: [http://www.census.gov/population/estimates/county/co-98-1/98c\\_19txt](http://www.census.gov/population/estimates/county/co-98-1/98c_19txt)

Walberg, H. J. (1989). Student aspirations: National and international perspectives. *Research in Rural Education*, 6(2), 1-6.

Williams, D. L. (1991). Focusing agricultural education research: Strategies for the discipline. *Journal of Agricultural Education*, 32(1) 7-12.

---

**Journal Paper No. 19738 of the Iowa Agriculture and Home Economic Experiment Station, Ames, Iowa, Project No. 3488, and supported by Hatch Act and State of Iowa funds**