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Evaluating the Role of Leader Member Exchange in Leadership Development Program Satisfaction

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Abstract

Today's agricultural leaders face complex challenges. On a global scale, pressing issues around land use, food production and security, natural resource management, energy consumption, and climate change drive the need for systemic, innovative, collaborative solutions. For over four decades, adult agricultural leadership programs have represented an intentional investment in fostering leadership development and community participation in response to changing needs of rural and agricultural communities. The current study sought to investigate the role of leader member exchange (LMX) between leadership program participants with their program directors and the satisfaction participants had with their program experience. Through regression analysis LMX was found to be a statistically significant predictor of program satisfaction. Therefore, a recommendation is for program directors, and leadership educators more generally, to be cognizant of not only the content of programs, but also of the relationships they are forming with participants throughout a leadership development program.

***Keywords*:** leadership development, leader-member exchange, evaluation, satisfaction

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Introduction

Today's agricultural leaders face complex challenges. On a global scale, pressing issues around land use, food production and security, natural resource management, energy consumption, and climate change drive the need for systemic, innovative, collaborative solutions (Andenoro, Baker, Stedman, & Weeks, 2016). Organizational tensions between production and innovation create increasingly dynamic and demanding work environments (Ulh-Bien & Arena, 2018). Civic engagement is in decline, while experiences of disenfranchisement and mistrust among political and business leaders and constituents continue to rise (Levine, 2013).

Leaders are needed who can think systemically, operate in uncertainty, enable organizations and people for adaptability, and engage publics deliberatively and collaboratively (Levine, 2013; Petrie, 2014; Uhl-Bien & Arena, 2018). According to research by the Center for Creative Leadership, in order to develop capacities for a dynamic and changing world, leadership education and training programs must create the conditions for (1) disruptive learning experiences; (2) engagement with colliding perspectives (different people, worldviews, opinions, etc.), and (3) elevated sense-making through a process of intentional coaching and critical reflection (Petrie, 2015). A research priority area seven of

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the *National Research Agenda: American Association for Agricultural Education 2016 – 2020* (Roberts, Harder, & Brashears, 2016) is, "What methods, models, and programs are effective in preparing people to solve complex, interdisciplinary problems?" (p. 59). Andenoro et al. (2016) suggest that the development of this capacity must extend beyond formal classrooms and engage multiple stakeholders.

For over four decades, adult agricultural leadership programs have represented an intentional investment in fostering leadership development and community participation in response to the changing needs of rural and agricultural communities (Kelsey & Wall, 2003). More specifically, programs have served to build leader identity, efficacy, and capacity of individuals within the agricultural and natural resource industry to "accept leadership responsibility in any part of society" and develop an understanding of multiple viewpoints and situations (Whent & Leising, 1992, p. 32).

Despite this long history, there remains a lack of published research on adult rural leadership development (Kaufman & Rudd, 2006). Much of the existing literature on agricultural leadership programs contextualize participants as "leaders" and seeks to describe variables such as demographics and program satisfaction, as well as perceptions of knowledge and skills gained, behavioral change, levels of community involvement, or other impacts (e.g., Diem & Nikola, 2005; Kelsey & Wall, 2003; Lamm, Lamm, & Carter, 2014; Shauber & Kirk, 2001). This is consistent with a wider scholarship that conceptualizes leadership as an individual level skill, and *leader development* as training of individuals with knowledge and skills (Day, 2000). It is also a widely held assumption among leadership development programs that "individual-level changes will lead to organization-level, system- level, and societal-level outcomes" (Guitierrez & Tasse, 2007, p. 53).

Graen and Uhl-Bien (1995) suggest the need to shift the focus in leadership research from a leader (or follower)-centric view to leadership *relationships*. Indeed, leadership development (as opposed to leader development) is conceptualized as a collective endeavor – expanding an organization, workgroup, or community's capacity to engage together in leadership tasks for collective work (McCauley & Velsor, 2004).

The need to attend to leadership relationships within agricultural leadership development programs is reinforced by the very structure and intent of the programs. Kaufman, Rateau, Ellis, Kasperbauer, and Stacklin, (2010) suggest agricultural leadership programs align closely with "grassroots" leadership programs. According to the W.K. Kellogg Foundation (1999), Grassroots leadership programs tend to share common characteristics:

> Draws on personalities and people who do not fit into traditional corporate or mainstream community leader molds; employs techniques that are unconventional by traditional leadership standards and sometimes perceived as threatening to mainstream leadership; motivated more by passion than money; and seeks to achieve shared leadership as opposed to traditional hierarchical leadership (p. 6)

Casciani (2003) describes how grassroots leadership development programs are a significant investment in long-term learning. Program designers, therefore, should give special attention to relational interventions that meet community leaders where they are at, and acknowledge their special role as leaders in community change. Kaufman, Rateau, Carter and Strickland's (2012) study of agricultural programs found that the average length was 21 months, delivered through a variety of strategies (i.e., field experiences, lectures, classroom activities, panels, readings, and technology). Program directors play a significant role that includes program planning, fundraising, administrative tasks, and recruitment.

Re-framing agricultural leadership programs through a relational lens positions program director as "leaders" in dyadic relationships with program participants; "particularly important for follower satisfaction, performance, and willingness to follow the leader is the extent to which the leader evinces support for the followers' feelings of self-worth" (Bass, 1995, p. 505). Of interest, then, is the nature of these relationships: how they form, the quality of the relationship, and the impact of the relationship on program outcomes. Meaningful, engaged learning in all environments is one of the priority areas of the *National Research Agenda: American Association for Agricultural Education 2016 – 2020* (Roberts, et al., 2016). Within the context of the priority area, one of the research priority questions is "What are the most effective models for delivering agricultural teacher education programs to reach nontraditional audiences?" (Roberts et al., 2016, p.39). Examining the relationship between learner program satisfaction and learner perceptions of their relationship with the program director will illuminate how non-traditional audiences are effectively served.

Conceptual Framework

The conceptual framework for the present study is based on the relationship between leader-member exchange (Graen & Uhl-Bien, 1995) and program satisfaction as conceptualized by Kirkpatrick (1994).

Leader-Member Exchange

The leader-member exchange (LMX) theory of leadership is supported by over three decades of research (Graen & Uhl-Bien, 1995). Early studies discovered that managers within organizations did not use an average leadership style, but operated through differentiated dyadic relationships with direct reports. These vertical dyadic linkages were characterized by the behavior of the manager or supervisor (leader), as described by both the leader and follower. Relationships were considered "high-quality exchanges" originally called "in group" referring to relationships based on expanded and negotiated role responsibility, or "low-quality exchanges" originally called "out-group" referring to relationships based on a formal employment contract (Graen & Uhl-Bien, 1995; Northouse, 2013).

Later stages of research shifted the focus of LMX away from the differences between groups, to understanding the characteristics of LMX relationships, and organizational outcomes (Graen & Uhl-Bien, 1995). The unit of analysis shifted from leader to the dyadic relationship. Studies helped to describe a dyadic role-making process, characteristics of followers in high LMX relationships, and confirmed and further described characteristics of differentiated relationships between leaders and followers as *mutual trust, respect, and obligation*. LMX is based on characteristics of working relationships as opposed to personal or friendship relationship, and trust, respect, and mutual obligation refer to the individual's assessments of each other in terms of their professional capabilities and behaviors (Graen & Uhl-Bien, 1995). LMX has been linked to job performance, job satisfaction, and organizational commitment, among other outcomes (Gerstener & Day, 1997).

An evolution of LMX is a shift toward emphasizing *leadership-making*, exploring not only on how managers distinguish among their people but how they work with each person on a one-on-one basis to develop a partnership with them (Graen & Uhl-Bien, 1995). Leadership is viewed as a partnership, and the assumption is that leaders should develop high-quality exchanges with all followers, not only a few. Effective leadership making is a developmental process in which relationships move from (1) stranger to (2) acquaintance to (3) mutual partnership (Graen & Uhl-Bien, 1991). Leaders and followers first relate to each other based on formal or prescribed roles through low-quality exchanges (e.g., transactional, motivated by self-interest). As the leader or follower make "offers" or work-related social-exchanges (e.g., sharing more resources, information), the relationship develops and shared goals form. Increasing quality of exchanges over time leads to the development of

mutual levels of trust, respect, and obligation, and reciprocal influence (e.g., transformational behaviors, motivated by shared purpose) (Graen & Uhl-Bien, 1995).

Applying LMX to agricultural leadership programs, participants who feel like partners (in high quality exchanges) with program directors may be more willing to engage in activities beyond what is required, take more personal and professional risks, and engage in more challenging learning environments – all which support the kinds of development required to face contemporary leadership challenges.

Program Satisfaction

Kirkpatrick's (1994) levels of evaluation are widely used in exploring outcomes of leadership training programs. These levels include (1) reaction, the measure of satisfaction to the program, (2) learning, to what extent change in knowledge, skills, or attitudes occurred, (3) behavior, to what extent on-the-job behavior changed, and (4) results, the extent at which results have occurred because of the training or program.

Measuring at the reactions' level is essential to all training programs because it lets participants know that program leaders value their perspectives, as well as provides measurable reactions, and suggestions for improvement (Kirkpatrick & Kirkpatrick, 2005). Program satisfaction is an important measure because it determines whether or not participants will attend a program again, or recommend training to others (Kirkpatrick & Kirkpatrick, 2005). Success at higher levels depends on success at lower levels of evaluation. For example, "behavior change does not happen if learning has not occurred and it is unrealistic to expect learning to occur if steps have not been taken to create a positive learning environment" (2005, p. 58).

Purpose and Research Objectives

The purpose of this study was to examine how adult agriculture and natural resource leadership development program participants' perceptions of their program director, as measured by leader - member exchange, influenced their program satisfaction. The study was driven by the following research objectives:

1. Describe the levels of LMX perceptions among alumni and current participants of agriculture and natural resource leadership development programs.
2. Describe the levels of program satisfaction among alumni and current participants of agriculture and natural resource leadership development programs.
3. Identify the relationship between LMX, agriculture and natural resource leadership development program satisfaction, and demographic characteristics of program alumni and current participants.
4. Identify how LMX predicts agriculture and natural resource leadership development program satisfaction in program alumni and current participants when controlling for demographic characteristics.

Methods

A descriptive and correlational research design was employed to address the research objectives. Data were collected through an online survey administered to alumni and current participants of ANR leadership development programs. The data analyzed in the present study capitalize on data collected in the Lamm, Carter, and Lamm (2016) sample. The current study extends the work in two important ways. First, only programs within the southern United States that were

directly managed through state Cooperative Extension programs were analyzed previously, in the current study the Southern programs (eight) are subsumed and analyzed in the complete program data set (28) to provide a more comprehensive set of data for analysis. Second, program satisfaction data were analyzed as a proposed measure of program evaluation specific to environment according to Bandura's social learning theory (1977). The current study extends this analysis to treat program satisfaction as a variable of interest. These disclosures are presented based on recommendations within the literature for clarity (Kirkman & Chen, 2011).

Data Collection, Procedures, and Data Analysis

Data were collected as part of a comprehensive International Association of Programs for Agricultural Leaders (IAPAL) evaluation effort to identify agriculture and natural resource leadership development program alumni and current member experiences, satisfaction, characteristics, and intent to participate in future agriculture and natural resource leadership development alumni programs. A census approach was employed and included agriculture and natural resource leadership development programs that were active in the IAPAL organization. A total of 35 active programs were identified in the IAPAL database at the time of the data collection. An invitation to participate in the study was sent to all 35 program directors. A total of 28 program directors opted to participate in the study. A census of the 28 participating programs was conducted to provide the most comprehensive representation of ANR leadership development program alumni and current participants (Ary, Jacobs, & Sorensen, 2010).

Data were collected in the spring of 2014 using an online questionnaire developed in Qualtrics. Respondents were contacted using the tailored design method (Dillman, Smyth, & Christian, 2008). First, a pre-notice email was sent to program participants one week prior to the survey. The pre-notice included a request to participate, intent of the study, introduction to the researcher, and a call to action. Second, the researcher sent an email invitation to participants with a link to the survey along with a requested response date three weeks later. Third, one week after the initial invitation the researcher sent an email reminder to non-respondents. Fourth, two weeks after the original invitation the researcher sent a reminder to non-respondents. Fifth, two days prior to the close of the survey the researcher sent a reminder to non-respondents. Sixth, on the requested response date the researcher sent a fourth and final email reminder to non-respondents. A thank you email was sent to all respondents one week after the survey closed.

Invitations were sent to 7,152 potential respondents, a total of 1,182 individuals completed the questionnaire for a response rate of 16%. Based on established social science response rates, this was considered acceptable for analysis; specifically, Baruch and Holtom (2008) found that response rate as low as 3% have been deemed to be publishable. An important note regarding response rate is that only individuals that provided both program satisfaction and LMX were included for analysis in the study. There were individuals that provided a program satisfaction response but did not provide LMX data. Nonresponse analysis was conducted by comparing early and late respondent program satisfaction scores as well as LMX scores based on the recommendations of Lindner, Murphy, and Briers (2001), no statistically significant difference were observed across either variable.

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 25. Statistical analysis included descriptive statistics, correlation analysis, and linear regression analysis depending on study objective (Ary et al., 2010). Descriptive statistics were calculated for objectives one and two. Correlation analysis was calculated for objective three. Regression analysis was calculated for objective four.

Measures

Program satisfaction was measured based on respondent self-reported program satisfaction using a researcher-adapted scale developed by Judge, Boudreau, and Bretz (1994). The original scale asked respondents to indicate their level of satisfaction with their job, the adapted version of the scale asked respondents to indicate their level of satisfaction with their leadership development program experience. The three-item scale assesses individual satisfaction (*yes* = 1, *no* = 0), how the individual typically felt about the program (1 = *least satisfied* to 5 = *most satisfied*), and finally percent of time satisfied with their agricultural and natural resource leadership development program experience (0% - 100%). An overall index value is calculated by multiplying the three scores. Scores on the overall satisfaction construct ranged from zero to five. For example, an individual that indicated they were satisfied with the project team on the first question was coded as a one, if the individual then selected the least satisfied option the second question was coded as a one, in the final question if the individual indicated that they were satisfied with their program 20% of the time this was used as the final value. The index calculation would then be 1 x 1 x .20 or 0.20. Program satisfaction scale scores are based on a 0 to 5 range.

To measure LMX, a researcher adapted version of the Graen & Uhl-Bien (1995) LMX instrument was used. The scale included seven items. Example questions included, "My program director recognized my potential" and "I would characterize my working relationship with my program director as very effective." The researcher adaptation of the instrument included replacing the term *leader* with *program director* in each question stem. LMX scale scores are based on a 1 to 5 scale with 1 – *strongly disagree* to 5 – *strongly agree*. A Cronbach's α of .89 was calculated for the current study.

Respondents were asked to self-report their sex, race/ethnicity, and age. Demographic variables were captured to serve as proximal, control variables and to more accurately attribute differences in program satisfaction observations to LMX differences (Keith, 2006). For the purposes of the study respondent race and ethnicity were defined as self-perceived membership in population groups that define themselves by cultural heritage, language, physical appearance, behavior, or other characteristics ("Standards", 1995, p. 26). Specifically, as it relates to ethnicity individuals were asked if they considered themselves to be Hispanic/Latino(a)/Chicano(a) (e.g., Mexican, Puerto Rican). Individuals that selected *Yes* were coded as 1 (n = 19), individuals that selected *No* were coded as 0 (n = 1170). As it relates to race, individuals were asked what category best described their race. The White category was analyzed, individuals that selected *Yes* were coded as 1 (n = 1125), individuals that selected *No* were coded as 0 (n = 42). Individuals were asked to provide the year they were born, age was calculated accordingly. A range of ages between 26 and 92 were observed (M = 51.01, SD = 11.18). Lastly, individuals were asked to self-report their sex. Individuals that selected *Male* were coded as 0 (n = 738), individuals that selected *Female* were coded as 1 (n = 433).

Results

Research objective one was addressed by analyzing levels of LMX perceptions among alumni and current participants of agriculture and natural resource leadership development programs using the Graen & Uhl-Bien (1995) scoring key. The LMX scale index had a minimum score of 1.00 and a maximum score of 5.00 (M = 3.67, SD = .68). Respondents had the highest percentage of strongly agree as it relates to program directors recognizing their potential. Respondents had the lowest percentage of strongly agree as it relates their program director would bailing them out at his/her own expense. Table 1 displays individuals' LMX perception.

Table 1

Participant-Perceived Level of LMX by Percentage of Respondents

Statements	*n*	*Strongly Disagree %*	*Disagree %*	*Neither Agree or Disagree %*	*Agree %*	*Strongly Agree %*
My program director recognized my potential.	1119	1.61	4.11	18.86	50.67	24.75
I would characterize my working relationship with my program director as very effective.	1116	1.61	5.02	20.70	50.63	22.04
I have enough confidence in my program director that I would defend and justify his/her decision if s/he were not present to do so.	1119	1.70	5.00	20.91	50.40	21.98
I know where I stood with my program director… I usually knew if s/he was satisfied with what I did.	1124	1.16	4.18	13.97	60.41	20.28
My program director understood my job problems and needs.	1117	2.42	7.07	26.50	49.60	14.41
Regardless of how much formal authority my program director had built into his/her position, s/he would use his/her power to help me solve problems in my work.	1119	2.86	9.12	41.91	35.21	10.90
Regardless of the amount of formal authority he or she has, my program director would "bail me out" at his/her own expense.	1116	6.81	19.53	48.30	20.61	4.75

Research objective two was addressed by analyzing levels of project team satisfaction in agriculture and natural resource leadership development programs using the Judge, Boudreau, and Bretz (1994) scoring key. The project team satisfaction scale index had a minimum score of 0 and maximum score of 5.00 (M = 3.96, SD = 1.15). Table 2 displays frequency of respondents based on satisfaction with their program, 4.2% (n = 49) of individuals were not satisfied with their program. Table 3 displays frequency of respondents feeling toward their program. Respondents indicated the percentage of time that they were satisfied with their program. There were 63.07% of respondents that indicated they were very satisfied with their program. Percentage of time satisfied ranged from a minimum of 0% to a maximum of 100% (M = 87.13%, SD = 13.23%).

Table 2

Number of Respondents by Satisfaction with Program

Satisfied with Program	*f*	%
No	49	4.20
Yes	1118	95.80

Table 2

Number of Respondents by Satisfaction with Program Continued…

Total	1167	100.00

Table 3

Number of Respondents by Feeling about Project Team

Feeling about Project Team	*f*	%
Very Dissatisfied	6	0.54
Dissatisfied	14	1.25
Neither Satisfied nor Dissatisfied	32	2.85
Satisfied	362	32.29
Very Satisfied	707	63.07
Total	1121	100.00

Relationships between LMX and Program Satisfaction

Research objective three was addressed by completing the Pearson correlations analysis between LMX, program satisfaction, age, gender, ethnicity, and race. Correlation coefficients and statistical significance between variables are provided in Table 4. Correlations ranged from negligible to moderate in magnitude (Davis, 1971). LMX had a positive moderate correlation (r = .39) with program satisfaction. The relationship was statistically significant at the $p < .01$ level.

Table 4

Intercorrelations between LMX, Program Satisfaction, Age, Gender, Ethnicity, and Race

	1	2	3	4	5	6
1. LMX	-					
2. Program Satisfaction	0.39**	-				
3. Age	-0.01	-0.02	-			
4. Gender	-0.10**	0.01	-0.13**	-		
5. Ethnicity	0.00	-0.05	-0.03	0.04	-	
6. Race	0.05	0.03	-0.04	0.05	-0.13**	-

** $p < .01$

Research objective four was addressed by completing multiple regression analysis to determine whether a predictive relationship existed between LMX and program satisfaction after controlling for demographic characteristics. Program satisfaction was treated as a dependent variable. LMX was treated as the independent variable of interest and demographic characteristics were treated as control variables.

Unstandardized regression coefficients in the form of variable level effects along with statistical significance are provided in Table 5. In Model 1 program satisfaction was regressed against the demographic control variables of age, gender, ethnicity and race. The omnibus model was not statistically significant ($R^2 = .00$, F (4,994) = .34, $p = .85$). No demographic variables were statistically significant predictors of program satisfaction. In Model 2 the variable of LMX was included. Adding LMX as a predictor variable in the model is associated with a statistically significant increase in R^2 ($\Delta R^2 = .15$, F (1,993) = 171.67, $p < .001$). Furthermore, LMX is a statistically significant predictor of program satisfaction.

Model level variance (R^2), changes in R^2 between models, changes in F statistics, and significance of F statistic changes between models were calculated and are provided in Table 6. Model 1 explained 0% of the variance in program satisfaction. The difference between Model 1 and Model 2 was statistically significant. Model 2 accounted for 15% of the variance in program satisfaction.

Table 5

Multiple Regression of Program Satisfaction on LMX and Demographic Characteristics

	Model 1	Model 2
Constant	3.96***	1.59***
Demographic Characteristics		
Age	0.00	0.00
Gender	-0.03	0.07
Ethnicity	-0.23	-0.20
Race	0.10	0.03
LMX		0.64***

***$p < .001$

Table 6

Hierarchical Regression of Program Satisfaction on LMX and Demographic Characteristics

Variable Entered	R^2	R^2 Change	F Change	Sig. of Change
Demographic Characteristics	0.00	0.00	0.34	0.85
Demographic Characteristics & LMX	0.15	0.15	171.67	0.00

Conclusions, Implications, and Recommendations

Leadership development programs have been criticized for a lack of evaluative rigor and accountability (Kellerman, 2012). One of the challenges associated with evaluating agricultural and natural resource leadership development programs has been a lack of consistency in what constitutes appropriate evaluation outcomes and impacts. However, based on recommendations within the

literature (Lamm et al., 2016), the purpose of this study was to not only provide a measure of program satisfaction, but also an analysis of the antecedent conditions that are related to levels of satisfaction.

Although the results of the present study were statistically significant, there are a number of noteworthy limitations that must be addressed. First, the use of LMX as the only predictor of program satisfaction after controlling for demographic characteristics is a limitation. It is very possible that there are other participant considerations, such as amount learned, cohort experience, among others, that may have an influence on program satisfaction above and beyond LMX. Future research is suggested to replicate the present study and extend upon these findings by investigating other variables of interest that may affect program satisfaction.

An additional limitation is the challenge of interpretability of results. Although the study was conducted as a census, only 16% of the population was represented. Therefore, it is possible that the results of the study are not representative of the population. As a consequence, results are not generalizable beyond the data analyzed. Therefore, a recommendation would be to consider the results and associated conclusions, implications, and recommendations only within the scope of study. For example, within the data analyzed LMX was found to be a statistically significant positive predictor of program satisfaction. This result is not generalizable beyond the scope of the study to imply LMX will always be a predictor of program satisfaction. Nevertheless, the results of the current study provide a baseline for future research and investigation to either support or refute the findings under different conditions. Despite these overriding limitations conclusions and additional implications and recommendations are provided.

Within the context of agricultural and natural resource leadership development programs, all programs share a similar structure, specifically, that participants are guided through a series of seminars, or educational experiences, by a program director (Kaufman et al., 2012). However, the nature of the relationship between program directors and participants has not been previously examined. Using the LMX questionnaire (Graen & Uhl-Bien, 1995) the results of the study indicate that overall, participants in agricultural and natural resource leadership development programs have a strong, positive perception of their program director. Additionally, the majority of respondents were satisfied with their agricultural and natural resource leadership development program experience.

Despite the generally high levels of observed LMX and program satisfaction one of the main contributions of this study is the analysis of the relationship between these two variables. The results of the study indicate that there were no correlations between the demographic variables of age, gender, ethnicity, and race and program satisfaction. This result implies that programs are providing an experience that is satisfactory to a variety of individuals. Similarly, the relationship between LMX and demographic variables was also examined. A statistically significant relationship between LMX and gender, as well as LMX and satisfaction was observed. Based on the coding of the variable the result indicated that there was a negative relationship between gender and LMX, specifically, individuals that self-reported as female tended to have a lower score than those that self-reported as male. A limitation of the current study is that program director gender was not captured as part of the analysis, therefore it is not possible to analyze whether director gender may explain a portion of the finding. A recommendation would be for future research to examine whether program director gender has any influence on the relationship between LMX and participant gender.

After analyzing the results descriptively and from a correlational perspective, a regression analysis was conducted. Within the two-step regression model, the first step was intended to further investigate the nature of the relationship between the demographic variables and program satisfaction. In particular, to determine if a statistically significant predictive relationship existed. The results further illuminated the correlational observations. When analyzed, none of the demographic variables had a

statistically significantly predictive of program satisfaction. An implication from this result is that gender, nor any other demographic variable, was predictive of program satisfaction, therefore programs appear to be providing an equally satisfactory experience for participants. After controlling for proximal demographic variables in the first step of the regression model LMX was included in the second step. The results are noteworthy in that the model including LMX accounted for 15% of the variance in program satisfaction. Based on this result a recommendation is for ANR leadership development program directors to be very intentional in their relationships with participants. This finding implies that a participant's relationship with their program director determines participant satisfaction in addition to other variables such as content that is delivered, the peers that are involved, and other programmatic variables.

From a practical perspective, a recommendation is for program directors to collect LMX data proactively from participants periodically throughout a program experience. At a minimum, a suggestion would be to collect data when the program is 1/3 and 2/3 over. Collecting data at these intervals will allow for the natural dynamics of the program and group to emerge, while also allowing program directors sufficient time to adjust as appropriate. The use of an independent evaluator may facilitate this process as program participants may be reluctant to provide honest responses directly to a program director (Rossi, Lipsey, & Freeman, 2004).

Additional research is recommended to replicate the observations of the current study within other leadership development programs, whether formal or non-formal. Further exploration of the dynamics between leadership educators and learners should be conducted. Additionally, research into other additional relationships between agricultural and natural resource leadership development program participant characteristics and program outcomes should be explored.

To enable meaningful, engaged learning in all environments, educators, including agricultural and natural resource leadership development program directors, must be cognizant of the impact they can have on program participants. For agricultural educators, the use of LMX as a predictor of program satisfaction should provide further evidence of the importance of the educator and learner relationship. Additionally, shifting toward a relational framework for leadership development provides new lenses to explore and experiment with curricular interventions that support leadership for a complex and changing world.

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