Examining the Relationship Between Goal Orientation and Individual Characteristics Amongst Agricultural Leadership Development Program Participants

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Abstract

The importance of knowing and employing strategies to effectively motivate learners is well established. This is also true for leadership educators that have a mandate to build leadership capacity amongst learners in various environments. However, despite the importance of learner motivation in learning environments, there has been a lack of empirical studies to determine if there may be dispositional trends related to motivational tendencies based on demographic categories, specifically within adult agricultural leadership development program participants. The current study analyzed goal orientation disposition across demographic categories including gender, age, organizational level, educational attainment, and geographic region amongst alumni of adult agricultural leadership development programs. The results indicate there are trends related to demographic categories leadership educators may consider using as entry points to more effectively motivate learners based on dispositional tendencies. For example, the results imply desire to prove competence relative to peers decreases with age. Therefore, a recommendation for educators would be to target strategies fostering healthy competition towards younger learners and target strategies providing opportunities for learning and personal reflection towards older learners. Additionally, a significant non-finding is goal orientation, not influenced by cognitive ability, is independent of educational attainment. A recommendation then is for educators to not base motivational strategies on cognitive ability or educational attainment. Further research is needed to extend the results of the present study to a much larger population of adults engaged in agriculture across the globe.

Introduction

Leadership education, like all education, requires the appropriate balance between content and context. According to Kets de Vries and Korotov (2012), "we as [leadership] educators have to create, on the one hand, a hunger for psychological inquisitiveness among participants, and, on the other, foster courage and trust to engage participants as both the subject and object of research and investigation" (p. 269). One of the primary considerations for educators when working with learners is finding

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opportunities to engage learners' innate motivational tendencies, operationalized as individuals' goal orientation tendencies (Lamm et al., 2017). However, uncovering these tendencies can be elusive, "Through the nature-nurture interface, these highly complex motivational systems eventually determine the unique 'internal theater' of the individual – the stage on which the major themes that define the person are played out" (Kets de Vries & Engullau, 2010, p. 189).

Finding the appropriate motivational or goal orientation levers is critical to creating an environment that engages learners (McKeachie & Svinicki, 2013). Recent empirical findings indicate the use of goal orientation as an appropriate lever for motivational tendencies, specifically, Cerasoli and Ford (2014) state,

> Our findings suggest that intrinsic motivation predicts performance because intrinsically motivated individuals adopt mastery goals that predicate task enjoyment not through mere participation but through self-referential task improvement. Thus, it is not enough to be intrinsically motivated: the intrinsic satisfaction to be derived must come from self-improvement. The direct implication is that researchers, consultants, and educators might be more concerned with channeling, rather than boosting levels of intrinsic motivation. (p. 2)

These findings are consistent with previous recommendations in the literature for educators working with adult volunteers to "address participant motivational orientations…and jointly enhance instructional efficacy" (Strong & Harder, 2011). Studying the various dimensions of goal orientation, as a proxy for motivational disposition, allows educators to identify motivational tendencies with the goal of acknowledging such tendencies, aligning them to behaviors, and renewing focus and desire to complete a given task, such as engaging in a leadership educational environment (e.g. Button et al.,1996; Kets de Vries and Korotov, 2012; Lai, 2017; Neves de Jesus & Lens, 2005; VandeWalle, 1997).

Despite the importance of motivation in learning environments, empirical research into the antecedents of motivational and goal orientation tendencies, specifically for adult agricultural leadership development program participants, remains unexamined. For example, previous research has investigated the relationship between adult learners and their learning environment in a traditional higher education system (Pulkka & Niemivirta, 2013), adult learners in distance learning environments (Remedios & Richardson, 2013), professional adult learners engaging in professional development (Johnson & Beehr, 2014), and professional adult learners in cross-cultural training (Koo Moon et al., 2012). Additionally, in a meta-analysis study analyzing goal orientation, researchers found goal orientation better predicted job performance, yielding more accurate results than previously accepted indicators such as cognitive ability or personality traits (Payne et al., 2007). Despite the existing research, there have not been any empirical studies examining goal orientation within an adult agricultural leadership development program participant audience.

As suggested by Ritch and Mengel (2009), one of the primary considerations for a leadership education program is "students' developmental levels and [which] methods are most appropriate to ensure maximum student learning" (p. 220). Therefore, examination and investigation of the particular participant learning audience associated with adult agricultural leadership development programs may provide valuable insights for leadership educators associated with such programs (Ritch & Mengel, 2009). This is consistent with previous literature identifying the unique context and audience associated with adult agricultural leadership development programs (e.g. Bradshaw & Rudd, 2009; Kaufman et al., 2010; Kaufman et al., 2012). As Kaufman et al. (2012) note, "important questions remain for today's leadership development program in agricultural contexts" (p. 124).

When determining what motivational techniques to implement, many individuals, including educators, embrace extrinsic type approaches, more commonly known as the "carrot-and-stick" (e.g. Baruch-Mordo et al., 2011; Elton, 1999; Lai, 2017). Carrots (rewards) are thought to be more effective at motivating individuals to adopt a certain action/behavior, while sticks (punishments) are thought to be more effective at dissuading individuals from adopting a certain action or behavior (Sharot, 2017).

New research suggests motivation techniques relying primarily on extrinsic motivation are no longer sufficient (e.g. Diefendorff & Chandler, 2011). Instead, it has been suggested employers and educators shift toward intrinsically motivational approaches that may produce more engagement and sustained effort (Lamm et al., 2017; Mendelowitz, 2016). Nevertheless, despite the rise in intrinsic motivation visibility, it is clear there is still a need for extrinsic motivations (e.g. Elton, 1999; Sharot, 2017). Depending on individual dispositions, contexts, or desired outcomes, a variety of motivational approaches may be required (Bass, 2008; Cerasoli et al., 2014).

These conclusions concerning goal orientations have further implications for research priority area four in the AAAE National Research Agenda, which promotes meaningful and engaged learning. Students today are progressive and innovative. In order to meet their needs, agricultural education professionals must devise a "more personal instructional design" (Roberts, et al., 2016, p. 38). Student motivation remains a "persistent and pervasive problem for faculty and staff at all levels" (Pintrich & Zusho, 2007, p. 731). While it would be easiest to characterize learners according to one specific learning style, this is not effective because humans typically do not rely on the same learning strategy for every situation (Roberts et al., 2016). Instead, learners develop a conglomeration of learning styles and typically "utilize one type more than another" based on individual interests and motivation (Roberts et al., p. 39). It is imperative for agricultural educators to engage their students not only in the content, but also the learning process. Students are more motivated to learn once they are able to associate meaning in the learning process and facilitated by purposeful and intentional guidance (Roberts et al., 2016). Examining goal orientation in the context of individual characteristics may aid agricultural educators understanding the motivation strategies of their students, allowing the educator to tailor content delivery to facilitate quality instruction and best meet their students' needs.

Conceptual Framework

According to Kets de Vries and Engullau (2010), "To understand the human being in all its complexity, we have to start with motivational need systems, the operational code that drives personality" (p 188). For the purposes of this research, motivational dispositions are represented by individual goal orientation disposition, first defined by Dweck and Leggett (1988), which is an individual's "disposition toward developing or demonstrating ability in achievement situations," (VandeWalle, 1997, p. 996). This construct has been divided into two domains: 1) learning goal orientation (LGO) with which individuals develop competence through the acquisition of new skills and mastery of new scenarios, and 2) performance goal orientation (PGO) with which individuals seek favorable judgments and avoid negative judgements to validate competency (VandeWalle, 1997). VandeWalle (1997) proposed PGO be split into two-sub dimensions: performance-prove goal orientation (PGO-P) and performance-avoid goal orientation (PGO-A). Individuals with PGO-P strive to prove competence through favorable judgements, while individuals with PGO-A avoid disproving their competence or receiving negative judgments concerning it (Payne et al., 2007). Other approaches toward achievement orientation constructs, such as Nicholls' (1984) conceptualization of task and ego involvement and Butler's (1992) distinction between ability and mastery goals, also draw a demarcation between goals that develop or validate competency (VandeWalle, 1997). Goal orientation is vital to understanding why discrepancies exist between an individual's interests and behaviors (VandeWalle, 1997). Goal orientation is influenced by implicit intellectual beliefs about the control one has over personal attributes since these perspectives tend to influence fundamental dispositions related to behaviors (VandeWalle, 1997). Individuals with LGO hold an incremental ability theory, believing their personal abilities are skills that can be improved by effort and experience, whereas individuals with PGO hold an entity theory, viewing their ability as fixed and uncontrollable (Payne et al., 2007). Additionally, goal orientation provides a mental structure by which individuals react to and explain various situations, including how individuals view effort and respond to task difficulty (Payne et al., 2007).

While previous research has examined goal orientation and its relationship to feedback seeking behavior (Payne et al., 2007; VandeWalle & Cummings, 1997), self-efficacy (Payne et al., 2007), cognitive ability (Payne et al., 2007; Eison, 1979, 1981), and performance (Payne et al., 2007; Kanfer & Ackerman, 1996; Locke et al., 1981; Wood & Bandura, 1989), minimal research has been conducted on the relationship between demographic characteristics and individual goal orientation disposition.

Goal Orientation and Gender

Empirical studies examining the relationship between goal orientation and gender have not conclusively determined the nature of the relationship. Pintrich (2000) found in the eighth grade, female students possessed similar levels of self-efficacy as male students; however, by the ninth grade, these same students reported significantly lower levels of self-efficacy compared to their male counterparts. Female students initially believed their ability to succeed was comparable to their male peers, but after a year's time, their belief in ability significantly decreased, while male students experienced no significant change (Pintrich, 2000). Self-efficacy has been positively linked to LGO and negatively linked to performance-avoid goal orientation (Payne et al., 2007).

D'Lima et al. (2014) found for both first year college-aged men and women, self-efficacy increased throughout the semester, while levels of extrinsic motivation decreased. Female students reported higher levels of extrinsic motivation and mastery (learning goal) orientation than male students (D'Lima et al., 2014). Male students reported higher levels of performance orientation, including both PGO and LGO (D'Lima et al., 2014). These findings contradict previous results, where higher levels of PGO have been linked to higher extrinsic motivation levels, while higher levels of LGO have been linked to higher intrinsic motivation levels (D'Lima et al., 2014).

Edens (2008) found male students with higher extrinsic goal orientation levels scored significantly higher than male students with high intrinsic goal orientation and female students with high extrinsic goal orientation. Additionally, female students with high intrinsic goal orientation scored higher than males with extrinsic goal orientation, but not significantly so (Edens, 2008). Based on the results, male students who were dominantly motivated by PGO outperformed male peers with dominant LGO and female peers with dominant PGO (Edens, 2008). Further research by Remedios and Richardson (2013) found women scored statistically significantly higher on performance avoidance than did men; however, there were no significant differences as it related to performance avoid or mastery approach (i.e. LGO).

Goal Orientation and Age

Previous research related to goal orientation in educational settings has identified differences in homogeneity of age within learner populations. For example, several researchers have directed analysis towards undergraduate students that generally have similar age characteristics (e.g. Elliot & Church, 1997; Elliot & McGregor, 2001; Elliot & Murayama, 2008; Lamm et al., 2017). Whereas other research has focused on adult learners that tend to be less homogenous in age (e.g. Waller, 2006), accordingly, "it follows that treating adult learners as a single population would be problematic" (Remedios & Richardson, 2013, p. 669). Thus, the need to consider not only the content associated with the goal orientation, but also the learner context, in particular adult or not, is imperative (Waller, 2006).

Examining traditional and nontraditional college students, Morris et al. (2003) found nontraditional students scored significantly higher on LGO measurements than traditional students. Nontraditional students placed greater emphasis on learning for the sake of learning and possessed a broader range of failure-coping mechanisms than their traditional counterparts (Morris et al., 2003). Consistent with expectations, Morris et al. (2003) found traditional students possessed higher levels of PGO, but not significantly so. Thus, as age increased, goal orientation tended to shift from performance – either prove or avoid – to learning within the sample (Morris et al., 2003).

These findings are consistent with Burley et al. (1999), who examined older (aged over 25) and younger (aged 17 to 22) college students and found a significant positive correlation between LGO scores and age, as well as a positive but weaker correlation between PGO and age. When the age groups were examined individually, the older students in both groups were found to exhibit higher LGO scores than the younger students (Burley et al., 1999). The researchers hypothesized older students tended to exhibit dominant LGO because they were choosing to attend school and had a greater vested interest in their education; whereas, younger students exhibited stronger PGO due to outside performance pressures, such as parental expectations, peer competition, and desire to obtain a post-graduate job (Burley et al., 1999).

A consistent finding within the literature is that dominant goal orientation exhibited by an individual can shift over time (Baltes, 1997). Ebner et al. (2006) found younger adults leaned toward a growth (i.e. learning) goal orientation, while middle-aged and older adults leaned towards a goal orientation that maintains functional levels and prevents losses (i.e. PGO). These results provide additional context to previous findings within samples of academic students linking age positively with LGO and negatively with PGO (Ebner et al., 2006). Therefore, goal orientation may not be a fixed characteristic as previously thought, but rather, a fluid concept fluctuating with age (Ebner et al., 2006). These results are consistent with Koo Moon et al. (2012) who found a statistically significant positive relationship between age and mastery approach (i.e. LGO) amongst adult professionals. However, Remedios & Richardson (2013) did not find any statistically significant differences between adult age groups within a more traditional educational setting.

Goal Orientation and Educational Attainment

Although not much research has been conducted on the influence of educational attainment on goal orientation, studies have been conducted examining goal orientation and response behaviors in an educational environment. Dweck and Elliot (1988) found elementary-aged children tended to fall into two response categories based on consistencies among observed behaviors: learned-helpless and mastery-oriented. Learned-helpless respondents reacted negatively to feedback and gave up, while mastery-oriented respondents attempted to find solutions and did not make attributions for their failures (Dweck & Elliot, 1988). Neither learned-helpless or mastery-oriented individuals took opportunities to increase learning if there was a risk of public failure (Dweck & Elliot, 1988).

A later study by Dweck and Leggett (1988) yielded similar results. Children with dominant LGO chose challenging learning tasks and displayed a mastery-oriented achievement pattern, while children with dominant PGO only chose challenging tasks if perceived ability was high and they felt they could obtain a desirable judgement of competence (Dweck & Leggett, 1988). Helpless-oriented children viewed challenges as failures and indicative of low ability, and thus, avoided tasks that would yield an unfavorable judgement of competence (Dweck & Leggett, 1988). Furthermore, LGO was found to affect achievement directly as students with high LGO levels were more likely to value learning for the sake of learning and tended to choose challenging tasks to improve their skills. Additionally, LGO was found to be an indirect influence of achievement via a positive relation with metacognitive knowledge, a skill which allows individuals to choose appropriate and efficient learning strategies (Artelt et al., 2018; Schneider et al., 2017).

A study by Bipp et al. (2008) examined the relations between a four-factor goal orientation construct (learning, performance-approach, performance-avoid, and work-avoid), the Big Five personality traits (neuroticism, extraversion, openness, agreeableness, and conscientiousness), and intelligence. Bipp et al. (2008) found no correlation between goal orientation and cognitive ability, leading to the conclusion "all goal orientations are independent from cognitive ability" (p. 1463). Within a sample of adult professionals, no statistically significant relationships were observed between individuals that had below a college education versus those with college or above (Koo Moon et al., 2012).

Goal Orientation and Organizational Level

Although the relationship between organizational level and leadership is established within the literature (e.g. Katz, 1974), there exists limited research examining the relationship between organizational level and goal orientation. Nevertheless, VandeWalle et al.'s (1998) study on sales performance found a dominant LGO in an individual preceded higher sales performance, which was aided by positive relationships with goal setting, intended effort, and intended planning. PGO was unrelated to goal setting or intended effort, but had a positive, albeit weak, relation to intended planning (VandeWalle et al., 1998). Employees who exhibited a stronger LGO tended to sell more than their peers who exhibited a different goal orientation dimension (VandeWalle et al., 1998). Those with higher levels of LGO were more likely to set goals, as well as create strategies and exert the effort needed to achieve these goals, which resulted in a higher sales performance (VandeWalle et al., 1998). Based on these results, researchers have recommended screening applicants based on level of LGO, as this has been shown to be a better predictor of job performance than cognitive ability or personality traits (Payne et al., 2007).

Examining the differences between employee, middle manager, and top managers within a sample of adult professionals, Koo Moon et al. (2012) observed a negative relationship between organizational level and performance avoidance. The results indicated as an individual rose in organizational level their tendency towards PGO-A decreased (Koo Moon et al., 2012). Goal orientation has also been shown to influence job skill transfer (Chiaburu & Marinova, 2000). While evaluating the effectiveness of employee training programs, Chiaburu and Marinova (2000) found individuals with higher motivation levels who entered such programs reported higher levels of skill transfer after completing those programs. Those with higher motivation to train also reported higher levels of self-efficacy, which has been found to have a strong positive relationship to LGO (Payne et al., 2007). Thus, employees who defined work-related goals in intrapersonal terms and used positive strategies to achieve those goals ultimately reported higher levels of skill transfer (Chiaburu & Marinova, 2000).

Goal Orientation and Region

Limited research has been conducted to determine if geographic location and goal orientation are related. It has been hypothesized psychological factors could be partially responsible for regional disparities among political, social, economic, and health indicators (Rentfrow et al., 2013). Based on results and regional descriptors proposed by previous researchers (e.g. Rentfrow et al., 2013), personality-based results indicated the Friendly and Conventional region (Southern and Midwest U.S.) displayed moderately high levels of extraversion, agreeableness, and conscientiousness, as well as moderately low neuroticism, and low openness. The Relaxed and Creative region (Western U.S. and the Sunbelt) displayed low extraversion and agreeableness, low neuroticism, and high openness, while the Temperamental and Uninhibited region (Mid-Atlantic and Northeast U.S.) was defined by low extraversion, low agreeableness and conscientiousness, high neuroticism, and moderately high openness (Renfrow et al., 2013). These findings suggest psychological factors could be the underlying force behind individual behaviors, such as personal values, productivity levels, and stress-management strategies (Rentfrow et al., 2013).

Adult Agricultural Leadership Development Programs

One of the core responsibilities for leadership education is the consideration of educational context (Ritch & Mengel, 2009). Adult agricultural leadership development programs have served as a context within which leadership education has occurred since 1965 when the Kellogg Farmers Study Program began at Michigan State University (Helstowski, 2001). Growing from a single program, dozens of similar adult agricultural leadership development programs have emerged. In 2019 a total of 54 active programs were affiliated with the International Association of Programs for Agricultural Leadership (Waldrum, 2019). Despite the growth of similar programs, many adhere to a common

foundation where, "The goal of the program was to provide young agricultural and rural leaders with a broader view of society, as well as a greater sense of the world and how they fit into the bigger picture" (Helstowski, 2001, p. 1). Adult agricultural leadership development programs are both housed within formal university administered Extension systems (e.g. Lamm et al., 2016) and through alternative structures, such as independent entities (Kaufman et al., 2012).

With a persistent decline in agricultural employment in the United States, there is a demand to produce sufficient food and raw agricultural materials for a growing population with fewer individuals (USDA, 2014). Therefore, leadership development programs intended for this particular audience are relevant to both participants and consumers (Kaufman et al., 2012; Lamm et al., 2016). Additionally, previous research found "having a better understanding of characteristics associated with ANR [agricultural and natural resource] opinion leaders should inform future work with this population" (Lamm et al., 2014, p. 102). Focusing narrowly on a particular audience and addressing the needs of the audience are key to successful leadership education (Ritch & Mengel, 2009). Combined with goal orientation insights, there is potential to improve the manner and effectiveness of leadership education within this audience. Specifically, previous research has found, "motivation [goal orientation] interventions have demonstrated promising results for enhancing educational outcomes" (Lazowski & Hulleman, 2016, p. 624).

Purpose and Research Objective

The purpose of this study is to examine five demographic clusters— gender, age, educational attainment, organizational level, and geographic region— and determine whether they are related to goal orientation amongst adult agricultural leadership development program participants. This study was motivated by the following research objectives:
1. Describe learning goal orientation based on demographic clusters.
2. Describe performance-prove goal orientation based on demographic clusters.
3. Describe performance-avoid learning goal orientation based on demographic clusters.
4. Examine relationship between demographic clusters and learning goal orientation.
5. Examine relationship between demographic clusters and performance-prove goal orientation.
6. Examine relationship between demographic clusters and performance-avoid goal orientation.
7. Evaluate results relative to effect size to contextualize recommendations for leadership education practice.

Methods

To address the research purpose and objectives the study employed a descriptive research design (Ary et al., 2010). The population for this study was alumni and current participants of adult agricultural leadership development programs. Previous research has identified the unique characteristics of this population, specifically, "the context of the program is an important consideration [in] quality leadership education and development" (Kaufman et al., 2012, p. 133). Therefore, we identified adult agricultural leadership development programs and their program participants as the population of interest, specifically those sharing similar characteristics and structure. Accordingly, programs were selected to participate in the study based on their shared characteristics and affiliation with the International Association of Programs for Agricultural Leaders (IAPAL). The IAPAL has been identified in previous research as having constituent programs sharing a similar structure, goals, duration, and program participants (Kaufman et al., 2012). To collect the most comprehensive data possible, we conducted a census of such programs (e.g. Ary et al., 2010; Rossi et al., 2004).

It is important to identify the data analyzed in the present 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). The current study extends on the previous work in two important ways. First, the previous analysis of the data reported only a subset of the total data collected as part of a larger project, specifically, only programs located in the southern United States were

included in the analysis. The current study includes all regions of the United States as well as international programs. Second, although demographic data were reported previously, the purpose of this paper is not to focus on distributions of individuals across demographic categories, but to use demographic categories as a working framework to analyze a particular variable of interest (i.e. goal orientation).

After establishing a defined population of program participants from IAPAL-affiliated adult agricultural leadership development programs, program directors were contacted and invited to participate. At the time of the data collection, there were 35 active programs listed in the IAPAL database (IAPAL, 2013) and 28 program directors agreed to participate in the research. The data were therefore limited to only those programs opting to participate. Programs were from both the United States as well as Canada.

Data were collected starting in the spring of 2014 using the Qualtrics online survey tool. A list of potential respondents was provided by each program director. A total of 7,668 surveys were sent via email to potential respondents. The questionnaire was administered online and followed the Tailored Design Method (Dillman et al., 2008). The protocol included a pre-notice email sent to all potential respondents by the program director. Approximately two days later, an invitation to complete the survey was sent to respondents individually by the researcher. At least three reminder messages were sent to encourage individuals to respond in addition to the original invitation. There were 1,171 questionnaires completed for a total response rate of 15%. Based on the low response rate, additional statistical tests were conducted to test for non-response error. Additional tests comparing early and late respondents were conducted according to recommendations in the literature (Lindner et al., 2001; Miller & Smith, 1983). Specifically, individuals responding to the survey after the initial invitation, prior to the first reminder were coded as early respondents, individuals the responded after the final reminder were coded as late respondents. Based on an ANOVA analysis for continuous variables, such as goal orientation index scores, and chi-square analysis for categorical variables such as demographics, no statistically significant differences were observed between early and late respondents. Based on these findings, the response rate was deemed acceptable given existing social science thresholds (Baruch & Holtom, 2008).

Goal orientation data were collected using the 14-item work domain goal orientation instrument constructed by VandeWalle (1997). The VandeWalle (1997) instrument was selected to measure goal orientation based on established evidence of validity and reliability in previous empirical studies. This instrument is divided into three parts, each examining a separate factor of the goal orientation construct. The first factor examines learning goal orientation with five questions (e.g. "I often look for opportunities to develop new skills and knowledge"). The second factor examines performance-prove goal orientation through five questions ("I'm concerned with showing that I can perform better than my coworkers"). The third factor examines performance-avoid goal orientation through four questions (e.g. "I would avoid taking on a new task if there was a chance that I would appear rather incompetent to others"). Each goal orientation scale scores are based on a 1 to 5 Likert-type scale ranging from 1 – "strongly disagree" to 5 – "strongly agree". A Cronbach's α of .88 was calculated for the LGO index, a Cronbach's α of .84 was calculated for the PGO-P index, and a Cronbach's α of .86 was calculated for the PGO-A index. The observed Cronbach's α values are consistent with those reported by VandeWalle (1997) who observed an LGO index α of .89, a PGO-P index α of .85, and a PGO-A index α of .88. All goal orientation and demographic data were self-reported by respondents.

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics were conducted on each of the demographic characteristics. Differences between demographic groups were then analyzed using a one-way ANOVA (Keith, 2006). Post-hoc Bonferroni corrections were calculated to analyze statistically significant differences between groups when appropriate. Simple linear regression was also calculated when appropriate to provide additional data analysis. Specifically, age was considered in both categories when displayed in the summary tables and

analyzed as a continuous variable under regression conditions. Effect sizes are presented as Partial Eta Squared values for each ANOVA analysis.

Results

Descriptive statistics for reported learning goal orientation index scores across each demographic cluster and sub-group are presented in Table 1. Descriptive statistics for reported performance-prove goal orientation index across each demographic cluster and sub-group are presented in Table 2. Descriptive statistics for reported performance-avoid goal orientation index across each demographic cluster and sub-group is presented in Table 3. Additionally, effect sizes are presented as Partial Eta Squared vales.

Table 1
Learning Goal Orientation Analysis Based on Demographic Characteristics

Characteristic	N	Min	Max	Mean	SD	F	ρ	η_p^2
Gender						5.32*	.02	.004
Male	738	2.60	5.00	4.06	.50			
Female	433	2.40	5.00	4.14	.54			
Age						1.36	.24	.006
Under 30	25	2.80	5.00	4.00	.59			
30 to 39	198	3.00	5.00	4.13	.44			
40 to 49	234	2.60	5.00	4.15	.50			
50 to 59	420	2.40	5.00	4.08	.54			
60 to 69	253	2.60	5.00	4.05	.54			
70 and Over	32	3.00	5.00	4.04	.57			
Level						3.01*	.05	.006
Nonsupervisory employee	197	2.60	5.00	4.03	.54			
Manager	399	2.60	5.00	4.13	.50			
Owner, CEO, President	423	2.80	5.00	4.13	.50			
Education						2.59**	.01	.015
High school diploma/GED	24	3.00	5.00	4.03	.47			
Trade/technical training	18	3.00	5.00	3.96	.60			
Some college - no degree	108	2.60	5.00	4.05	.55			
Associate/Community college degree	68	2.40	5.00	4.19	.55			
Bachelor's degree	574	2.60	5.00	4.05	.51			
Master's degree	310	2.60	5.00	4.16	.50			
Professional degree (e.g., JD, MD)	31	3.20	5.00	4.28	.52			
Doctorate (e.g., PhD, EdD)	47	3.00	5.00	4.15	.52			
Region						1.88	.11	.007
Western	336	2.80	5.00	4.08	.51			
North Central	440	2.40	5.00	4.07	.54			
Southern	193	2.60	5.00	4.14	.49			
Northeast	133	2.60	5.00	4.06	.50			
Non-US	80	3.00	5.00	4.22	.48			

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 2
Performance-Prove Goal Orientation Analysis Based on Demographic Characteristics

Characteristic	N	Min	Max	Mean	SD	F	ρ	η_p^2
Gender						3.03	.08	.002
Male	738	1.00	5.00	3.30	.73			
Female	433	1.00	5.00	3.21	.78			
Age						5.24***	.00	.023
Under 30	25	2.25	5.00	3.71	.75			
30 to 39	198	1.00	5.00	3.45	.76			
40 to 49	234	1.50	5.00	3.28	.77			
50 to 59	420	1.00	5.00	3.19	.75			
60 to 69	253	1.00	5.00	3.19	.70			
70 and Over	32	1.00	5.00	3.27	.76			
Level						1.64	.20	.003
Nonsupervisory employee	197	1.50	5.00	3.38	.77			
Manager	399	1.00	5.00	3.27	.80			
Owner, CEO, President	423	1.00	5.00	3.23	.70			
Education						.60	.75	.003
High school diploma/GED	24	1.25	4.50	3.19	.85			
Trade/technical training	18	1.50	4.00	3.22	.68			
Some college - no degree	108	1.00	5.00	3.28	.69			
Associate/Community college degree	68	1.25	5.00	3.14	.79			
Bachelor's degree	574	1.00	5.00	3.25	.73			
Master's degree	310	1.00	5.00	3.31	.83			
Professional degree (e.g., JD, MD)	31	2.00	4.75	3.36	.66			
Doctorate (e.g., PhD, EdD)	47	1.00	4.50	3.21	.73			
Region						4.66***	.00	.017
Western	336	1.00	5.00	3.22	.75			
North Central	440	1.00	5.00	3.31	.73			
Southern	193	1.00	5.00	3.39	.76			
Northeast	133	1.50	5.00	3.24	.79			
Non-US	80	1.25	4.75	2.97	.76			

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3
Performance-Avoid Goal Orientation Analysis Based on Demographic Characteristics

Characteristic	N	Min	Max	Mean	SD	F	ρ	η_p^2
Gender						.04	.84	.000
Male	738	1.00	5.00	2.34	.69			
Female	433	1.00	5.00	2.35	.74			
Age						1.05	.39	.005
Under 30	25	1.25	4.50	2.57	.90			
30 to 39	198	1.00	5.00	2.38	.71			
40 to 49	234	1.00	5.00	2.30	.71			
50 to 59	420	1.00	5.00	2.31	.72			
60 to 69	253	1.00	4.00	2.37	.69			
70 and Over	32	1.00	3.75	2.30	.58			
Level						5.95**	.00	.012
Nonsupervisory employee	197	1.00	5.00	2.49	.73			

Table 3
Performance-Avoid Goal Orientation Analysis Based on Demographic Characteristics, Continued…

Manager	399	1.00	5.00	2.29	.70			
Owner, CEO, President	423	1.00	4.00	2.27	.70			
Education						.47	.85	.003
High school diploma/GED	24	1.00	3.75	2.19	.66			
Trade/technical training	18	1.00	4.00	2.33	1.09			
Some college - no degree	108	1.00	4.00	2.30	.65			
Associate/Community college degree	68	1.00	3.75	2.24	.61			
Bachelor's degree	574	1.00	5.00	2.36	.71			
Master's degree	310	1.00	5.00	2.34	.73			
Professional degree (e.g., JD, MD)	31	1.25	4.00	2.30	.68			
Doctorate (e.g., PhD, EdD)	47	1.00	3.75	2.38	.72			
Region						2.22	.07	.008
Western	336	1.00	4.25	2.30	.68			
North Central	440	1.00	5.00	2.42	.72			
Southern	193	1.00	4.00	2.33	.73			
Northeast	133	1.00	5.00	2.27	.69			
Non-US	80	1.00	5.00	2.23	.76			

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Goal Orientation and Gender

Learning goal orientation had a statistically significant relationship with gender ($F = 5.32$, $p = .02$). The observed effect size was less than .01, therefore considered trivial (Cohen, 1988). Performance-prove goal orientation ($F = 3.03$, $p = .08$) was not statistically significantly related to gender. Performance-avoid goal orientation ($F = 0.04$, $p = .84$) was not statistically significantly related to gender.

Goal Orientation and Age

Learning goal orientation ($F = 1.36$, $p = .24$) and performance-avoid goal orientation ($F = 1.05$, $p = .39$) were not found to have statistically significant relationships with age. Performance-prove goal orientation ($F = 5.24$, $p = .00$) was found to have a statistically significant negative relationship with age. The observed effect size was greater than .01, therefore considered small (Cohen, 1988). Post hoc analyses using a Bonferroni adjustment to account for the six categories indicated performance-prove goal orientation observed scores were higher for individuals under 30 than those between 50 and 59 ($p = .01$) and those between 60 and 69 ($p = .02$). Additionally, performance-prove goal orientation observed scores were higher for individuals between 30 and 39 than those between 50 and 59 ($p = .00$) and those between 60 and 69 ($p = .01$). No other statistically significant differences between groups were observed.

In addition to the group level analysis, a further regression analysis was conducted to examine the continuous nature of the age variable relative to goal orientation. A simple linear regression was calculated to predict performance-prove goal orientation based on age. A significant regression equation was found ($F(1,1127) = 22.27$, $p < .000$), with an R^2 of .02. Respondents' predicted performance-prove goal orientation score is equal to 3.754 - .009*(age) when age is measured in years. Respondents' performance-prove goal performance score decreased by .009 for each year increase in age. Simple linear regression was calculated to predict learning goal orientation based on age. A significant regression equation was found ($F(1,1128) = 4.30$, $p = .04$), with an R^2 of .00. Additionally,

simple linear regression was calculated to predict performance-avoid goal orientation based on age. A non-significant regression equation was found ($F(1,1122) = .63, p = .43$).

Goal Orientation and Organizational Level

Learning goal orientation ($F = 3.01, p = .05$) had a statistically significant relationship with organizational level. The observed effect size was less than .01, therefore considered trivial (Cohen, 1988). Posthoc analyses using a Bonferroni adjustment to account for the three categories found no statistically significant differences between groups. Performance-prove goal orientation ($F = 2.10, p = .10$) was not found to have a statistically significant relationship with organizational level.

Performance-avoid goal orientation ($F = 5.86, p = .00$) was observed to have a statistically significant relationship with organizational level. The observed effect size was greater than .01, therefore considered small (Cohen, 1988). Nonsupervisory employees reported the highest levels of performance-avoid while managers and owners/CEOs/presidents reported the lowest levels. Posthoc analyses using a Bonferroni adjustment to account for the three categories indicated performance-avoid goal orientation observed scores were higher for the nonsupervisory group than those in the manager ($p = .01$) group and owner/CEOs/presidents ($p = .00$) group. No other statistically significant differences between groups were observed.

Goal Orientation and Educational Attainment

Learning goal orientation was observed to have a statistically significant relationship with educational attainment ($F = 2.59, p = .01$). The observed effect size was greater than .01, therefore considered small (Cohen, 1988). Posthoc analyses using a Bonferroni adjustment to account for the nine categories found no statistically significant differences between groups. Performance-prove goal orientation ($F = .60, p = .75$). and performance-avoid goal orientation ($F = .47, p = .85$) were not found to be statistically significantly related to educational attainment.

Goal Orientation and Region

Learning goal orientation ($F = 1.88, p = .11$) was not found to have a statistically significant relationship with region. Performance-prove goal orientation ($F = 4.66, p = .00$) was found to have a statistically significant relationship with region. The observed effect size was greater than .01, therefore considered small (Cohen, 1988). Posthoc analyses using a Bonferroni adjustment to account for the five categories indicated performance-prove goal orientation observed scores were lower for the Non-US group than those in the Southern ($p = .00$) group and North Central ($p = .00$) group. No other statistically significant differences between groups were observed. Performance-avoid goal orientation ($F = 2.22, p = .07$) was not found to have a statistically significant relationship with region.

Conclusions, Recommendations, and Implications

In advance of presenting conclusions, implications, and recommendations associated with the present study, it is important to note several limitations. Although a number of observed relationships were statistically significant, the generalizability of the results is limited and caution in interpretation is warranted. Second, even within the study the effect size should be considered. Although low effect sizes may have important implications (e.g. Rosnow & Rosenthal, 1989), it is critical results are viewed as baseline data and should not serve as a mandate for action. All educational environments, leadership or otherwise, and all learners are unique and should be treated as such. The provided implications and recommendations should therefore only serve as a potential starting point for consideration when working with adult agricultural leadership development program participants. A subsequent recommendation would be for leadership educators in adult agricultural leadership development program contexts to first assess the dispositional tendencies of individuals in their programs and then tailor programming accordingly. Comparing and contrasting program level results with research study results may prove to be helpful when planning interventions and selecting which recommendations and

implications to implement. As Kaufman et al. (2012) adroitly stated, "information on past programs can be used to predict future results of other programs. It is in this spirit that practitioners can use the findings presented here to develop and improve their own programs" (p. 134).

Overall the contributions of the present research are focused in two primary categories. First, from a practical perspective, the data compiled from 28 different adult agricultural leadership development programs provides a large set of data, and associated statistical power, to perform analysis and detect relationships and trends that may otherwise be difficult to observe. An associated recommendation would be for leadership educators, and particularly IAPAL leadership development program directors, to use the results of the present study to inform their program curriculum and specific learning interventions when appropriate. Finding opportunities to meet learners where they are helps mitigate potential challenges (McKeachie, & Svinicki, 2013). Specific recommendations based on results are presented within each demographic category. Nevertheless, an overall recommendation would be to use the data as a starting point for audience and learner awareness. For example, when developing a new set of learning materials, it may be valuable to think first of who the typical audience for the materials will be and then develop materials and strategies based on the results of the study. Depending on the primary audience it may be appropriate to integrate more competition based interventions. Similarly, these results may provide an avenue through which to consider curriculum revisions. If content is not received or retained as intended a recommendation would be to modify the motivational techniques within the material. A more robust set of motivational approaches provides educators a diverse set of options when developing and implementing training materials.

The second primary contribution of this present research is to establish a baseline of data upon which future research can be compared and contrasted. Despite multiple studies examining goal orientation with multiple audiences (e.g. Bipp et al., 2008; Ebner et al., 2006; Edens, 2008; D'Lima et al., 2014; Dweck & Elliot, 1988; Koo Moon et al., 2012; Morris et al., 2003; Payne et al., 2007; VandeWalle et al., 1998), this is the first study to do so with an adult agricultural leadership development program participant audience. Future research is recommended to replicate the data collected from similar audiences and further illuminate the relationships between goal orientation and demographic categories. A further recommendation for future research is to examine additional learner characteristics relative to demographic characteristics. The aggregation of such data within a particular audience, e.g. adult agricultural leadership development program participants, would provide a robust baseline upon which to plan future educational programs or curricula.

Goal Orientation and Gender

Learning goal orientation was found to have a statistically significant relationship with gender, indicating females within the research sample displayed higher levels of LGO than men. However, the effect size of the observation is trivial; therefore, the practical aspect and applicability of the finding is limited. Nevertheless, the findings align with D'Lima et al. (2014), who found females had higher LGO levels than males. However, these results contradict with the findings of Pintrich (2000), who concluded females report lower self-efficacy levels than males. Self-efficacy has been positively linked to LGO, which implies individuals with lower self-efficacy levels also possess lower LGO levels (Payne et al., 2007). The present study results contribute to the existing literature base; however, a recommendation would be to conduct further research to examine whether other factors may influence the observed disparity between LGO levels between men and women among adult agricultural leadership development program participants.

Based on the results observed in this study, specifically, females having higher levels of reported LGO levels, a recommendation is educators provide intentional motivational strategies for their female learners and activate learning-goal orientation. For example, educators may want to present challenges as learning opportunities or chances to develop and improve one's skills beyond core educational material. However, as noted previously, the observed effect size and specific program

context should be considered when planning any such interventions. Future research is recommended to further examine the role of gender as it relates to other outcomes of interest as a mediating variable. Within a predominately male agricultural industry (USDA, 2014), the role of gender may provide interesting insights.

Goal Orientation and Age

Performance-prove goal orientation had a statistically significant relationship with age. As age increased within the research sample, PGO-P levels decreased. The ANOVA results were further confirmed by the simple linear regression analysis which indicated an inverse relationship between age and PGO-P. These results align with Morris et al. (2003), who found traditional students exhibited higher PGO levels, while nontraditional students exhibited higher LGO levels. Koo Moon et al. (2012) also found a statistically significant positive relationship between age and LGO. These results are also supported by Burley et al. (1999), who found younger students exhibited higher PGO levels while older students exhibited higher LGO levels. However, these results contradict with the findings of Ebner et al. (2006), who found higher LGO levels among younger adult workers and higher PGO levels among middle-aged and older adult workers.

An implication based on these findings is that among the sample included in this study, desire to prove competence relative to peers decreases with age, so older individuals were not as concerned as younger counterparts with how their skills compare to others as it relates to adult agricultural leadership development program participants. Perhaps older individuals feel they have less to prove because they have had more experiences and context upon which to assess themselves. Regardless of the source of the difference, the results of the study indicate competition may not be a compelling motivator for older learners, but may be a very effective source of motivation for younger learners. Because younger learners may not have as much experience, they may be more inclined to seize available opportunities to gain favorable judgments of their competency.

A recommendation for educators is to create learning challenges and strategies fostering healthy competition specifically targeted toward younger learners. For older learners, a recommendation would be to instead employ strategies emphasizing learning for the sake of learning and provide opportunities for personal growth and insights. A recommendation for future research would be to examine the relationship between age and goal orientation disposition amongst other adult learners, particularly those engaged in leadership development programs. Although the context for this study is firmly situated within adult agricultural leadership development programs, there may be implications for adult leadership education that should be examined more generally.

Goal Orientation and Organizational Level

Learning goal orientation had a statistically significant relationship with organizational level, with LGO levels increasing as organizational level increased. These findings align with Katz's (1974) skills approach theory, which proposed conceptual abilities increase as organizational level increases. Performance-avoid goal orientation had a statistically significant relationship with organizational level, with PGO-A levels decreasing as organizational level increases. These findings also align with Katz's (1974) skills approach theory which proposed technical levels decrease as organizational level increases. The results are consistent with those of Koo Moon et al. (2012) who found a negative relationship between organizational level and PGO-A.

Results of the present study indicate that, among adult agricultural leadership development program participants, comfort with failure increased with organizational level. Individuals within the study representing upper-level management were less concerned with taking risks and their desire to learn and improve skills was greater than their non-supervisory contemporaries. This trend may be attributable to the fact individuals in upper-level management have already experienced a certain amount of failure in order to obtain their current standing and therefore, these individuals do not

perceive failure as a negative outcome. Instead, these individuals may perceive failure as an opportunity for learning and growth.

Additionally, the results of the study indicate desire to avoid failure increases as organizational level decreases. Non-supervisory individuals were less inclined to place themselves in situations where failure is highly probable or inevitable. These individuals did not want to risk failure, perhaps because they have not experienced enough failure to view it as a learning opportunity. It could also be due to the fact non-supervisory individuals may not enjoy as much job security as upper-level management, and as a result, are less willing to risk failure due to potential consequences.

Based on these results, a recommendation for educators would be to find opportunities for individuals from upper-level management to learn from scenarios where failure is more likely. These individuals may be more likely to view such challenges as opportunities to learn and may use the learning experience to develop their skills within a safe learning environment. A parallel recommendation would be for educators to not employ these same strategies with non-supervisory employees as they may not respond as favorably based on being pushed beyond their comfort zone. Instead, educators may want to consider placing non-supervisory individuals in learning scenarios where they can excel in order to boost their confidence and self-efficacy.

Goal Orientation and Educational Attainment

This study found a statistically significant relationship between learning goal orientation and educational attainment. These results somewhat contradict the findings of Bipp et al. (2008); however, when viewed holistically, the lack of a clear trend is noteworthy. When analyzed at the group level, there were no statistically significant differences observed. Therefore, the results more conceptually align to the non-significant results reported by Bipp et al. (2008), specifically the finding there was no correlation between cognitive ability and goal orientation. Accordingly, goal orientation, not influenced by cognitive ability, is independent of educational attainment. From a leadership educator perspective within an adult agricultural leadership development program context, an individual's academic background is less likely to influence their dominant goal orientation. Therefore, based on the research findings, a recommendation would be for educators to not base motivational strategies on either the cognitive ability or educational attainment of learners. Instead, educators are encouraged to examine other learner characteristics and create motivation strategies accordingly.

Although beyond the scope of the present study, the results do present an interesting non-finding. Additional research is recommended to determine whether the current observations are anomalous or whether there is not a clear relationship between educational attainment and goal orientation. The implication for such findings may help to inform educational practice more generally, particularly as it relates to engaging learners and providing them meaningful learning opportunities.

Goal Orientation and Region

Performance-prove goal orientation had a statistically significant with region. PGO-P levels were higher in individuals from the southern United States, while individuals from other regions (north central, northeast, west, or non-United States) had lower PGO-P levels. Although previous research has found statistically significant relationships between individual characteristics, such as personality and geographic region (e.g. Rentfrow et al., 2013), the interpretation of results from the present study are less clear. Although a statistically significant finding was observed at the ANOVA level, group level analysis indicated only differences between Non-US and two US regions were statistically significant. Therefore, similar to educational attainment, the inability to discern a clear trend within the data would lead to a recommendation educators not use geographic region as a primary source to inform educational strategies. Other more relevant indicators may be more appropriate to inform such decisions.

Although the present study included both United States and Canadian programs, the results indicate the need for future research to include more international programs. It would be beneficial to extend upon the results of the present study to a much larger population of adults engaged in agriculture across the globe. Previous studies (e.g. Hofstede, 1980; House et al., 2004) have had profound impacts on leadership education across cultures, so research within an agricultural context is therefore recommended.

References

Artelt, C., Lingel, K., Neuenhaus, N., Schneider, W. (2018). Does metacognitive knowledge mediate the relation between goal orientations and educational achievement for secondary school students?. *Electronic Journal of Research in Educational Psychology*, *16*(44), 5-33. https://doi.org/10.25115/ejrep.v16i44.1935

Ary, D., Jacobs, L. C., Sorensen, C., & Razavieh, A. (2010). *Introduction to research in education*. Wadsworth Cengage Learning.

Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist*, *52*, 366-380. https://doi.org/10.1037/0003-066X.52.4.366

Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations, 61*(8), 1139-1160. https://doi.org/10.1177/0018726708094863

Baruch-Mordo, S., Breck, S. W., Wilson, K. R., & Broderick, J. (2011). The carrot or the stick? evaluation of education and enforcement as management tools for human-wildlife conflicts. *PLoS One*, *6*(1), e15681. https://doi.org/10.1371/journal.pone.0015681

Bass, B. M. (2008). *The bass handbook of leadership*. Free Press.

Bipp, T., Steinmayr, R., & Spinath, B. (2008). Personality and achievement motivation: Relationship among Big Five domain and facet scales, achievement goals, and intelligence. *Personality and Individual Differences*, *44*, 1454-1464. https://doi.org/10.1016/j.paid.2008.01.001

Bradshaw, R., & Rudd, R. (2009). A leadership development needs assessment for Virginia Farm Bureau Young Farmers. *Proceedings of the Southern Region Conference of the American Association for Agricultural Education, 2009*, 372-386.

Burley, R. C., Turner, L. A., & Vitulli, W. F. (1999). The relationship between goal orientation and age among adolescents and adults. *The Journal of Genetic Psychology*, *160*(1), 84-88. https://doi.org/10.1080/00221329909595382

Butler, R. (1992). What young people want to know when: Effects of mastery and ability goals on interest in different kinds of social comparisons. *Journal of Personality and Social Psychology*, *67*, 26-48. https://doi.org/10.1037/0022-3514.62.6.934

Button, S. B., Mathieu, J. E., & Zajac, D. M. (1996). Goal orientation in organizational research: A conceptual and empirical foundation. *Organizational behavior and human decision processes*, *67*(1), 26-48. https://doi.org/10.1006/obhd.1996.0063

Cerasoli, C. P. & Ford, M. T. (2014) Intrinsic motivation, performance, and the mediating role of mastery goal orientation: A test of self-determination theory. *The Journal of Psychology, 148*(3), 267-286. https://doi.org/10.1080/00223980.2013.783778

Cerasoli, C. P., Nicklin, J. M., & Ford, M. T. (2014). Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis. *Psychological Bulletin*, 140(4), 980-1008. https://doi.org/10.1037/a0035661

Chiaburu, D. S., & Marinova, S. V. (2000). The effectiveness of an organizational-level orientation

training program in the socialization of new hires. *Personnel Psychology*, *53*(1), 47-66. https://doi.org/10.1111/j.1744-6570.2000.tb00193.x

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

Diefendorff, J. M., & Chandler, M. M. (2011). Motivating employees. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology* (Vol. 3, pp. 65-135). American Psychological Association.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (Eds.). (2008). *Internet, mail, and mixed-mode surveys: The tailored design method* (2nd ed.). Wiley & Sons, Inc.

D'Lima, G. M., Winsler, A., & Kitsantas, A. (2014). Ethnic differences in first-year college students' goal orientation, self-efficacy, and extrinsic and intrinsic motivation. *The Journal of Educational Research, 107*(5), 341-356. https://doi.org/10.1080/00220671.2013.823366

Dweck, C. S., Elliott, E. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, *54*(1), 5-12. https://doi.org/10.1037/0022-3514.54.1.5

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, *95*(2), 256-273. https://doi.org/10.1037/0033-295X.95.2.256

Ebner, N. C., Freund, A. M., & Baltes, P. B. (2006). Developmental changes in personal goal orientation from young to late adulthood: From striving for gains to maintenance and prevention of losses. *Psychology and Aging*, *21*(4), 664-678. https://doi.org/10.1037/0882-7974.21.4.664

Edens, K. (2008). The interaction of pedagogical approach, gender, self-regulation, and goal orientation using student response system technology. *Journal of Research on Technology in Education*, *41*(2), 161-177. https://doi.org/10.1080/15391523.2008.10782527

Eison, J. A. (1979). *The development and validation of a scale to assess different student orientations towards grades and learning*. Unpublished doctoral dissertation, University of Tennessee, Knoxville.

Eison, J. A. (1981). A new instrument for assessing students' orientations towards grades and learning. *Psychological Reports*, *48*, 919-924. https://doi.org/10.2466/pr0.1981.48.3.919

Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, 72, 218–232. https://doi.org/10.1037/0022- 3514.72.1.218

Elliot, A. J., & McGregor, H. A. (2001). A 2 9 2 achievement goal framework. *Journal of Personality and Social Psychology*, 80, 501–519. https://doi.org/10.1037//0022-3514.80.3.501

Elliot, A. J., & Murayama, K. (2008). On the measurement of achievement goals: Critique, illustration, and application. *Journal of Educational Psychology*, 100, 613–628. https://doi.org/10.1037/0022-0663. 100.3.613

Elton, L. (1999). New ways of learning in higher education: Managing the change. *Tertiary Education & Management*, *5*(3), 207-225. https://doi.org/10.1080/13583883.1999.9966992

Helstowski, L. W. (2001). The legacy of the ag leadership development program: Rich heritage cultivates future opportunities (Booklet No. 534). W.K. Kellogg Foundation. Retrieved from http://www.leadershiponlinewkkf.org/learningcenter/pubs/ag_leadership/ Ag_Leadership_Booklet.pdf

Hofstede, G. (1980). *Culture's consequences: International differences in work related values*. Sage.

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Culture, leadership,*

and organizations: The GLOBE study of 62 societies. Sage.

IAPAL. (2013). IAPAL directory. Retrieved from http://karlprogram.com/resources/iapal-directory/

Johnson, V. A., & Beehr, T. A. (2014). Making use of professional development: Employee interests and motivational goal orientations. *Journal of Vocational Behavior*, *84*(2), 99-108. https://doi.org/10.1016/j.jvb.2013.12.003

Kanfer, R., & Ackerman, P. L. (1996). A self-regulatory skills perspective to reducing cognitive interference. In I. G. Sarason, G. R. Pierce, & B. R. Sarason (Eds), *Cognitive interference: Theories, methods, and findings* (pp. 153-171). Erlbaum.

Katz, R. (1974). Skills of an effective administrator. *Harvard Business Review*. Retrieved from https://hbr.org/1974/09/skills-of-an-effective-administrator.

Kaufman, E. K., Rateau, R. J., Ellis, K. C., Kasperbauer, H. J., & Stacklin, L. R. (2010). Leadership program planning: Assessing the needs and interests of the agricultural community. *Journal of Leadership Education, 9*(1), 122- 143. https://doi.org/10.12806/V9/I1/RF8

Kaufman, E. K., Rateau, R. J., Carter, H. S., & Strickland, L. R. (2012). What's context got to do with it? An exploration of leadership development programs for the agricultural community. *Journal of Leadership Education*, *11*(1), 121-139.

Keith, T. Z. (2006). *Multiple regression and beyond*. Pearson.

Kets De Vries, M. F. R., & Engellau, E. (2010). A clinical approach to the dynamics of leadership and executive transformation. In N. Nohria, & R. Khurana (Eds.), *Handbook of leadership theory and practice* (pp. 183-222). Harvard Business Press.

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). SAGE Publications.

Kirkman, B.L. & Chen, G. (2011). Maximizing your data or data slicing: Recommendations for managing multiple submissions from the same data set. *Management and Organization Review*. *7*(3), 433-446. https://doi.org/10.1111/j.1740-8784.2011.00228.x

Koo Moon, H., Kwon Choi, B., & Shik Jung, J. (2012). Previous international experience, cross-cultural training, and expatriates' cross-cultural adjustment: Effects of cultural intelligence and goal orientation. *Human Resource Development Quarterly*, *23*(3), 285-330. https://doi.org/10.1002/hrdq.21131

Lai, L. (2017). Motivating employees is not about carrots or sticks. *Harvard Business Review*. Retrieved from https://hbr.org/2017/06/motivating-employees-is-not-about-carrots-or-sticks?referral=03758&cm_vc=rr_item_page.top_right.

Lamm, K.W., Lamm, A. J., & Carter, H. S. (2014). Opinion leadership development: Context and audience characteristics count. *Journal of Agricultural Education, 55*(2), 91-105. https://doi.org/10.5032/jae.2014.02091

Lamm, K.W., Carter, H. S., & Lamm, A. J. (2016). Evaluating extension based leadership development programs in the southern United States. *Journal of Agricultural Education*, *57*(1), 121-136. https://doi.org/10.5032/jae.2016.01121

Lamm, K. W., Sheikh, E., Carter, H. S., & Lamm, A. J. (2017). Predicting undergraduate leadership student goal orientation using personality traits. *Journal of Leadership Education, 16*(1), 18–33. https://doi.org/10.12806/V16/I1/R2

Lazowski, R. A., & Hulleman, C. S. (2016). Motivation interventions in education: A meta-analytic review. *Review of Educational Research, 86*(2), 602–640. https://doi.org/10.3102/0034654315617832

Lindner, J. R., Murphy, T. H., & Briers, G. E. (2001). Handling nonresponse in social science research. *Journal of Agricultural Education, 42*(4), 43-53. https://doi.org/10.5032/jae.2001.04043

Locke, E., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1960-1980. *Psychological Bulletin*, *90*, 125-152. https://doi.org/10.1037/0033-2909.90.1.125

McKeachie, W., & Svinicki, M. (2013). *McKeachie's teaching tips*. Cengage Learning.

Mendelowitz, R. (2016). Here's what so many leaders get wrong about motivating employees. *Fortune*. Retrieved from http://fortune.com/2016/07/03/leaders-motivate-employees-business/

Miller, L. E., & Smith, K. L. (1983). Handling nonresponse issues. *Journal of Extension, 21*(5). https://www.joe.org/joe/1983september/83-5-a7.pdf

Morris, E. A., Brooks, P. R., & May, J. L. (2003). The relationship between achievement goal orientation and coping style: Traditional vs. nontraditional college students. *College Student Journal*, *37*(1), 3-8.

Neves de Jesus, S., & Lens, W. (2005). An integrated model for the study of teacher motivation. *Applied Psychology*, *54*(1), 119-134. https://doi.org/10.1111/j.1464-0597.2005.00199.x

Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, *91*, 328-346. https://doi.org/10.1037/0033-295X.91.3.328

Payne, S. C., Youngcourt, S. S., & Beaubien, J. M. (2007). A meta-analytic examination of the goal orientation nomological net. *Journal of Applied Psychology*, *92*(1), 128-150. https://doi.org/10.1037/0021-9010.92.1.128

Pintrich, P. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *The Journal of Educational Psychology*, *92*(3), 544-555. https://doi.org/10.1037/0022-0663.92.3.544

Pintrich, P. R., & Zusho, A. (2007). Student motivation and self-regulated learning in the college classroom. In R. P. Perry & J. C. Smart (Eds.), *The scholarship of teaching and learning in higher education: An evidence-based perspective* (pp. 731-810). Springer.

Pulkka A. T. & Niemivirta, M. (2013) Adult students' achievement goal orientations and evaluations of the learning environment: a person-centered longitudinal analysis. *Educational Research and Evaluation, 19*(4), 297-322. https://doi.org/10.1080/13803611.2013.767741

Rentfrow, P.J., Gosling, S. D., Jokela, M., Stillwell, D. J., Kosinski, M., & Potter, J. (2013). Divided we stand: Three psychological regions of the United States and their political, economic, social, and health correlates. *Journal of Personality and Social Psychology*, *105*(6), 996-1012. https://doi.org/10.1037/a0034434

Remedios, R., & Richardson, J. T. (2013). Achievement goals in adult learners: Evidence from distance education. *British Journal of Educational Psychology*, *83*(4), 664-685. https://doi.org/10.1111/bjep.12001

Ritch, S. W., & Mengel, T. (2009). Guiding questions: Guidelines for leadership education programs. *Journal of Leadership Education, 8*(1), 216-227. https://doi.org/10.12806/V8/I1/C2

Roberts, T. G., Harder, A., & Brashears, M. T. (Eds). (2016). *American Association for Agricultural Education national research agenda: 2016-2020.* Department of Agricultural Education and Communication.

Rosnow, R. L., & Rosenthal, R. (1989). Statistical procedures and the justification of knowledge in psychological science. *American Psychologist, 44*(10), 1276-1284. http://dx.doi.org/10.1037/0003-066X.44.10.1276

Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2004). *Evaluation: A systematic approach*. Sage.

Schneider, W., Lingel, K., Artelt, C., & Neuenhaus, N. (2017). Metacognitive knowledge in secondary school students: Assessment, structure, and developmental change. In D. Leutner, J. Fleischer, J. Grünkorn, & E. Klieme (Eds*.), Competence assessment in education: Research, models and instruments*. (pp. 285–302). Springer International Publishing. https://doi.org/10.1007/978-3-319-50030-0_17

Sharot, T. (2017). What motivates employees more: rewards or punishments. *Harvard Business Review*. Retrieved from https://hbr.org/2017/09/what-motivates-employees-more-rewards-or-punishments

Strong, R., & Harder, A. (2011). Interactions among instructional efficacy, motivational orientations, and adult characteristics on master gardener tenure. *Journal of Agricultural Education, 52*(4). 65-75. https://doi.org/10.5032/jae.2011.04065

USDA (2014). Farm Demographics – U.S. Farmers by Gender, Age, Race, Ethnicity, and More. Retrieved from https://www.nass.usda.gov/Publications/Highlights/2014/Farm_Demographics/index.php

VandeWalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement*, *57*(6). 995-1015. https://doi.org/10.1177/0013164497057006009

VandeWalle, D., Brown, S. P., Cron, W. L., & Slocum Jr., J. W. (1998). The influence of goal orientation and self-regulation tactics on sales performance: A longitudinal field test. *Journal of Applied Psychology*, *84*(2), 249-259. https://doi.org/10.1037/0021-9010.84.2.249

VandeWalle, D., & Cummings, L. L. (1997). A test of the influence of goal orientation on the feedback-seeking process. *Journal of Applied Psychology*, *82*, 629-640. https://doi.org/10.1037/0021-9010.82.3.390

Waldrum, J. (Ed.) (2019). International Association of Programs for Agricultural Leadership (IAPAL) directory. IAPAL.

Waller, R. (2006). 'I don't feel like 'a student', I feel like 'me'!': The over-simplification of mature learners' experience(s). *Research in Post-Compulsory Education*, 11(1), 115-130. https://doi.org/10.1080/13596740500508019

Wood, R., & Bandura, A. (1989). Impact of conceptions of ability on self-regulatory mechanisms and complex decision making. *Journal of Personality and Social Psychology*, *56*, 407-415. https://doi.org/10.1037/0022-3514.56.3.407