

WHO'S READY TO LEAD?
THE IMPACT OF DEVELOPMENTAL READINESS ON A STATE LEADERSHIP
DEVELOPMENT PROGRAM

by

Benjamin Chartoff

A Thesis Submitted in Partial Fulfillment
Of the Requirements for the Degree of
Master of Arts in Psychology

Middle Tennessee State University
March 2019

Thesis Committee:

Dr. Richard G. Moffett III, Chair

Dr. Michael B. Hein, Committee Member

Dr. Judith Van Hein, Committee Member

ACKNOWLEDGEMENTS

First and foremost, I want to thank God for giving me the strength to persist through the two most impactful years of my life. I want to thank my parents for their continuous support of my goals and dreams. I want to thank Dr. Moffett and my thesis committee for believing in my ideas, and I want to thank the Tennessee Department of Human Resources allowing my ideas to come to life. I want to thank Drs. Bruce Avolio and Sean Hannah for providing theory and materials necessary for the success of this thesis. I also want to thank my MTSU cohort because there is no way I could have graduated without their help. Lastly, I want to thank my incredible friends and family for their unwavering love and emotional support as I inched across the finish line. The past two years have taught me that there is nothing more important than working hard, staying true to yourself, and surrounding yourself with positivity. May the best always be yet to come.

ABSTRACT

The purpose of the current study was to investigate the effect of developmental readiness on the perceived individual improvement of leadership development trainees.

Developmental readiness can be described as the motivation and ability of someone to engage to developmental experiences. The study utilized a measure consisting of six predictors of developmental readiness, one moderator of organizational support, and a criterion of perceived improvement. In total, 61 participants from a statewide leadership development program provided data for the current study. Results indicated that only internal motivation to is a significant predictor of individual improvement, and there is not a moderating effect of organizational support. Limitations and future research are discussed in detail at the end of the paper.

TABLE OF CONTENTS

	Page
LIST OF TABLES.....	vi
CHAPTER ONE: LITERATURE REVIEW	1
Introduction	1
Developmental Readiness	2
Motivation to Develop	5
Interests and Goals	5
Goal Orientation	7
Developmental Efficacy	8
Ability to Develop	9
Self-Awareness/Clarity	10
Leader Complexity	11
Metacognitive Ability	12
Intellectual Openness	13
Organizational Developmental Readiness	14
Assessing and Developing DR	15
CHAPTER TWO: METHODS	17
Participants	17
Procedure	18
Measures	19
Motivation to Develop	20
Goal Orientation	20
Motivation to Learn	21
Motivation to Lead	22
Ability to Develop	22
Awareness of the Way I Think and Learn	22
Taking Different Perspectives	23
Intellectual Openness	23
Perceived Organizational Support	23

Measure of Trainee Improvement	24
CHAPTER THREE: RESULTS	25
Primary Research Question Testing	28
Scale-level Statistics.....	31
CHAPTER FOUR: DISCUSSION	33
Limitations	35
Conclusion and Future Research.....	36
REFERENCES	38
APPENDICES	43
Appendix A: Participant Solicitation Flyer.....	44
Appendix B: Survey Link Email.....	45
Appendix C: Informed Consent.....	46
Appendix D: Survey Scales.....	49
Appendix E: Incentive Emails.....	54
Appendix F: Feedback Scores Sheet.....	56
Appendix G: Standardized Feedback Report.....	57
Appendix H: Email with Report.....	70
Appendix I: IRB Approval.....	71

LIST OF TABLES

Table 1. Reliabilities and Reading Levels for Scales.....	26
Table 2. Descriptive statistics for developmental readiness.....	27
Table 3. Pearson correlations for perceived improvement.....	28
Table 4. Results of Regression Analysis predicting Perceived Improvement.....	29
Table 5. Results of Stepwise Regression Analysis predicting Perceived Improvement.....	30
Table 6. Results of Moderated Regression Analysis predicting Perceived Improvement.....	31
Table 7. Tests of Skewness, Kurtosis, and Normality for Scales.....	32

CHAPTER ONE: LITERATURE REVIEW

Introduction

The major premise of leadership development is the belief that leaders can be made, not just born. The Center for Leadership and Strategic Thinking has found research that supports this idea, specifically that 70% of development comes through the personal and professional experiences of leaders (Avolio, Reichard, Hannah, Walumbwa, & Chan, 2009). Therefore, leadership development programs should be identifying individuals with characteristics to optimize experiential-learning. The current argument looks to solve this issue with the concept of “developmental readiness (DR).” This research extends the idea that this DR framework (Avolio & Hannah, 2008) will accelerate the process of leadership development and ensure that money is being spent on the right people at the right time.

The importance of assessing leader’s developmental readiness stems from the current stigma around failed programs. According to McKinsey & Company (2014), US companies are spending almost \$14 billion annually on leadership development, 7% of senior managers think their companies are effectively developing their leaders, and 30% of US companies believe their leaders lack the right capabilities. Also, a meta-analysis of over 200 studies found that “leadership interventions produced a 66% probability of achieving a positive outcome” (Avolio et al., 2009, p. 778).

However, a more recent meta-analysis has found optimistic results regarding the effectiveness of leadership development, with high effect sizes (Cohen’s *d* corrected for unreliability in the criterion) for the learning (.73), transfer (.82), and results (.72) of

training. (Lacerenza, Reyes, Marlow, Joseph, & Salas, 2017). The study even demonstrated that leadership trainees enjoyed their experience, which is contrary to the popular stigma that people generally dislike training (Kelly, 2012). These positive results provide hope that the massive amounts of time and money spent on leadership development matters, and that the field should continue to implement these programs and search for the best ways to do so.

Developmental Readiness

As stated earlier, the current research looks to progress the field of leadership development using the idea of developmental readiness (DR) (Avolio & Hannah, 2008). This concept was originally created by Avolio & Hannah (2008) to describe the framework of a leader who was ready to engage in development. They suggested that organizations should be focused on assessing and building the readiness of individual leaders, which will in turn accelerate their development. They believe that those higher in DR will be better able to reflect and make meaning out of events, challenges, and opportunities. The leader who is ready will build upon and develop their self-construct/narrative when thrown into trigger-like situations that can cause disequilibrium and heightened self-awareness (Avolio & Luthans, 2006).

Specifically, leader DR is defined “as the ability and motivation to attend to, make meaning of, and appropriate new leader KSAs (knowledge, skills, abilities, and attributes) into knowledge structures along with concomitant changes in identity to employ those KSAs” (Hannah & Avolio, 2010, p. 1182). The two main components in that definition are “ability” and “motivation.” The authors suggest that “leaders’ motivation to develop is promoted through interest and goals, learning goal orientation,

and developmental efficacy; while leaders' ability to develop is promoted, self-awareness, self-complexity, and meta-cognitive ability" (Hannah & Avolio, 2010, p. 1182). Each of the above constructs will be further explained later in this paper.

The authors also believe that organizational developmental readiness plays a key factor in the relationship of DR and positive accelerated development (Avolio & Hannah, 2008). They suggest that the right context, support, and climate is needed in order for development to flourish. Avolio (2016) introduces the "golden triangle" of DR, which is the idea that the readiness of the individual leader is only one aspect of leadership development. The other two components refer to the readiness of the followers, peers, and superiors of the leader and the readiness of the context in which leadership is unfolding. For example, even if a leader is both motivated and able to develop their leadership capabilities, it will be difficult for them to apply newly learned behaviors and skills if the members of their organization are unwilling to grant them leadership

The importance of assessing DR can be vital in organizations maximizing their return on investment from leadership development efforts. The implications described in Avolio & Hannah (2008) include the increased efficiency and effectiveness of their leader development resource allocations, preintervention assessments allowing for customized training experience, and the alignment of evaluation and reward mechanisms. Hannah & Avolio (2010) also added that DR will help the field better understand individual differences in development, and it may even explain some of the variance across the training interventions studied by Avolio et al. (2009). Overall, the implications of successfully assessing and building individual DR can play an important role in fixing some of the current issues in leadership development.

Some empirical research has been done that supports the implications and importance of assessing DR to obtain a high return on developmental investment. Hannah & Avolio (2007) studied the effects of three of the DR constructs (learning goal orientation, meta-cognitive ability, and self-concept clarity) using a sample of military cadets. Over three separate longitudinal field studies, they found that these DR variables offered unique variance in predicting development in both leaders' level of confidence to influence others and in their transformational leadership ratings. In a study examining a student leadership program, the results found that participants experienced significantly higher outcomes of perceived leadership skill based on their levels of self-efficacy and motivation-to-lead when they entered the course (Keating, Rosch, & Burgoon, 2014). The authors suggest that the process of creating "ready, willing, and able" leaders may begin with their developmental efficacy, one of the key components of DR (Avolio & Hannah, 2008).

Although these findings are promising to the effectiveness of assessing DR, much of the research has been theoretical rather than empirical. Because of that, the current study looks to add empirical findings to evaluate this theory of developmental readiness. This research argues that those individuals higher in developmental readiness will be more likely to see leadership improvements over the course of leadership development initiatives. Most of the constructs that make up the original theory (Avolio & Hannah, 2008) will be used to assess DR in the current study. However, some changes will be made based on the most recent research practices (Center for Leadership & Strategic Thinking, 2014). Also, one construct will be added based on suggestions of research from Avolio (2016) that researchers must take into account many considerations, such as

organizational context, when assessing DR. The individual pieces that make up our framework and how these pieces have been demonstrated to relate to successful development are described next.

Motivation to Develop

According to early theory-building of DR (Hannah & Avolio, 2010), motivation to develop is described as the drive and confidence to make a change in one's own leadership. It consists of interests and goals, learning goal orientation, and developmental efficacy. Recently, these authors have used four different scales to assess such capabilities, which are learning goal orientation, leadership self-confidence, internal motivation to learn, and motivation to lead (Center for Leadership & Strategic Thinking, 2014).

Interest and Goals

Interests and goals have been identified as two important motivational aspects that can have an impact on individuals' learning opportunities (Hidi & Harackiewicz, 2000). Interest consists of both individual and situational interest. Individual interest is conceptualized as more of a personal, dispositional orientation that can develop over time and motivate one to associate with a certain topic or domain (Renninger, 1990). Situational interest is much more contextual, and it has to do with the stimuli in the environment that helps individuals focus their attention for temporary periods of time (Hidi & Anderson, 1992). Research has shown that those who are more interested in particular topics pay closer attention for longer periods of time, which in turn allows them to learn more and enjoy their involvement compared to those not interested (Ainley, 1998; Prenzel, 1988; Renninger, 1990; Schiefele, 1996).

These findings on the importance of interest seem to be closely related to the intrinsic motivation to learn component in DR. Intrinsic motivation is defined as the motivation to engage in activities for their own sake (Hidi, 2000). Some researchers use interest and intrinsic motivation interchangeably, but Schiefele (1999) argues that interest is an antecedent to the strength of individual's intrinsic motivation to act in a certain way. For instance, if a leader lacks individual interest in exploring new skills or domains, then it would be expected that they will not possess the intrinsic motivation needed to engage or pursue leadership development experiences.

As stated earlier, Avolio (2016) discusses the golden triangle of developmental readiness. One aspect of the triangle is the readiness of context in which leadership is unfolding. This piece of the triangle is very similar to the idea of situational interest, in that the context of leadership development needs to both peak the interest of leaders to learn and motivate them to use these newly learned skills. In other words, those who create leadership development programs can tailor the learning environment to facilitate this type of situational interest and external motivation, leading to engaged participants.

As for goals, Murphy and Alexander (2000) argue that interest and goals are not separate entities, but rather intricately related constructs. For example, those who are interested in a topic would be more likely to adopt goals around the topic. Reciprocally, those who enter a course with goals of improving in a certain topic would be more likely to develop interest in such topic. Combining this research of interest, goals, and motivation, it becomes clear to see why this construct is a component of DR. Individuals going into leadership development need to be individually and situationally interested in

the domain in order to have the motivation necessary to learn and develop goals of improving their capabilities.

Goal Orientation

Stated earlier in this paper, leaders can be made, not just born (Avolio et al., 2009). Even so, leaders themselves must believe that they can be developed and learn new things in order to actually make gains from developmental experiences. This is where the idea of goal orientation (GO) (Button et al., 1996) makes an impact in DR. GO is the “way in which individuals approach or avoid achievement situations with a) the intentions of learning and developing and/or b) the intentions of demonstrating competence or avoiding the appearance of incompetence” (Culbertson & Jackson, 2016, p. 62). These authors argue that GO enhances an individual’s DR because GO is related to training self-efficacy, or the belief that individuals can be successful in training situations (Dierdorff et al., 2010).

Goal orientation consists of two components: learning goal orientation (LGO) and performance goal orientation (PGO) (Button et al., 1996). Someone with LGO is more likely to “seek new experiences and view themselves as incremental learners” (Hannah & Avolio, 2010, p. 1182), meaning they see themselves as able to develop (Dweck & Leggett, 1988). They are also more likely to “interpret feedback as developmental, and they are more willing to strive to learn even when failure is a likely option” (Hannah & Avolio, 2010, p. 1182). Someone with PGO is more likely to look at themselves as a fixed entity and less able to develop. These individuals view tasks as a test of their capability rather than a learning experience, which causes feedback to be interpreted as an attack on the self-construct. (Hannah & Avolio, 2010).

Consequently, it can be suggested that those stronger in LGO capabilities will be more developmentally ready than leaders with a strong PGO (Culbertson & Jackson, 2016). Empirical research has supported this claim. Data from a study on mentoring relationships found that proteges with higher levels of LGO reported higher levels of career development, idealized influence, managerial aspirations, and career satisfaction (Godshalk & Sosik, 2003). Results from a study on managerial development showed that managers with a stronger LGO were more likely to engage in developmental assignments, leading to higher levels of competence based on those experiences (Dragoni, Tesluk, & Russell, 2009). These findings demonstrate the need to assess GO and enhance LGO in individuals as they ready themselves for leadership development experiences.

Developmental Efficacy

A leader's developmental efficacy (LDE) is the level of confidence an individual has that he or she can develop specific abilities or skills needed for a certain leadership context or role (Avolio & Hannah, 2008). It should be noted that this concept is different than general leadership efficacy, which is the level of confidence one has in their current knowledge, skills, and abilities to effectively lead others (Hannah, Avolio, Luthans, & Harms, 2008). Therefore, it can be determined that LDE is more relevant to the DR framework because it is specific to the training and development context. Although there are also similarities to LGO, the central difference is that LGO focuses the individual on overall development, whereas LDE is specific to abilities that leaders can develop, such as public speaking and mentoring.

In general, self-efficacy has been seen as vital factor to individual development, and it has been shown in research to be both a precursor and outcome of high levels of performance (Bandura 1997). This is due to the mechanisms that self-efficacy elicits, such as persistence, effort, goal setting, and strategy usage (Bandura, 2012). These same efficacy beliefs are critical to leader development, and it is proposed that “having a higher level of efficacy for development will enhance a leader’s ability to envision successful outcomes when engaging in developmental experiences” (Avolio & Hannah, 2008, p. 337).

Murphy & Johnson (2016) also suggest that LDE is an important precursor to development because those with higher LDE will be more likely to engage in experiences, learn more from these experiences, exhibit resiliency if their performance is poor, and develop leader efficacy. A recent study on LDE on leaders’ self-development supports these claims (Reichard, Walker, Putter, Middleton, & Johnson, 2017). The results across three samples of leaders found that LDE predicts individual’s intentions to self-develop, which then predicts their ability to implement these new behaviors one month later. They also found that LDE is associated with an increase in leader efficacy through a leader development program. These results demonstrate the need to assess LDE as a factor of DR to ensure that leaders have the confidence they need in order to develop specific skills and abilities to become effective leaders.

Ability to Develop

The individual differences regarding one’s ability to develop can be defined as the skill to make a change in one’s own leadership abilities. Hannah & Avolio (2010) believe that it consists of three components: self-awareness/clarity, leader complexity, and meta-

cognitive ability. Because Hannah & Avolio (2010) suggest researchers search for ways to extend their framework, the current research will be adding the construct of intellectual openness as a component of individuals ability to develop. This decision is based on previous research (Lievens, Harris, Keer, & Bisqueret, 2003) of training success, and a desire to explore additional explanations for some of variance in the theory's model of developmental readiness.

Self-Awareness/Clarity

Self-awareness and self-concept clarity are two emerging themes to leadership effectiveness (Luthans & Avolio, 2003). Self-awareness can be defined as the estimation and evaluation of one's own personality and a lucid understanding of how others perceive oneself (Showry & Manasa, 2014). If someone possesses strong self-awareness capabilities, then they will be able to express knowledge and trust in their own values, motives, feelings, and cognitions, which is a competency that organizations are looking for in leaders. Individuals with heightened self-awareness can also enhance their ability to make meaning of trigger events, which is a key component of DR (Avolio & Hannah, 2008).

Self-concept clarity (SCC) is defined as the "extent to which self-beliefs are clearly and confidently defined, internally consistent, and stable" (Campbell et al., 1996, p. 141). Therefore, we can discern that these two concepts are interrelated. The higher clarity individuals have of their own beliefs, then the stronger their self-awareness will be internally and externally. Hannah & Avolio (2010) believe that "SCC should enhance DR through 1) increasing leaders' ability to make meaning of their development, 2) by understanding their understand their strengths, weaknesses, and interests related to new

experiences, 3) by understanding their implicit goal theories and patterns, and 4) by understanding their patterns of self-reflection” (p. 1183).

The role of self-reflection is important to the development of leaders, and there are two forms of doing so, known as adaptive and maladaptive reflection (Avolio, Wernsing, Chan, & Griffeth, 2007). Adaptive self-reflection is very constructive, and the individual displays emotions characterized by openness and positivity when thinking about his or her actions. This will lead to greater self-awareness, in turn allowing for more effective choices of actions and behaviors (Carver & Scheier, 1982). Maladaptive self-reflection is very destructive, and it involves emotions such as anxiety, self-doubt, and fear when thinking about previous thoughts and actions (Mor & Winquist, 2002). This type of negative reflection can prevent or diminish one’s engagement in developmental experiences. Therefore, it is vital that leadership development programs are designed to trigger adaptive self-reflection in order to facilitate the development of leader’s self-awareness and self-concept clarity.

Leader Complexity

Leader complexity can be considered the complexity in a leader’s self-construct, and it is hypothesized to develop based on the way a leader experiences and encodes trigger events (Avolio & Hannah, 2008). The authors believe that leaders with greater complexity will be more ready to develop because they have more internal associations with which to process new experiences (Hannah & Avolio, 2010). For instance, a cognitively complex leader has more personal resources and knowledge to draw from when experiencing trigger events. Therefore, someone with a broader repertoire can

visualize a greater number of potential outcomes, allowing them to act in a more developmentally ready way.

Metacognitive Ability

Metacognition refers to one's ability to reflect upon, understand, and control one's learning (Schraw & Dennison, 1994). In other words, it is how one is "thinking about their thinking." This type of second order thinking takes place after the leader goes through a developmental challenge, as they interpret the cognitive processes it took to make it through the experience. Even deeper, the leader can reflect upon the emotions that were triggered by the experience and determine how and why the emotions are influencing future decisions. Therefore, someone higher metacognitive ability will be better able to adaptively reflect upon trigger events, which will allow them to focus on positive development.

In terms of DR, Hannah (2006) reported that metacognitive processing relates to higher levels of self-efficacy, learning goal orientation, and mastery orientation. Black, Soto & Spurlin (2016) suggest that metacognitive ability is important for leader development because of two distinct reasons. The first is that research has shown metacognitive ability relates to creative problem solving, decision making, critical thinking, and leader performance. The second is that leaders with higher metacognitive ability will gain more from developmental experiences because they are better prepared to process and make meaning of this new information. Research has also shown that metacognitive techniques can be taught (Pintrich, 2002); therefore, it is vital to assess leader's metacognitive ability as a component of DR to ensure that leaders are cognitively ready to process these new developmental experiences.

Intellectual Openness

As suggested by Hannah & Avolio (2010), the current research looked for ways to extend the DR framework, which is why we are including a measure of openness as it relates to developmental readiness. Openness to experience is a part of the five-factor model of personality, and someone high in this trait can be described as change oriented, seeks variety, prefers novelty rather than routine, independent, and enjoys doing new things (McCrae & Costa, 2003). The reason for including this construct in the DR framework is to see if personality plays a role in determining which leaders are more ready than others for developmental experiences. The other factors described previously are malleable, whereas the trait of openness is relatively stable across a person's lifespan.

The reason for choosing openness rather than the other four personality factors is that openness has been proven to be a valid predictor of training performance, even cross-culturally (Lievens, Harris, Keer, & Bisqueret, 2003). Since the current research is taking place in a training context, this construct seems to fit. More specifically, we are looking at intellectual openness (Goldberg et al., 2006), which describes someone is open to new ideas, needs intellectual stimulation, carries the conversation to a higher level, and looks for deeper meaning in things. It is important to note that this measure of intellectual openness was adapted from the five-factor model. Therefore, it is not measuring the same construct as openness to experience, rather a related idea. The current research posits that a leader higher in intellectual openness will be more likely to accept the ideas put forth in training and be more excited to participate in the developmental experience, therefore making them a more ready candidate for development.

Organizational Developmental Readiness

The final component to Avolio & Hannah's (2008) model of DR is the developmental readiness of the organization. More specifically, they are referring to the importance of having a positive and psychologically safe environment/context to ensure that leader development can flourish. According to Avolio's (2016) work on the golden triangle of DR, the readiness of the individual leader is only one part of the triangle. The other two components refer to the readiness of the followers, peers, and superiors of the leader and the readiness of the context in which leadership is unfolding. For example, even if a leader is both motivated and able to develop their leadership capabilities, it will be difficult for them to apply newly learned behaviors and skills if the members of their organization are unwilling to grant them leadership.

Research has shown the effects of facilitating a supportive and safe environment for employees as it relates to training. Wen and Lin (2014) found that a positive organizational transfer climate predicted both individual's motivation to learn and motivation to transfer what they learned back to the workplace. In another study on learning and transfer, Zumrah, Boyle & Fein (2012) found that perceived organizational support is a predictor of transfer of training. These results suggest that the more individuals feel socially comfortable and supported in their organizations to develop, the more likely they are to apply the knowledge, skills, and attitudes learned from training back to the workplace.

Avolio and Hannah (2008) present the idea of a "strength-based organization." They suggest this type of organization facilitates leaders' manifestations of their true selves as they lead, and it stimulates individuals to think about their strengths and

potential. This type of positive climate that is psychologically safe (Kahn, 1990) will contribute to accelerating leader development. The authors also postulate that creating this environment starts at the top of the organization. They believe the senior leaders of the organizations should model such leadership through social interactions and positive perceptions to develop a “cascading of leadership” effect (Bass, Waldman, Avolio & Bebb, 1987). This will allow an aggregate style of leadership to diffuse throughout the organization to maintain a positive and systematic climate of development. These research findings, theories, and ideas demonstrate the importance of assessing organizational support and climate to ensure individuals who are developmentally ready feel like they can comfortably transfer their new knowledge, skills, and abilities to the workplace.

Assessing and Developing DR

The argument being made by Avolio & Hannah (2008) and the current research is at its core: why invest time and money into developing a leader if he or she is not ready, willing, and able to engage in such development? The return on investment will be minimal for both the organization and individual by sending someone through a developmental experience who is ill-prepared. Best practice would be to assess the leaders' DR using a standardized tool of validated measures and provide these leaders with individualized feedback before beginning the developmental experience. Therefore, they would have time to work on their individual motivation and abilities needed to have a positive training experience.

In this specific research, we were looking to find a relationship between the DR of a trainee in a leadership development program and their perceived improvement across

the program. Because the timing of the current research, we were not able to employ any developmental practices before trainees entered the program. The current research acted as an exploratory study to give insight on the predictive capabilities of the DR constructs.

RQ1: Does the DR of leadership development participants predict their perceived improvement?

DR: Learning Goal Orientation, Internal Motivation to Learn, Motivation to Lead, Metacognitive Ability, Perspective Taking, Intellectual Openness

RQ2: Are there certain DR components that are better predictors of perceived improvement?

RQ3: Does perceived organizational support moderate the relationship between DR and perceived improvement?

CHAPTER II: METHODS

Participants

Participants from a Tennessee state leadership development program were invited to participate in the current study. These participants work for various state agencies, ranging from the Department of Human Resources to the Tennessee Bureau of Investigation. Each of these participants is currently in a position of leadership within their perspective organizations, and they have been identified by their superiors as having high potential. To be selected for the program, supervisors recommended these participants through an application process that is reviewed by the program committee.

Supervisors are given tips and guidelines on how to determine and select leaders within their organization. The qualities supervisors are looking for in their leaders include high potential, well respected, willingness to learn and grow, and trusted. Some agencies even have their own processes for finding leaders within their workforce that are a good fit for the program. These leaders are typically from the senior and executive level; however, agencies are encouraged to consider all employees holding critical leadership positions as potential candidates for development program. Each agency is allotted a specific number seats depending on the population of employees within their perspective organization. The total number of trainees participating in the leadership development program is 120. Due to partial or incomplete responses, the total number of participants in the study is 61.

Procedure

The state leadership development program is a year-long program. Each training day is considered a workshop, and there is a total of six workshops in the 12-month period along with two individual coaching sessions. Data collection for the current study took place between Workshop five and Workshop six. The researchers attended Workshop five to formally introduce the study and solicit participation using a flyer (Appendix A). During this solicitation, participants were ensured that the results of the study were confidential and would not be used to measure individual performance. This step was taken as a precautionary measure to decrease the effects of social desirability responses.

An on-line survey was created using a web-based survey tool (Qualtrics). Participants accessed the web-based survey through a link that was provided in an email (Appendix B) sent out at the beginning of the three-week period from the Directors of leadership development program. Once directed to the Qualtrics web-site, participants were provided with the informed consent (Appendix C) and information regarding the purpose of the study and directions on how to complete the survey.

Participants were asked to complete self-report questions measuring various characteristics and traits that are related to developmental readiness. Including demographic questions, the full measurement tool consisted of 100 items (Appendix D), and it took around 30-45 minutes to complete.

In order to encourage full participation, participants were offered an incentive, which was the option to enter into a drawing to win a \$30 Amazon gift card. Each participant had a 1 in 10 chance of winning the incentive. At the end of the survey,

participants were directed to a different survey, where they could enter their email address if they wanted to participate in the drawing. This form was completely separated from survey responses to ensure that the data still remained confidential. Within two weeks of the survey closing, all of those who participated in the drawing were informed via email (Appendix E) of whether or not they won the gift card.

Participants were also offered the opportunity to receive personalized and confidential feedback with information regarding their scores of developmental readiness. If desired, participants provided an email address in the Qualtrics survey that they would like their feedback to be sent. The feedback consisted of two parts: a one-page personalized “Scores Sheet” and a standardized “Feedback Report”. The “Scores Sheet” (Appendix F) provided scores on five of the developmental readiness characteristics (all but intellectual openness). The scoring system consisted of whether the participant’s mean scale score fell into the top, middle, or bottom third of the overall group score. The standardized “Feedback Report” (Appendix G) provided information on how to interpret the scores and suggestions on how to improve their characteristics of developmental readiness. Within four weeks of the survey closing, participants were sent these two documents via email (Appendix H), if they requested to receive feedback. After this was completed, all emails or identifying information were removed from the dataset.

Measures

The following measures were combined to create our instrument for data collection. Most of our scales were taken from a research initiative sent to us from the University of Washington, and this report described their research method for measuring developmental readiness (Center for Leadership & Strategic Thinking, 2014). Due to

constraints of survey length and relevance to study, some scales were not included. These researchers used four components to measure motivation to develop. The current study is using three of those measures: a goal orientation scale (Button et al., 1996), a motivation-to-lead scale (Chan & Drasgow, 2001), and a motivation-to-learn measure (Ryan & Connell, 1989). The researchers (Center for Leadership & Strategic Thinking, 2014) also used four scales to measure ability to develop. The current study is using two of those measures: a metacognitive ability scale (Schraw & Dennison, 1994) and a perspective-taking scale (Davis, 1983). Also, we are adding a measure of intellectual openness (Goldberg et al., 2006) as a component of ability to develop. Based on the original theory (Avolio & Hannah, 2008), we are including perceived organizational support (Eisenberger, R. and Huntington, 1986) as a moderator. Our criterion was created solely for this study to capture the perceived improvement of trainees across the course of the leadership development program. Also, simple demographic questions were included in the study. To reduce fear of personal identification, age ranges were given rather than exact ages. Each of these is briefly described next.

Motivation to Develop

The following three scales were used to measure participant's motivation to develop.

Goal Orientation

One aspect of participants' motivation to develop was assessed using a Goal Orientation scale (Button et al., 1996). This instrument consists of two factors: performance goal orientation (PGO) and learning goal orientation (LGO). It is desired that participants score higher on the LGO subscale compared to the PGO subscale, indicating participants are striving to increase their competence rather than striving to

increase favorable judgment (Button et al., 1996). Because of this, participants will receive both a PGO and LGO score. An example item measuring performance goal orientation is “I prefer to do things that I can do well rather than things that I do poorly.” An example item measuring learning goal orientation is “the opportunity to do challenging work is important to me.” Each of these subscales consists of eight items resulting in a total of 16 items. This self-report instrument is rated on a 5-point Likert scale ranging from 1 (*Strong Disagree*) to 5 (*Strongly Agree*). This instrument demonstrated good reliability, with a Cronbach’s α of .76 for the PGO subscale and .79 for the LGO subscale (Button et al., 1996).

Motivation to Learn

The motivation to learn scale is a 14-item instrument measuring the extent to which participants believe they are ready to acquire new and more advanced leadership behaviors during developmental challenges (Center for Leadership & Strategic Thinking, 2014). This scale will be measuring the construct of “interest and goals” (Avolio and Hannah, 2008). The authors (Center for Leadership & Strategic Thinking, 2014) adapted the current scale from the Learning Self-Regulation Questionnaire (Ryan & Connell, 1989). The scale consists of two elements: external and internal drive. An example item measuring external drive is “I participate in leadership development because others would think badly of me if I didn’t.” An example item measuring internal drive is “the reason I will continue to broaden my leadership skills is because it’s important to me to do well at this.” Both of these elements can co-exist, but intrinsic drive can have a positive effect on performance, persistence and well-being. The self-report instrument is rated on a 5-point Likert scale ranging from 1 (*Not At All True*) to 5 (*Extremely True*). As

for reliabilities, the external motivation to learn subscale demonstrated a Cronbach's α of .61, while the internal motivation to learn subscale demonstrated a Cronbach's α of .71.

Motivation to Lead

The 15-item motivation to lead instrument has been adapted from the original scale which consisted of 27-items (Chan & Drasgow, 2001). It was used to measure participant's propensity to engage in leadership development activities both inside and outside of work. This scale will be measuring the component of developmental efficacy (Avolio & Hannah, 2008). An example item measuring this construct is "I have a tendency to take charge in most groups or teams that I work in." The self-report measure is rated on a 5-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*). The measure demonstrated good internal consistency reliability, with a Cronbach's α of .87.

Ability to Develop

The following three instruments measure participants' ability to develop.

Awareness of the Way I Think and Learn

This 19-item measure has been adapted by the Center for Leadership & Strategic Thinking (2014) from the original 52-item measure (Schraw & Dennison, 1994) in order to assess participant's metacognitive ability and self-awareness (Avolio & Hannah, 2008). The instrument consists of two factors: regulation of cognition and knowledge of learning. An example item measuring regulation of cognition is "I have control over how well I learn." An example item measuring knowledge of learning is "I am a good judge of how well I understand something." The self-report measure is rated on a 5-point Likert scale ranging from 1 (*Never True*) to 5 (*Always True*). The knowledge of learning

subscale demonstrated a strong Cronbach's α of .80, while the regulation of cognition demonstrated a low Cronbach's α of .57. Together, the combined scales demonstrated a Cronbach's α of .83.

Taking Different Perspectives.

This 7-item subscale of "Perspective-Taking" has been taken from an original 28-item instrument (Davis, 1983) in order to capture DR component of leader complexity (Avolio & Hannah, 2008). An example item measuring this construct is "Before criticizing somebody, I try to imagine how I would feel if I were in their place." The self-report measure is rated on a 5-point Likert scale ranging from 1 (*Not Well at All*) to 5 (*Extremely Well*). This scale demonstrated a Cronbach's α of .75.

Intellectual Openness

This 10-item scale has been taken from the International Personality Item Pool (Goldberg et al., 2006) as an adapted measure from Openness construct in the Six Factor Personality Questionnaire (Jackson, Paunonen, & Tremblay, 2000). These measures correlate well with each other ($r = .70$). This subscale is being used to capture participant's openness to intellectual experiences, as it relates to training success. An example item measuring this construct is "I am interested in many things." The self-report measure is rated on a 5-point Likert scale ranging from 1 (*Not Well at All*) to 5 (*Extremely Well*). The measure demonstrated a Cronbach's α of .67.

Perceived Organizational Support

This 8-item instrument is being used as a moderator to help explain to relationship between participants' developmental readiness and training improvement. This scale has been adapted from the original 16-item measure (Eisenberger & Huntington, 1986), and it

measures the extent to which participants feel they are supported by their organization with their personal endeavors. The self-report measure is rated on a 7-point Likert scale ranging from 0 (*Strongly Disagree*) to 6 (*Strongly Agree*). To make the scale more consistent with the other measures, a scale ranging from 1 to 7 will be used for this study. The measure demonstrated good reliability with a Cronbach's α of .92.

Measure of Trainee Improvement

This scale was developed to capture the personal and professional improvement of trainees over the course of the leadership development program. The items were created based on the content that is used for the state leadership development program. Those in charge of designing the program use "core competencies" that have remained relatively stable over years of the program. In total, participants are given the opportunity to develop eight competencies across the program, and there is a workshop to train on each competency. Therefore, we created eight items to measure the specific improvement for each competency. An example measuring the construct is "I feel I have improved in my competency of Self-Leadership". Definitions of the competencies were included in the scale to remind participants of the workshops. The self-report measure is rated on a 5-point Likert scale ranging from 1 (*To an Extremely Small Extent*) to 5 (*To an Extremely Large Extent*). The measure demonstrated good reliability Cronbach's α of .92.

CHAPTER III: RESULTS

Prior to testing the research questions, the data were cleaned using both logistic regression and data imputation. A total of ten responses were listwise deleted from the dataset due to very partial responses. These responses were deleted because it would not be scientifically accurate to impute that many missing data points. It should also be noted that none of the participants' data needed to be deleted due to incorrect responses on the quality control items. This helps the researchers know that the participants took the survey seriously because they paid close attention to these items.

To account for the rest of the random missing data, data imputation was performed using expectation maximization. This method was chosen because there were only a few missing data points, and the researchers were confident that data imputation would provide the most accurate replacements. After doing so, items and subscales were reverse coded and organized to prepare for statistical analysis.

Then, the reliabilities were examined at the subscale level for each of the scales to be used in the inferential analyses (Table 1). Only one scale demonstrated an alpha below .70, which was intellectual openness ($\alpha = .67$). This scale was still chosen to remain in the analyses because this was an exploratory scale to see if personality plays a role in developmental readiness. Also, this scale has shown good reliability in past research ($\alpha = .80$) (Goldberg et al., 2006).

Another interesting finding is that the Regulation of Learning (RL) subscale of Metacognitive Awareness demonstrated poor reliability ($\alpha = .57$), while the Knowledge of Learning (KL) subscale demonstrated acceptable reliability ($\alpha = .80$). When analyzing

the relationship between these two subscales, they were positively and significantly correlated ($r = .54, p < .01$). Also, the RL subscale was only four items, which can factor into the poor reliability. Therefore, these two subscales were combined for the remainder of the survey as Metacognitive Awareness, which demonstrated an alpha of .83.

Using Microsoft Word, the reading level was analyzed for each scale with the Flesch Reading Ease statistic (Table 2). The purpose of this analysis was to see if the scales with lower reliabilities had a more complex reading level. Most of the scales demonstrated a score over 60, which means that the reading level is equivalent to a 8th and 9th grade level. The only two scales that had a score below 60 were Metacognitive awareness (10th-12th grade level) and Organizational Support (College level). However, these two scales both demonstrated good reliability, which means that reading level did not have an impact on the scale reliabilities.

Table 1
Reliabilities and Reading Levels for Scales

Scale	Cronbach's α	Reading Level
Learning Goal Orientation (LGO)	.79	62.7
Internal Motivation to Learn (IM)	.71	64.5
Motivation to Lead (M2L)	.87	69.5
Metacognitive Awareness (MA)	.83	52.0
Perspective Taking (PT)	.75	66.3
Intellectual Openness (IO)	.67	68.0
Organizational Support (OS)	.92	47.3
Perceived Improvement (PI)	.92	76.5

Next, descriptive statistics were examined for each of the scales being used for the inferential analyses (Table 2). The first six scales are on a five-point Likert scale, while the last two are on a seven-point scale. It is clear that the mean for the LGO subscale is extremely high, and the other scales are also fairly skewed. Because of this, there can be issues of range restriction, which will be discussed later.

Table 2
Descriptive statistics for developmental readiness

Scale	<i>M</i>	<i>SD</i>	<i>N</i>
Learning Goal Orientation (LGO)	4.51	.41	61
Internal Motivation to Learn (IM)	4.06	.53	61
Motivation to Lead (M2L)	3.58	.61	61
Metacognitive Awareness (MA)	3.82	.42	61
Perspective Taking (PT)	3.88	.63	61
Intellectual Openness (IO)	3.98	.47	61
Organizational Support (OS)	5.12	1.31	61
Perceived Improvement (PI)	5.08	1.06	61

After looking at the descriptive statistics, a correlation matrix was developed for the six predictors, moderator, and criterion (Table 3). We are most concerned with whether or not any of the predictors are significantly correlated with Perceived Improvement. Only one predictor, Internal Motivation to Learn, is significantly correlated ($r = .27$) with Perceived Improvement. This means that as participant's scores on IM increase, so will their PI.

Looking at the rest of the matrix, there are some significant relationships between the predictors. For instance, Intellectual Openness is significantly correlated with the other five predictors. Also, Motivation to Lead is significantly correlated with the other

two “Motivation to Develop” scales. This informs the researchers that there is good convergent validity between the scales.

Table 3
Pearson correlations for perceived improvement

	LGO	IM	M2L	MA	PT	IO	OS	PI
Learning Goal Orientation (LGO)	-							
Internal Motivation to Learn (IM)	.22	-						
Motivation to Lead (M2L)	.27*	.26*	-					
Metacognitive Awareness (MA)	.51**	-.06	.42**	-				
Perspective Taking (PT)	.25	.07	.15	.42**	-			
Intellectual Openness (IO)	.44**	.29*	.34**	.35**	.33**	-		
Organizational Support (OS)	.16	.14	.04	.22	.11	.27*	-	
Perceived Improvement (PI)	.12	.27*	.09	.11	.08	.17	.07	-

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

Primary Research Question Testing

Regression analyses were then used to test the three research questions. The first analysis was performed to determine whether or not participant’s scores of developmental readiness predicted their scores of perceived improvement across the program. Before the analysis was run, composite scores of developmental readiness were created by combining the six predictors: Learning Goal Orientation, Internal Motivation to Learn, Motivation to Lead, Metacognitive Awareness, Perspective Taking, and Intellectual Openness. Because each of these constructs were rated on a 5-point Likert scale, a mean score was taken between the six scales to create the composite.

As seen in Table 4, developmental readiness was not found to be a significant predictor of perceived improvement, $\beta = .67$, $t(59) = 1.60$, $p = .116$. The model had an R^2

of .041, meaning that developmental readiness accounts for 4.1% of the variance in perceived improvement.

Table 4

Results of Regression Analysis predicting Perceived Improvement

Variable	<i>t</i>	<i>p</i>	Beta	<i>F</i>	<i>df</i>	<i>p</i>	<i>R</i> ²
Overall model				2.79	59	.116	.041
Developmental Readiness	1.60	.116	.67				

Next, a stepwise regression was performed to test the second research question of whether or not certain scales were stronger predictors of perceived improvement than others. A stepwise regression was chosen because we did not have a theoretical reason to order certain predictors into the equation before others. Therefore, this model allowed us to input all six predictors at once to determine which variables should remain to best predict perceived improvement.

As seen in Table 5, the only scale kept in the model was Internal Motivation to Learn. With this one predictor, the model was found to be significant, $R^2 = 0.07$, $F(1, 59) = 4.44$, $p = .039$. Therefore, internal motivation to learn is a significant predictor of perceived improvement, $\beta = .53$, $t(59) = 2.11$, $p = .039$. The model accounts for 7.0% of the variance in the criterion, which is higher than the model with the composite developmental readiness score. This suggests that it may be more beneficial to simply use internal motivation to learn rather than all six predictors.

Table 5
Results of Stepwise Regression Analysis predicting Perceived Improvement

Variable	<i>t</i>	<i>p</i>	Beta	<i>F</i>	<i>df</i>	<i>p</i>	<i>R</i> ²
Overall model				4.44	59	.039	.070
Internal Motivation to Learn (IM)	2.11	.039	.53				

Next, a moderated regression analysis was performed to test the third research question of whether or not organizational support moderates the relationship between developmental readiness and perceived improvement. To test this, an interaction term was created between developmental readiness and organizational support. Then, two models were run, one without the interaction term and one with the interaction term. As seen in Table 6, the model with the interaction was found to be insignificant, $R^2 = 0.092$, $F(3, 57) = 1.92$, $p = .147$. Also, the interaction term was found to be insignificant, $\beta = .385$, $t(57) = .94$, $p = .349$. Therefore, we can conclude that organizational support does not moderate the relationship between developmental readiness and perceived improvement.

Because internal motivation to learn was a significant predictor of perceived improvement, another moderated regression analysis was performed to see if organizational support moderates that relationship. The analysis informed us that the interaction was insignificant, $\beta = -0.26$, $t(57) = -1.08$, $p = .283$. Therefore, we can conclude that organizational support does not moderate the relationship between internal motivation to learn and perceived improvement.

Table 6

Results of Moderated Regression Analysis predicting Perceived Improvement

Variable	<i>t</i>	<i>p</i>	Beta	<i>F</i>	<i>df</i>	<i>p</i>	<i>R</i> ²
Overall model				1.92	57	.147	.092
Developmental Readiness*Org Support	.944	.349	.385				

Scale-level Statistics

Because of the limited number of significant findings from the inferential statistics, more analyses were done on the individual scales to see if there is reasoning for the results. Specifically, we looked at the skewness, kurtosis, and normality of each of the scales (Table 7). We first wanted to determine if the scale data were normally distributed. To do so, we ran the Shapiro-Wilks test. If the *p* value is significant in this test, then we can conclude that the distribution of the scale is not normally distributed.

If the scale was not normally distributed, then we looked at the skewness and kurtosis statistic. For skewness, a value outside of -1 and 1 indicates that the scale distribution may be negatively or positively skewed. For kurtosis, significance is determined by dividing the kurtosis statistic by the standard error. After doing so, a value outside of -1.96 and 1.96 indicates that the scale distribution may be leptokurtic or platykurtic.

Looking at Table 7, learning goal orientation failed the normality test ($p < .001$), meaning that it is not normally distributed. Also, it is significantly and negatively skewed (-1.10), meaning that left tail is long relative to the right tail. This indicates that the bulk of the values are falling toward the higher end of the scale. Accounting for a standard error of .604, the kurtosis statistic is 1.88, meaning the distribution is close to being

considered leptokurtic, which is a thin distribution. This indicates that the scores are not spread out across the distribution. Overall, the learning goal orientation scale seems to have psychometric issues for the current study.

As for the other scales, there are three that also failed the normality test: motivation to lead ($p = .009$), perspective taking ($p = .029$), and organizational support ($p = .007$). With that being said, none of these scales are considered significantly skewed, and only perspective taking is close to being platykurtic (-1.57). Therefore, we can conclude that the scales seem to have issues of normality, but only one is significantly skewed and “thin”.

Table 7
Tests of Skewness, Kurtosis, and Normality for Scales

	Skewness	Kurtosis	Normality <i>p value</i>
Learning Goal Orientation (LGO)	-1.10	1.14	.000*
Internal Motivation to Learn (IM)	-.12	-.91	.134
Motivation to Lead (M2L)	-.74	.32	.009*
Metacognitive Awareness (MA)	-.13	.26	.921
Perspective Taking (PT)	.19	-.95	.029*
Intellectual Openness (IO)	-.55	.48	.071
Organizational Support (OS)	-.71	.21	.007*
Perceived Improvement (PI)	-.15	-.20	.404

* $p < .05$

Note. Standard error for kurtosis statistic = .604

CHAPTER IV: DISCUSSION

Overall, the findings of this study suggest that of the six components used in the current definition developmental readiness, only internal motivation to learn is a significant predictor of individual perceived improvement across a leadership development program. With that being said, this individual predictor does not account for a lot of variance ($R^2 = 0.07$) in the criterion; therefore, it would not be powerful to use alone.

The findings also suggest that developmental readiness, as a composite score, is not a significant predictor of perceived improvement. It may be more beneficial to look at internal motivation to learn as an individual predictor, rather than combining the six constructs into composite score. Also, it should be noted that the current research only looked at six components of developmental readiness. In the original research (Avolio & Hannah, 2008), the authors suggest that there are other possible constructs that make up developmental readiness, such as developmental efficacy and self-concept clarity. Additionally, it would be beneficial to identify more theoretical concepts for future research.

Lastly, the findings suggest that organizational support does not moderate the relationship between developmental readiness. Once again, this does not mean that there is no possibility of a relationship; rather, it means that the current study may have had poor data. Future research should continue to explore this relationship because it can have important practical implications.

Looking past the findings for the research questions, it should be noted that the scales used for the current study seemed to work well. Almost every scale demonstrated acceptable reliability, and they showed convergent validity with each other in the

correlation matrix. Therefore, future research should continue to use these scales as reliable measures, in hopes that a better designed study will lead to valid inferences.

Another positive finding is that none of the participants' data were excluded due to failure on the quality control items. This shows that the current sample was motivated while taking the survey and that their data should be taken seriously. We are also pleased to have received a 50% response rate from the training program participants. It informs us that the items were interesting, and that using the feedback incentive might be a helpful factor when looking for a higher participation rate.

Diving into the issues of this study, it is obvious that the major problem is restriction of range. Considering that we used a sample of high-potential leaders, it is not surprising that the means for "leadership developmental" scales were very high. It makes sense that half of the scales were not normally distributed and that the learning goal orientation scale was significantly skewed. It would be interesting for future research to explore these scales with a population not consisting of just high-potential leaders. Without variance in the measures, it will be impossible to know if developmental readiness actually has an effect on individual development.

Another notable issue is the validity of the criterion used for the current study. The "perceived improvement" scale was developed by the researchers specifically for the current sample. Due to time constraints, the scale was not validated or pre-tested enough times to be confident in its use. Even though the content of the items make logical sense with the current sample, a better and more objective criterion should be used in future studies.

Limitations

As with most research, the data from this study is limited for a variety of reasons. The first major limitation is the selection of participants. Supervisors from the state of TN are given characteristics to look for when choosing trainees for leadership development. Some of these characteristics include those with high potential and willingness to learn and grow. Therefore, this population may already score higher in the developmental readiness scales leading to a lack of variance in the data. It would be interesting for future research to use a more diverse sample, without only identified leaders, to receive data that is not as restricted in range.

Also, the length of the measure was time-consuming; therefore, this could have affected the participant response rate. A survey taking up to 45 minutes to complete can be part of the reason for incomplete surveys leading to a decrease in participant data to be analyzed. There were ten responses that were listwise deleted because of partial response, and there was another 40% of participants that didn't attempt the survey. Even though this was a limitation, it was unavoidable for the current study.

The most impactful limitation is the lack of pre-test data in the study. Because the idea for this study was developed after the leadership development program began, we were unable to collect any data on participant's leadership capabilities before program start. Therefore, participant improvement cannot be concluded with a high degree of power based on retrospective pre-test scores. However, the purpose of this study was not to significantly draw these conclusions; the purpose was to gain insight into the determination of whether there is a relationship between developmental readiness and individual development.

Another limitation is the possibility of unknown predictors not being used in the study. Even though including six variables as predictors seems comprehensive for this study, other constructs should be identified to account for more variance in the criterion. In the current study, a few variables were left out from the original report (Center for Leadership & Strategic Thinking, 2014) used to design our survey. These were Leadership Self-Confidence, Emotional Regulation, and Self-Concept Clarity. Due to the length of the survey and a detailed lit review, we felt the current six predictors fit the model best. However, we strongly encourage future research to investigate the possibility of other constructs better fitting this model of developmental readiness.

Conclusions and Future Research

Research does suggest that trainee motivation to learn does have a relationship with their declarative knowledge and skill acquisition (Bauer, Orvis, Ely & Surface, 2015). Because of that, the researchers feel confident that this area should still be explored even though there are few significant findings from the current research. This study does however inform us that the scales worked and that there is at least one construct that has a significant impact on the criterion. We also know that offering feedback may help gain participation from a leadership-oriented sample.

We strongly suggest that future research use a more valid and objective criterion to measure improvement at a learning, performance, and transfer of knowledge level. We also suggest that this criterion be used as a pre and posttest variable with the incorporation of feedback after the pretest. This will help determine the usefulness of providing participants feedback before entering a developmental experience. We also believe it would be beneficial to use a more diverse sample than leadership-oriented

participants. This will allow for more variance on the scales to determine the true effect of developmental readiness. Lastly, we encourage future research to explore more theoretically-sound predictors. Although we believe the constructs used in the current study are important, we are confident that developmental readiness consists of a wide variety of concepts that may be dependent on the population that is being studied.

REFERENCES

- Ainley, M. D. (1998). *Interest in learning in the disposition of curiosity in secondary students: Investigating process and context*. In L. Hoffmann, A. Krapp, K. Renninger, & J. Baumert (Eds.), *Interest and learning: Proceedings of the Seeon Conference on interest and gender* (pp. 257-266). Kiel, Germany: IPN.
- Avolio, B. J., & Luthans, F. (2006). *The high impact leader: Moments matter in accelerating authentic leadership development*. New York: McGraw-Hill.
- Avolio, B. J., & Hannah, S. T. (2008). Developmental readiness: accelerating leader development. *Consulting Psychology Journal*, 60(4), 331–347.
<https://doi.org/10.1037/1065-9293.60.4.331>
- Avolio, B. J., Reichard, R. J., Hannah, S. T., Walumbwa, F. O., & Chan, A. (2009). A meta-analytic review of leadership impact research: Experimental and quasi-experimental studies. *The Leadership Quarterly*, 20, 764–784.
<https://doi.org/10.1016/j.leaqua.2009.06.006>
- Bauer, K. N., Orvis, K. A., Ely, K., & Surface, E. A. (2016). Re-examination of motivation in learning contexts: Meta-analytically investigating the role type of motivation plays in the prediction of key training outcomes. *Journal of Business and Psychology*, (1), 33.
- Black, H., Soto, L., & Spurlin, S. (2016). Thinking about thinking about leadership: Metacognitive ability and leader developmental readiness. *New Directions for Student Leadership*, 149, 85–95. Retrieved from
<http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=113138456&S=R&D=aph&EbscoContent=dGJyMMTo50Sep7U4v%2BvlOLCmr1Cep65SsKq4S7a>

WxWXS&ContentCustomer=dGJyMPGqtE%2Bwqq5OuePfgeyx43zx

- Button, S. B., Button, S. B., Mathieu, J. E., Mathieu, J. E., Zajac, D. M., & 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>
- Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavalee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, *70*(1), 141–156. Retrieved from <http://www2.psych.ubc.ca/~heine/docs/1996scc.pdf>
- Chan, K.-Y., & Drasgow, F. (2001). Toward a theory of individual differences and leadership: understanding the motivation to lead. *Journal of Applied Psychology*, *86*(3), 481–498. <https://doi.org/10.1037//0021-9010.86.3.481>
- Culbertson, S. S., & Jackson, A. T. (2016). Orienting oneself for leadership: The role of goal orientation in leader developmental readiness. *New Directions for Student Leadership*, *149*, 61–71. Retrieved from <http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=113138458&S=R&D=aph&EbscoContent=dGJyMNxb4kSep7M4v%2BvIOLCmr1Cep7RSsaa4SrK>
WxWXS&ContentCustomer=dGJyMPGqtE%2Bwqq5OuePfgeyx43zx
- Davis, M. H. (1983). A multidimensional approach to individual differences in empathy. *Journal of Personality and Social Psychology*, *44*(1), 113–126. <https://doi.org/10.1037/0022-3514.44.1.113>
- Dragoni, L., Tesluk, P. E., & Russell, J. E. A. (2009). Understanding managerial development: integrating developmental assignments, learning orientation, and

access to developmental opportunities in predicting managerial competencies.

Academy of Management Journal, 52(4), 713–742. Retrieved from

<http://content.ebscohost.com.ezproxy.mtsu.edu/ContentServer.asp?T=P&P=AN&K=43669936&S=R&D=bth&EbscoContent=dGJyMMTo50Sep7Q4y9fwOLCmr1Cep7VSr6m4SK%2BWxWXS&ContentCustomer=dGJyMPGqtE%2Bwqq5OuePfgeyx43zx>

Eisenberger, R. & Huntington, R. (1986). Perceived organizational support. *Journal of Applied Psychology*. <https://doi.org/10.1037/0021-9010.75.1.51>

Godshalk, V. M., & Sosik, J. J. (2003). Aiming for career success: the role of learning goal orientation in mentoring relationships. *Journal of Vocational Behavior*, 63, 417–437. [https://doi.org/10.1016/S0001-8791\(02\)00038-6](https://doi.org/10.1016/S0001-8791(02)00038-6)

Hannah, S. T., & Avolio, B. J. (2010). Ready or not: How do we accelerate the developmental readiness of leaders? *Journal of Organizational Behavior*, 31, 1181–1187. Retrieved from

<http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=59235130&S=R&D=bth&EbscoContent=dGJyMNLr40Sep7I4v%2BvIOLCmr1Cep7NSsKe4TLsWxWXS&ContentCustomer=dGJyMPGqtE%2Bwqq5OuePfgeyx43zx>

Hannah, S. T., Avolio, B. J., Luthans, F., & Harms, P. D. (2008). Leadership efficacy: review and future directions. *The Leadership Quarterly*, 19, 669–692.

<https://doi.org/10.1016/j.leaqua.2008.09.007>

Hidi, S., & Harackiewicz, J. M. (2000). Motivating the academically unmotivated: A critical issue for the 21st century, 70(2), 151–179. Retrieved from

<http://journals.sagepub.com.ezproxy.mtsu.edu/doi/pdf/10.3102/00346543070002151>

- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692–724.
<https://doi.org/10.2307/256287>
- Keating, K., Rosch, D., & Burgoon, L. (2014). Developmental readiness for leadership: the differential effects of leadership courses on creating "ready, willing, and able" leaders. *Journal of Leadership Education*, 13(3), 1–16.
<https://doi.org/10.12806/V13/I3/RF1>
- Lacerenza, C. N., Reyes, D. L., Marlow, S. L., Joseph, D. L., & Salas, E. (2017). Leadership training design, delivery, and implementation: a meta-analysis. *Journal of Applied Psychology*, 102(12), 1686–1718. Retrieved from
<http://content.ebscohost.com.ezproxy.mtsu.edu/ContentServer.asp?T=P&P=AN&K=2017-32276-001&S=R&D=pdh&EbscoContent=dGJyMNHr7ESep7M4v%2BbwOLCmr1Cep7F5s6%2B4TLGWxWXS&ContentCustomer=dGJyMPGqtE%2Bwqq5OuePfgex43zx>
- Lievens, F., Harris, M. M., Keer, E. Van, & Bisqueret, C. (2003). Predicting cross-cultural training performance: The validity of personality, cognitive ability, and dimensions measured by an assessment center and a behavior description interview. *Journal of Applied Psychology*, 88(3), 476–489. <https://doi.org/10.1037/0021-9010.88.3.476>
- Luthans, F., & Avolio, B. J. (2003). Authentic leadership development. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), *Positive organizational scholarship* (pg. 241-258). San Francisco: Berrett-Koehler.

- Murphy, S. E., & Johnson, S. K. (2016). Leadership and Leader Developmental Self-Efficacy: Their Role in Enhancing Leader Development Efforts Background on Self-Efficacy. *New Directions for Student Leadership*, (149), 73–84.
<https://doi.org/10.1002/yd.20163>
- Reichard, R. J., Walker, D. O., Putter, S. E., Middleton, E., & Johnson, S. K. (2017). Believing is becoming: The role of leader developmental efficacy in leader self-development. *Journal of Leadership and Organizational Studies*, 24(2), 137–156.
<https://doi.org/10.1177/1548051816657981>
- Schraw, G., & Dennison, R. S. (1994). Assessing metacognitive awareness. *Contemporary Educational Psychology*, 19(4), 460-475.
<https://doi.org/10.1006/ceps.1994.1033>
- Showry, M., & Manasa, V. L. (2014). Self-awareness-Key to effective leadership. *IUP Journal of Soft Skills*, 8(1), 15–26. Retrieved from
<http://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=96669053&S=R&D=bth&EbscoContent=dGJyMNLe80Sep7Q4v%2BvIOLCmr1Cep7NSsam4TbeWxWXS&ContentCustomer=dGJyMPGqtE%2Bwqq5OuePfgex43zx>
- Wen, M. L.-Y., & Lin, D. Y.-C. (2014). How supportive transfer climate affects individual's motivation to training transfer. *International Journal of Learning and Development*, 4(1), 83. <https://doi.org/10.5296/ijld.v4i1.5074>
- Zumrah, A. R., Boyle, S., & Fein, E. (2012). The moderating effect of perceived organizational support on the relationship between learning and transfer of training. *Asia Pacific Business Research Conference*.

APPENDICES

Appendix A: Participant Solicitation Flyer

Research Participants Needed

Study Title: Who's Ready to Lead? The impact of Developmental Readiness on a Leadership Development Program
 Protocol ID 19-2052 Approval 10/12/2018 Expiration 10/31/2021

Study Description & Purpose

The current study is investigating the relationship between developmental readiness of leadership trainees and leadership skill development. Participants of the study will be sent a link to an online survey consisting of scales related to leadership development. The survey will take about 40-60 minutes, and participants have the ability to leave the survey and come back to it at a later time. The data obtained from this research will remain completely confidential, and the data will be stored by MTSU faculty member, Dr. Richard Moffett.

Target Population

The targeted participant pool for this research is leadership development trainees enrolled in the current LEAD TN program. Through conversations with the Directors of LEAD TN, they have allowed us to solicit participation from their program.

Risk & Benefits

Other than time commitment, the only other expected cost is mental effort to reflect back on your personal experiences to provide accurate responses.

One benefit is that you will be providing important data for the progress of leadership development research. You will also be providing information that can help LEAD TN develop their program to benefit future trainees.

Another benefit is that you will be given the opportunity to receive developmental feedback on your readiness for leadership development. If you decide you want the report, you will be prompted to enter the email address you would like the report to be sent to. You will receive the report within three to four weeks of the closing of the survey from Dr. Moffett's email. If you have questions or concerns about the report, you will be given Dr. Moffett's contact information for further inquiry. Participation in this opportunity is voluntary.

Additional Information

As potential compensation for participation, you will be given the opportunity to enter into a drawing which gives you a 10% chance of winning a \$30 Amazon gift card. At the end of the survey, you will be directed to a different survey to enter your email address so you may be contacted about the results of the drawing. Participation in this opportunity is voluntary.

Contact Information

Benjamin Chartoff
 bc4x@mtmail.mtsu.edu
 (502) 387-8942

Dr. Richard Moffett, rick.moffett@mtsu.edu, (615) 898-2686

Institutional Review Board, Middle Tennessee State University
 2269 Middle Tennessee Blvd, Room 010A, Murfreesboro, TN 37132
 Tel 615 494 8918 | Email: irb_information@mtsu.edu | www.mtsu.edu/irb

Appendix B: Survey Link Email

Dear LEAD TN Member,

As was discussed at Summit 5, you are being given the opportunity to participate in leadership research from members at the MTSU Psychology Department, Benjamin Chartoff and Dr. Richard Moffett.

The researchers' primary goal is to investigate the relationship between developmental readiness and leadership development. To do so, they ask that you provide honest and accurate responses in the questionnaire. As a potential benefit for your participation, you will have the opportunity to receive feedback on your results. In addition, you will have a 10% chance to win a \$30 Amazon gift card. These opportunities will be described in greater detail in the informed consent at the beginning of the survey.

To protect the confidentiality of your survey data, *no one from the State of Tennessee will see your responses or will have access to the individual data*. The researchers will report the results in an aggregated form that will prevent any participants from being personally identified.

Should you have any questions about the survey, please feel free to contact Benjamin Chartoff via email at bc4x@mtmail.mtsu.edu or Dr. Richard Moffett at rick.moffett@mtsu.edu or (615) 898-2686.

Please know that we value your input and thank you for your time. Follow the link below to access the survey:

https://mtsupsychology.az1.qualtrics.com/jfe/form/SV_885tn8QOFlrj8k5

Note: The survey will open October 24th, 2018 and close November 13th, 2018 so your prompt response is greatly appreciated.

Sincerely,

Antonio Q. Meeks, M.Ed. | Talent Management Administrator
Strategic Learning Solutions
William R. Snodgrass Building, 17th Floor
312 Rosa L. Parks Avenue
Nashville, TN 37243

Appendix C: Informed Consent

IRBF024 – Participant Informed Consent (ONLINE)

Language to be used for online surveys that qualify for “no more than minimal risk”

Primary Investigator: Benjamin Chartoff

PI Department & College: MTSU Psychology Department

Faculty Advisor (if PI is a student): Dr. Richard Moffett

Protocol Title: Who's Ready to Lead? The impact of Developmental Readiness on a Leadership Development Program

Protocol ID: 19-2052

Approval Date: 10/12/2018

Expiration

Date: 10/31/2021

Information and Disclosure Section

1. **Purpose:** This research project is designed to help us evaluate the developmental readiness of leadership trainees and leadership skill development. The Tennessee Department of Human Resources has an ongoing relationship with the MTSU Industrial/Organizational Program, and they have allowed us to engage in this important field of research using LEAD TN.

2. **Description:** There are several parts to this project. They are:

- You will first be asked to agree to the informed consent.
- You will then be asked to complete a questionnaire consisting of 8 different scales related to leadership development and various demographic questions.
- You will then be given the opportunity to receive developmental feedback on your readiness for leadership development. If you decide you want the report, you will be prompted to enter the email address you would like the report to be sent to. You will receive the report within three to four weeks of the closing of the survey from Dr. Moffett's email. If you have questions or concerns about the report, you will be given Dr. Moffett's contact information for further inquiry. Participation in this opportunity is voluntary.
- Finally, you will be given the opportunity receive compensation for your participation, which is described more below.

3. **Duration:** The whole activity should take about 40-60 minutes. You should only complete the questionnaire once; however, you can leave the questionnaire and return to it at any time within the dates of data collection. Because of that, feel free to take breaks from the survey and finish it in multiple sittings.

PLEASE NOTE: If you decide to take the survey in multiple sittings, please be sure to allow your computer to place “cookies” onto your browser so it saves your responses. Also, you must use the same computer if you are coming back to the survey at a later time.

Here are your rights as a participant: (MANDATORY)

- Your participation in this research is voluntary. You may skip any item that you don't want to answer, and you may stop the experiment at any time (but see the note below) If you leave an item blank by either not clicking or entering a response, you may be warned that you missed one, just in case it was an accident. But you can continue the study without entering a response if you didn't want to answer any questions. Some items may require a response to accurately present the survey.

4. Risks & Discomforts:

There are no foreseeable risks, discomforts, or inconveniences associated with participation in this study. None of the measures present more than a minimal risk to participants. None of the data would reasonably place participants at risk of criminal or civil liability or be damaging to participants' financial standing, employability, insurability, reputation, or be stigmatizing.

5. Benefits:

One benefit is that you will be providing important data for the progress of leadership development research. You will also be providing information that can help LEAD TN develop their program to benefit future trainees.

6. Identifiable Information: The information that you provide will be used to inform the researchers of the relationship between developmental readiness and leadership development. The directors of LEAD TN will also be given a summary report detailing the main results of the study. They will not receive any names, emails, or other personally identifying information. After the personal and confidential reports have been distributed to those participants choosing to receive feedback, the data will be de-identified by removing all personal identifying information so that individual responses cannot be identified in the data. Therefore, it can be ensured that your data will remain confidential.

7. Compensation:

As potential compensation for participation, you will be given the opportunity to enter into a drawing which gives you a 10% chance of winning a \$30 Amazon gift card. At the end of the survey, you will be directed to a different survey to enter your email address so you may be contacted about the results of the drawing. Participation in the opportunity is voluntary.

8. Confidentiality. All efforts, within reason, will be made to keep your personal information private but total privacy cannot be promised. Your information may be shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board, Federal Government Office for Human Research Protections, if you or someone else is in danger or if we are required to do so by law.

9. Contact Information. If you should have any questions about this research study or possibly injury, please feel free to contact Ben Chartoff by telephone, (502)387-8942, or by email, bc4x@mtmail.mtsu.edu, OR my faculty advisor, Dr. Richard Moffett, at

rick.moffett@mtsu.edu or (615) 898-2686. You can also contact the MTSU Office of compliance via telephone (615 494 8918) or by email (compliance@mtsu.edu). This contact information will be presented again at the end of the experiment.

Appendix D: Survey Scales

Survey Scales

Below, you will find the scales that make up the entirety of our survey. Including questions about demographics, there will be 100 overall questions.

Demographics

1. What is your ethnicity/race?
 - a. Male
 - b. Female
2. What is your ethnicity
 - a. White
 - b. Hispanic or Latino
 - c. Black or African American
 - d. Native American or American Indian
 - e. Asian/Pacific Islander
 - f. Other
3. How many years have you worked for the state of TN?
 - a. 0-5
 - b. 5-10
 - c. 10-15
 - d. 15-20
 - e. 20-25
 - f. Over 25

Goal Orientation (Button, Mathieu & Zajac, 1996)

Please indicate on a scale from 1(Strongly Disagree) to 5 (Strongly Agree).

1. I prefer to do things that I can do well rather than things that I do poorly.
2. I'm happiest at work when I perform tasks on which I know that I won't make any errors.
3. The things I enjoy the most are the things I do the best.
4. The opinions others have about how well I can do certain things are important to me.
5. I feel smart when I do something without making any mistakes.
6. I like to be fairly confident that I can successfully perform a task before I attempt it.
7. I like to work on tasks that I have done well in the past.
8. I feel smart when I can do something better than most other people.
9. The opportunity to do challenging work is important to me.
10. When I fail to complete a difficult task, I plan to try harder the next time I work on it.
11. I prefer to work on tasks that force me to learn new things.
12. The opportunity to learn new things is important to me.
13. I do my best when I'm working on a fairly difficult task.
14. I try hard to improve on my past performance.

15. The opportunity to extend the range of my abilities is important to me.
16. When I have difficulty solving a problem, I enjoy trying different approaches to see which one will work.

Motivation to Learn (Ryan & Connell, 1989)

Using a scale from 1 (not at all true) to 5(very true), please indicate how true each reason is for you. I will actively participate in leader self-development because...

1. I feel like it's a good way to improve my skills and my understanding of leadership.
2. Others would think badly of me if I didn't.
3. Learning to lead well is an important part of my career.
4. I would feel bad about myself if I didn't study leadership.
5. I would get a bad performance rating if I didn't do my supervisor suggests.
6. I believe my supervisor's suggestions will help me develop effectively.
7. My supervisor seems to have insight about how best to learn about leadership.
8. It's easier to follow my supervisor's suggestions than come up with my own leadership self-development strategies.
9. I would probably feel guilty if I didn't comply with my supervisor's suggestions.
10. It's important to me to do well at this.
11. It's interesting to learn more about the nature of leadership.
12. I would feel proud if I continued to improve at leading.
13. It's a challenge to really understand how to solve leadership problems.
14. I want others to see that I am a good leader.

Motivation to Lead (Chan & Drasgow, 2001)

Please read each statement below carefully and choose the one answer that best describes your agreement or disagreement using the scale 1 (strongly disagree) to 5 (strongly agree).

1. I am definitely not a leader by nature.
2. Most of the time, I prefer being a leader rather than a follower when working in a group.
3. I have a tendency to take charge in most groups or teams that I work in.
4. I am in my element when leading others.
5. I have always thought of myself as a leader.
6. I am the type of person who is not interested in leading others.
7. I believe I can contribute more to a group if I am a follower rather than a leader.
8. I am the type of person who likes to be in charge of others.
9. I see myself succeeding at leadership challenges.
10. I usually want to be the leader in the groups that I work in.
11. I know exactly what it takes to lead others.
12. I am the type who would actively support a leader but prefers not to be appointed as leader.
13. I was born to lead.
14. I am seldom reluctant to be the leader of a group.
15. I have the characteristics that people associate with leadership.

Awareness of the Way I Think and Learn (Metacognitive Ability) (Schraw & Dennison, 1994).

Please respond to the below items by indicating how true or false each statement is about you on a scale from 1 (never true) to 5 (always true).

1. I try to use strategies that have worked in the past.
2. I understand my intellectual strengths and weaknesses.
3. I know what kind of information is most important to learn.
4. I ask myself if I have considered all options when solving a problem.
5. I am good at organizing information.
6. I have a specific purpose for each strategy I use.
7. I learn best when I know something about the topic.
8. I know what the trainer expects me to learn.
9. I am good at remembering information.
10. I use different learning strategies depending on the situation.
11. I have control over how well I learn.
12. I periodically review to help me understand important relationships.
13. I summarize what I've learned after I finish.
14. I can motivate myself to learn when I need to.
15. I am aware of what strategies I use when I study.
16. I find myself analyzing the usefulness of strategies while I study.
17. I use my intellectual strengths to compensate for my weaknesses.
18. I am a good judge of how well I understand something.
19. I find myself using helpful learning strategies automatically.

Taking Different Perspectives (Davis, 1980)

Please indicate how well each following item describes you on a scale from 1 (does not describe me well) to 5 (describes me very well).

1. Before criticizing somebody, I try to imagine how I would feel if I were in their place.
2. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.
3. I sometimes try to understand my friends better by imagining how things look from their perspective.
4. I believe that there are two sides to every question and try to look at them both.
5. I sometimes find it difficult to see things from the "other guy's" point of view.
6. I try to look at everybody's side of a disagreement before I make a decision.
7. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

Intellectual Openness (Goldberg et al., 2006)

Please indicate how well each following item describes you on a scale from 1 (Not well at all) to 5 (Extremely Well).

1. I carry the conversation to a higher level.
2. I am interested in many things.
3. I prefer variety to routine.
4. I want to increase my knowledge.
5. I am open to change.
6. I prefer to stick with things that I know.
7. I am not interested in abstract ideas.
8. I am not interested in theoretical discussions.
9. I try to avoid complex people.
10. I rarely look for a deeper meaning in things.

Perceived Organizational Support (Eisenberger et al., 1986)

Listed below and on the next several pages are statements that represent possible opinions that YOU may have about working at _____. Please indicate the degree of your agreement or disagreement with each statement by filling in the circle on your answer sheet that best represents your point of view about _____. Please choose from the following answers:

0	1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. The organization values my contribution to its well-being.
2. The organization fails to appreciate any extra effort from me. (R)
3. The organization would ignore any complaint from me. (R)
4. The organization really cares about my well-being.
5. Even if I did the best job possible, the organization would fail to notice. (R)
6. The organization cares about my general satisfaction at work.
7. The organization shows very little concern for me. (R)
8. The organization takes pride in my accomplishments at work.

**Note: "R" means the item is reverse-coded.*

Measure of Trainee Improvement

During LEAD TN, you were trained on various competencies related to leadership. Below, you will find descriptions of these competencies. Do your best to reflect back over the course of LEAD TN and rate yourself on a scale from 1 (To an Extremely Small Extent) to 7 (To an Extremely Large Extent) on how you have developed such competencies.

To what extent do you feel you have improved in you competency of...

1. **Self-Leadership:** Developing a sense of who one is, what is one's ability, what is one's vision coupled with the ability to effectively communicate, manage emotions and model the way in reaching one's potential
2. **Integrity & Trust:** Takes responsibility for personal actions, follows through on commitments, and instills confidence that all words and actions are the truth
3. **High Performing:** Sets a high standard that represents the organization in the best light to both internal and external customers and produces results that exceed expectations
4. **Courageous:** Demonstrates understanding of concerns; takes responsibility and addresses them with fortitude and composure
5. **Talent Focused:** Demonstrates the ability to create an environment that encourages outstanding individual performance from each employee
6. **Customer Focused:** Places the customer at the center of strategic and operational planning
7. **Innovative:** Demonstrates flexible thinking while producing creative thought processes; open to suggestions of others
8. **Mission-Driven:** Demonstrates through actions, absolute clarity as to the purpose of the organization

Appendix E: Incentive Emails

Amazon Incentive Winners Email

SUBJECT LINE: Result of Incentive Drawing for MTSU Leadership Research Study

Dear LEAD Tennessee Participant,

Recently, you participated in leadership research from members at the MTSU Psychology Department; Benjamin Chartoff and Dr. Richard Moffett. First, we want to thank you for taking the time to complete the survey. The information you provided in the survey will greatly benefit our research.

Second, you are receiving this email because you were one of participants who entered into and were randomly drawn to win the \$30 Amazon Gift Card Drawing.

You will soon receive an email from Amazon with your \$30 Amazon egift card.

Should you have any questions about the survey or the drawing, please feel free to contact Benjamin Chartoff via email at bc4x@mtmail.mtsu.edu or Dr. Richard Moffett at rick.moffett@mtsu.edu or (615) 898-2686.

Sincerely,

Rick Moffett

Richard G. Moffett III, Ph.D.
Professor
Department of Psychology, Middle Tennessee State University
Office phone: 615.898.2686
Email: Rick.Moffett@mtsu.edu
Jones Hall 324

Amazon Incentive Email – those not selected to receive incentive

SUBJECT LINE: Result of Incentive Drawing for MTSU Leadership Research Study

Dear LEAD Tennessee Participant,

Recently, you participated in leadership research from members at the MTSU Psychology Department, Benjamin Chartoff and Dr. Richard Moffett. First, we want to thank you for taking the time to complete the survey.

Second, you are receiving this email because you participated in the drawing for a \$30 Amazon Gift Card. We regret to inform you that you were not randomly selected as one of the winners.

We thank you again for your participation. The information you provided in the survey will greatly benefit our research.

Should you have any questions about the survey or the drawing, please feel free to contact Benjamin Chartoff via email at bc4x@mtmail.mtsu.edu or Dr. Richard Moffett at rick.moffett@mtsu.edu or (615) 898-2686.

Sincerely,

Rick Moffett

Richard G. Moffett III, Ph.D.
Professor
Department of Psychology, Middle Tennessee State University
Office phone: 615.898.2686
Email: Rick.Moffett@mtsu.edu
Jones Hall 324

Appendix F: Feedback Scores Sheet

CONFIDENTIAL

Leadership Readiness Scale Scores Sheet for

john.doe@gmail.com

Below you will find your Leadership Readiness Scores for each individual scale. Your score was compared to the overall group mean. You will fall into either the top, middle, or bottom third of the overall group. Please reference the “Leadership Readiness Feedback Report” to interpret these scores.

Motivation to Develop Scores

Goal Orientation

Performance Goal Orientation	Learning Goal Orientation
Bottom third compared to your peers	Bottom third compared to your peers
Learning orientation is higher than performance orientation	

Motivation to Learn

External Drive	Internal Drive
Bottom third compared to your peers	Top third compared to your peers
Internal motivation to learn is higher than external motivation to learn	

Motivation to Lead

Bottom third compared to your peers

Ability to Develop Scores

Taking Different Perspectives

Top third compared to your peers

Awareness of the Way I Think and Learn (Metacognitive Awareness)

Regulation of Cognition	Knowledge of Learning
Bottom third compared to your peers	Bottom third compared to your peers

Appendix G: Standardized Feedback Report



Leadership Readiness Feedback Report

Adapted with permission from Dr. Bruce Avolio at the Center for Leadership and Strategic Thinking at the University of Washington (2014)

Table of Contents

Introduction.....	3
Developmental Readiness.....	4
Motivation to Develop as a Leader.....	5
Goal Orientation.....	5
Tips for enhancing and balancing goal orientation:	7
Motivation to Learn.....	8
Tips for developing your internal motivation to learn:.....	9
Motivation to Lead.....	10
Tips for increasing your motivation to lead:	10
Ability to Develop as a Leader	11
Taking Different Perspectives.....	11
Tips for developing your ability to take different perspectives:.....	11
Awareness of the Way I Think and Learn.....	12
Tips for strengthening your awareness of the way you think and learn:	13

Introduction

The researchers at Middle Tennessee State University have adapted leadership theory and practice from prominent researchers, Bruce Avolio and Sean Hannah (2008). This theory is known as leader *Developmental Readiness*, and you have recently been asked to participate in an assessment of your developmental readiness. This report includes details of each component of the survey and tips for developing such characteristics. This information has been adapted from the Center for Leadership and Strategic Thinking (CLST) (2014).

Interpreting Your Leadership Readiness Scale Scores

The accompanying “Leadership Readiness Scales Scores Sheet” compares your individual results to the average scores for the group.

For each scale, you will be informed of which “third” your individual score falls into by comparison to the group mean. You will either be in the top, middle, or bottom third of the group.

Your Performance Goal Orientation and External Motivation to Learn scores ideally should be low, and it is therefore more desirable for them to fall into the bottom third. If any of these scores fall into the top third, follow the tips on how decrease these characteristics.

For all the remaining scales, it is ideal for the score to be high, and it is more desirable to fall into the top third. If your score falls into the bottom third for these scales, consider the tips offered in this report on how to increase these characteristics.

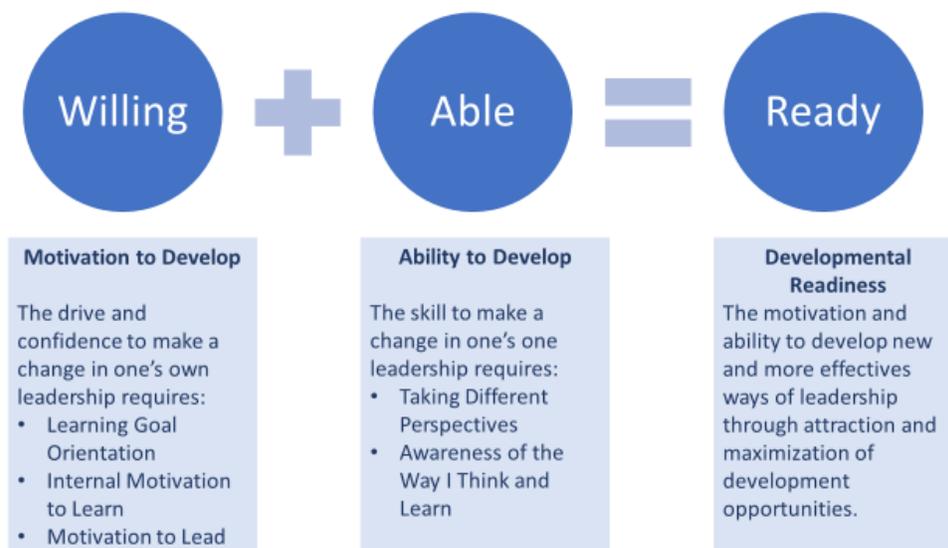
Your scores in this report are based on self-report data. As you read through the report, ask yourself if the scores still make sense to you now. Please focus on what is meaningful and resonates for you about each of the key concepts reviewed in this report and what you feel you are developmentally ready to take on.

Important

Please understand that these scales and this research is exploratory. It cannot be overstated that your scores on this assessment should be taken as suggestions. You should not feel as if your leadership skills are in question. Rather, look at this report as an opportunity to evaluate where you are on your leadership journey and how you can develop moving forward. If you do not agree with some of the scores in this report, there is nothing wrong with that.

If you have any questions or concerns, please do not hesitate to reach out to Dr. Richard Moffett at rick.moffett@mtsu.edu or at (615) 898-2686. Our goal in this research is to ensure that you are given best possible opportunity to develop as a leader.

Developmental Readiness



Evidence shows that any two individuals with similar characteristics entering in the same experience, such as a stretch-assignment or other developmental challenge, may benefit to different degrees in terms of leadership development gained. We have discovered that one underlying reason for differences in the positive impact of leader development experiences on two similar individuals is that Developmental Readiness can differ dramatically from one person to another.

Developmental Readiness (DR) involves both the ability and motivation to focus on, make meaning of, and develop new and more complex ways of thinking that positions you to more effectively assume and develop through leadership roles. DR is not fixed at any point in one's lifetime; rather it can be enhanced in a variety of ways that can help accelerate positive leadership development. This report will give you valuable insights into where you currently are on the DR continuum.

As depicted in the framework above, two main factors have been identified that contribute to an individual's DR - motivation to develop and ability to develop. These factors and their components are explained in the following pages. All of the DR measures predict leadership development and performance.

Motivation to Develop as a Leader

Motivation to Develop as a Leader is comprised of three sub-factors:

Learning Goal Orientation
Internal Motivation to Learn
Motivation to Lead

Goal Orientation

Some individuals take on leadership challenges with the primary goal of simply being successful in terms of achieving a high level of performance. Others take on challenges with the primary goal of leveraging the opportunity to learn something that can facilitate their development and capacity for increasingly demanding challenges. In order to learn and develop greater leadership proficiency, an individual must be willing to experiment with different ways of thinking and behaving. He or she must also be willing to operate outside his or her 'comfort zone' where performance, in the short run, is sub-optimal. One's dominant goal orientation influences both the types of challenges developing leaders pursue and undertake as well as their likelihood of taking developmentally important risks during the challenge.

Performance Goal Orientation (Desired to be lower scoring)

Performance Goal Orientation (PGO) refers to the extent to which you place a high priority on successful performance and on being viewed as competent. People with a high PGO tend to emphasize the successful accomplishment of results and tend to avoid taking developmentally important risks. While a moderate degree of PGO is desirable, research suggests that individuals with a high PGO often avoid challenges and demonstrate greater risk aversion to experimenting with new ways of thinking and behaving in leadership situations. They also may strive to outperform colleagues and in so doing, fail to share or exchange resources such as information or support with others. In addition, in certain situations, they may be more inclined to cheat in order to appear competent. Further, they may experience a deterioration of motivation and performance in the face of obstacles. Thus, high PGO is not optimally conducive to leadership development.

Example item:

"I'm happiest at work when I perform tasks on which I know that I won't make any errors."

Learning Goal Orientation

Learning Goal Orientation (LGO), also called mastery goal orientation, refers to the extent to which you desire to learn from challenges and are concerned with developing your competence, sometimes even at the expense of performing sub-optimally in the short-term.

A high LGO score usually indicates that an individual seeks out challenging tasks and continues to strive under difficult conditions. People with high LGO are willing to experiment and to cast themselves as a learner who may need support and developmental resources, rather than as a fully expert leader. During conflicts, they have been shown to do a better job integrating contradictory perspectives as compared to people with low LGO.

People who score higher on LGO have also been shown to be more resilient in response to increases in workload because they see this challenge as an opportunity to develop rather than as a threat to performance. They equate success with effort and persistence rather than with how the product or their competence is evaluated by others. People with a higher LGO accelerate their development as leaders; therefore, developing higher LGO will enhance a leader's developmental readiness to enter into and take on more challenges as a leader.

Example item:

"I prefer to work on tasks that force me to learn new things."

Learning goal orientation and performance goal orientation are not mutually exclusive. A person can simultaneously strive to improve skills and perform well relative to others. However, holding both orientations at equally high levels creates internal tension and one orientation is usually dominant.

If your LGO score is higher than your PGO score, you are well-positioned to engage in development activities outside your 'comfort zone.' If your PGO and LGO scores are close to each other, you may experience some conflict between being willing to make mistakes in the interest of learning and being concerned about taking on too challenging a task at the cost of lowering your performance results. If your PGO score is higher than your LGO score and higher than the benchmark average, learning from leadership challenges may be more challenging for you.

Tips for enhancing and balancing Goal Orientation:

To reduce your performance goal orientation:

Select leadership development areas to experiment with that are not high-risk in terms of your performance or projected competence. Seek out a mentor, sponsor or coach you can trust to discuss leadership challenges and performance/learning tradeoffs. You may wish to choose someone outside your current organization if you feel too vulnerable to discuss developmental needs with people higher up in your current organization. Take on leadership roles in volunteer settings where the consequences of suboptimal performance are not as great as in your employment situation.

To boost your learning goal orientation:

Select an area of leadership you want to develop and can observe in others, such as how they communicate important goals, solicit feedback, handle conflict, lead up, etc. You can begin to enter a more learning-oriented mode by vicariously learning through others who are actively taking learning risks. Identify a behavior or skill that you want to develop through practice and then look for opportunities to safely explore new thinking and behavior. Treat this as an experiment you plan, monitor and revise. Keep a journal of your learning experience.

Take time to reframe difficult situations for yourself or with the assistance of a mentor or coach in order to shift your view to see the challenge as an opportunity to learn and not as a test of your ability that might reflect negatively on your character should you falter.

After-action reviews (oral debriefs after a work activity) in work teams may foster a learning orientation – especially when the focus is both on what went well and what did not go well, and when the focus is on the process rather than the personal characteristics of team members. These exchanges can create a nonjudgmental climate and communication openness that in turn enhances members' learning orientation.

Motivation to Learn

Your Motivation to Learn refers to how driven you are to acquire new and more advanced leadership behaviors during challenges. It has both external (environmental) and internal (personal) elements that reflect quite different underlying attitudes and goals driving the quest for leadership development. For instance, a leader can be highly motivated to learn new or advanced leadership behaviors and concepts out of curiosity and interest in experiencing success in more challenging leadership situations. Alternatively, a leader can do so out of a desire to receive a pay raise and the status increase that comes with a higher-level leadership role.

In reality, both forms of Motivation to Learn to be a better leader co-exist within us to varying degrees and even across different situations. Intrinsic drive has a positive effect on performance, persistence and well-being. At best, extrinsic drive can create an acceptance of and value of the usefulness of leadership development and willingness to continue. Sometimes, it can devolve into resentment, resistance and disinterest in further leadership development – particularly when intrinsic drive is low or absent. Examining and reframing one's Motivation to Learn can enhance a leader's readiness for developmental challenges.

External Drive (Desired to be lower scoring)

External Drive pertains to how much your motivation to be a leader is based on factors outside you. People who have a strong external drive are highly motivated by extrinsic factors, such as what others think of them, monetary rewards or promotions, performance evaluation or grades. External drive can feel like passive compliance aimed at meeting requirements or as an opportunity to gain a privilege or reward that is desired as a result of completing leadership development goals.

Example item:

“I participate in leadership development because others would think badly of me if I didn't.”

Internal Drive

Internal Drive to learn and develop as a leader pertains to how much inherent satisfaction you get from mastering successively more challenging aspects of leadership, independent of any concern for what other people think or feel about you or what financial or status rewards are attached. Internal drive is associated with exploratory, playful and curiosity-driven learning activities even in the total absence of external rewards because the process of learning and mastery is a positive experience in and of itself.

Example item:

“The reason I will continue to broaden my leadership skills is because it's important to me to do well at this.”

If your External Drive is higher than your Internal Drive, you may have a disproportionate amount of external pressures on you from your job, family or other sources to become a competent or more highly paid leader. If this is the case, it may be difficult to sustain your motivation to work on leadership development during challenging times or if the external incentives are reduced or removed. In contrast, if your Internal Drive is higher than your External Drive, you are well positioned to sustain your motivation to learn even in the face of challenges or difficulties – with or without external incentives.

Tips for developing your Internal Motivation to Learn:

Engage in reflective activities that help you explore your values and “calling” to leadership roles. Intrinsic satisfaction comes from fulfilling our needs for competence, self-sufficiency and connectedness. By focusing on the aspects of leadership and the developmental process that have potential for fulfilling these needs, you may be able to enrich your satisfaction and interest. Identify leadership role models to prime your passion for leadership. Look beyond the trappings of success and focus on the expression of values exhibited in the leader’s achievements. If your motivation begins to drop in the face of challenge, reflect on your values, personal mission, and role models to renew your inspiration.

Motivation to Lead

The strength of your Motivation to Lead will influence your propensity to engage in leadership development activities both in and outside of work. The survey questions assess your identification with leadership and your key beliefs about leadership. People with a high Motivation to Lead may want to lead because they desire to make a change, to inspire and influence others to achieve goals, to achieve power or success, or some combination of these goals.

Sources of Motivation to Lead are still being studied and three different modes of motivation are thought possible. First, motivation may stem from enjoyment of leading – from motives like growth, development of self and others, and self-actualization. Second, motivation might stem from a sense of duty or responsibility to lead where there is a need to fulfill the expectation of others, step up in the absence of leadership, or to avoid criticism. A third possible source of Motivation to Lead includes enactment of values of benevolence, altruism or collectivism without consideration of the costs of leadership.

We encourage you to reflect about the sources of your motivation on your own, with a peer, mentor or coach.

Example item:

“I was born to lead.

Tips for increasing your motivation to lead:

Take on, at first, small leadership roles that have a high chance of success. Over time, progress to larger-scale and more challenging roles. Early successes increase the satisfaction of leading others and the motivation to do more. Volunteer for leadership roles outside the work environment (e.g., community projects or nonprofit boards) where pressures to perform are generally low to moderate and allow you to explore leadership in a non-work context. Often nonprofit boards also give you exposure to highly successful leaders in your community and strategic conversations you might not otherwise be able to access within your organizational role.

Ability to Develop as a Leader

Ability to develop as a leader is comprised of two sub-factors:

Taking Different Perspectives

Awareness of the Way I Think and Learn (Metacognitive Awareness)

Taking Different Perspectives

Leaders often have to represent and balance the interests of a diverse range of clients, employees, vendors, government agencies and other stakeholders, both domestically and globally. These different groups frequently have very different views from each other and from you on the same issue. The survey items on Taking Different Perspectives assess your self-reported ability to adopt the perspectives of other people and see things from their point of view. Taking Different Perspectives is the cognitive capacity to consider the world from another individual's viewpoint. It is different from empathy, the ability to connect emotionally with another individual.

Cultivating the ability and habit of taking other peoples' perspectives into account in your interactions and in your decision-making processes affects both your reactions to and behavior toward others. A high score on Taking Different Perspectives reflects your ability to put yourself in the "shoes" of others. In a study of negotiation, Taking Different Perspectives increased individuals' ability to discover hidden agreements and to both create and claim resources at the bargaining table. In addition, people were able to increase their ability to take different perspectives and learn to consider other viewpoints after a brief intervention. Taking Different Perspectives is equally important for understanding and leading others in non-competitive contexts by allowing you to step outside the bounds of our own biased frames of reference and see new solutions.

Example item:

"Before criticizing somebody, I try to imagine how I would feel if I were in their place."

Tips for developing your ability for Taking Different Perspectives:

Imagine you are a different person approaching the situation. What would they think about it? Try to visualize yourself on the other side of the table, thinking as the other person.

Reverse the situation. For example, imagine that you are tasked with creating a problem, rather than solving it. How does this shift how you think about the situation?

Gather, assess and compare information about other people's thought processes from those with different and conflicting viewpoints.

Identify which viewpoints are represented and which ones are missing in a given situation – don't forget to include what you consider "ridiculous" and "wrong" viewpoints.

Awareness of the Way I Think and Learn

Your leadership development is accelerated when you can quickly and effectively make sense out of any developmental experience. This factor, Awareness of the Way I Think and Learn, also known as metacognition, refers to your ability to reflect upon, understand, and control your own learning. Cognition is the mental faculty or process of acquiring knowledge by the use of reasoning, intuition, or perception. Metacognition is cognition focused on your own cognitive processes. It involves two dimensions of thinking that deal with how you reflect on and think about your own cognitive procedures and strategies (Knowledge of Learning) and how you regulate your learning activities (Regulation of Cognition). Increasing metacognitive awareness enables leaders to learn faster and more efficiently by selecting the right learning tools and approach for the situation, identifying learning blocks early and quickly and then adjusting tools and strategies accordingly.

Regulation of Cognition

Regulation of Cognition indicates your level of thought and self-regulation about how you go about planning, monitoring and evaluation your learning. Planning involves selecting learning strategies and lining up the resources and environment for learning. Monitoring involves becoming aware of how learning is progressing. Evaluating happens after the learning task and focuses on whether the strategy was efficient and effective so that you might learn better the next time a similar learning task comes along.

Example item:

“I have control over how well I learn.”

Knowledge of Learning

Knowledge of Learning refers to your awareness of your strengths and weaknesses related to learning, as well as your awareness of your personal learning process and how to maximize learning. This involves awareness about yourself as a learner and what influences you positively and negatively in learning situations where you will be using study, practice and memory skills. It shows how much you know and the degree to which you leverage what you know about the way you learn, the strategies you use, and the conditions under which different strategies are the most useful to you.

Example item:

“I am a good judge of how well I understand something.”

Tips for strengthening your Awareness of the Way I Think and Learn:

Review and reflect on your recent learning experiences - what approaches to learning did you use, which ones were more effective than others?

Experiment with using learning strategies from one learning situation in another.

Such strategies include things like thinking out loud while working through a challenge, self-questioning (e.g., “What do I already know about this topic?” “How have I solved or seen others solve problems like this before?”), creating diagrams of a topic domain in the form of a mind-map or flow chart, and developing mnemonic devices (e.g., LIFO stands for the accounting principle “Last In First Out”) to remember steps in a process or parts of a complex concept.

Read about different learning styles and try to identify your preferred style.

Engage in mindfulness training. It can help you see and understand your thoughts as subjective mental events that can be re-processed or re-framed, rather than seeing them as direct representations of reality.

Appendix H: Email with Report

Dear LEAD TN and MTSU Research Study Participant,

Thank you for participating in our research study “Who's Ready to Lead? The impact of Developmental Readiness on a Leadership Development Program.”

You choose to receive feedback on your readiness for leadership development. Please find attached two documents: *Leadership Readiness Scale Scores Sheet* and *Leadership Readiness Feedback Report*.

The *Leadership Readiness Scale Scores Sheet* contains your personal and confidential scores, which compares your individual results to the average scores for all of the participants in the survey.

The *Leadership Readiness Feedback Report* provides

- instructions on how to interpret your scores,
- an overview of Developmental Readiness,
- a description of each scale, and
- tips for developing the areas you have identified as ones on which you would like to work.

Your scores are based on self-report data. As you read the score sheet and report, ask yourself if the scores still make sense to you now. Please focus on what is meaningful and resonates for you about each of the key concepts reviewed in this report and what you feel you are developmentally ready to take on.

Please understand that these scales and this research are exploratory. It cannot be overstated that your scores on this assessment should be taken as suggestions. You should not feel as if your leadership skills are in question. Rather, look at this report as an opportunity to evaluate where you are on your leadership journey and how you can develop moving forward. If you do not agree with some of the scores in this report, there is nothing wrong with that.

If you have any questions or concerns, please do not hesitate to reach out to me, Dr. Richard Moffett, at rick.moffett@mtsu.edu or at (615) 898-2686. Our goal in this research is to ensure that you are given best possible opportunity to develop as a leader.

Thanks again for participating in our research.

Sincerely,

Richard Moffett
Ben Chartoff

Appendix I: IRB Approval

IRB
INSTITUTIONAL REVIEW BOARD
 Office of Research Compliance,
 010A Sam Ingram Building,
 2269 Middle Tennessee Blvd
 Murfreesboro, TN 37129



IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE

Friday, October 12, 2018

Principal Investigator	Benjamin Chartoff (Student)
Faculty Advisor	Richard Moffett
Co-Investigators	Michael Hein
Investigator Email(s)	<i>bc4x@mtmail.mtsu.edu; rick.moffett@mtsu.edu</i>
Department	Psychology
Protocol Title	<i>Who's ready to lead? The impact of development readiness on a State leadership development program</i>
Protocol ID	19-2052

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the category (7) *Research on individual or group characteristics or behavior*. A summary of the IRB action and other particulars in regard to this protocol application is tabulated below:

IRB Action	APPROVED for ONE YEAR		
Date of Expiration	10/31/2019	Date of Approval	10/12/18
Sample Size	120 (ONE HUNDRED AND TWENTY)		
Participant Pool	Primary Classification: Healthy Adults (18 or older) Specific Classification: Current members of Alliance of LEAD TN		
Exceptions	1, Contact information for the purpose of conducting the study is permitted, 2, Online consent and survey permitted.		
Restrictions	1. Mandatory active informed consent; the participants must have access to an official copy of the informed consent document signed by the PI. 2. Identifiable personal information must not be retained beyond the data processing stage. 3. Inclusion/exclusion criteria must be followed as proposed.		
Comments	NONE		

This protocol can be continued for up to THREE years (**10/31/2021**) by obtaining a continuation approval prior to **10/31/2019**. Refer to the following schedule to plan your annual project reports and be aware that you may not receive a separate reminder to complete your continuing reviews. Failure in obtaining an approval for continuation will automatically result in cancellation of this

protocol. Moreover, the completion of this study MUST be notified to the Office of Compliance by filing a final report in order to close-out the protocol.

Post-approval Actions

The investigator(s) indicated in this notification should read and abide by all of the post-approval conditions imposed with this approval. [Refer to the post-approval guidelines posted in the MTSU IRB's website.](#) Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident. Amendments to this protocol must be approved by the IRB. Inclusion of new researchers must also be approved by the Office of Compliance before they begin to work on the project.

Continuing Review (Follow the Schedule Below:)

Submit an annual report to request continuing review by the deadline indicated below and please be aware that **REMINDERS WILL NOT BE SENT.**

Reporting Period	Requisition Deadline	IRB Comments
First year report	9/30/2019	NOT COMPLETED
Second year report	9/30/2020	NOT COMPLETED
Final report	9/30/2021	NOT COMPLETED

Post-approval Protocol Amendments:

Only two procedural amendment requests will be entertained per year. In addition, the researchers can request amendments during continuing review. This amendment restriction does not apply to minor changes such as language usage and addition/removal of research personnel. .

Date	Amendment(s)	IRB Comments
NONE	NONE.	NONE

Other Post-approval Actions:

Date	IRB Action(s)	IRB Comments
NONE	NONE.	NONE

Mandatory Data Storage Requirement: All of the research-related records, which include signed consent forms, investigator information and other documents related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data storage must be maintained for at least three (3) years after study has been closed. Subsequent to closing the protocol, the researcher may destroy the data in a manner that maintains confidentiality and anonymity.

IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:

[Click here](#) for a detailed list of the post-approval responsibilities.
More information on expedited procedures can be found [here](#).