Insights into Impact: Evaluating an Adult Leadership Program Offered through Michigan State University Extension

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Abstract. Agriculture, food, and natural resource (AFNR) systems need leaders to catalyze positive change. Thus, Extension professionals have consistently developed innovative and impactful leadership programming. In the current study, the alumni of one such program in Michigan were surveyed to evaluate the sustained impact of the program. Program alumni rated themselves highest in Empowerment and Perspective Development and perceived the strongest programmatic impact in Empowerment and Emotional Resilience. These data were further analyzed to create a "Leadership Impact Factor," which illuminates the impact of a program using a single number. Recommendations are made for Extension professionals facilitating similar leadership education programming.

The ever-changing complexity of agriculture, food, and natural resource (AFNR) systems necessitates leaders who combine (a) knowledge of AFNR systems, (b) diverse professional relationships, and (c) the abilities required to create positive change (Kaufman et al., 2010). Agricultural leadership education seeks to develop these attributes among individuals at varying age and ability levels (Velez et al., 2015); however, in this study, we focused on an agricultural leadership program serving AFNR industry professionals in Michigan directed through the Michigan State University Extension. Specifically, our aim was to detail the perceived leadership abilities of alumni from the Great Lakes Leadership Academy as well as the impact respondents perceived the program had on their leadership abilities. This research provides critical insights into the role adult leadership programming offered through Extension played in empowering leaders with the abilities required to positively influence AFNR systems. In addition, the formation of a *leadership impact factor* within the current study serves as a model for Extension educators in leadership education seeking insights into the impact of their curriculum and programming on participants.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Leadership development programs offered through land-grant university Extension, such as the Great Lakes Leadership Academy, are common (Kaufman et al., 2012). The synergy between Extension and leadership programming emerges from Extension's long-standing connection to industry professionals who directly or indirectly benefit from increased leadership capacity among professionals (Sparks, 2014). Maintaining impactful programs, however, requires continued evaluation of who is participating in Extension programming *and* the outcomes realized by participants (Lamm et al., 2013, 2016).

The need for continued evaluation measures includes an understanding of program participants. Recent research has identified the most common characteristics of participants within adult AFNR leadership programming (Lamm et al., 2020), finding that they are most likely to be male, ages 50–59, and White. Further, participants are most likely to possess a bachelor's degree as their highest level of education and to work full-time in a managerial or executive position within a private/for-profit business. In addition to understanding who is participating, it is critical to understand the impact realized by participants. Lamm et al. (2019) explored the perceived leadership skills of adult AFNR program participants, finding the average self-evaluation score to be 3.75 for males and 3.74 for females, with a maximum possible score of 5.00. These data support earlier research finding that 95.6% of participants in agricultural leadership programs reported being satisfied with the program (Lamm et al., 2016). Program-specific research has added to the evidence suggesting the efficacy of leadership development opportunities offered

through Extension (Flage et al., 2012; Maltsberger & Majee, 2012; Walker & Gray, 2009),

In total, these studies provide valuable insights into who participates in adult AFNR leadership programs as well as an introductory snapshot of programmatic impact; however, more detailed information regarding the impact of these programs is needed to inform changes at the local program level.

The theoretical framework for this research is the ecological systems theory (Bronfenbrenner, 1993, 2005). This theory illuminates the interaction between individuals and a hierarchy of systems that influence individuals. This perspective informed our focus on investigating the perceived leadership abilities of individuals as well as their perception of the impact of previously engaging in the Great Lakes Leadership Academy. For this study, the systems of interest within the theory were the person (i.e., program alumni), microsystem (i.e., direct program engagement), and mesosystem (i.e., indirect environment of the program).

PURPOSE AND OBJECTIVES

The purpose of this research was to gain insights into the role of adult AFNR leadership programming on the leadership abilities of professionals by exploring the leadership skills and programmatic impact perceived by alumni of the Great Lakes Leadership Academy. To accomplish this purpose, the following research objectives were developed: (a) describe the leadership abilities perceived by Great Lakes Leadership Academy alumni, (b) describe the impact of the Great Lakes Leadership Academy perceived by alumni, and (c) establish and evaluate a leadership impact factor that combines perceived leadership abilities and perceived programmatic impact.

METHODS

We completed this research by using survey research methods. The data collected were part of a larger research project exploring leadership development as a product of engaging in adult AFNR leadership programming.

POPULATION, SAMPLE, AND DATA COLLECTION

The population for this research included Great Lakes Leadership Academy alumni who completed the program between 2015 and 2019, which included a total of 159 individuals ($N = 159$). Data were collected via a Qualtrics survey sent a maximum of four times to program alumni in April and May 2021. A $5 Amazon gift card was provided as an incentive for completing the survey. A total of 77 responses was received, yielding a 48.43% response rate.

DESCRIPTION OF THE PROGRAM

The Great Lakes Leadership Academy serves professionals in AFNR systems in Michigan and includes two types of experiences. The first experience is introductory in nature and includes three 4-day sessions over a 6-month period. The second experience is advanced in nature and includes 12 experiences ranging from 2 to 10 days over the span of 18 months. Both experiences include classroom-based workshops on personal, team, and community leadership roles contextualized within AFNR systems. In addition, both experiences include real-world team problem-solving outside the classroom. Within the advanced experience, participation includes a domestic or international travel experience to broaden the perspectives of participants. Two additional program features include the use of mentors or coaches for participants and significant investment in building a network of professionals within the program. Participants within the program are selected via an application process, with the majority of participants having their registration and engagement costs covered by their place of work.

INSTRUMENTATION

We developed the instrument by reviewing a comprehensive list of programmatic objectives and existing research on leadership program assessment (Reinelt et al., 2002). In total, the instrument included six leadership constructs of items (see Table 1) in which individuals were asked to rate their current ability (i.e., "How would you currently rate your skill in this area?") from 1 (*Very Low*) to 5 (*Very High*). In addition, individuals were asked to rate the impact of the Great Lakes Leadership Academy (i.e., "What impact did Great Lakes Leadership Academy have on your current ability?") from 1 (*No Impact*) to 5 (*Very Large*) on all items.

A panel of experts in leadership education, including six faculty in leadership education from three institutions with experience in social-science research methods, evaluated the survey for face and content validity. Feedback from the panel led to changes that increased the validity of constructs. Reliabilities were calculated post hoc and are reported in Table 1.

DATA ANALYSIS

For the first research objective, an average and a standard deviation were calculated for the six ability constructs. Similarly, for the second objective, an average and a standard deviation were calculated for the six impact constructs. For the third objective, a leadership impact factor was calculated by multiplying reported ability level by perceived program impact for each construct item, which was then averaged across participants for each construct. For interpretation, larger impact factors

Table 1. Description of Constructs

Construct	Description	Items	Example item	Reliability Ability	Reliability Impact
Collaboration	Building relationships through communication	8	Listening to opinions that differ from my own	.76	.82
Emotional resilience	Maintaining a healthy identity while leading	8	Using mindfulness practices to achieve personal balance	.84	.91
Empowerment	Supporting others' lead via inclusive interactions	8	Promoting the leadership development of others	.88	.89
Reflective application	Enacting leadership in alignment with best practices	7	Making meetings inclusive for all participants	.83	.89
Skill development	Developing new skills as a leader	12	Identifying opportunities for sustained leadership growth	.90	.95
Perspective development	Developing new perspectives as a leader	11	Being aware of my own emotions as they occur	.86	.93

Note. Abilities and impact reliabilities were calculated post hoc via a Cronbach's alpha.

Table 2. Perceived Abilities

Construct	Minimum	Maximum	Mean	Standard deviation
Empowerment	2.38	5.00	4.01	0.49
Perspective development	1.91	4.82	3.81	0.48
Emotional resilience	2.00	4.88	3.77	0.53
Collaboration	2.63	4.88	3.73	0.47
Reflective application	2.43	4.86	3.66	0.47
Skill development	1.92	4.75	3.53	0.56

Note. Response options ranged from 1 (*Very Low*) to 5 (*Very High*).

suggest that the program played a more significant role in developing the highest perceived abilities among participants.

DESCRIPTION OF RESPONDENTS

Respondents to the survey were predominately female (i.e., 59.09%). With regard to race, 84.38% were White, 9.38% were Black/African American, and 3.13% were Asian. The average age of respondents was 41.05 years old, with a standard deviation of 7.32 years.

FINDINGS

The focus of the first objective was the perceived leadership abilities of respondents at the time of data collection (see Table 2). Great Lakes Leadership Academy respondents perceived their highest abilities within the empowerment ($M = 4.01$; $SD = 0.49$) and perspective development ($M = 3.81$; $SD = 0.48$) constructs. Alternatively, the lowest perceived abilities were within the skill development ($M = 3.53$; $SD = 0.56$) and reflective application ($M = 3.66$; $SD = 0.47$) constructs.

For the second objective, the focus shifted from abilities to programmatic impact (see Table 3). Respondents perceived the highest programmatic impact within empowerment ($M = 3.94$; $SD = 0.70$) and emotional resilience ($M = 3.80$; $SD = 0.75$). The lowest perceived programmatic impact was reported for skill development ($M = 3.37$; $SD = 0.84$) and collaboration ($M = 3.52$; $SD = 0.64$).

For the final objective, perceived ability and programmatic impact were combined in the formation of a programmatic impact factor (see Table 4). The largest impact factors were observed within the empowerment ($M = 15.83$; $SD = 3.68$) and perspective development ($M = 14.52$; $SD = 3.47$) constructs. The lowest impact factors were observed within the skill development ($M = 12.00$; $SD = 3.91$) and collaboration ($M = 13.21$; $SD = 3.41$) constructs.

CONCLUSIONS, RECOMMENDATIONS, AND DISCUSSION

Adult AFNR leadership programs play an important role in empowering leaders to enact positive change within their

Table 3. Perception of Program Impact

Construct	Minimum	Maximum	Mean	Standard deviation
Empowerment	2.00	5.00	3.94	0.70
Emotional resilience	1.00	5.00	3.80	0.75
Perspective development	1.45	5.00	3.79	0.69
Reflective application	1.14	5.00	3.77	0.70
Collaboration	1.38	5.00	3.52	0.64
Skill development	1.00	5.00	3.37	0.84

Note. Response options ranged from 1 (*No Impact*) to 5 (*Very Large*).

Table 4. Programmatic Impact Factor

Construct	Minimum	Maximum	Mean	Standard deviation
Empowerment	7.03	25.00	15.83	3.68
Perspective development	5.42	23.21	14.52	3.47
Emotional resilience	3.88	23.13	14.44	3.96
Reflective application	4.08	22.86	13.92	3.58
Collaboration	4.98	23.16	13.21	3.41
Skill development	3.03	21.38	12.00	3.91

Note. Impact factors could have ranged from 1.00 to 25.00.

communities and AFNR systems (Kaufman et al., 2010). The approach used for the current research informed the role the Great Lakes Leadership Academy has played in developing the abilities of alumni. To initiate the discussion, we first acknowledged a difference between the participants in the Great Lakes Leadership Academy and the national demographics of participants in similar programs. Specifically, Lamm et al. (2020) found that the majority of participants in adult AFNR leadership programming were male; however, our findings indicate that the majority of participants in the Great Lakes Leadership Academy were female. This demographic difference has the potential to influence self-perceptions of leadership (i.e., females tend to rate leadership abilities slightly lower [Lamm et al., 2019]) and should, therefore, be considered when interpreting the results.

Analysis of the programmatic impact factors illuminated that this Extension program is excelling in building empowerment (i.e., supporting others' lead via inclusive interactions) and perspective development (i.e., developing new perspectives as a leader) abilities among participants. Alternatively, data illuminated the potential to refine the program to enhance skill development (i.e., developing new skills as a leader) and collaboration (i.e., building relationships through communication), the two items receiving the lowest impact factor ratings among participants. In addition to informing facilitators of the current program, this approach is a model that could be adapted by other Extension educators facilitating leadership education programs that affect leadership learners at all levels (Velez et al., 2015), with and without an

AFNR focus. The opportunity to enhance the quality of learning experiences for current and future leaders compels the continued use and refinement of the impact factor method proposed in this study.

As we reflect on the findings in alignment with the ecological systems theory (Bronfenbrenner, 1993, 2005), additional insights emerge. First, the average programmatic impact scores across constructs suggest that the Great Lakes Leadership Academy made a lasting impression on the leadership abilities of alumni, in alignment with the ecological system theory. Further, questions emerge regarding the impact of specific experiences that occurred during the Great Lakes Leadership Academy and how those experiences influenced the development of leadership outcomes. For example, it is reasonable to assume that domestic or international travel experiences led to increased ratings of perspective development; however, additional research would help inform leadership education within the Great Lakes Leadership Academy and beyond. Further, consideration should be given to life experiences that occurred between the leadership development experience and data collection—for example, research identifying those life experiences that reinforced and extended the impact of the program and those experiences that detracted from the perceived impact of the program. Continuing this line of inquiry, an exciting opportunity exists to conduct this research across multiple leadership programs offered through land-grant universities. In this research, comparing different programmatic features and participant outcomes would yield further evidence regarding the type of

educational experiences occurring within the microsystems and mesosystems of leadership education that catalyze leadership development.

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