Youth Leadership Development Self-Efficacy: An Exploratory Study Involving a New Construct

Bradley C. Greiman
Department of Work and Human Resource Education
University of Minnesota
bgreiman@umn.edu

Leah S. Addington
Leadership Development Coordinator
Minnesota FFA Association
addi0033@umn.edu

Abstract

Supported by Bandura's social cognitive theory, our study examined personal factors and environmental factors that impact adults' ability to assist youth in developing leadership. We introduce youth leadership development self-efficacy (YLD-SE) as a new construct for use in leadership research. A 7-item scale to measure YLD-SE was developed and its psychometric properties were established through exploratory factor analysis. The study sought to investigate the YLD-SE of agricultural education teachers, determine the relationship that YLD-SE has with selected variables, and determine the predictors of YLD-SE. Participants were agricultural education teachers (N = 177) in [Midwestern state] who taught during the 2005-2006 school year. Results showed that teachers perceive they have a high level of YLD-SE, and hierarchical regression analysis revealed that transformational and laissez-faire leadership style were significant predictors of YLD-SE. The full model explained 25% of the variance in YLD-SE.

Introduction

Youth advocates and researchers recognize the importance of youth leadership development as evidenced by Conner and Strobel (2007) who stated that "in the United States, awareness of the value of engaging youth in social change efforts has spawned national, congressional, statewide, and municipal youth leadership councils and initiatives" (p. 276). Equally important, previous research concluded that youth can begin to develop their leadership potential at an early age. For example, Gardner (1987) argued that the skills critical for effective leadership, including the capacity to understand and interact with others, can be developed in adolescents. Further support is provided by scholars who espouse that all

adolescents can develop their leadership potential (Bennis & Nanus, 1985; van Linden & Fertman, 1998).

Youth leadership development relies on the support of adult leaders (van Linden & Fertman, 1998), and it is crucial to have adults who effectively teach and model leadership (Woyach, 1992). Boyd (2001) identified the importance of the youth-adult relationship and concluded that effective youth leadership development programming depends on adults who model responsible behavior and who validate youths' leadership efforts. Because of the important role that adults have in the youth leadership development process, they have been counseled that "understanding and appreciating the complexity of leadership is a prerequisite to supporting and challenging teenagers to be the best leaders they can be" (van Linden & Fertman, 1998, p. 8). Rickets and Rudd (2002) contended that adults involved with formal education face the future challenge of providing even more leadership and personal development opportunities for youth.

The high school agricultural education program is an example of a formal educational setting that provides students an opportunity to develop their potential for leadership. The agricultural education curriculum integrates leadership development topics into classroom content. Additional leadership development opportunities are afforded students when they participate in the FFA organization. This organization has a goal of premier leadership, personal growth, and career success for students (National FFA Organization, 2006), and previous research supports the positive relationship between FFA participation and self-perceptions of leadership (Dormody & Seevers, 1994; Ricketts & Newcomb, 1984; Rutherford, Townsend, Briers, Cummins, & Conrad, 2002; Townsend & Carter, 1983). The teacher who leads the agricultural education program and the local FFA chapter has been identified as having a major impact on students' leadership development (Butters & Ball, 2006; Vaughn & Moore, 2000). This person challenges students to develop personally, organizes and coordinates leadership opportunities for students, and empowers the officer team to lead the members of the FFA chapter. Because of this important role, it seems reasonable that research should be conducted to better understand agricultural education teachers' personal beliefs about leadership development in youth.

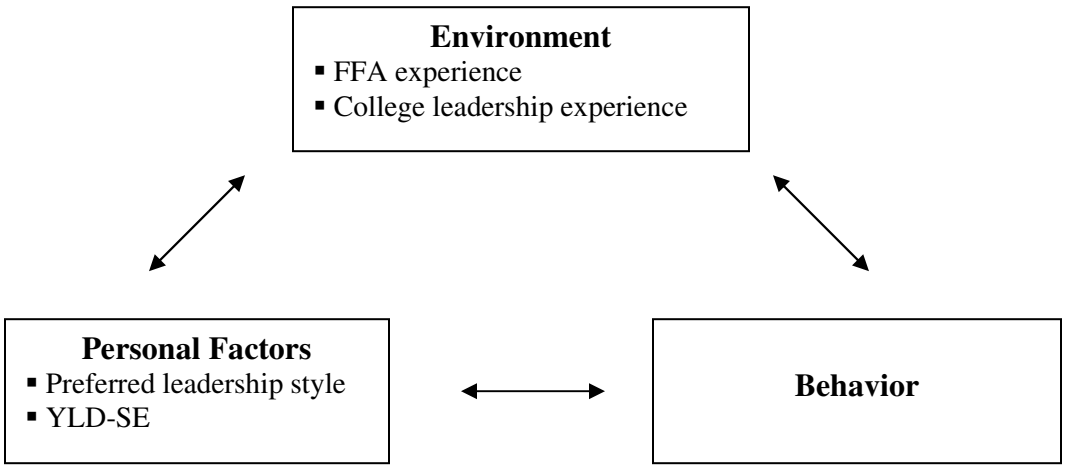
The concept of self-efficacy was introduced by Bandura (1977) and is the belief that one has the personal capabilities and resources to meet the demands of a specific task. Research has found that self-efficacy is beneficial in numerous contexts, and has an impact on effective leadership, motivation, and performance (Bandura, 1977; Watson, Chemers, & Preiser, 2001). In support of Bandura's (1986) social cognitive theory, Hoyt, Murphy, Halverson, and Watson (2003) found that self-efficacy plays a crucial role in linking ability with performance. Leadership research has concluded that leader self-efficacy may be one of the most important ingredients in successful leadership and team performance

(Chemers, Watson, & May, 2000). However, little research has focused on adults' self-efficacy as they work with youth to develop their leadership potential. Researchers (Connors & Swan, 2006; Greiman, Addington, Larson, & Olander, 2007; Harms & Knobloch, 2005) have identified this gap in the literature, and therefore we introduce YLD-SE as a new construct for use in leadership research. After establishing the psychometric properties of the YLD-SE scale, we examine the perceptions of agricultural education teachers as a lens to better understand adults' ability to assist youth in developing leadership.

Theoretical Framework

Bandura's (1986) social cognitive theory (see Figure 1) served as the theoretical basis for our study. The components of this dynamic system interact as people have life experiences, which in turn shape their personal and career development. Bandura posited that personal factors, environment, and behavior interact to affect each other. The relationships within social cognitive theory are reciprocal. Each variable can and does affect the other in that personal factors can influence the environment and behavior; environment can influence personal factors and behavior; and behavior can influence personal factors and the environment. The variables of interest in this study are shown in Figure 1. We identified preferred leadership style and YLD-SE as personal factors in Bandura's social cognitive theory. Next, it was determined that an individual's FFA experience and college leadership experience were two factors in the environment category of the theory. Our study sought to explore how these variables interact and to determine whether they predict YLD-SE.

Figure 1
Graphic representation of social cognitive theory



Literature Review

The literature review focused on the variables that pertained to the objectives of the study, and is organized into sections that examine FFA experience and college leadership experience, preferred leadership style, youth leadership development, and self-efficacy.

FFA Experience and College Leadership Experience

Supported by Kolb's (1984) experiential learning theory, the review of literature revealed that previous leadership experience has a positive influence on individuals. Vaughn and Moore (2000) concluded that the leadership experience, which included FFA experiences, of the agricultural education teacher was a predictor of FFA program quality. Morgan and Rudd (2006) found that the number of leadership courses completed in college was related to the number of leadership concepts agricultural education teachers taught in high school courses. In addition, research determined that prior leadership experiences predict leadership self-efficacy (McCormick et al., 2002). Connors and Swan (2006) concluded that students at the college level can develop leadership by involvement in one of three areas: within a course, within an academic department, or through experiential learning.

Preferred Leadership Style

Bass and Avolio (1994) developed the Full Range Leadership Model, whereby preferred leadership styles are identified as transformational, transactional, or laissez-faire. A transformational leader assists followers in reaching their full potential by providing attention to the needs and motives of followers (Northouse, 2004). As a result, transformational leaders motivate followers to do more than they originally thought possible (Avolio & Bass, 2004). During this interaction, transformational leaders focus on the process of helping people transform themselves from followers to leaders (van Linden & Fertman, 1998). Transformational leaders use charisma, inspiration, challenge, and encouragement to assist associates in reaching a higher collective purpose, vision, and mission of an organization (Bass, 1985).

Transactional leadership is a product-oriented approach that focuses on the exchange that occurs between leaders and their followers (Bass & Avolio, 1994; Northouse, 2004; van Linden, 1998). Transactional leaders provide benefits and rewards to followers in exchange for the fulfillment of agreements and/or goals by followers. Transformational and transactional leadership styles complement each other and provide a synergistic relationship that adds to a leader's effectiveness

(Bass, 1997), which ultimately leads to performance beyond expectations (Aldoory & Toth, 2004; Bass & Avolio, 1990).

Avolio and Bass (2004) portray laissez-faire leadership as a non-leadership factor in the Full Range Leadership Model. This style of leadership is described as the absence of leadership and is characterized by a hands-off approach. Laissez-faire leaders provide little or no effort to help the follower grow personally (Northouse, 2004).

Youth Leadership Development

The literature has not been clear on a definition for youth leadership development. According to Edelman, Gill, Comerford, Larson, and Hare (2004), the terms youth development and youth leadership have been used interchangeably in the literature. Although they have separate meanings, the authors reported that youth development together with youth leadership encompasses a broad and holistic leadership growth process that occurs during adolescence. The literature suggests that young, emerging leaders do not have the same leadership development needs as adults, and that youth can develop leadership through planned experiences (Des Marais, Yang, & Farzanehkia, 2000). These researchers advocated that a real-life context through experiential learning is necessary for youth to develop their leadership abilities. Youth organizations (e.g., FFA, 4-H, Boy Scouts) can provide adolescents with a real-world context to apply and experience leadership interactions. Wingenbach and Kahler (1997) found a positive relationship between involvement in FFA leadership activities and youth leadership development. The researchers challenged FFA advisors to place more emphasis on improving the total youth leadership development program.

Hansen, Larson, and Dworkin (2003) determined that adolescents who participate in youth clubs and organizations gained experiences related to personal development, especially those focused on initiative. Larson (2000) theorized that this result was due to the challenging nature afforded by organizations and the emphasis on goal setting, problem solving, and time management. Concurring, Boyd (2001) recommended that youth should be actively engaged in planning and implementing the leadership development programs in which they participate so that decision-making, goal-setting, and teamwork skills will be developed.

Self-Efficacy

Self-efficacy was described by Bandura (1977) as the belief that one has the personal capabilities and resources to meet the demands of a specific task. Empirical research has found that self-efficacy influences what people choose to do, their persistence in the face of difficulties, and how much effort they expend on a task (Hoyt et al., 2003). Numerous studies support Bandura's (1977) theory

and positive results have been obtained in educational and organizational settings (Stajkovic & Luthans, 1998). According to McCormick, Tanguma, and Lopez-Forment (2002), research findings reveal a consistent relationship between self-efficacy and work-related performance. These scholars suggested that because self-efficacy has an influence on work-related performance, it was warranted to extend the self-efficacy concept to the context of leadership.

Leadership self-efficacy is a relatively new construct within leadership research (McCormick & Tanguma, 2007), and refers to one's belief in his or her general ability to lead (Murphy, 1992). McCormick et al. (2002) reported that leadership self-efficacy was a predictor of leadership behavior, and that this factor distinguishes leaders from non-leaders. Chemers et al. (2000) suggested that leadership self-efficacy contributes to leadership effectiveness and plays an important role in successful leadership and team performance. Leadership self-efficacy has been found to predict leadership performance under stress (Murphy, 2002), and to predict motivation for leading change (Paglis & Green, 2002). We therefore extend these findings to the youth-adult relationship, and suggest that development of an YLD-SE scale is needed. Further, we suggest that increasing YLD-SE may be a useful strategy for improving leader effectiveness.

The role of the agricultural education teacher in students' leadership development is significant (Butters & Ball, 2006; Vaughn & Moore, 2000). Therefore, it is important that the teacher is efficacious and believes in his/her capability to develop leadership in youth. However, no research has examined the YLD-SE of teachers, and questions remain. For example, does the teacher's previous leadership experience make a difference in his/her YLD-SE? Does the teacher's preferred leadership style influence his/her YLD-SE? Our study sought to answer these questions.

Purpose and Objectives

The purpose of our study was to examine personal factors and environmental factors that impact adults' ability to assist youth in developing leadership. A further purpose was to investigate the YLD-SE of agricultural education teachers in [Midwestern state]. The following research objectives were developed to achieve the purpose: (a) determine teachers' perceived level of YLD-SE, (b) determine the relationship that YLD-SE has with selected variables, and (c) determine the predictors of YLD-SE. Based on the literature review; we tested the following hypotheses to determine whether there were significant findings from the study:

H_1 Teachers with more FFA experience will be more likely to have greater YLD-SE.

H_2 Teachers with a more satisfying college leadership experience will be more likely to have greater YLD-SE.

H_3 Teachers with a transformational leadership style will be more likely to have greater YLD-SE.

Methods and Procedures

We utilized a correlational research design (Gall, Borg, & Gall, 1996) to collect and analyze the data. The dependent variable measured was YLD-SE and independent variables measured were FFA experience, college leadership experience, and leadership style; control variables were age, gender, and years of agricultural education taught. The population for this study consisted of agricultural education teachers in [Midwestern state]. The accessible sample consisted of agricultural education teachers (N = 234) who taught during the 2005-2006 school year. Based on demographic data, we determined that the respondents were a representative time and place sample of the population (Gall, Borg, & Gall, 1996; Oliver & Hinkle, 1982), and therefore inferential statistics were utilized to analyze the data. The sampling frame for the study was obtained from the [Midwestern state] Department of Education. The data collection instrument was comprised of four scales and a section for participants to provide demographics; details of each scale are described.

FFA Experience

Teachers were asked to provide information regarding their FFA participation by answering four questions pertaining to years enrolled in agricultural education, years of FFA membership, and highest level of FFA office and FFA degree. A fifth question asked participants to identify the satisfaction level of their FFA experience through use of a 4-point Likert-type scale (1 = very dissatisfied, 2 = somewhat dissatisfied, 3 = somewhat satisfied, 4 = very satisfied). A summated score for FFA experience was developed by adding the scores for each of the five questions. The estimate of reliability using Cronbach's alpha was .78 for the construct.

College Leadership Experience

Two questions were posed to determine participants' satisfaction level of their college leadership experience. A 4-point Likert-type scale (1 = very dissatisfied, 2 = somewhat dissatisfied, 3 = somewhat satisfied, 4 = very satisfied) was used to determine satisfaction level. A summated score for college leadership experience

was determined by adding the scores for the two questions. The reliability coefficient for the construct of college leadership experience was $\alpha = .66$.

Preferred Leadership Style

The Multifactor Leadership Questionnaire (MLQ) (Bass & Avolio, 1995) was utilized to gather leadership style data from participants. The MLQ 5X-Short Form consists of 36 Likert-type questions that measure three leadership styles: transformational, transactional, and laissez-faire. The scale anchors ranged from 0 = not at all, 1 = once in a while, 2 = sometimes, 3 = fairly often, 4 = frequently, if not always. The MLQ is a reliable instrument and has estimates of internal consistency that range from .74 to .94 for the total items and for each of the leadership scales (Avolio & Bass, 2004). This study achieved a post hoc Cronbach's alpha of .80 for the entire instrument, which was consistent with prior research. Reliability coefficients for leadership styles were $\alpha = .88$ for transformational, $\alpha = .61$ for transactional, and $\alpha = .52$ for laissez-faire.

YLD-SE

We developed this scale after conducting a review of the literature, and obtaining data from agricultural education teachers ($N = 76$) in [Midwestern state] (Addington & Greiman, 2005a), and agricultural education state staff (e.g., state supervisor, FFA executive secretary/treasurer) ($N = 64$) from across the United States (Addington & Greiman, 2005b). The teachers and state staff were asked to identify barriers to developing leadership in youth. We used this data to develop self-efficacy statements through a process suggested by Bandura (2006). The original 10 items in the YLD-SE scale are identified in Table 1. A 9-point Likert-type scale that ranged from 1 = nothing to 9 = a great deal was used to gather responses from the participants. For this study, we defined youth as students in the agricultural education program. The YLD-SE construct achieved a Cronbach's alpha of .90 post hoc.

Table 1
Items and Factor Loadings of the YLD-SE Scale Using Principal Component Analysis and Oblique Rotation (N = 177)

	Pattern matrix		Structure matrix	
Item	Factor 1	Factor 2	Factor 1	Factor 2
1. To what extent can you establish youth leadership development as a priority in your agricultural education program	.65	-.24	.79	-.62
2. To what extent can you establish a schedule to meet all of your priorities	.73	.08	.68	-.35
3. How much can you assist youth in setting priorities for use of their time	.56	-.17	.66	-.50
4. To what extent can you motivate youth to participate in leadership activities	.72	-.13	.80	-.55
5. How much can you do to make leadership development a priority in your professional growth plan	.87	.20	.76	-.31
6. How much can you do to foster a positive attitude in your school towards the agricultural education program	.65	-.12	.72	-.50
7. To what extent can you persuade youth to value leadership development	.70	-.19	.81	-.60
8. How well can you manage the activities of the FFA chapter	-.05	-.85	.45	-.82
9. To what extent can you change peoples' stereotyped impression of the FFA	.23	-.70	.64	-.83
10. How much can you do to motivate your officer team to lead the FFA chapter	.10	-.83	.58	-.89

Principal components analysis (PCA) was chosen as the EFA extraction method. Factor selection was based on the eigenvalue of each extracted value and visual inspection of the scree plot. We followed the Kaiser-Guttman rule (Plucker, 2003; Pohlmann, 2004) which states that eigenvalues should exceed 1.0 for use in factor selection. The eigenvalues and results of the PCA are reported in Table 2. The PCA and the scree plot suggested a one-factor structure for YLD-SE. A total of 53.7% of the variance was explained by the one-factor solution. Next we used an oblique (i.e., direct oblimin) rotation of the factors based on the belief that social science research consists of correlated factors (Costello & Osborne, 2005). Results of the oblique rotation are displayed in Table 1. Communalities of the 10-items in the YLD-SE ranged from .46 to .79. As a result of the EFA and scree

plot, 7-items were retained from the original 10-item YLD-SE scale; items 8, 9, and 10 were removed.

Table 2
Eigenvalues and Results of Principal Component Analysis

Factor	Eigenvalue	% Variance	Cumulative % variance	% Variance after extraction
1	5.37	53.7	53.7	53.7
2	.88	8.8	62.5	8.8
3	.77	7.7	70.2	
4	.74	7.4	77.5	
5	.57	5.7	83.2	
6	.51	5.1	88.3	
7	.40	4.0	92.3	
8	.28	2.8	95.1	
9	.28	2.8	97.9	
10	.21	2.1	100.0	

Procedures

The data collection instrument was reviewed for face and content validity by an expert panel from across the United States. Four panel members were selected because of their research focus on leadership and/or research methodology expertise. Several changes were made to the instrument based on feedback of the expert panel.

Dillman's Tailored Design Method (2000) guided the data collection process. Participants were a sent a pre-notice e-mail prior to receiving a mailing that consisted of a cover letter, questionnaire, and self-addressed, stamped envelope. After the first mailing, an e-mail was sent to all teachers thanking them for their participation, and asking for questionnaires from teachers who had not yet responded. A second mailing and follow-up e-mail was sent to non-respondents in an effort to gain a representative response rate. We compared on-time and late respondents' answers to Likert-type questions to control for non-response error (Miller & Smith, 1983). No significant differences were found, which led us to be more confident in the generalizability of the results.

The Statistical Package for the Social Sciences (SPSS) version 15.0 was used to summarize the data. Descriptive statistics, correlational procedures, and hierarchal regression were utilized to analyze the data. Pearson product-moment coefficients were used to test the hypotheses and the relationships were described using Davis' (1971) conventions. Effect sizes were calculated and interpreted using Cohen's (1988) *r* coefficients and indices: small effect size (r = .10-.29), medium effect size (r = .30-.49), and large effect size ($r \geq .50$). An alpha level of .05 was established a priori for testing the hypotheses. The data were checked for normality, and correlations were calculated to examine multicollinarity. In addition, tolerance values for all but two of the independent variables were close to 1 (Norušis, 2005); therefore we determined that multicollinarity was not a problem with the data set. The predictor variables of age, years of teaching experience, and gender of the respondents were entered as step 1 in the hierarchical regression analysis (HRA). The purpose of this decision was to statistically control for demographic and professional characteristics. Step 2 involved the addition of FFA experience and college leadership experience to the HRA and this decision was based on theoretical support. During step 3, leadership style was added to the HRA, and theory supported this decision.

Findings

The 177 agricultural education teachers who returned the questionnaire represented a 75.6% response rate. As shown in Table 3, teachers were an average age of 39 (SD = 10.67), and had a mean of 14 years (SD = 10.08) of teaching experience. Seventy-six percent (n = 134) of the respondents were male and 24% (n = 42) were female. All of the teachers were white, non-Hispanic in regards to ethnicity. Respondents had a mean score of 13.77 (SD = 3.68) for FFA experience, and were *somewhat satisfied* (M = 3.04, SD = .69) with their college leadership experience. Agricultural education teachers utilized a transformational leadership style *fairly often* (M = 3.07, SD = .39), transactional style *sometimes* (M = 2.04, SD = .35), and laissez-faire style *once in a while* (M = 1.03, SD = .58).

Table 3
Descriptive Statistics (N = 177)

Variable	*M*	*SD*	*f*	%
Age	39.08	10.67		
Years taught agricultural education	14.14	10.08		
FFA experience[a]	13.77	3.68		
College leadership experience[b]	3.04	.69		
Transformational leadership[c]	3.07	.39		
Transactional leadership[c]	2.04	.35		
Laissez-faire leadership[c]	1.03	.58		
YLD-SE[d]	6.71	1.10		
Gender				
Male			134	76
Female			42	23

[a] Summated scale ranged from 0 - 20. [b] 4-point scale (1 = very dissatisfied, 2 = somewhat dissatisfied, 3 = somewhat satisfied, 4 = very satisfied). [c] 5-point scale (0 = not at all, 1 = once in a while, 2 = sometimes, 3 = fairly often, 4 = frequently, if not always). [d] 9-point scale (1 = nothing, 3 = very little, 5 = some influence, 7 = quite a bit, 9 = a great deal).
*p < .05 **p < .01

The first research objective of the study was to determine teachers' perceived level of YLD-SE. As shown in Table 3, teachers had *quite a bit* (*M* = 6.71, *SD* = 1.10) of YLD-SE. The second research objective sought to determine the relationship that YLD-SE has with selected variables. As shown in Table 4, FFA experience had a *low* (*r* = .11, small effect size) correlation with YLD-SE. The relationship was not significant, so hypothesis 1 was rejected. College leadership experience also had a *low* and non-significant (*r* = .08, small effect size) correlation with YLD-SE, and therefore hypothesis 2 was rejected. Transformational leadership style was shown to have a *moderate* (*r* = .45, medium effect size) relationship with YLD-SE. This correlation was statistically significant and therefore we accepted hypothesis 3.

Table 4
Pearson-Product Moment Correlations of Independent Variables and YLD-SE

Variable	1	2	3	4	5	6	7	8	9
1. Age	—	-.39†	.80†	-.21†	-.17†	.11	.05	-.13	.04
2. Gender[a]		—	-.36†	-.11	-.05	.12	-.05	-.01	.02
3. Years taught agricultural education			—	-.20†	-.15*	.08	.04	-.13	.11
4. FFA experience				—	.22†	.08	-.06	-.04	.11
5. College leadership experience					—	.02	.05	-.01	.08
6. Transformational leadership						—	.23†	-.20†	.45†
7. Transactional leadership							—	.23†	.07
8. Laissez-faire leadership								—	-.23†
9. YLD-SE									—

[a] Gender coded as 1 = male, 2 = female.
*p < .05 †p < .01

The third objective of the study was to determine the predictors of YLD-SE. HRA was used to analyze the data and the results are shown in Table 5. The control variables in step 1 included the teachers' age, gender, and years of agricultural education taught. This group of variables described 1% (R^2 = .01) of the variance in YLD-SE. Adding the variables of FFA experience and college leadership experience in step 2 of the HRA resulted in an additional 3% (ΔR^2 = .03) of the variance being explained. Step 3 involved the addition of transformational, transactional, and laissez-faire leadership styles to the HRA. Leadership style explained an additional 21% (ΔR^2 = .21) of the variance in YLD-SE, and this was statistically significant. Transformational and laissez-faire leadership style explained a statistically significant portion of the variance during step 3.

Table 5
Hierarchical Regression Analysis for Variables Predicting YLD-SE (N = 177)

Independent variable	*B*	*SE B*	β	R^2	ΔR^2
Step 1 (control variables)				.01	
Age	.00	.02	-.00		
Gender	.11	.21	.04		
Years taught agricultural education	.01	.02	.12		
Step 2				.04	.03
Age	.00	.02	.04		
Gender	.22	.21	.09		
Years taught agricultural education	.02	.02	.14		
FFA experience	.04	.02	.12		
College leadership experience	.19	.13	.12		
Step 3				.25**	.21**
Age	-.00	.01	-.03		
Gender	-.05	.20	-.02		
Years taught agricultural education	.01	.01	.08		
FFA experience	.01	.02	.04		
College leadership experience	.17	.11	.11		
Transformational leadership	1.16	.21	.42**		
Transactional leadership	-.15	.23	-.05		
Laissez-faire leadership	-.28	.14	-.15*		

*$p < .05$ **$p < .01$

Conclusions and Implications

This exploratory study sought to investigate the YLD-SE of agricultural education teachers in [Midwestern state]. The study further sought to determine the relationship that YLD-SE had with selected variables, and to determine the predictors of YLD-SE. Our study is supported by Bandura's (1986) social cognitive theory which identifies human behavior as an interaction of personal factors, behavior, and the environment. At the core of the social cognitive theory are self-efficacy beliefs which provide the foundation for human motivation, well-being, and personal accomplishment (Pajares, 2002). Although a number of studies have investigated self-efficacy in the context of school and work, none have focused on adults' self-efficacy as they interact with youth to develop their leadership potential. Our study sought to begin the inquiry focused on YLD-SE and to fill this gap in the literature.

According to Bandura's (1986) social cognitive theory, personal factors and the environment interact to affect each other, and the relationships are reciprocal. We categorized teachers' preferred leadership style and YLD-SE as personal factors; teachers' FFA experience and college leadership experience were identified as two factors in the environment category of the theory. This study found limited support for this theory, as a positive correlation was found between FFA experience and YLD-SE, and between college leadership experience and YLD-SE. However, the correlations were not significant and further study involving a larger population is needed to more fully understand the relationships within Bandura's social cognitive theory. In addition, we did not use any measures for the behavior category in the theory, and we recommend that further research include variables that represent this category.

Our study concluded that agricultural education teachers have *quite a bit* of YLD-SE. It appears that teachers have the belief that they can overcome barriers while assisting youth in developing leadership. Bandura (1997) suggests that self-efficacy influences performance, and in this study self-efficacy influences how adults overcome barriers to support and promote leadership development in youth. Teachers who have a high level of YLD-SE are more inclined to overcome barriers that pertain to the school environment, personal environment, time management, and motivation as they guide youth in leadership activities. With the many changes taking place in schools (e.g., student demographics, educational policy, school funding, reform initiatives), it appears that having a high level of YLD-SE will be advantageous to teachers as they develop the personal factors necessary to overcome challenges to youth leadership development. This finding has positive implications because agricultural education teachers have a significant influence on the development of leadership among their students (Butters & Ball, 2006; Vaughn & Moore, 2000). And while it is logical to propose that increasing YLD-SE may be a useful strategy for improving leader effectiveness, it is suggested that further study is needed to explore this hypothesis. In addition, research should be conducted on the impact that adults' YLD-SE has on youth, so that the merit of this construct can be evaluated.

The most significant finding from this study was the relationship between YLD-SE and preferred leadership style. First, YLD-SE had a positive significant correlation with transformational leadership style and a negative significant correlation with laissez-faire leadership. Second, the addition of preferred leadership style to the HRA explained an additional and significant amount of variance in YLD-SE. Further, transformational leadership style and laissez-faire leadership style were found to be significant predictors of YLD-SE. This is a major finding and leads us to conclude that leadership style has a significant influence on YLD-SE. As such, this indicates a need for agricultural education teachers to know and understand their leadership style (Greiman et al., 2007). In

support, Avolio and Bass (2004) argued that it is necessary to first identify and understand one's own personal leadership style before an individual can develop leadership in others. Teachers who study and adopt a transformational leadership style and who reduce their laissez-faire leadership style are likely to see an increase in their YLD-SE.

We concluded that FFA experience and college leadership experience were not significant predictors of YLD-SE. Initially, this was somewhat of a surprise based on previous research which found that prior leadership experiences were predictive of FFA program quality (Vaughn & Moore, 2000), and were determinants of leadership self-efficacy (McCormick et al., 2002). However, upon further reflection, the authors recognize that the YLD-SE construct represents a belief that is complex and has multiple layers. To have a high level of YLD-SE, adults must have a belief that they can assist youth in developing leadership during a stage in adolescents' lives that is filled with biological, cognitive, and socio-emotional changes (Santrock, 2001). Adults must convince youth that they have leadership potential (Bennis & Nanus, 1985), and adults will likely need to assist youth in overcoming family and parental issues surrounding leadership concepts. At the same time, adults must explore their personal leadership barriers that revolve around attitude, motivation, philosophy, and expectations (van Linden & Fertman, 1998).

The results of this study have implications for professional development of adults. As was noted earlier, teachers must determine and become aware of their preferred leadership style. Further, it is recommended that professional development planners and trainers focus on assisting teachers in developing a high level of YLD-SE. Bandura (1997) suggested that self-efficacy beliefs are developed from four primary sources, and consideration should be given to utilizing these sources during professional development activities: (a) mastery experience, (b) vicarious experience, (c) social persuasion, and (d) physiological state. *Mastery experience* is the most influential source of self-efficacy (Bandura, 1997) and consists of repeated personal performance accomplishments. Specifically, teachers should practice mastery experiences to build their confidence level by performing self-efficacy tasks regarding youth leadership development. Thus, professional development opportunities focused on YLD-SE should be a continuous and year-round effort rather than a one-shot approach during a workshop. Teachers who have high YLD-SE should be involved in workshops and serve as role models (i.e., *vicarious experiences*) for participants. It is well known that master teachers who are highly regarded can be a source of motivation and encouragement for other teachers (McCormick & Tanguma, 2007). In addition, positive feedback (i.e., *social persuasion*) from peer teachers, mentors, association leaders, administrators as well as others will help teachers sustain their belief that they are capable of overcoming barriers to youth leadership development. Finally, strategies to reduce stress levels and control

negative thoughts (i.e., *physiological state*) are helpful in influencing teachers' beliefs; adults who feel better physically and emotionally are generally more efficacious (McCormick, Tanguma, & Lopez-Forment, 2002).

The findings from this study provide initial support for the reliability and validity of the YLD-SE scale. However, YLD-SE is a new construct and further development of the scale is warranted. Additional research is necessary to fully determine whether YLD-SE is a single-factor or multi-factor construct. The authors recognize that this exploratory study was limited by the demographics of the adult participants. All teachers were from [Midwestern state] and their ethnicity was white, not Hispanic, and over 75% were male. In addition, we developed the YLD-SE scale for use with agricultural education teachers, and researchers should consider adopting and modifying this construct for use with other adult audiences. Despite the limitations, the YLD-SE scale holds promise as a leadership tool for use with adults. Our study extends previous research on youth leadership development, and provides new insights pertaining to the role that personal factors and the environment have in adults' ability to influence the leadership development of youth.

References

Addington, L. S, & Greiman, B. C. (2005a). *Perceptions of advisors regarding opportunities and barriers in the FFA*. St. Paul, MN: University of Minnesota, Division of Agricultural, Food and Environmental Education.

Addington, L. S, & Greiman, B. C. (2005b). *Perceptions of state staff regarding opportunities and barriers in Leadership Development*. St. Paul, MN: University of Minnesota, Division of Agricultural, Food and Environmental Education.

Aldoory, L., & Toth, E. (2004). Leadership and gender in public relations: Perceived effectiveness of transformational and transactional leadership styles. *Journal of Public Relations Research, 16*(2), 157-183.

Avolio, B. J., & Bass, B. M. (2004). *Multifactor leadership questionnaire: Third edition manual and sampler set.* Redwood City, CA: Mind Garden.

Bandura, A. (1977). *Social learning theory*. New York: General Learning Press.

Bandura, A. (1986). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: H. W. Freeman.

Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 307-337). Greenwich, CT: Information Age.

Bass, B. M. (1985). *Leadership and performance beyond expectations.* New York: Free Press.

Bass, B. M. (1997). Does the transactional–transformational leadership paradigm transcend organizational boundaries? *American Psychologist, 52*, 130-139.

Bass, B. M., & Avolio, B. J. (1990). The implications of transactional and transformational leadership for the individual, team, and organizational development. *Research in Organizational Change and Development, 4,* 231-272.

Bass, B. M., & Avolio, B. J. (1994). *Improving organizational effectiveness through transformational leadership.* Thousand Oaks, CA: Sage.

Bass, B. M., & Avolio, B. J. (1995). *Multifactor leadership questionnaire leader form (5x-short).* Redwood City, CA: Mind Garden.

Bennis, W. G., & Nanus, B. (1985). *Leaders: The strategies for taking charge*. New York; Harper & Row.

Boyd, B. L. (2001). Bringing leadership experiences to inner-city youth. *Journal of Extension, 39*(4), 1-5.

Butters, K. S., & Ball, A. L. (2006). The development of leadership skills in agricultural education: A synthesis of literature. In J. Deeds & K Swortzel (Eds.), *Proceedings of the 2006 National Agricultural Education Research Conference CD ROM* (pp. 471-484). Mississippi State: Mississippi State University.

Chemers, M. M., Watson, C. B., & May, S. T. (2000). Dispositional affect and leadership effectiveness: A comparison of self-esteem, optimism, and efficacy, *Personality and Social Psychology Bulletin*, *26*, 267-277.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment Research & Evaluation, 10*(7), 1-9.

Conner, J. O., & Strobel, K. (2007). Leadership development: An experiment of individual and programmatic growth. *Journal of Adolescent Research, 22,* 275-297.

Connors, J. J., & Swan, B. G. (2006). A synthesis of leadership development research in agricultural education: 1988-2003. *Journal of Agricultural Education, 47*(2), 1-13.

Davis, J. A. (1971). *Elementary survey analysis.* Englewood, NJ: Prentice-Hall.

Des Marais, J., Yang, Y., & Farzanehkia, F. (2000). Service-learning leadership development for youth. *Phi Delta Kappan, 81*, 678-80.

Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method.* New York: Wiley and Sons.

Dormody, T. J., & Seevers, B. (1994). Predicting youth leadership life skills development among FFA members in Arizona, Colorado and New Mexico. *Journal of Agricultural Education, 35*(2), 1-6.

Edelman, A., Gill, P., Comerford, K., Larson, M., & Hare, R. (2004). *Youth development and youth leadership*. Retrieved March 7, 2007 from http://www.ncwd-youth.info/assets/background/YouthDevelopment.pdf

Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational research: An introduction* (6th ed.). White Plains, NY: Longman.

Gardner, J. W. (1987). *Leadership development: Leadership papers*. Washington, D.C.: Independent Sector.

Greiman, B. C., Addington, L. S., Larson, T. G., & Olander, K. R. (2007). Preferred leadership style of agricultural education teachers: An expression of epistemological beliefs about youth leadership development. *Journal of Agricultural Education, 48*(4), 93-104.

Hansen, D. M., Larson, R. W., & Dworkin, J. B. (2003). What adolescents learn in organized youth activities: A survey of self-reported developmental experiences. *Journal of Research on Adolescence. 13*(1); 25-55.

Harms, B. M., & Knobloch, N. A. (2005). Preservice teachers' motivation and leadership behaviors related to career choice. *Career and Technical Education Research, 30*(2), 101-124.

Hoyt, C. L., Murphy, S. E., Halverson, S. K., & Watson, C. B. (2003). Group leadership: Efficacy and effectiveness. *Group Dynamics: Theory, Research, and Practice*, *7*(4), 259-274.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*, 31-36.

Kolb, D.A. (1984) *Experiential learning: Experience as the source of learning and development.* New Jersey: Prentice-Hall.

Larson, R. (2000). Toward a psychology of positive youth development. *American Psychologist, 55*, 170–183.

McCormick, M. J., & Tanguma, J. (2007). The constraining effect of pre-training leadership self-efficacy beliefs on change in post-training leadership self-efficacy beliefs. *Journal of Leadership Education*, *6*(1), 109-127.

McCormick, M. J., Tanguma, J., & Lopez-Forment, A. S. (2002). Extending self-efficacy theory to leadership: A review and empirical test. *Journal of Leadership Education*, *1*(2), 34-49.

Miller, L. E., & Smith, K. L. (1983). Handling nonresponse issues. *Journal of Extension, 21*, 45-50.

Morgan, A. C., & Rudd, R. D. (2006). Teaching leadership in agricultural science: Behavioral factors that influence secondary agricultural science leadership instruction. *Journal of Agricultural Education, 47*(3), 33-44.

Murphy, S. E. (1992). *The contribution of leadership experience and self-efficacy to group performance under evaluation apprehension*. Unpublished doctoral dissertation. University of Washington, Seattle.

Murphy, S. E. (2002). Leadership self-regulation: The role of self-efficacy and multiple intelligences. In R. Riggio, S. Murphy, & F. Pirozzolo (Eds.), *Multiple Intelligences and Leadership*, 63-186. Mahwah, NJ: Lawrence Erlbaum.

National FFA Organization (2006). *Official FFA manual.* Indianapolis, IN: Author.

Northouse, P. G. (2004). *Leadership: Theory and practice.* Thousand Oaks, CA: Sage.

Norušis, M. J. (2005). *Statistical procedures companion*. Upper Saddle River, NJ: Prentice Hall.

Oliver, J. D., & Hinkle, D. E. (1982). Occupational education research: Selection statistical procedures. J*ournal of Studies in Technical Careers 4*(3), 199-208.

Paglis, L. L., & Green, S. G. (2002). Leadership self-efficacy and managers' motivation for leading change. *Journal of Organizational Behavior, 23*, 215-235.

Pajares, F. (2002). *Overview of social cognitive theory and of self-efficacy*. Retrieved October 2, 2007 from http://www.emory.edu/EDUCATION/mfp/eff.html

Plucker, J. A. (2003). Exploratory and confirmatory factor analysis in gifted education: Examples with self-concept data. *Journal for the Education of the Gifted, 27*(1), 20-35.

Pohlmann, J. T. (2004). Use and interpretation of factor analysis in the journal of educational research: 1992-2002. *The Journal of Educational Research, 98*(1), 14-22.

Ricketts, S. C., & Newcomb, L. H. (1984). Leadership and personal development abilities possessed by high school students who are members in superior and non-superior FFA chapters, and by seniors who were never enrolled in

vocational agriculture. *Journal of the American Association of Teacher Educators in Agriculture, 25*(2), 51-59.

Ricketts, J. D., & Rudd, R. D. (2002). A comprehensive leadership education model to train, teach, and develop leadership in youth. *Journal of Career and Technical Education, 19*(1), 7-17.

Rutherford, T. A., Townsend, C. D., Briers, G. E., Cummins, R., & Conrad, C. R. (2002). Leadership self-perceptions of WLC participants. *Journal of Agricultural Education, 43*(2), 1-12.

Santrock, J. W. (2001). *Educational psychology.* New York: McGraw-Hill

Stajkovic, A. D., & Luthans, F. (1998). Self-Efficacy and work-related performance: A meta-analysis. *Psychological Bulletin, 124*(2), 240-261.

Townsend, C. D., & Carter, R. I. (1983). The relationship of participation in FFA activities and leadership, citizenship, and cooperation. *American Association of Teacher Educators in Agriculture Journal, 24*(l), 20-25.

van Linden, J., & Fertman, C. I. (1998). *Youth leadership: A guide to understanding leadership development in adolescents*. San Francisco: Jossey-Bass.

Vaughn, Z. J., & Moore, G. E. (2000). *Predictors of FFA program quality*. Paper presented at the National Agricultural Education Research Conference, San Diego, CA.

Watson, C. B., Chemers, M. M., & Preiser, N. (2001). Collective efficacy: A multilevel analysis. *Personality and Social Psychology Bulletin, 27*, 1057-1068.

Wingenbach, G. J., & Kahler, A. K. (1997). Self-perceived youth leadership and life skills of Iowa FFA members. *Journal of Agricultural Education, 38*(3), 1-10.

Woyach, R. B. (1992). *Preparing for leadership: A young adult's guide to leadership skills in a global age.* New York: Greenwood Press.

Biography

Dr. Brad Greiman is an assistant professor in the Department of Work and Human Resource Education at the University of Minnesota. His research interests include relationship dynamics, particularly as it pertains to mentors-protégés and leaders-followers; induction and socialization of novice teachers; and reflective practice. Dr. Greiman teaches undergraduate and graduate courses on instructional methodologies, experiential learning and reflective thinking, and personal and youth leadership development.

Leah Addington is the Leadership Development Coordinator for the Minnesota FFA Association. In this role she provides leadership training for FFA members, officers, and advisors. Ms. Addington plans leadership programming for the Minnesota FFA Association and leads a year-long leadership development program for the state officer team.