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# Adult Agriculture and Natural Resource Leadership Development Program Participant Characteristics: An Evaluation of 28 Programs

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**Abstract**

*Agricultural and natural resource leadership development programs are designed to build leadership capacity amongst emergent and established leaders within the industry. The purpose of the current study was to investigate the characteristics of leadership development program participants and to propose a conceptual framework within which to capture the different contextual variables that exist for adult learners. A descriptive study provides baseline participant data across a range of demographic characteristics within both individual and work-related contexts. Agricultural educators and leadership development program directors are encouraged to use the study results as a starting point for preparing recruitment strategies, developing curriculum and educational interventions, and maintaining contact with adult agricultural leadership development program alumni.*

***Keywords:*** agricultural leaders; leadership development program; demographics

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## Introduction

Fundamentally, leadership development is intended to empower others. Agricultural and natural resource organizations from the private sector to the land-grant university strive to ensure employees are prepared to both cope with and inspire change. In an effort to empower emergent and established leaders to adapt to and facilitate change, organizational leaders, communities, commodity groups or other organizations often identify individuals to participate in leadership development programs (Kaufman et al., 2010). Although short-term outcome data, including knowledge and skills gained from participation in such programs is often gathered, little is known about the demographic characteristics of leadership development program participants at a macro level. Such knowledge would enable program facilitators to better align training methods to maximize outcome benefits for participants while enhancing continuous program improvement efforts (Boone et al., 2002). For example, applying the concept of market segmentation to an agricultural leadership development context would help "view a heterogeneous market [set of learners] as a number of smaller homogeneous markets [sets of learners], in response to differing preferences, attributable to the desires of consumers

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[learners] for more precise satisfaction of their varying [educational] wants" (Smith, 1956, p. 65). In other words, knowing that there are different learner needs and desires is critical; however, identifying common needs and desires within particular groups with similar characteristics is helpful for educators to consider and help ensure relevancy for those groups.

The agricultural education literature-base has recently identified a need to examine the demographic characteristics of professional development program participants. McKee et al. (2016) cited the need for additional research exploring the social networks which result from participation in leadership development programs—a research endeavor where participant demographic characteristics would be highly useful. Leadership development programs specifically have been examined and a need has been identified to better understand participant characteristics since this data would help overcome access barriers (Lamm et al., 2016). More recently, Ruth et al. (2018) echoed the importance of understanding audience demographics and called for additional research using demographics to better understand motivations in understanding agricultural topics. The current study responds to these calls for additional research and provides the discipline with needed information on the characteristics of those who engage with adult agricultural and natural resource leadership development programs.

Leadership development programs target individuals that are considered emergent and established leaders based on a variety of criteria. Dewald et al., (2018) found that using demographics as contextual variables to segment their sample was useful for targeting programmatic information based on specific audience characteristics. In fact, the AAAE National Research Agenda, Research Priority Six, calls for additional research to understand the external and internal relationships among leaders and community members (Roberts et al., 2016). Identifying the role that demographic characteristics play in establishing learner segmentations and characteristics, for example, aligns well with this priority area. In addition, using knowledge of the backgrounds and experiences of previous program participants to facilitate learning is a tenant of adult learning theory (Merriam et al., 2007).

## Review of Literature

The conceptual framework for this research was based on the McLeroy et al. (1988) ecological model for health promotion, Bronfenbrenner's (2005) ecological framework for human development, and the Glass and McAtee (2006) ecosocial model. All three of the models are rooted within the same philosophical premise, namely humans and human behavior is a consequence not only of biology, but also of the environment in which they exist. Furthermore, environmental influences are hierarchical and range from proximal to distal relative to the individual.

### Ecological Model for Health Promotion

The ecological model for health promotion identifies five hierarchical units that one should consider when addressing health related conditions of an individual (McLeroy et al., 1988). At the most proximal level are the intrapersonal factors. Within the factor are considerations such as knowledge, attitudes, skills, developmental history, and so forth. The second level includes interpersonal processes and primary groups. This level includes social networks, such as family, work, and friendships. At the third level are institutional factors where organizational characteristics, rules and regulations exist. Fourth in the hierarchy are community factors where relationships and connections between organizations and institutions within a defined geography exist. The fifth and final level is public policy where the laws and policies of local, state, and national agencies exist. According to the creators, the model was based on a variation of Broffenbrenner's (1979) early ecological model of human development.

### Ecological Framework For Human Development

Although the Broffenbrenner's original model was proposed in the late 1970s, he continued to refine and update his model culminating in his ecological framework for human development (Broffenbrenner, 2005). Within the model, five systems were identified emanating from the core

individual. The individual at the center of the model subsumed all biological demographic characteristics such as sex, age, race, and ethnicity.

Most proximal to the individual was the microsystem level. At this level, all of the direct contacts with the individual are made, for example, family, peers, or school. The contacts are conceptualized as dyadic or one-to-one. The second level was labeled as the mesosystem. At the mesosystem level, connections from the microsystem to the higher levels in the model are made. Specifically, dyadic relationships are expanded and larger networks of connections are established. For example, at the microsystem level the relationship between an individual and their family member represents one unit. Independently the relationship between an individual and their teacher also represents one unit. At the mesosystem level the relationship between the individual, their family, and their teacher exists. Dyadic relationships are supplanted with network relationships.

The third level in the model is the exosystem. At the exosystem level, there are environmental characteristics that are not controlled by the individual, such as relationships; however, the consequences of the exosystem are perceived directly by the individual. Work schedules, social support systems, or community services are all contextual items that may have a positive or negative force on an individual even though the presence or absence of the item may not be directly impactful to the individual. For example, stress a family member feels because of work obligations may be a negative force on the individual; even though the work stress is not the individual's directly, they are still impacted. At the fourth level in the model the macrosystem represents the values, laws, and customs of the culture where the individual resides. The fifth and final level of the model is the chronosystem and accounts for the timing of events within the individual's life.

## Ecosocial Model

The Ecosocial model (Glass & McAtee, 2006) shares similarities between the preceding to models. Unlike the other models, the Ecosocial model identifies not only the external environment where the individual resides, but also the biological hierarchies of an individual. Therefore, the model is both externally and internally encompassing. Within the context of the current research, the external hierarchies are of primary interest. However, the internal hierarchies are also noteworthy as they establish a schema for the proximal and distal nature of internal functions of an individual. Specifically, expression is driven in part by the biology of the individual. Expression is most proximally influenced by the multi-organ system level. More distally is the cellular level, followed by the sub-cellular/molecular level. Most distally, from an internal perspective is the genomic substrate from which all other levels arise.

From an external environment perspective, the authors identify four nested hierarchies. Most proximal to the individual is the micro-level and includes family, social networks, and other groups. Second, is the mezzo-level including work, school, and communities. Third, is the macro-level where large area dynamics, such as state or national considerations occur. Lastly, is the global-level where geopolitical, economic, and environmental considerations occur. The result of the hierarchies are opportunities and constraints that affect the individual.

The authors propose that the individual resides at the nexus between expression internally and opportunities and constraints externally. At this juncture actions and behavior emerge for the individual. In addition, the authors acknowledge the role of time in both internal and external hierarchies.

## Conceptual Framework

Based on existing models within the literature, a conceptual framework for the current research emerged. Drawing from consistencies across the literature the model includes four levels within a hierarchy. Most proximal to the individual are the stable person level. The stable person level most closely aligns with the internal hierarchy proposed by Glass and McAtee (2006). The variables of

interest at the stable person level are generally biologically driven and include sex, age, race, and ethnicity.

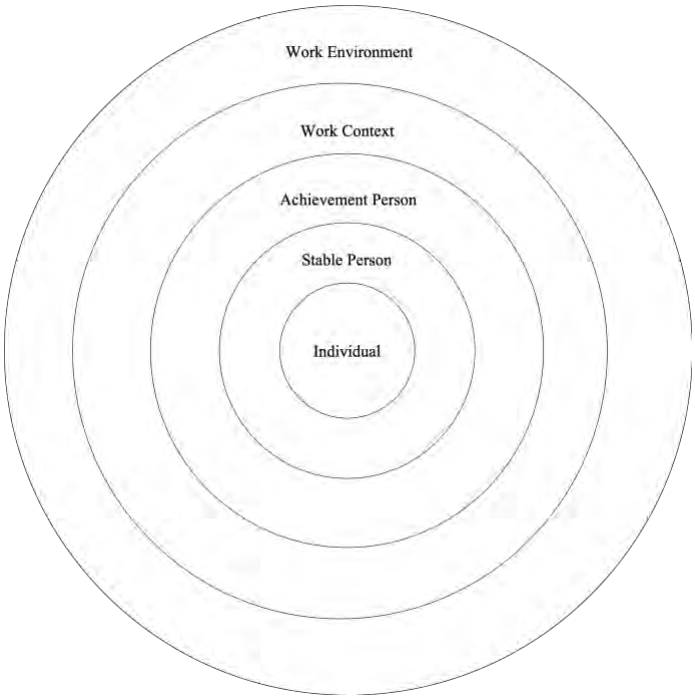
Next in the model is the achievement person level. This level is most closely aligned to the intrapersonal factors proposed by McLeroy and colleagues (1988). The variables of interest at the achievement person level include level of education, employment status, and level of employment.

The third level in the model is work context. This level is closely associated with the interpersonal processes and primary groups and institutional factors proposed by McLeroy and colleagues (1988), mezzo-level proposed by Glass and McAtee (2006), as well as the microsystem, mesosystem, and exosystem proposed by Bronfenrenner (2005). Work context variables include occupational sector, organizational size, and occupational category.

Lastly, and most distally from the individual, is the work environment level. This level is associated with the macrosystem proposed by Bronfenbrenner (2005), macro-level and global-level proposed by Glass and McAtee (2006), and community factors and public policy levels proposed by McLeroy and colleagues (1988). Variables within the level include rurality, geographic region, and country. A visual representation of the conceptual framework is presented in Figure 1.

**Figure 1**

*Conceptual Framework Representing an Ecological Model of Leadership Contexts*




## Purpose and Research Objectives

The purpose of this study was to describe the characteristics of leadership development program participants, including both current participants and program alumni, based on the proposed conceptual framework. The study was driven by the following research objectives:

1. Describe the stable person characteristics of leadership development program participants including sex, age, race, and ethnicity.

2. Describe the achievement person characteristics of leadership development program participants including education level, employment status, and level of employment.
3. Describe the work context characteristics of leadership development program participants including occupational sector, size of organization, occupational category.
4. Describe the work environment characteristics of leadership development program participants including rurality, region of the United States, and country of residence.

## Methods

The population for this study was individuals that chose to participate in agricultural and natural resources leadership development programs patterned on the Kellogg model (2000), specifically, programs associated with the International Association of Programs for Agricultural Leaders (IAPAL). A non-experimental online survey research design was used to collect appropriate data from respondents (Ary et al., 2010; Rossi et al., 2004). A convenience sample was employed specifically targeting programs that were willing to participate and associated individuals that were willing to respond (Ary et al., 2010).

The data analyzed in the study capitalize on data collected in the Lamm et al. (2016) sample. This disclosure is presented based on recommendations within the literature for clarity (Kirkman & Chen, 2011). Specifically, the present study extends on the previous work in three important ways. First, only programs within the southern United States that were directly managed through state Cooperative Extension programs were analyzed previously. In the present study the eight programs previously analyzed are subsumed and analyzed within the complete program data set of 28 agricultural and leadership development programs that participated in the study. Consequently, a more comprehensive set of data was analyzed. The original study focused on Cooperative Extension programs within a particular geographic region as a context for proposing a common approach to evaluating adult agricultural leadership development programs. The present study is fundamentally different in the breadth of data included and analyzed as a comprehensive perspective relative to program participant characteristics. Second, the demographic data previously reported was limited to only stable person characteristics within the group of eight programs. The present study expands upon the demographic hierarchies to include not only stable person characteristics but also achievement person characteristics, work context, and work environment. Lastly, within the present study the results are intended to be descriptive only. Whereas the previous study presented demographic results relative to program evaluation recommendations, the present study presents results without any implied inferences or value. According to Koh and Owen (2000), "Descriptive research generates data, both qualitative and quantitative, that define the state of nature at a point in time" furthermore "its value is based on the premise that problems can be solved and practices improved through observation, analysis, and description" (p. 219). Therefore, the results are intended to provide the agricultural education discipline with a baseline dataset of agricultural leadership development program participant demographics upon which to establish programming choices, learning interventions, and communications strategies (Lamm, Rumble, et al., 2016).

For the study, respondents were limited to those participants whose director agreed to participate. Although a total of 47 program directors were identified in the IAPAL database only 35 programs were active at the time of the data collection (IAPAL, 2013). An invitation was sent to all 35 active program directors, and 28 directors agreed to participate. Consequently, the sample was limited to those individuals that were affiliated with the participating programs ($n$ = 8,521). Additionally, only those individuals that had contact information, specifically an email address, with the program on file were included ($n$ = 7,668).

A total of 4,185 responses were obtained, representing a 54.5% response rate. The previous study published by Lamm and colleagues (2016) included 960 responses subsumed within the 4,185. According to established social science response rates, this was considered acceptable for analysis (Baruch & Holtom, 2008). Nevertheless, nonresponse analysis was conducted by comparing early and late respondents based on the recommendations of Lindner et al. (2001). Specifically, respondent sex, age, race, ethnicity, education level, employment states, and level of employment were analyzed. No statistically significant differences were observed between early and late respondents. Individuals provided self-reported responses to all demographic categories.

## Results

### Stable Person Characteristics: Sex, Age, Race, and Ethnicity

The sample was 68.3% ($n$ = 2,271) male (Table 1). The average age of respondents was 51 ($M$ = 50.71, $SD$ = 11.1), with a range of ages between 23 and 89. For clarity and ease of displaying the data, respondents were grouped in to six age groups: Less than 30 years, 30 to 39 years, 40 to 49 years, 50 to 59 years, 60 to 69 years, and 70 and over years. The largest number of respondents were in the 50 to 59 age category, with a total of 1,117 (34.7%) individuals. The under 30 age category, had the smallest number of respondents with 69 or 2.14% (Table 2).

**Table 1**
*Number of Respondents by Sex*

| Sex | *f* | % |
|---|---|---|
| Male | 2271 | 68.34 |
| Female | 1052 | 31.66 |

**Table 2**
*Number of Respondents by Age Group*

| Age | *f* | % |
|---|---|---|
| Under 30 years | 69 | 2.14 |
| 30 – 39 years | 565 | 17.56 |
| 40 – 49 years | 729 | 22.65 |
| 50 – 59 years | 1117 | 34.71 |
| 60 – 69 years | 640 | 19.89 |
| 70 and over years | 98 | 3.05 |

From an ethnicity perspective, 1.5% ($n$ = 47) of respondents identified themselves as Hispanic/Latino(a)/Chicano(a) (Table 3). In regard to respondents' race, 92.3% ($n$ = 3,055) identified themselves as White, representing the largest number of individuals. The second largest number of individuals identified themselves as American Indian or Alaska Native ($n$ = 84). Additional details are presented in Table 4. The race question block allowed for respondents to select as many options as were applicable, consequently respondents may have selected more than one category.

**Table 3**
*Number of Respondents by Hispanic/Latino(a)/Chicano(a)*

| Hispanic/Latino(a)/Chicano(a) | *f* | % |
|---|---|---|
| Yes | 47 | 1.47 |
| No | 3159 | 98.53 |

**Table 4**
*Number of Respondents by Race*

| Race | *f* | % |
|---|---|---|
| American Indian or Alaska Native | 84 | 2.55 |
| Asian or Pacific Islander | 45 | 1.36 |
| Black or African American | 31 | 0.94 |
| White | 3055 | 92.66 |
| Other | 82 | 2.49 |

**Achievement Person Characteristics: Education Level, Employment Status, and Level of Employment**

In regard to respondents' education level, respondents were asked to indicate the highest level of education achieved. The largest category identified was Bachelor's degree, with a total of 51% (*n* = 1,708). The second largest category identified was Master's degree, with a total of 24.2% (*n* = 812). The smallest category identified was Trade/Technical training, with a total of 1.7% (*n* = 58). Additional details are presented in Table 5.

**Table 5**
*Number of Respondents by Educational Level*

| Educational Level | *f* | % |
|---|---|---|
| High school diploma/GED | 87 | 2.60 |
| Trade/technical training | 58 | 1.73 |
| Some college - no degree | 261 | 7.79 |
| Associate/Community college degree | 199 | 5.94 |
| Bachelor's degree | 1708 | 50.95 |
| Master's degree | 812 | 24.22 |
| Professional degree | 93 | 2.77 |
| Doctorate | 134 | 4.00 |

Respondents were asked to indicate their current employment status and 85.7% (*n* = 2,860) indicated they were working full-time. An additional 5.2% (*n* = 175) indicated they were working part-time and 1.3% (*n* = 43) indicated they were not working for income. Additional results are presented in Table 6.

**Table 6**
*Number of Respondents by Employment Status*

| Employment Status | *f* | % |
|---|---|---|
| Working full-time | 2860 | 85.68 |
| Working part-time | 175 | 5.24 |
| Not working for income | 43 | 1.29 |
| Retired | 205 | 6.14 |
| Enrolled as a full-time student | 12 | 0.36 |
| None of the above | 43 | 1.29 |

Individuals were asked to indicate their current occupational work level. The majority of respondents, 36.5% (*n* = 1,224), indicated they were the Owner, CEO, or President of their organization. An additional 35.7% (*n* = 1,196) of respondents indicated they were a manager. There were 12.9% (*n* = 432) of respondents that indicated the available categories were not applicable to them (Table 7).

**Table 7**
*Number of Respondents by Level of Employment*

| Level of Employment | *f* | % |
|---|---|---|
| Nonsupervisory employee | 497 | 14.84 |
| Manager | 1196 | 35.71 |
| Owner, CEO, President | 1224 | 36.55 |
| Not applicable | 432 | 12.90 |

**Work Context: Occupational Sector, Size of Organization, Occupational Category**

In regard to respondent occupational sector, 54.4% ($n$ = 1,807) of respondents indicated they were engaged in a private or for-profit occupational sector. Less than 1% ($n$ = 4) were employed in the military. An additional 13.5% ($n$ = 448) of respondents indicated they were involved in an 'other' occupational sector (Table 8). Individuals that selected the 'other' occupational sector were provided a space to enter a description of their occupation. The most frequent response was agriculture, farmer, rancher, or other similar description ($n$ = 178).

**Table 8**
*Number of Respondents by Occupational Sector*

| Occupational Sector | *f* | % |
|---|---|---|
| Private/For profit | 1807 | 54.35 |
| Government | 449 | 13.50 |
| Other | 448 | 13.47 |
| Education | 285 | 8.57 |
| Non-profit/NGO | 279 | 8.39 |
| Military | 4 | 0.12 |
| Not applicable | 53 | 1.59 |

Respondents indicated how many people work for the organization they were engaged with. A total of 20.9% ($n$ = 692) indicated there were between one and four individuals in their organization. The second most frequent organizational size, 16.2% ($n$ = 537), was 20 to 99 individuals. There were 8.6% ($n$ = 284) of respondents that indicated there were at least 5001 individuals in their organization. There were an additional 4.9% ($n$ = 161) that indicated the categories were not applicable to their situation (Table 9).

**Table 9**
*Number of Respondents by Size of Organization*

| Size of Organization by number of employees | *f* | % |
|---|---|---|
| 1 to 4 | 692 | 20.88 |
| 5 to 9 | 352 | 10.62 |
| 10 to 19 | 302 | 9.11 |
| 20 - 99 | 537 | 16.20 |
| 100 - 249 | 300 | 9.05 |
| 250 - 500 | 281 | 8.48 |
| 501 - 1000 | 187 | 5.64 |
| 1001 - 5000 | 218 | 6.58 |
| 5001 or more | 284 | 8.57 |
| Not applicable | 161 | 4.86 |

In regard to respondents' occupational category, 26.6% ($n$ = 1,262) indicated they were involved in management activities such as a department manager, supervisor, or executive. An additional 21.9% ($n$ = 1,040) indicated they were involved with professional activities such as a lawyer, physician, engineer, accountant, or social worker. Additionally, 18.0% ($n$ = 855) of respondents indicated they were involved in an 'other' occupational category (Table 10). The most frequent response was agriculture, farmer, rancher, or other similar description ($n$ = 421). The occupational category question block allowed for respondents to select as many options as were applicable, consequently respondents may have selected more than one category.

**Table 10**
*Number of Respondents by Occupational Category*

| Occupational Category | *f* | % |
|---|---|---|
| Management | 1262 | 26.59 |
| Professional | 1040 | 21.91 |
| Other | 855 | 18.01 |
| Sales | 445 | 9.37 |
| Public Service/Non-Profit | 325 | 6.85 |
| Technical | 246 | 5.18 |
| Laborer and Helper | 154 | 3.24 |
| Operative | 146 | 3.08 |
| Administrative Support | 143 | 3.01 |
| Service Worker | 46 | 0.97 |
| Not applicable | 85 | 1.79 |

**Work Environment: Rurality, Region of the United States, Country of Residence**

Respondent rurality was determined based on the USDA Economic Research Service (ERS) 2013 Rural-Urban Continuum Codes (RUC; USDA ERS, 2019). Respondents were asked to provide their current home and work postal zip codes. Provided codes were then matched to specific counties within the United States and subsequently matched to USDA ERS RUC data. Codes were defaulted to home location data, if provided; if only work location was provided, the associated RUC data was applied. Based on the provided zip codes, the majority of respondents, 55.2%, indicated they lived or worked in a metro area; specifically, a total of 21.4% ($n$ = 618) of respondents indicated they lived or worked in a metro county with between 250,000 and 1 million residents. Additionally, 17.7% ($n$ = 511) indicated they lived or worked in a metro county with fewer than 250,000 residents, while 16.2% ($n$ = 467) lived or worked in a metro county with 1 million or more residents. Among the remaining non-metro respondents, 6.0% ($n$ = 173) lived or worked in a completely rural or less than 2,500 urban population, not adjacent to a metro area; while 2.5% ($n$ = 71) lived or worked in a completely rural or less than 2,500 urban population, adjacent to a metro area (Table 11). A total of 1,294 respondents did not provide a valid code, or provided a code associated with the Canadian postal service and were thus non-classifiable.

**Table 11**
*Number of Respondents by Rural-Urban Code*

| Rural-Urban Code | *f* | % |
|---|---|---|
| Counties in metro areas of 1 million population or more | 467 | 16.15 |
| Counties in metro areas of 250,000 to 1 million population | 618 | 21.38 |
| Counties in metro areas of fewer than 250,000 population | 511 | 17.68 |
| Urban population of 20,000 or more, adjacent to a metro area | 261 | 9.03 |

| | | |
|---|---|---|
| Urban population of 20,000 or more, not adjacent to a metro area | 176 | 6.09 |
| Urban population of 2,500 to 19,999, adjacent to a metro area | 354 | 12.24 |
| Urban population of 2,500 to 19,999, not adjacent to a metro area | 260 | 8.99 |
| Completely rural or less than 2,500 urban population, adjacent to a metro area | 71 | 2.46 |
| Completely rural or less than 2,500 urban population, not adjacent to a metro area | 173 | 5.98 |

Regarding regions of the United States, the largest number of respondents, 35.2% ($n$ = 1,474), had participated in programs located in the North Central region. The Northeast had the smallest number of respondents at 9.2% ($n$ = 383). Additional details are presented in Table 12. The vast majority of respondents, 94.4% ($n$ = 3,951) had participated in a program located in the United States. All remaining respondents, 5.6% ($n$ = 234) had participated in programs located in Canada (Table 13).

**Table 12**

*Number of Respondents by Region of the United States*

| Region | *f* | % |
|---|---|---|
| North Central | 1474 | 35.22 |
| Western | 1134 | 27.10 |
| Southern | 960 | 22.94 |
| Northeast | 383 | 9.15 |
| Non-United States | 234 | 5.59 |

**Table 13**

*Number of Respondents by Country*

| Country | *f* | % |
|---|---|---|
| United States | 3951 | 94.41 |
| Canada | 234 | 5.59 |

## Conclusions, Implications, and Recommendations

As educators it is important to understand and appreciate the backgrounds, experiences, and contexts of learners to facilitate learning, particularly when working with adults (Merriam et al., 2007). The intent of the present research is to provide just such insights so agricultural educators and leadership development program directors can better understand and appreciate the backgrounds, experiences, and contexts of agricultural leadership development program participants. Based on this knowledge, the hope would be that educators can be more effective at providing the right information in the right way, such that it supports the intended learning outcomes and has the desired impact.

Prior to synthesizing the results of the present study and providing recommendations or implications, a critical limitation must be acknowledged; specifically, the incompleteness of the data and the inability to state with any confidence the true description of an average participant in an agricultural leadership development program. As a convenience sample, the present study is only able to present the responses of 54.5% of those individuals that were queried. The gap of 45.5% of responses, in addition to those individuals that were not contacted at all due to incomplete contact information or non-participation by a program, must be acknowledged. Nevertheless, the data that were collected have been analyzed accordingly.

Based on the observed data and the most frequent responses to each of the analyzed characteristics and sub-groups the results of the present study indicate the average respondent is a white

male of non-Hispanic/Latino/Chicano descent that is approximately 51 years old. They have a Bachelor's degree and work full time as an owner, CEO, or president. They are in the private/for profit sector in an organization with 1 to 4, employees and they primarily have management responsibilities. These individuals live or work in metro areas with 250,000 to 1 million people within the North Central part of the United States. It is important to note this average respondent includes both present program participants, as well as program alumni. Based on the majority of respondents being alumni an implication from this data would be for program directors to consider potential career and aspirational trajectories for program participants, both from a curriculum and recruitment perspective. Finding opportunities to highlight program benefits and value alignment should be a priority (Smith, 1956).

This description of an average respondent was based on the most frequent responses to each of the collected data categories. It is important to note that the intent of this research is not to imply any sort of evaluation or assessment of the results, it is only intended to provide transparent data that educators can use to inform their programs. A recommendation would be for educators to use this data as a starting point when making preliminary recruitment, curriculum or alumni follow-up decisions. However, educators are strongly recommended to verify appropriateness of proposed educational interventions relative to the unique needs of learners.

The results of the current study also serve as a supplement to previous research with adult agricultural leadership development programs. For example, Kaufman et al. (2012) analyzed program characteristics as part of a previous study. The researchers examined programmatic criteria such as years in existence, total alumni, cohort participant counts, program length, tuition, target audience, and travel expectations among others; however, they emphasized "program context is not the end for assessing and planning for leadership education and development" (p.134). The current study extends upon this foundation to provide an additional level of program insight for program directors to consider. A recommendation would be for program directors to use the provided analysis and results as a benchmark upon which to consider whether adjustments in recruitment, program curriculum, or ongoing alumni communication are appropriate (Gargani & Donaldson, 2011).

As with any analysis, it is possible to identify which categories or groups had more or less respondents; however, a noteworthy observation from the present study is the distribution of respondents across available groups. A recommendation is for educators to not only focus on what groups may have the most respondents, but also what groups have significant representation, as well as what groups have the smallest number of representatives. Consciously considering all the contexts and associated needs of learners will help educators to be more inclusive as well as effective. For example, from an awareness perspective "segmentation has changed from an operational tool into a strategic mental model" (Davari et al., 2019, p. 48) with segmentation variables including both demographic and geographic considerations as well as psychographic and behavioral variables (Kotler & Armstrong, 2018). Therefore, a recommendation is for leadership educators to view the present results as a preliminary examination of demographic and geographic characteristics of program participants and to critically analyze whether programs are appealing to the appropriate audiences, whether the content is satisfying their needs, and whether the program is maintaining contact and relevance for program alumni. An associated recommendation would be to extend upon the present results and for future studies to delve deeper into the psychographic and behavioral characteristics of adult leadership development program participants. Using the proposed demographic considerations as a framework for future studies may provide a more consistent approach to gathering, analyzing, and reporting leadership development program data.

Despite the potential for the results to serve as a robust baseline set of data for adult agricultural leadership development programs, an additional limitation must be acknowledged relative to the demographic categories that were captured. The intent of the study was to be sufficiently

comprehensive to explore a variety of contextual variables that may influence a learner in a leadership development program; however, the variables captured are by no means exhaustive. A recommendation is for educators to critically consider whether the variables captured and presented in this study are appropriate given their unique needs or intended outcomes. Further research is suggested to investigate whether individual behaviors or learning outcomes are related to various contextual variables and to revise and refine the list of demographic variables deemed important by the discipline over time.

Despite the acknowledged limitations with the demographic categories captured, and in addition to providing a robust set of data from a particular audience associated with the research purpose and objectives, a secondary outcome of the present research is to propose a conceptual framework within which to understand the hierarchical influences and contexts for learners. Specifically, the proposed ecological model of leadership contexts proposes a set of common variables grouped according to proximity to an individual. Furthermore, the model introduces a new set of language within which clusters of characteristics might be better grouped, classified, referred to, and referenced. For example, establishing stable person characteristics as sex, age, race, and ethnicity might provide better harmonization of demographic data collection and reporting within the agricultural education and leadership development discipline as similar models have successfully done within the health discipline (e.g., Glass & McAtee, 2006).

A recommendation from this study is to collect and analyze hierarchical context related variable data to include across study conditions. For example, examining a variable of interest, such as personality, leadership style, motivational disposition, or learning style differences among different hierarchical context groups may provide valuable insights that may further inform educational interventions or curriculum development. The more comprehensively context is accounted for the more potential to apply the right educational approaches appropriately.

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