

# Leadership Programming: Exploring a Path to Faculty Engagement in Transformational Leadership

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## Abstract

*Transformational leadership has served as a model for positive, individual-focused leadership, based on its emphasis on motivation and higher levels of organizational performance. Change is a constant for faculty that become leaders within the Land Grant University System. Changes to governance and accountability of institutions and threats to research through commercial or political interests reflect the need for positive and effective leaders. The purpose of this study was to examine if participation in LEAD21, a leadership development program intended for land grant universities' colleges of agricultural, environmental, and human sciences and NIFA, changes participant levels of transformational leadership. Results indicated overall level of transformational leadership rose by an average of 7%. This finding was unexpected based on previous research that found statistically significant changes in transformational leadership dimensions of 1% - 2%. These results are encouraging, considering transformational leaders tend to lead higher performing organizations. Agricultural educators and leadership development professionals can use the results of this study to inform future teaching practices. The empirical evidence that transformational leadership development within a sample of emerging leaders is encouraging. The continuation and expansion of leadership development programs focused on transformational leadership dimensions are encouraged.*

Keywords: transformational leadership, faculty development, higher education

## Introduction

Change and crises in higher education are not new; rather these terms tend to be synonymous with the ongoing responsibilities associated with leaders of post-secondary institutions (Zusman, 2005). In their analysis of university presidents, Kerr and Gade (1986) found “Change and crisis require good systems of governance and effective leadership” (p. 87). This assessment is as accurate today as it was almost 30 years ago (Zusman, 2005). Within the broader heading of higher education, the Land Grant University System, including colleges of agriculture (LGUS), have similar challenges (Lamm, Lamm, & Strickland, 2013).

The LGUS is faced with several key issues, including: the increase in privatization of higher education, rising costs, threats to research through commercial or political interests, access discrepancies, changing demand, an uncertain job market for graduates, disruptive technology, and changes to governance and accountability of institutions (Creative Destruction, 2014; Zusman, 2005). Regardless of the issues, it will be critical to have a capable set of leaders enabled to address

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these challenges (Lamm et al., 2013) as these leaders are the critical components to ensure organizational challenges are met, resources marshaled, and outcomes are achieved (Fish, 2003).

Based on Northouse's (2013) definition, leadership "is a process whereby an individual influences a group of individuals to achieve a common goal" (p. 5). From this perspective, the role of a leader within the LGUS must be first and foremost directed toward the effective influence of individuals, not technical issues associated with administration of responsibilities (Katz, 1955; Zaleznik, 1977). It is within this context that previous research on effective leadership within higher education and the LGUS can be examined. For example, Lindner (2001) found that county extension chairs spent the most time "creating a work environment where employees are motivated and teamwork thrives" (p. 26) relative to other activities such as ensuring compliance with regulations or developing new policies. Bryman (2007) found that having a clear vision, communicating sufficiently, and creating a positive environment were among the "main leadership behaviors associated with leadership effectiveness" (p. 697) after reviewing the leadership literature within a higher education context.

Transformational leadership has served as a model for positive, individual focused leadership, based on its emphasis on motivation and follower development (Bass & Riggio, 2006; Northouse, 2013). "Transformational leadership is a process that changes and transforms people and is concerned with emotions, values, ethics, standards, and long-term goals. It includes assessing followers' motives, satisfying their needs, and treating them as full human beings" (Northouse, 2013, p. 185). From this perspective transformational leadership has been viewed as an effective approach to address the ongoing challenges organizations face (Bass & Riggio, 2006), whether for-profit (Collins, 2001), community based (Avolio & Bass, 1994), or within the LGUS (Lamm et al., 2013).

There are several reasons why the LGUS would benefit from more transformational leaders. For example, the behaviors associated with transformational leaders have been found to be associated with higher levels of organizational and financial performance (Collins, 2001). Transformational leaders also tend to be judged as more effective by employees (Judge & Bono, 2000) and are more committed to their work (Jackson, Meyer, & Wang, 2013).

The National Research Agenda for Agricultural Education (Doerfert, 2011) identified six national research priority areas. Priority area three focused on the need for a "sufficient scientific and professional workforce that addresses the challenges of the 21<sup>st</sup> century" (Doerfert, 2011, p. 9). Based on significant societal pressures (Zusman, 2005) and the necessity to evolve as a set of institutions (Creative Destruction, 2014) it is critical that the LGUS have the necessary leadership capacity within its faculty to be able to fulfill this priority (Kerr & Gade, 1986). Previous research has examined what influences faculty members' choices to volunteer for leadership roles (Lamm et al., 2013), this research is intended to extend upon previous findings and to empirically examine the effectiveness of a leadership development program to increase transformational leadership capacity of emergent leaders within the LGUS.

## **Theoretical Framework**

### **Transformational Leadership**

The theoretical framework for this study is based on Podsakoff, MacKenzie, Moorman, and Fetter's (1990) model of transformation leadership, more specifically the Transformational Leadership Behavior Inventory (TLI). The TLI model included four primary dimensions of transformational leadership. The first dimension is core transformational leadership behaviors, which is comprised of three facets: providing a positive role model, articulating a vision, and motivating followers to look beyond their own self-interests. The second dimension involves the leader's individualized consideration toward their followers. The third dimension measures the

leader's ability to intellectually stimulate followers. The final dimension measures a leader's ability to set high performance expectations for followers.

Previous research with leaders within the LGUS found successful leaders must be able to build relationships, create and communicate a vision, be a developer of talent, as well as communicate effectively (Moore & Rudd, 2004). In this regard, successful leaders must embody the ethos of transformational leadership, specifically "fundamentally changing the values, goals, and aspirations of followers, so that they perform their work because it is consistent with their values" (MacKenzie, Podsakoff, & Rich, 2001, p. 118). As a consequence, transformational leaders have been found to improve the performance of organizations, teams, and individuals (Judge & Bono, 2000).

In the TLI framework, the three sub-facets of articulating a vision, providing an appropriate model, and encouraging the acceptance of group goals were all highly correlated and thus collapsed into a single factor (Podsakoff et al., 1990). The results indicated that how a leader is perceived as an individual is paramount in their effectiveness to act as a leader (Bass & Riggio, 2006). Specifically, transformational leaders have been trusted and held in high regard by their followers based on their admirable behavior, high moral standards, and extraordinary skills and capabilities (Bass & Riggio, 2006; Bono & Judge, 2004). However, being perceived as an appropriate model for leadership is a necessary dimension of transformational leadership yet it is not necessarily sufficient (Podsakoff et al., 1990). A leader's interaction and subsequent influence of followers through one or more of the remaining three dimensions of transformational leadership is also paramount (Bass & Riggio, 2006).

When transformational leaders exercised individualized consideration, their behavior "indicates that he/she respects followers and is concerned about their personal feelings and needs" (Podsakoff et al., 1990, p. 112). By providing appropriate attention to each follower, transformational leaders can focus on individualized follower growth and achievement needs (Bass & Riggio, 2006). Providing coaching to each follower allows the transformational leader to recognize each follower's unique goals and needs (Bono & Judge, 2004). Individualized consideration may be demonstrated in behaviors such as providing more autonomy, providing more constructive feedback, or providing a more formalized task structure; however, all behaviors have stemmed from the transformational leader's ability to recognize and appreciate individual differences (Bass & Riggio, 2006). When transformational leaders provide individualized consideration, positive correlations to perceptions of the leader's effectiveness (Sadeghi & Pihie, 2012) and emotional intelligence (Clarke, 2010) have been observed. Furthermore, followers have responded positively to individualized consideration by demonstrating more innovative workplace behavior (Abbas, Iqbal, Waheed, & Riaz, 2012), reporting lower levels of psychological strain (Franke & Felfe, 2011), and improving follower organizational citizenship behaviors (Cho & Dansereau, 2010). While transformational leaders must take the time to engage with followers individually, they must also find appropriate ways to intellectually stimulate their followers (Bass & Riggio, 2006).

Intellectual stimulation "challenges followers to re-examine some of their assumptions about their work and rethink how it can be performed" (Podsakoff et al., 1990, p. 112). Specifically, transformational leaders intellectually stimulated followers by encouraging them to question norms, as well as engage in innovative and creative thinking (Bono & Judge, 2004). Intellectual stimulation has been found to be predictive of higher levels of follower innovative work behavior (Abbas et al., 2012), organizational commitment (Emery & Barker, 2007; Joo, Yoon, & Jeung, 2012), and job satisfaction (Emery & Barker, 2007). Additionally, Elkins and Keller (2003) found that intellectual stimulation was related to higher levels of leader member exchange between leaders and followers, as well as higher probabilities of project team success.

According to the TLI, the fourth dimension of transformational leadership included expressing high performance expectations for followers. Transformational leaders build team spirit, confidence, and enthusiasm with their followers setting expectations for excellence (Bass & Riggio,

2006; Bono & Judge, 2004; Podsakoff et al., 1990). Supplying the appropriate motivation through articulated expectations has been found to be related to innovative work behavior in followers (Abbas et al., 2012), increased group creativity (Sosik, Avolio, & Kahai, 1998), reduced cognitive and relational conflict in teams and organizations (Doucet, Poitras, & Chenevert, 2009), as well as successful completion of work projects (Elkins & Keller, 2003).

Despite the number of empirical studies that have found strong evidence to indicate transformational leadership is generally a positive and successful model across numerous contexts (Bass & Riggio, 2006), there are examples where findings have been inconclusive. Contrarian research has shown that some individuals are no more satisfied with their jobs (Barling, Weber, & Kelloway, 1996) nor committed to their organizations (Podsakoff, MacKenzie, & Bommer, 1996) when working for transformational versus non-transformational leaders. However, the vast majority of research indicated transformational leadership is an appropriate framework within which to develop future leaders (Bass & Riggio, 2006; Lamm, Carter, Stedman, & Lamm, 2014).

### **Leadership Development Programs**

A persistent criticism of leadership development programs has been the inability to measure whether the program has been successful in improving participants' leadership capacity (Kellerman, 2012; Kets de Vries & Korotov, 2012). Leadership development program outcomes have been questioned partially because of the debate between whether leadership (as a set of observable behaviors) is an outcome of nature or natural born ability (McCrae et al., 2000) or nurture also known as a developed ability (Goleman, Boyatzis, & McKee, 2002; Grant, 2013). From a nature perspective the argument has been made that observed behaviors are a result of neuro-configuration (Caspi, Roberts, & Shiner, 2005; McCrae et al., 2000; Srivastava, John, Gosling, & Potter, 2003). These patterns are hardwired into our brains and are subsequently manifested in our behaviors (such as leadership). Human brains cease to generate new neural tissue beyond the mid-teen years, consequently patterns established prior to this point are biologically wired to continue to manifest throughout a lifetime (Buckingham & Clifton, 2001).

To the contrary, new evidence has indicated that behavioral development is possible and is the direct result of desire and intent to change (Begley, 2007). As Gladwell (2008) found "...the closer psychologists look at the careers of the gifted, the smaller the role talent seems to play and the bigger the role preparation seems to play" (p. 38). Goleman et al. (2002) found that leadership development has been possible; however, "When it comes to building leadership skills that last, motivation and how a person feels about learning matter immensely" (p. 99). These results are consistent with previous research that has shown individuals that choose to participate in leadership development programs directed at emergent leaders in the LGUS typically have the necessary antecedent attitude, and associated motivation, to develop the desired leadership behaviors (Lamm et al., 2013).

The majority of leadership development programs are grounded within the developed ability perspective (Goleman et al., 2002; Grant, 2013; Kellerman, 2012). The LEAD21 leadership development program has been designed to address the "needs for leadership development of faculty, specialists, program and team leaders, research station and center directors, district and regional directors, department heads and chairs, and others in land grant universities' colleges of agricultural, environmental, and human sciences and NIFA" (Sapp, 2014, para. 1). Specifically, the program focuses on developing capacity within four areas: effective communication, conflict management, collaboration, and leading change.

LEAD21 participants are nominated from LGUS and NIFA organizations and those selected attend three weeklong seminars over nine-months. "Leadership competencies are enhanced using a combination of exposure, information, knowledge and practice" (Sapp, 2014, para. 2). Based on the nature of participants, adult learners, an andragogical learning approach has

been employed (Knowles, 1984), specifically a purposive effort has been to make the curriculum and material meaningful by helping learners connect new content to previous experience.

Based on the specific content areas associated with the LEAD21 program, and the manner the content has been delivered, an association with transformational leadership would be expected. For example, effective communication has been considered a primary factor associated with transformational leaders (Bass & Riggio, 2006; Podsakoff et al., 1990). Additionally, the ability to effectively lead change requires the capacity to describe a future state or outcome (Kotter, 1996), transformational leaders use intellectual stimulation to help followers conceptualize outcomes (Bass & Riggio, 2006; Podsakoff et al., 1990).

### Purpose & Research Questions

The purpose of this study was to examine if participation in the LEAD21 leadership development program changed participant levels of transformational leadership. The study was driven by the following research objectives:

1. Describe the participants' levels of transformational leadership prior to completing LEAD21.
2. Describe the participants' levels of transformational leadership after completing LEAD21.
3. Determine if there is a difference in level of transformational leadership prior to completing LEAD21 and after completing LEAD21.

### Methods

A descriptive and causal-comparative research design was used for this study. A causal-comparative method was chosen to account for participation in a leadership development program (cause) and potential changes in reported transformational leadership (effect) (Edwards & Briers, 2000; Kirk, 1995). Specifically, a pre-test and post-test were administered as repeated-measures of transformational leadership to address the research objectives (Brown & Terry, 2013).

The population of interest was participants in the leadership development program LEAD21 during the 2013-14 calendar year. This population was selected based on previous research that has found individuals participating in the LEAD21 program have been identified as emergent leaders within the LGUS and thus have the highest potential for contribution (Lamm et al., 2013). Participants in the LEAD21 program are all employed within the LGUS, over 85% of participants were employed within colleges of agriculture whether as on-campus faculty, Extension professionals, or research center directors. Representation includes 1862 institutions, 1890 institutions, tribal colleges, and employees at the National Institute of Food and Agriculture (NIFA). In the 2013-14 class, there were 87 participants, of which 41% were female and 59% male. Furthermore, 80% of the participants represented 1862 institutions, 14% represented minority serving institutions (including 1890, 1994, 2008, and U.S. territory institutions), and 6% represented NIFA.

Data were collected using a previously established instrument. Transformational leadership was measured using a researcher-adapted version of the TLI (Podsakoff et al., 1990). The researcher-adapted version of the instrument included a total of 14 items. Specifically, the core dimension included three items, reduced from 12 items in the original instrument. A panel of experts knowledgeable in leadership development, program evaluation, and survey design reviewed the questionnaire for internal validity. The resulting core dimension was found to have adequate reliability characteristics based on existing social science standards (Cortina, 1993; Schmitt, 1996; Streiner, 2003). Individuals indicated their response on a five-point, Likert-type scale. Possible responses to each item included: 1 – *Strongly Disagree*, 2 – *Disagree*, 3 – *Neutral*, 4 – *Agree*, 5 – *Strongly Agree*. Reliability was calculated *ex post facto*, across the dimensions of transformational leadership, all observed reliabilities were considered acceptable based on previously established reliabilities obtained with larger sample sizes as seen in Table 1 (MacKenzie

et al., 2001). The overall transformational leadership construct including all 14 items had a Cronbach's  $\alpha$  of .80.

Table 1  
*Internal Consistency Reliability*

Item	<i>Cronbach's Alpha Observed</i>	<i>Cronbach's Alpha Established (MacKenzie et al., 2001)</i>
Core	0.70	0.86
High Performance Expectations	0.82	0.90
Individualized Support	0.72	0.85
Intellectual Stimulation	0.86	0.88

A census of all 87 participants in the 2013-14 LEAD21 class was conducted. Respondents were contacted by e-mail using a tailored design method (Dillman, Smyth, & Christian, 2008) and asked to respond to the online questionnaire developed in Qualtrics. An online questionnaire was deemed to be appropriate based on the population's access to the internet (Dillman et al., 2008). The pre-test was administered two weeks prior to the nine-month long leadership development program. A 100% response rate for the pre-test was obtained. A total of 65 post-test responses were obtained two weeks after the conclusion of the last session for a usable response rate of 75%. Only respondents that had both a pre-test and post-test score were analyzed to reduce any potential data interpretation bias (Agresti & Finlay, 2009). Based on established social science and questionnaire based research standards this response rate was deemed to be acceptable (Baruch & Holtom, 2008; Lindner, Murphy, & Briers, 2001).

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 21. Descriptive statistics were calculated for objectives one and two; a paired-samples *t*-test was conducted for objective three (Ary, Jacobs, Sorensen, & Razavieh, 2010). A level of significance of .05 was established *a priori*; however, a Bonferroni adjustment was made to account for five *t*-tests, consequently the level of significance was set to .01.

## Results

Research objective one was addressed by measuring levels of transformational leadership for individuals prior to participating in the LEAD21 program. Scores were calculated using the TLI scoring key and are based on a 1 to 5 scale. The dimension of individualized support had the highest mean score ( $M = 3.97$ ,  $SD = .46$ ). The factor of high performance expectations had the lowest mean score ( $M = 3.40$ ,  $SD = .70$ ). Overall transformational leadership had a minimum score of 2.75 and a maximum score of 4.84 ( $M = 3.79$ ,  $SD = .35$ ). The mean, standard deviation, minimum, and maximum scores for each dimension of transformational leadership measured by the TLI (core, individualized support, intellectual stimulation, and high performance expectations) as well as overall transformational leadership are presented in Table 2.

Table 2  
*Leadership Style Scale Scores – Pre-test*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
<b>Transformational Leadership Overall</b>	<b>65</b>	<b>3.79</b>	<b>0.35</b>	<b>2.57</b>	<b>4.84</b>
Individualized Support	65	3.97	0.46	2.50	5.00
Core	65	3.89	0.44	2.67	5.00
Intellectual Stimulation	65	3.84	0.53	2.00	5.00
High Performance Expectations	65	3.40	0.70	2.00	5.00

The second research objective was addressed by measuring individual levels of transformational leadership after completing the LEAD21 program. Scores were calculated using the TLI scoring key and are based on a 1 to 5 scale. The dimension of intellectual stimulation had the highest mean score ( $M = 4.22$ ,  $SD = .46$ ). The factor of high performance expectations had the lowest mean score ( $M = 3.57$ ,  $SD = .72$ ). Overall transformational leadership had a minimum score of 3.43 and a maximum score of 4.71 ( $M = 4.05$ ,  $SD = .28$ ). The mean, standard deviation, minimum, and maximum scores for each dimension of transformational leadership measured by the TLI as well as overall transformational leadership are presented in Table 3.

Table 3  
*Leadership Style Scale Scores – Post-test*

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
<b>Transformational Leadership Overall</b>	<b>65</b>	<b>4.05</b>	<b>0.28</b>	<b>3.43</b>	<b>4.71</b>
Intellectual Stimulation	65	4.22	0.46	3.00	5.00
Core	65	4.19	0.46	3.00	5.00
Individualized Support	65	4.13	0.41	3.00	5.00
High Performance Expectations	65	3.57	0.72	2.00	5.00

To address the third research objective a paired-samples t-test was conducted to compare the mean levels of transformational leadership and transformational leadership dimensions in pre-test and post-test conditions (Table 4). There was a significant difference in the scores for transformational leadership in pre-test ( $M = 3.79$ ,  $SD = .35$ ) and posttest ( $M = 4.05$ ,  $SD = .28$ ) conditions;  $t(64) = -6.19$ ,  $p < .001$ . Statistically significant positive results were also observed for the intellectual stimulation, core, and individualized support dimensions. Results showed that scores increased across all measures of transformational leadership between pre-test and post-test conditions. Intellectual stimulation had the largest increase (10%) followed by core (8%). Although an increase was observed in high performance expectations (5%) and individualized support (4%) a lack of statistical significance within these dimension limits interpretability.

Table 4  
*Descriptive Statistics and t-test Results for Transformational Leadership Pre-test and Post-test*

Outcome	Pre-test		Post-test		n	95% CI for Mean Difference	t	p	df
	M	SD	M	SD					
Intellectual									
Stimulation	3.84	0.53	4.22	0.46	65	-0.5, -0.26	-6.33	.000	64
Core	3.89	0.44	4.19	0.46	65	-0.42, -0.18	-5.13	.000	64
Performance	3.40	0.70	3.57	0.72	65	-0.35, 0.01	-1.90	.061	64
Support	3.97	0.46	4.13	0.41	65	-0.31, -0.02	-2.24	.029	64
Overall	3.79	0.35	4.05	0.28	65	-0.34, -0.17	-6.19	.000	64

### Conclusions, Implications, and Recommendations

Based on demographic trends and contextual realities “the need to provide a highly educated, skilled workforce capable of providing solutions to 21<sup>st</sup> century challenges and issues has never been greater” (Doerfert, 2011, p. 19). However, “colleges of agriculture will be challenged to transform their role in higher education and their relationship to the evolving global food and agricultural enterprise” (National Academy of Sciences, 2009, p. 1). One primary mechanism that Land Grant Universities can employ to ensure their continued relevance is to establish a pipeline of emerging leaders with the education and skills necessary to address the next generation of challenges and crises (Kerr & Gade, 1986; Lamm et al., 2013). However, “given the importance of leadership and the dearth of strong leaders, no institution can afford the development of leadership from within” (Mead-Fox, 2009, p. 7). Leadership development programs such as LEAD21 offer a solution to this vexing problem.

Within the current higher education context, challenges for the LGUS are evident. The system is being asked to be more inclusive and comprehensive, while existing within a climate of reduced funding and budget shortfalls (Zusman, 2005). One of the primary mechanisms to address these challenges is to identify and develop the next generation of institutional leaders (Lamm et al., 2013). However, “in the world of higher education, there is a palpable sense that the pool of qualified and interested leadership candidates is shrinking” (Mead-Fox, 2009, p. 1). The juxtaposition of increased demand with dwindling supply creates a significant need for programs such as LEAD21 (Sapp, 2014).

Transformational leadership development programs have been shown to have a positive impact on participants and their organizations (Avolio & Bass, 1994). However, all too often “a question that frequently comes up in discussion about transformational programs is how to assess whether a leadership development program had a significant effect on participants” (Kets de Vries & Korotov, 2012, p. 272). The use of post-test only measures is frequent, yet interpretability of results is restricted. Without appropriate pre-test measures on identical instruments, programmatic value attribution is very limited (Rossi, Lipsey, & Freeman, 2004).

Based on the results of this study, there is a clear indication the LEAD21 program is successfully developing transformational leadership capacity in participants. The use of an established, valid, and reliable measure of transformational leadership further supports this finding. Across all dimensions of transformational leadership an increase in self-reported capacity was identified. The observed increases in intellectual stimulation, core, and transformational leadership overall are especially noteworthy based on their statistical significance.

Across all dimensions, the overall level of transformational leadership rose by an average of 7%. This finding was unexpected based on the previous research that found statistically significant changes in transformational leadership dimensions of 1% - 2% (Avolio & Bass, 1994). These results are encouraging considering transformational leaders tend to develop followers with higher levels of cooperation, satisfaction, and perceptions of work quality. One possible



explanation for the unexpected rise is the similarity between the core leadership content areas LEAD21 focuses on and the primary factors associated with transformational leadership. Andragogical education theory would indicate that adult learners are able to engage in learning activities that they can make meaningful and relevant within their own cognitive schemas (Knowles, 1984). Perhaps by developing transformational-like competencies within a practical and applicable environment participants were able to retain and apply more of the appropriate behaviors than if they were simply presented a context-free education of transformational leadership factors. For example, drafting and presenting a vision for the LGUS may have more retention power than an academic recitation of the characteristics of intellectual stimulation.

The participant pre-test and post-test results also offer valuable insights regarding educational and developmental opportunities. During the pre-test, the dimension of individualized support had the highest overall mean value. This finding is consistent with that of Moore and Rudd (2004) whose research found that existing leaders within the LGUS needed to have deep human skills including the ability to build relationships, coach, mentor, and facilitate. It may be that these are prerequisite skills an emergent leader must possess in order to be viewed as a high potential candidate poised to take on future leadership roles. The nomination process for the LEAD21 program may be oriented toward recruiting individuals that are already supportive to their followers. This may also be reflected in the fact that there was a 4% increase in individualized support capacity, the smallest difference. Future research is encouraged to determine the level of transformational leadership across all dimensions, including individualized consideration in particular, with an appropriate control group of LGUS professionals that would be qualified for participation in the LEAD21 program, but have not chosen to participate. These findings would help to inform leadership educators as to whether the results from this study are systemic or a result of programmatic recruitment. From a practical perspective these results may be helpful to LEAD21 administrators as well as to those individuals that nominate participants to the program. In particular, it may be beneficial to actively seek out individuals that could benefit the most from participation rather than only those that are already showing leadership competence and potential.

An additional noteworthy result from the pre-test and post-test is the increase in intellectual stimulation. With a statistically significant increase of 10% between the pre-test and the post-test, the improvement across this dimension was much larger than expected. These results are consistent with other leadership development programs that have found intellectual stimulation to be the most improved dimension within transformational leadership (Avolio & Bass, 1994). The results are encouraging based on the findings of McNair, Duree, and Ebbers (2011) whose research with top leaders within higher education found that “the most important job of the president is...about creating the conditions for excellence and mentoring people, not directing them” (p. 13). Individuals that participate in leadership development programs like LEAD21 tend to be highly competent and successful (Lamm et al., 2013). However, leadership educators can use development programs as a critical juncture to help pivot participants thought processes from technical or directive activities to people oriented and supportive activities (Katz, 1955). Although associated with LEAD21, this result has implications for practice and research. Specifically, leadership development, whether through formal or informal channels may be more effective when constructed from an andragogical theory base as doing so allows participants to connect the content to their existing cognitive schemas more readily (Knowles, 1984). Additional research is recommended to examine the most effective method for contextualizing material, whether through case studies, individualized experience, or some other approach.

The high performance expectations dimension had the lowest mean scores across both pre-test and post-test conditions, as well as a non-statistically significant change across conditions. Perhaps this finding is an artifact of the audience that participated in the training. Most tenure track faculty that are working toward a tenure milestone should have a fairly clear set of documented expectations associated with the milestone, for example, targets for publications, teaching evaluations, and grant funding. Although these expectations may be high, there might not be the

incentive to surpass the targets, there is not the requirement to achieve at peak capacity, only to satisfy the stated expectations. One responsibility of future leaders is to help support and direct their followers and organizations toward solutions because “a major and important role of leaders is to facilitate change – both the mission and vision, as well as the values and culture” (Van Wart, 2013, p. 561). Ensuring that followers are living up to their full potential and giving their best effort is critical to the successful changes that will be necessary to meet the challenges facing the LGUS in the future (Kotter, 1996; Lamm et al., 2013). From an educational and development perspective, LEAD21 administrators may want to consider adding specific curriculum around setting high performance expectations. Setting and achieving goals has already been established as a critical skill area necessary of successful leadership in the LGUS (Moore & Rudd, 2004); however, developing the appropriate behaviors to adequately support and enable these skills is an area of opportunity for future leadership development programs. More research is recommended to further investigate the motives and values associated with the most productive and successful faculty members, those that far exceed the stated expectations for particular milestones. If it is possible to determine the antecedents of this performance, leadership curriculum should be developed to assist future leaders in creating these conditions.

Although the results of the study are significant and compelling the self-reported nature of the transformational leadership data is a limitation. Future research is suggested to replicate the pre-test and post-test nature of the study by leveraging follower supplied measures. An additional limitation is the limited population of interest. With only one class of leadership development program participants included in the study, generalizability of results are limited. Future research is suggested to examine multiple classes of LEAD21 participants as well as alumni from other leadership development programs designed for faculty in the LGUS.

In summary, agricultural educators and leadership development professionals can use the study results to inform future teaching practices. The empirical evidence that transformational leadership development within a sample of emerging leaders is possible is encouraging. The creation of leadership development programs focused on enhancing transformational leadership dimensions should be emphasized. Additional research is suggested to evaluate whether differences in transformational leadership capacity between undergraduate, industry, and academic audiences occurs as a result of participation in leadership programs. The results of this study serve as a benchmark; however, future research is necessary to better understand the larger agricultural industry. With no shortage of challenges in the foreseeable future, the need for transformational leaders is greater than ever (Zusman, 2005).

### References

- Abbas, G., Iqbal, J., Waheed, A., & Riaz, M. N. (2012). Relationship between transformational leadership style and innovative work behavior in educational institutions. *Journal of Behavioural Sciences*, 22(3), 18.
- Agresti, A., & Finlay, B. (2009). *Statistical methods for the social sciences*. Upper Saddle River, N.J: Pearson Prentice Hall.
- Ary, D., Jacobs, L. C., Sorensen, C., & Razavieh, A. (2010). *Introduction to research in education*. Belmont, CA: Wadsworth Cengage Learning.
- Avolio, B. J., & Bass, B. M. (1994). *Evaluate the impact of transformational leadership training at individual, group, organizational, and community levels*. (No. Final report to the W. K. Kellogg Foundation). Binghamton, NY: Binghamton University.

- Barling, J., Weber, T., & Kelloway, E. K. (1996). Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. *Journal of Applied Psychology, 81*(6), 827-832. doi:10.1037/0021-9010.81.6.827
- Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations, 61*(8), 1139-1160. doi:10.1177/0018726708094863
- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership*. New York, NY: Psychology Press.
- Begley, S. (2007). *Train your mind, change your brain: How a new science reveals our extraordinary potential to transform ourselves*. New York: Ballantine Books.
- Bono, J. E., & Judge, T. A. (2004). Personality and transformational and transactional leadership: A meta-analysis. *The Journal of Applied Psychology, 89*(5), 901-910. doi:10.1037/0021-9010.89.5.901
- Brown, N. R., & Terry, R. (2013). The effects of group leader learning style on student knowledge gain in a leadership camp setting: A repeated-measures experiment. *Journal of Agricultural Education, 54*(2), 44-56. doi:10.5032/jae.2013.02044
- Bryman, A. (2007). Effective leadership in higher education: A literature review. *Studies in Higher Education, 32*(6), 693-710. doi:10.1080/03075070701685114
- Buckingham, M., & Clifton, D. O. (2001). *Now, discover your strengths*. New York: Free Press.
- Caspi, A., Roberts, B. W., & Shiner, R. L. (2005). Personality development: Stability and change. *Annual Review of Psychology, 56*(1), 453-484. doi:10.1146/annurev.psych.55.090902.141913
- Cho, J., & Dansereau, F. (2010). Are transformational leaders fair? A multi-level study of transformational leadership, justice perceptions, and organizational citizenship behaviors. *The Leadership Quarterly, 21*(3), 409-421. doi:10.1016/j.leaqua.2010.03.006
- Clarke, N. (2010). Emotional intelligence and its relationship to transformational leadership and key project manager competences. *Project Management Journal, 41*(2), 5-20. doi:10.1002/pmj.20162
- Collins, J. (2001). *Good to great*. New York, NY: Harper Collins Publishers.
- Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology, 78*(1), 98-104. doi:10.1037/0021-9010.78.1.98
- Creative destruction: A cost crisis, changing labour markets and new technology will turn an old institution on its head. (2014, June). *The Economist*. Retrieved from <http://academic.lexisnexis.com>
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (Eds.). (2008). *Internet, mail, and mixed-mode surveys: The tailored design method* (2nd ed.). Hoboken, N.J.: Wiley & Sons, Inc.

- Doucet, O., Poitras, J., & Chenevert, D. (2009). The impacts of leadership on workplace conflicts. *International Journal of Conflict Management*, 20(4), 340-340. doi:10.1108/10444060910991057
- Doerfert, D. (2011). *National research agenda for agricultural education, 2011-2015* American Association of Agricultural Education.
- Edwards, M. C., & Briers, G. E. (2000). Higher-order and lower-order thinking skills achievement in secondary-level animal science: Does block scheduling pattern influence end-of-course learner performance? *Journal of Agricultural Education*, 41(4), 2-14. doi:10.5032/jae.2000.04002
- Elkins, T., & Keller, R. T. (2003). Leadership in research and development organizations: A literature review and conceptual framework. *The Leadership Quarterly*, 14(4), 587-606. doi:10.1016/S1048-9843(03)00053-5
- Emery, C. R., & Barker, K. J. (2007). The effect of transactional and transformational leadership styles on the organizational commitment and job satisfaction of customer contact personnel. *Journal of Organizational Culture, Communication and Conflict*, 11(1), 77.
- Fish, S. (2003). First, kill all the administrators. *The Chronicle of Higher Education [H.W. Wilson - EDUC]*, 49(30), B20.
- Franke, F., & Felfe, J. (2011). How does transformational leadership impact employees' psychological strain. *Leadership*, 7(3), 295-316. doi:10.1177/1742715011407387
- Gladwell, M. (2008). *Outliers: The story of success*. New York: Little, Brown and Co.
- Goleman, D., Boyatzis, R. E., & McKee, A. (2002). *Primal leadership: Realizing the power of emotional intelligence*. Boston, Mass: Harvard Business School Press.
- Grant, A. M. (2013). *Give and take: A revolutionary approach to success*. New York, N.Y: Viking.
- Jackson, T. A., Meyer, J. P., & Wang, X. (2013). Leadership, commitment, and culture: A meta-analysis. *Journal of Leadership & Organizational Studies*, 20(1), 84-106. doi:10.1177/1548051812466919
- Joo, B., Yoon, H. J., & Jeung, C. (2012). The effects of core self-evaluations and transformational leadership on organizational commitment. *Leadership & Organization Development Journal*, 33(6), 564-582. doi:10.1108/01437731211253028
- Judge, T. A., & Bono, J. E. (2000). Five-factor model of personality and transformational leadership. *The Journal of Applied Psychology*, 85(5), 751-765. doi:10.1037/0021-9010.85.5.751
- Katz, R. L. (1955). Skills of an effective administrator. *Harvard Business Review*, 33(1), 33-42.
- Kellerman, B. (2012). *The end of leadership*. New York, NY: HarperCollins.

- Kerr, C., & Gade, M. L. (1986). *The Many Lives of Academic Presidents*. Washington, DC: Association of Governing Boards of Universities and Colleges.
- Kets de Vries, M. F. R., & Korotov, K. (2012). Transformational leadership developing programs: Creating long-term sustainable change. In S. A. Snook, N. Nohria & R. Khurana (Eds.), *The handbook for teaching leadership: Knowing, doing, and being* (pp. 263-282). Thousand Oaks: SAGE Publications.
- Kirk, R. E. (1995). *Experimental design: Procedures for the behavioral sciences* (3rd ed.). Pacific Grove, CA: Brooks/Cole.
- Knowles, M. (1984). *The adult learner: A neglected species* (3rd ed.). Houston, Texas: Gulf Publishing Company.
- Kotter, J. P. (1996). *Leading change*. New York, NY: The Free Press.
- Lamm, A. J., Lamm, K. W., & Strickland, L. R. (2013). Focusing on the future: Understanding faculty intent to lead the land grant system. *Journal of Agricultural Education, 54*(4), 92-103. doi:10.5032/jae.2013.04092
- Lamm, K. W., Carter, H., Stedman, N., & Lamm, A. J. (2014). Teaching transformational leadership to undergraduate agricultural leadership students: Using the personality trait of agreeableness to improve understanding. *Journal of Agricultural Education, 55*(4), 24-47. doi: 10.5032/jae.2014.04024.
- Lindner, J. R. (2001). Competency assessment and human resource management performance of county extension chairs in Ohio. *Journal of Agricultural Education, 42*(4), 21-31. doi:10.5032/jae.2001.04021
- Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education, 42*(4), 43-53. doi:10.5032/jae.2001.04043
- MacKenzie, S., Podsakoff, P., & Rich, G. (2001). Transformational and transactional leadership and salesperson performance. *Journal of the Academy of Marketing Science, 29*, 115-134.
- McCrae, R. R., Woodfield, R., Saunders, P. R., Smith, P. B., Costa, J., P T., Ostendorf, F., . . . Kusbil, M. E. (2000). Nature over nurture: Temperament, personality, and life span development. *Journal of Personality and Social Psychology, 78*(1), 173-186. doi:10.1037/0022-3514.78.1.173
- McNair, D. E., Duree, C. A., & Ebbers, L. (2011). If I knew then what I know now: Using the leadership competencies developed by the American association of community colleges to prepare community college presidents. *Community College Review, 39*(1), 3-25. doi:10.1177/0091552110394831
- Mead-Fox, D. (2009). *Tackling higher education's leadership scarcity*. Boston, MA: Korn/Ferry Institute.

- Moore, L. L., & Rudd, R. D. (2004). Leadership skills and competencies for extension directors and administrators. *Journal of Agricultural Education, 45*(3), 22-33. doi:10.5032/jae.2004.03022
- National Academy of Sciences. (2009). *Transforming agricultural education for a changing world*. Washington, D.C.: The National Academies Press.
- Northouse, P. G. (2013). *Leadership: Theory and practice* (6th ed.). Thousand Oaks: Sage Publications.
- Podsakoff, P. M., MacKenzie, S. B., & Bommer, W. H. (1996). Transformational leader behaviors and substitutes for leadership as determinants of employee satisfaction, commitment, trust, and organizational citizenship behaviors. *Journal of Management, 22*(2), 259-298. doi:10.1177/014920639602200204
- Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *The Leadership Quarterly, 1*(2), 107-142. doi:10.1016/1048-9843(90)90009-7
- Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2004). *Evaluation: A systematic approach*. Thousand Oaks, CA: Sage.
- Sadeghi, A., & Pihie, Z. (2012). Transformational leadership and its predictive effects on leadership effectiveness. *International Journal of Business and Social Science, 3*(7)
- Sapp, L. R. (2014). LEAD21 program overview. Retrieved from <http://www.LEAD21.org/program.html>
- Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment, 8*(4), 350-353. doi:10.1037/1040-3590.8.4.350
- Sosik, J. J., Avolio, B. J., & Kahai, S. S. (1998). Inspiring group creativity: Comparing anonymous and identified electronic brainstorming. *Small Group Research, 29*(1), 3-31. doi:10.1177/1046496498291001
- Srivastava, S., John, O. P., Gosling, S. D., & Potter, J. (2003). Development of personality in early and middle adulthood: Set like plaster or persistent change? *Journal of Personality and Social Psychology, 84*(5), 1041-1053. doi:10.1037/0022-3514.84.5.1041
- Streiner, D. L. (2003). Starting at the beginning: An introduction to coefficient alpha and internal consistency. *Journal of Personality Assessment, 80*(1), 99-103. doi:10.1207/S15327752JPA8001\_18
- Van Wart, M. (2013). Lessons from leadership theory and the contemporary challenges of leaders. *Public Administration Review, 73*(4), 553-565. doi:10.1111/puar.12069
- Zaleznik, A. (1977). Managers and leaders: Are they different? *Harvard Business Review, 55*(3), 67-78.

Zusman, A. (2005). Challenges facing higher education in the twenty-first century. In P. G. Altbach, R. O. Berdahl, & P. J. Gumport (Eds.), *American higher education in the twenty-first century: Social, political, and economic challenges* (pp. 109–148). Baltimore, MD: The Johns Hopkins University Press.

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