

LEADERSHIP BEHAVIOR AND ITS IMPACT ON STUDENT SUCCESS AND RETENTION IN ONLINE GRADUATE EDUCATION

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ABSTRACT

Student attrition, although some to be expected, comes at a high cost. Failure to complete studies is recognized as a personal loss for the individual, an economic loss for the universities, and an intellectual loss for society. While extensive research efforts have been used to develop and improve theoretical models of student retention or persistence, a concern of many administrators remains the ability to predict as early as possible the likelihood of a student dropping out of school. Following these recommendations, this present study employed the analysis of secondary and program specific data to examine the predictive impact of student characteristics on persistence in an online doctoral leadership program. This research examined individual differences that exist in the leadership development of doctoral students that would contribute to and predict success and persistence in leadership development programs. The study has used a logistic regression to test whether critical thinking, leadership effective behavior, Master's GPA, gender, application summary score, and psychological type are positively related with academic retention/completion amongst doctoral students enrolled in an asynchronous-distance program in leadership studies. Findings emphasize the importance of behavioral characteristics, such as effective leadership and psychological type, in regard to persistence. LPI-Modeling the Way emerged as a significant predictor for retention and persistence in the online doctoral leadership studies program, a finding that - to this date - did not surface in any other research pertaining to retention or persistence. As such, this article focuses on the impact of effective leadership behavior in general and Modeling the Way in particular and why it is, indeed, a significant factor in student success and retention

INTRODUCTION

Student attrition, although some to be expected, comes at a high cost. Failure to complete studies is recognized as a personal loss for the individual, an economic loss for universities, and an intellectual loss for society. While extensive research efforts have been used to develop and improve theoretical models of student retention or persistence, a concern of many administrators remains the ability to predict as early as possible the likelihood of students dropping out of school.

Research findings suggest that the strongest predictor of graduation is a student's conformity with the characteristics of those who have graduated from the same institution or program previously (Ash, 2004; Mansour, 1994). Institutions routinely collect a broad array of information on their students' backgrounds, socioeconomic status, past academic achievement, social involvement, and even personal characteristics. All factors that align well with the major theoretical models of student retention (Ash, 2004; Astin, 1984; Bean, 1985; Mansour, 1994; Tinto 1987, 1993). Several researchers therefore contend to make institution-specific predictions about retention and attrition based upon the increasing amount of student assessment data that are being collected by institutions of higher education (Seidman, 1995; Johnson, 1997; Murtaugh, Burns & Schuster, 1999). Their research indicates that analysis of readily available student data specific to a particular university and program can, indeed, be a valid predictor for student persistence and retention. Johnson (1997) suggested that each institution create its own predictor equations based on the characteristics of students who have succeeded in the past. Knowledge of students who are most likely to succeed and who are at risk to drop out may provide administrators and educators with the information necessary to develop strategies that encourage, guide, and motivate students through to degree completion. Once specific characteristics or tendencies are recognized, effort can be directed toward the development of programs and practices to help students overcome weaknesses and encourage a greater level of persistence.

Following these recommendations, this present study employed the analysis of secondary and program specific data to examine the predictive impact of student characteristics on persistence in an online doctoral leadership program. In the causal-comparative, ex-facto study, a logistic regression analysis was used to predict retention probability and identify student profiles with a higher likelihood of leaving the program prematurely. The sample for this study included doctoral students who enrolled in a multi-disciplinary online doctoral program in organizational and in strategic leadership at a private graduate university. Data for this study was collected from students who entered the program beginning in 1997 to 2006 and have since either dropped out or graduated. The subjects of this study are career professionals in various for-profit and non-profit organizations and range in ages from mid-twenties to late fifties. A total sample size of 303 students represented the full population of incoming students for the doctoral program out of whom 179 graduated and 124 attrited. In the graduated group, 113 were male and 66 were female. In the attrited group, 86 were male and 38 were female.

The literature review provided the justification for the selection of the independent variables used in the study. Each independent variable chosen has a theoretical relationship to retention. Graduation, an accepted standard of academic achievement, was used as the dependent variable in exploring the study questions. By utilizing the institution's database system, the following student demographic data was obtained and used as independent variables in this study:

Gender

Master's Level Grade Point Average (MGPA)

Application Summary Score (APSS)

Critical Thinking - measured by the Watson Glaser Critical Thinking Assessment (WGCTA)

Effective Leadership Behavior - measured through the Leadership Practices Inventory (LPI)

 Challenging the Process (LPI-CHALL)

 Inspiring a Shared Vision (LPI-INSP)

 Enabling Others to Act (LPI-ENAB)

 Modeling the Way (LPI-MODL)

 Encouraging the Heart (LPI-ENC)

Psychological Type - based on the Myers-Briggs Type Indicator (MBTI)

 Extroversion (MBTI-E)

 Introversion (MBTI-I)

 Sensing (MBTI-S)

 Intuition (MBTI-N)

 Thinking (MBTI-T)

 Feeling (MBTI-F)

 Judging (MBTI-J)

 Perceiving (MBTI-P)

Each of these variables can be associated with the concept of persistence and relate to characteristics that already existed at the time of matriculation of the student. While the list of characteristics associated with the concept of persistence is far more extensive, this group begins to offer insight about the significance of some of these selected variables for persistence for online doctoral leadership studies programs. Findings showed that Master's GPA had no statistical significance on an individual's ability to persist. Application summary scores were negatively related to a student's desire and willingness to persist to degree completion. Those with higher application summary scores were more frequently among those who left the program prior to degree completion. While some of the variables, such as critical thinking skills and psychological type, showed to contribute to an individual's academic performance and subsequent decision to continue or drop-out, the findings of this study highlighted the central role of the effective leadership behavior of *Modeling the Way*.

Modeling the Way emerged as the single most significant predictor of persistence and success in the online doctoral leadership program. As such, this article will focus on the impact of specific leadership behavior in general and *Modeling the Way* in particular and why this construct, indeed, is a significant factor in student success and retention.

EFFECTIVE LEADERSHIP BEHAVIOR

While the literature on retention does not directly address the influence of students' effective leadership behavior and their persistence in educational endeavors, a review of closely related constructs, such as self-confidence, self-regulation and self-efficacy, were found to greatly impact retention and persistence. These constructs and their effects on student retention are discussed in the following section.

One of the most frequently reported findings in the leadership literature is the relationship between a leaders' self-confidence and their leadership effectiveness. In fact, every major review of leadership literature lists self-confidence as an essential characteristic of effective leadership behavior and performance (Bass, 1990; House & Aditya, 1997; Northouse, 2001, Yukl & Van Fleet, 1992). For example, in the sports-psychology field self-confidence is one of the most cited psychological factors thought to affect athletic performance (Feltz, 1988). Inspired by Bandura's (1982) seminal work on self-efficacy, McCormick (2001) proposed to connect the academic study of leadership to the well-developed literature on social cognitive theory. Social cognitive learning theory, inclusive of both an individual's self-efficacy perceptions and self-regulatory skills, places the focus on individuals' characteristics and provides a solid, pedagogically-based theoretical framework for research. This practice of substituting self-efficacy for self-confidence is understandable, considering the conceptual similarity of the two constructs. Bass (1990), for instance, declared: "Self-efficacy is closely allied with self-confidence" (p.155). Similarly, Manz (1986) proposed the model of self-regulation or self-leadership. Manz (1990) believed that self-leadership is a crucial element in leadership effectiveness and asserted that the first step in becoming an effective leader would be to become an effective leader of self. In short, self-leadership or self-regulation is the influence we exert on ourselves to achieve the self-motivation and self-direction we need to perform in order to achieve our personal goals and dream. As such, self-leadership theory emphasizes the important role we play in determining the impact of external influences on us. Thus, even when faced with even the most difficult situations, we lead ourselves by choosing which behaviors and attitudes we will utilize to respond to the situation. According to Kur (1997) self-leadership is where individuals act on their own to achieve their mission, vision, purpose, values, strategies, and goals. Without the desire and willingness to step forward that self-leadership provides, individuals will be less effective and successful in reaching their goals. Kouzes and Posner (1995) wrote, "Leadership is an art, a performing art, and the instrument is the self. The mastery of the art of leadership comes with the mastery of the self" (p. 336). Leaders search for opportunities to exceed their previous levels of performance as they regularly set their goals higher and understand that intrinsic motivation must be present if they are to do their best.

SELF-REGULATION

It becomes apparent that various authors support the notion that self-regulation provides a framework, which individuals can use to increase their levels of performance, resilience and goal commitment. Research across a variety of settings, from the educational domain to the airline industry, has shown that the practice of self-regulation can lead to a plethora of benefits including improved job satisfaction, self-efficacy, and performance.

Self-regulation involves the influence individuals exert over themselves to achieve the self-motivation and self-direction needed to behave in ways they choose, even though they might find it difficult to carry out the set goal or task (Anderson & Prussia, 1997). Bandura defined self-regulation as the "exercise of influence over one's own motivation, thought processes, emotional states, and patterns of behavior" (1994, p.71). For him, self-regulation is an internal mechanism that controls behavior and the self-imposed consequences attributed to that behavior. It allows for the gradual replacement of external controls of behavior by internal controls that govern which behavior is performed. This self-regulatory system mediates "external influences and provides a basis for purposeful action, allowing people to have personal control over their actions. Matthews, Schwan, Campbell, Saklofske, and Mohamed (2000) "conceptualize self-regulation as a generic umbrella term for the set of processes and behaviors that support the pursuit of personal goals within a changing external environment" (p. 173). "Self-regulation can be defined as the process by which a system regulates itself to achieve specific goals" (Shapiro & Schwartz, 2000, p. 253), and "is typically viewed as a systematic process of human behavior that provides individuals with the capacity to adjust their actions and goals to achieve desired results" (Jackson, MacKenzie, & Hobfoll, 2000, p. 275). In essence, self-regulation helps individuals to most effectively behave in ways consistent with their values and personal desires, in addition to any external demands that may be imposed on them by others.

Specifically, three distinct but complimentary strategies of self-leadership have been hypothesized: (a) behavioral focused strategies, (b) intrinsic motivation strategies, and (c) constructive thought pattern strategies (Anderson & Prussia, 1997; Manz, 1986, 1990). *Behavioral focused strategies* focus on behavior and are self-discipline orientated. This type of self-leadership relies on self-imposed strategies to perform difficult, unattractive, but necessary tasks. Manz believed that by using these behavioral focused strategies, an individual can promote and encourage successful behaviors and suppress unsuccessful behaviors in themselves. *Intrinsic motivation strategies* seek to create a positive identification with specific tasks that pulls an individual to high performance because that individual is committed to, believes in, and enjoys, the work for its own value. Finally, *constructive thought pattern strategies* are an internal approach focused on thinking. In general, these strategies include increasing an individual's focus and awareness on the pleasant, rather than the unpleasant, aspects of a given task (Anderson & Prussia, 1997). Constructive thought pattern strategies of self-leadership focus on establishing and altering thought patterns in desirable ways by using the specific strategies of: (a)

self-analysis and improvement of belief systems, (b) mental imagery focused on positive performance, (c) positive mental talk to motivate and facilitate performance, and (d) replacing negative mental scripts with positive ones (Manz, 1986). These psychological scripts provide internal rules and guidelines that naturally structure the work of an individual. As such, behavior is impacted not only by the consequences arising from external sources (e.g., externally inflicted rewards and punishments), but also by the individual's self-generated evaluative consequences that regulate behavior internally. Importance is placed on the capacity of individuals to regulate themselves, particularly when faced with difficult, yet important tasks. Thus, people set performance standards and respond to their own behavior in self-regulated or self-critical ways, in accordance to self-imposed demands (Bandura, 1977).

Bandura (1986), expanding on his model of social learning theory to specifically include the role that cognitive control plays in an individual's self-monitoring system, concluded that individuals possess a *self-system* that enables them to exercise a measure of control over their thoughts, feelings, and actions. He called this new expansion of social learning theory *social cognitive theory*.

According to social cognitive theory, beliefs that individuals hold about their abilities, and about the outcomes of their efforts, powerfully influence the ways in which they will behave, to the extent that even knowledge, skill, and prior accomplishments are often poor predictors of subsequent achievements. This view is consistent with theorists who have argued that beliefs are a filter through which new phenomena are interpreted and behavior is mediated (Mead, 1982). How individuals interpret their performance influences their self-beliefs, which in turn, influences their subsequent performances (Nauta & Kahn, 2000).

Much time, effort, and expense has been invested in studying self-regulation as it applies to academic learning. Bandura (1993) informed us that a major goal of formal education should be to "equip students with the intellectual tools, self-beliefs, and self-regulatory capabilities to educate themselves through their lifetime" (p. 136). Zimmerman (1989) stated, "students can be described as self-regulated to the degree that they are metacognitively, motivationally, and behaviorally active participants in their own learning process" (p. 329). Self-regulation, according to Zimmerman (2000), is defined as "self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals" (p.14). Adapting Zimmerman's definition to learning, Schunk and Ertmer (2000) defined self-regulated learning as "self-generated thoughts, feelings, and actions that are planned and systematically adapted as needed to affect one's learning and motivation" (p.631).

Palincsar and Brown (1989) wrote that students were self-regulated learners if they were aware of the variables that were important to their learning and their ability to control their learning environment. Later, Pintrich (2000) wrote that self-regulated learning is the application of models of self-regulation to issues of learning and that it "is an active, constructive process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation, and behavior, guided and constrained by their goals and the contextual features in the

environment" (p. 453). Zimmerman (1986) described students as being self-regulated learners as follows:

"Metacognitively, self-regulated learners are persons who plan, organize, self-instruct, self-monitor, and self-evaluate at various stages during the learning process. Motivationally, self-regulated learners perceive themselves as competent, self-efficacious, and autonomous. Behaviorally, self-regulated learners select, structure, and create environments that optimize learning" (p. 308).

So, what distinguishes self-regulated learners from their counterparts is that (a) they are engaged in their own education and take responsibility for it (Alexander, 1995), (b) they have a greater continuing motivation to learn (Kinzie, 1990), (c) they do not work in isolation (Zimmerman & Risemberg, 1997), (d) they plan and set goals for their learning (Jonassen, 2000), (e) they plan their time and use it more effectively (Zimmerman & Risemberg, 1997), (f) they persist in their quest for knowledge, (g) they achieve more academically (Zimmerman & Bandura, 1994), (h) they more effectively adapt to the school and learning environment (Schunk & Zimmerman, 1998), and (i) they engage in learning in fundamentally different ways (Paris & Newman, 1990, p. 87).

Without a doubt, self-regulated learning plays a key role in learners' academic achievement and persistence. To overcome self-regulatory learning differences among students, courses have been constructed and books written that instruct learners in the various self-regulatory skills and techniques deemed critical in education. Studies have also shown that self-regulatory training results in gains in academic performance and retention, enhances perceptions of self-efficacy, and has an important role in the learning process (Bielaczyc, Pirolli, & Brown, 1995; Zimmerman & Risemberg, 1997).

SELF-EFFICACY

Self-efficacy with its roots in social cognitive theory (Bandura, 1986, 1992, 1994), is founded in a view of human agency in which individuals are proactively engaged in their own development and can make things happen by their own actions. Key to this sense of agency is the fact that individuals possess self-beliefs that enable them to exercise control over their thoughts, feelings, and actions. Since first espousing his social cognitive theory, Bandura has bestowed the central position of self-efficacy, progressing from a single chapter in his 1986 volume to an entire tome on the subject in 1997. In fact, Bandura discusses self-efficacy in almost every research article, chapter, and book that he has written. In a recent E. L. Thorndike Award Address (Bandura, 2000) he unequivocally stated the centrality of self-efficacy in his social cognitive theory thusly:

"Social cognitive theory explains human functioning in terms of triadic reciprocal causation. In this model, internal personal factors in the form of cognitive, affective and biological events, behavioral patterns, and environmental events, all operate as interacting determinants that influence one another bidirectional. The

personal contribution to this triadic interplay operates mainly through mechanisms of agency; none is more central or pervasive than people's beliefs in their personal efficacy. This belief system is the foundation of human agency. Unless people believe they can produce desired results by their actions they have little incentive to act or to persevere in the face of difficulties" (p. 4).

Self-efficacy is not an assessment of a set of skills; it is not a measure of ability. Rather, it is a belief by the individual, about what that individual can attain under different conditions with the skills that they bring to the task (Bandura, 1997; Gist & Mitchell, 1992; Pajares, 1996). Or as Vancouver (2000) put it, "self-efficacy...is a judgment of one's capacity to perform at a given level" (p. 325).

Self-efficacy was found to determine the effort people will put forth and how long they will persist in a given task (Bandura, 1986; Schunk & Zimmerman, 1997). Our perceptions of our own ability to deal successfully with, and overcome, situations and challenges we face in life can have a major impact on our performance (Bandura, 1982). When people believe in their own ability to impact their own life, they are enhancing their effectiveness to produce their own future (Kazan, 1999). Bandura (1986) argued that self-efficacy could explain not only the choice or level of activity to engage in, but also the likelihood that one will persist to successful completion. "People with high assurance in their capabilities approach difficult tasks as challenges to be mastered [...] they set themselves challenging goals and maintain strong commitment to them" (Bandura, 1997, p.71).

People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided. They approach threatening situations with assurance that they can exercise control over these challenges and succeed in accomplishing the given task. This ongoing cycle will work to aid individuals in reaching higher and higher levels of excellence and achievements. Ultimately, high self-efficacy fosters a strong level of commitment to chosen activities.

The impact of self-efficacy on educational achievement and perseverance becomes increasingly apparent. In fact, findings have suggested that self-efficacy has (a) a powerful effect on goal level, task performance, goal commitment, and goal choice (Locke et al, 1984) and (b) has been identified as a predictor variable - distinct from cognitive competence - influencing performance in areas such as academic achievement and persistence.

This is not surprising, as self-efficacy also causes the more effective use of metacognitive strategies, such as planning and self-regulation; skills that become increasingly important as an individual progresses through educational levels to environments that are less ordered and constrained (e.g., college or university life, online learning).

Zimmerman, Bandura, and Martinez-Pons (1992) found that students with a sense of self-efficacy display greater persistence, effort, and intrinsic interest in their academic learning and performance. According to Bean and Eaton (2001), the critical attitudes that influence a student's

decision to persist or withdraw, are described by three theories: (1) *self-efficacy theory*, which is an individual's perception that they can act to achieve a desired outcome; (2) *coping behavioral theory*, which posits that it is through a process of assessment and adaptation that individuals adjust to new situations, and (3) *attribution theory*, where the key issue is the extent to which control is possessed by the individual, or is believed to lie outside their control. The authors asserted that among the most important of these psychological attributes is self-efficacy, as self-efficacy refers to the estimate of one's own abilities and is closely related to one's need for achievement (Bandura, 1991; Bean and Eaton, 2001; LeFrancois, 1995).

THE CONNECTION WITH ACADEMIC PERSISTENCE

As indicated above, self-regulation is deeply intertwined with the concept of self-efficacy (Zimmerman, 1990). As Schunk and Ertmer (2000) point out, "effective self-regulation depends on feeling self-efficacious for using skills to achieve mastery" (p. 635). Bandura (1994) stated unequivocally that the higher the self-regulatory efficacy the better the occupational functioning of the individual. This key determinant of self-regulatory behavior, self-efficacy, is present in all phases of academic self-regulated learning (Schunk & Ertmer, 2000; Zimmerman, 1989). Schunk and Ertmer (2000) noted, "effective self-regulation depends on students developing a sense of self-efficacy for learning and performing well" (p.632). The more self-efficacious the individual, the better learner they will be (Gist & Mitchell, 1992).

Self-efficacy for self-regulated learning influences the goals learners set, the learners' commitment, decisions the learners make to reach their goals, and their overall persistence. The more capable people regard themselves, the higher the goals they will set for themselves and the more persistent they will be in striving to attain these goals.

Learner perceptions of self-efficacy have a reciprocal relationship with the self-regulatory processes that affect motivation and performance. A high sense of self-regulatory efficacy enhances task performance efficacy, which in turn motivates further self-regulation in pursuit of further academic attainment. Self-regulatory efficacy, then, as well as general academic efficacy, is the result of interactions among personal, social, and environmental factors (Bandura, 1997; Schunk, 1989; Staples, Hulland & Higgins, 1998). Thus, the cognitive processes of self-efficacy and self-regulation have direct impact on learning in classroom situations (Bandura, 1997; Schunk, 1994; Zimmerman, 1989; Zimmerman, Bonner, & Kovach, 1996).

Researchers have demonstrated that effective, academic self-regulation demands that students have a sense of personal efficacy for their own self-regulatory abilities (Bandura, 1986; Zimmerman, 1989; Zimmerman, Bandura, & Martinez-Pons, 1992). An area that lends itself well to self-regulation is *distance learning*, where instruction originates at one site and is transmitted to students at distant sites. Self-regulation seems critical due to the high degree of student independence deriving from the instructor's physical absence. The ability of learners to regulate and direct their own learning is an important determinant of performance in any learning context;

however, it is of even greater significance in distance learning contexts where the extrinsic support structures typical of classroom-based learning are absent (Schunk & Zimmerman, 1997). Even more so than in traditional classrooms, self-efficacy and self-regulatory learning are crucial in distance education success, especially when asynchronous distance education is the primary method of instruction. Students who possess higher efficacy and are more self-regulated learners are therefore more successful at asynchronous distance education than students who have difficulties in areas of self-efficacy and self-regulated learning. Likewise, students who are self-regulators are more likely to enjoy and sign up for classes that are conducted using distance education.

Many researchers, while writing positively about the potential of online distance education, emphasize the need for those learners involved in it to possess well developed academic self-regulatory skills in order to benefit from its potential (e.g., Bandura, 1997; Doherty, 1998; Kearsley, 2000; Palloff & Pratt, 1999). Studies, examining self-efficacy as it relates to achievement and attitudes in a distance-learning environment indicate that student self-efficacy is influential on achievement, persistence and attitudes in a distance-learning environment. For example, Riddle (1994) studied factors that contributed to student satisfaction in courses delivered by interactive video networks, including learning styles, self-efficacy, and a host of demographic variables in the study. It was concluded that self-efficacy contributed to explaining the variance in student satisfaction in a distance education course.

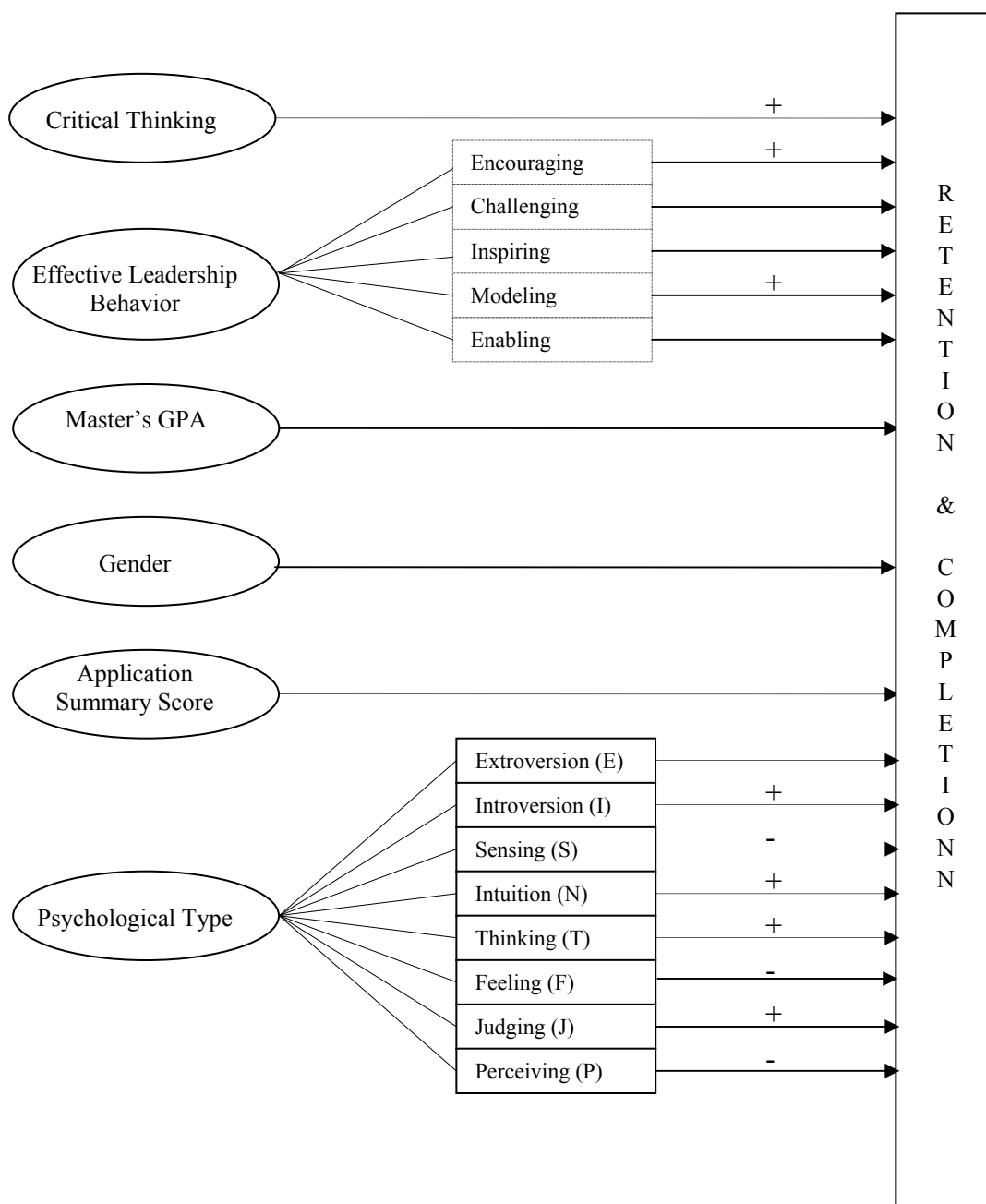
For example, in a study of 712 distance learning students from the Open University of Hong Kong, Jegede, Taplin, Fan, Chan, and Yum (1999) reported that high achievers rated themselves significantly higher than low achievers in scales that measured self-efficacy in terms of confidence with studies ($ES = .50$) and ability to cope well with studying in distance mode ($ES = .42$). In a different research, Zhang, Li, Duan, and Wu (2001) studied 112 students enrolled in online courses at a university in China and discovered significant correlations among the students' distance learning self-efficacy, intrinsic motivation, and self-regulated learning skills. Joo, Bong, & Choi (2000), in a study of 152 junior high school students in Korea using web-based instruction, found that self-efficacy for self-regulated learning related significantly to student performance.

RESEARCH MODEL

The following model of relationships specifies the hypothesized relationships of independent and dependent variables and their indicators within a causal path diagram (see Figure 1). The plus (+) and minus (-) symbols indicate the direction of relationship as indicated in the review of the literature. Where those symbols are missing, the literature produced either conflicting results or did not address the specific direction of relationship.

All independent variables are tested as predictors for academic retention/completion amongst doctoral students enrolled in an asynchronous-distance program in leadership studies. These predictors are grouped into six main independent variables: WGCTA-Critical Thinking,

Figure 1: Theoretical model of relationships specifying the hypothesized relationships of independent, and dependent variables and their indicators within a causal path diagram



Leadership Effective Behavior, Master's GPA (MGPA), Gender, Application Summary Score (APSS), and Psychological Type. The Leadership Effective Behavior is further categorized into the following: LPI-Encouraging the Heart, LPI-Modeling the Way, LPI-Challenging the Process, LPI-Inspiring a Shared Vision, and LPI-Enabling Others to Act. The Psychological types are identified as MBTI-Extroversion, MBTI-Introversion, MBTI-Sensing, MBTI-Intuition, MBTI-Thinking, MBTI-Feeling, MBTI-Judging, and MBTI-Perceiving. Based on the model below (Figure 1), this research suggests a positive relationship between predictors and academic retention/completion:

Hypothesis 1: Critical thinking, Leadership Effective Behavior, Master's GPA, Gender, Application Summary Score, and Psychological Type are positively related with academic retention/completion amongst doctoral students enrolled in an asynchronous-distance program in leadership studies.

Hypothesis 2: There are significant differences between Attrited Cohort and Graduated Cohort in WGCTA Critical Thinking and LPI-MODL scores and gender.

Method

Sample

The two hypotheses were tested by conducting a quantitative study in one US graduate university. By utilizing the institution's database system, the following student specific data was obtained for incoming, first-year students included in the sample: gender, master's level

GPA, the institution's internally developed application summary score, as well as data collected from three different surveys administered during the students' first residency event at the beginning of their doctoral studies: critical thinking skills, psychological type, and effective leadership practices. All data were measures of characteristics, attitudes, skills, and values formed prior to enrollment.

The sample for this research comprised of doctoral students who enrolled in a multidisciplinary online doctoral program in organizational and in strategic leadership at a private graduate university. Data for this study were collected from students who entered the program beginning in 1997 to 2006 and have since either dropped out or graduated. The respondents were career professionals in various for-profit and non-profit organizations and range in ages from mid-twenties to late fifties. A total sample size of 303 students represented the full population of incoming students for the doctoral program out of whom 179 graduated and 124 attrited. In the graduated group, 113 were male and 66 were female. In the attrited group, 86 were male and 38 were female.

Variables

All the variables tested in this research were based on the existing literature. Each independent variable chosen has a theoretical relationship to retention. Graduation, an accepted standard of academic achievement, was used as the dependent variable. The following are independent variables used in this research:

- Gender
- Master's Level Grade Point Average (MGPA)
- Application Summary Score (APSS). The range of APSS is as follows: (0-1.99) reject, (2.00-2.09) accept space available, (2.10 – 3.00) accept.
- Critical Thinking - measured by the Watson Glaser Critical Thinking Assessment (WGCTA)
- Effective Leadership Behavior
 - Challenging the Process (LPI-CHALL)
 - Inspiring a Shared Vision (LPI-INSP)
 - Enabling Others to Act (LPI-ENAB)
 - Modeling the Way (LPI-MODL)
 - Encouraging the Heart (LPI-ENC)
- Psychological Type
 - Extroversion (MBTI-E)
 - Introversion (MBTI-I)
 - Sensing (MBTI-S)
 - Intuition (MBTI-N)
 - Thinking (MBTI-T)
 - Feeling (MBTI-F)
 - Judging (MBTI-J)
 - Perceiving (MBTI-P)

This research used the existing Leadership Practices Inventory (LPI) instrument, developed by Kouzes and Posner (1995), which is based on responses to the Personal-Best Leadership Experience Questionnaire (PBLEQ). The LPI yields five scales, each of which represents a separate set of leadership behaviors. Through in-depth analysis of the times when leaders perform at their best, Kouzes and Posner identified five practices most common in extraordinary leaders. When leaders are at their personal best they (1) challenge the process; (2) inspire a shared vision; (3) enable others to act; (4) model the way; and (5) encourage the heart. Reliability scores for the LPI self-assessment are reported as follows: challenging the process = 0.71; inspiring a shared vision = 0.81; enabling others to act = 0.75; modeling the way = 0.72; and, encouraging the heart = 0.85 (Kouzes & Posner, 1995). The LPI used a five-point Likert

scale, with ratings ranging from 1 (*rarely*) to 5 (*very frequently or almost always*). The instrument took approximately ten minutes to complete, either self-administered or computer scored.

Psychological Type was measured by the Myers-Briggs Type Indicator (MBTI). Building upon Jungian psychological type theory, Myers and Briggs (Myers & McCaulley, 1985) developed the Myers Briggs Type Indicator (MBTI), in which people are typed by their preferences with respect to four bipolar dimensions. These dimensions are: Extrovert (E) - Introvert (I); Sensing (S) – Intuition (N); Thinking (T) – Feeling (F), and Judging (J) – Perceiving (P). Due to the apparent value of MBTI preferences in predicting academic progress, this research proposes to explore the MBTI as a predictor of retention and attrition.

Data Analysis

Analysis was performed using computer software, Statistical Package for the Social Sciences (SPSS). As a first step, descriptive statistics were used to analyze the means, minimums, maximums and standard deviations of the continuous variables, such as the WGCTA score, the LPI scores, the Masters GPA, and the Application Summary Scores. Frequency tables were used to summarize categorical variables, such as MBTI preferences and Gender. In order to determine the significance of differences and their respective Type I and II error rates, paired comparison t-test statistics were conducted, based on the results of the initial descriptive statistics. Logistic regression was then used to predict retention and attrition based on identified independent variables. Logistic regression was performed using the entering cohorts as a population to be tested. A notable difference between using t-test and logistic regression is the population. T-test analysis uses two distinct populations and tests those populations against each other to determine the significant difference in presence or absence of a data characteristic.

Logistic regression is performed using two components of one population.

The dependent variable of success is represented as a dichotomy; subjects are categorized by whether or not they persisted to the point of graduation. Subjects who enrolled in courses but dropped out or stopped out of the program prior to graduation are included in the attrited category. Data for this variable are dummy-coded for the purposes of the statistical analysis.

Individuals who graduate are assigned a positive value; all other subjects are assigned the zero value code.

RESULTS AND DISCUSSION

Descriptive statistic data analysis produced the following preliminary profile: Graduates of the online leadership development program are 6.3% more likely to be female; have higher WGCTA scores by an average of 4.5%; have higher LPI Modeling scores by an average of 3.8%;

and exhibit higher percentages (avg. of 10%) in the MBTI categories of Introvert (I), Sensing (S), Thinking (T), and Judging (J).

Paired samples t-test statistics were conducted to test differences between Attrited Cohort and Graduated Cohort. For this statistic only WGCTA scores and LPI-Modeling the Way scores are the appropriate level of data for this statistic use. WGCTA-Critical Thinking scores as well as the LPI-Modeling the Way scores were significantly different between those that left the program prior to degree completion and those that graduated from the program with their doctoral degree. WGCTA shows a significance level of $p < 0.00$ which essentially indicates no chance for Type I error. LPI-Modeling the Way shows a significance level of $p = 0.106$, which indicates a 10.6% chance for Type I error. Thus, those that persist have significantly higher WGCTA-Critical Thinking scores than those that leave the program prior to degree completion (avg. 31.22 vs. 29.81). Furthermore, these results indicate that those individuals that graduate from the doctoral leadership program have significantly higher LPI-Modeling the Way scores compared to those that left the program pre-maturely (avg. 50.36 vs. 48.44). Within the graduated cohort, Application Summary Scores are significantly different between men (avg. 2.36) and women (avg. 2.19) with $p = 0.045$, or a 4.5% chance for Type I error; LPI Modeling scores are significantly different between men (avg. 49.78) and women (avg. 51.85) with $p = 0.040$, or a 4% chance for Type I error; LPI Encouraging scores are significantly different between men (avg. 46.05) and women (avg. 49.71) with $p = 0.011$, or a 1.1% chance for Type I error. The WGCTA scores are just outside the 5% cut off for significant difference between men (avg. 31.99) and women (avg. 30.33) with $p = 0.059$ or a 5.9% chance for Type I error. Within the attrited cohort, Application Summary Scores were significantly different between men (avg. 2.49) and women (avg. 2.18) with $p = 0.004$, or a 0.4% chance for Type I error; WGCTA scores are significantly different between men (avg. 31.72) and women (avg. 28.87) with $p = 0.013$, or a 1.3% chance for Type I error.

Furthermore, results indicated that there are no significant differences existed between the men who attrited versus the men who graduated and also with the women samples with a $p < 0.05$ significance level. It is interesting to note that in comparing graduated cohort to attrited cohort (men to men and women to women who graduated versus who attrited) there were no significant differences in the variables. However, there were significant differences in comparing men and women in the same cohort (e.g., graduated or attrited). Firstly, within the graduate cohort (men had significantly higher application summary scores (avg. 2.36) versus women (avg. 2.19). However, within the attrited cohort men also had significantly higher application summary scores (avg. 2.49) versus women (avg. 2.18). Furthermore, application summary scores were actually significantly higher in the attrited group of men (on average) than in the graduate group providing impetus for re-evaluating the application summary score process in program admissions. Secondly, within the graduated cohort men had lower average LPI Modeling and Encouraging scores (e.g., avg. 49.78 and 46.05) as compared with women's scores (e.g., avg. 51.85 and 49.71). These scores are significant to the prediction of graduation for men and

women alike based, since there was no significant difference between men and women in the attrited cohort.

Predictive Relationship

All independent variables tested during the bivariate prediction analyses have been included in the logistic regression. Variables such as MBTI-Perceiving, MBTI-Feeling and MBTI-Intuitive were eliminated from the logistic regression model. The observed sensitivity of this model to correctly predict graduation based on all of the independent variables was 47.1%. The observed specificity and ability to correctly predict attrition based on all of the independent variables in the above equation was 79.4%. And the overall ability of this model to correctly predict the correct percentage of graduation vs. attrition is 65.5%.

As Table 1 shows, only one independent variable (LPI-Modeling the Way), emerged as significant contributor to persistence, showing a level of statistical significance of 0.042. Thus, the logistic regression analysis indicated that LPI-Modeling the Way is a significant predictor for graduation. The predictive statistics indicate that the effective leadership behavior of *Modeling the Way* is in fact a significant predictor of persistence. Descriptive statistics showed as well that those that do persist through to degree completion on the doctoral level scored consistently higher (average 3.8%) in the effective leadership behavior of *Modeling the Way* than those that did not complete the program. Moreover, significant difference t-test analysis showed that differences in *Modeling the Way* scores between those that persist and those that do not are, indeed, significant. Thus, the effective leadership behavior of *Modeling the Way* is significant to the prediction of graduation. Individuals who model the way for others concerning the way people should be treated and the way goals should be pursued seem to also concentrate on their own behaviors and self-discipline.

Findings also showed that Master's GPA had no statistical significance on an individual's ability to persist. This result further implies that traditional academic measure of *master's level*

GPA does not contribute meaningfully to the prediction of retention or attrition at the doctoral level. Thus, the findings of the current study are consistent with studies that found that while traditional indicators, that are frequently used for admissions decisions do not influence retention significantly, GPA could nonetheless be a moderating variable for retention. Moreover, *gender* did not qualify as significant predictor for student persistence. However, this study's descriptive statistics showed that more female than male students are amongst those that graduate (6.3%).

Two findings stood out regarding the *Application Summary* score. Firstly, results seem to suggest that those with higher application summary scores are more likely to drop out of the program and secondly, men had consistently higher application summary scores. Both of these findings should provide impetus for re-evaluating the application summary score process in program admissions.

While this research demonstrated that psychological type is not a significant predictor for the overall academic achievement at the graduate level it is nevertheless a contributing factor. Even though predictive statistics did not reveal psychological type to be a significant contributor to online leadership retention, descriptive data analysis identified ISTJ types with the highest retention and graduation rates. Modeling the Way emerged as the single most significant predictor of persistence and success in the online doctoral leadership program.

Table 1: Logistic Regression Using All Independent Variables

Variable	<i>B</i>	<i>SE B</i>	Wald	<i>df</i>	Sig.	Exp(B)
SEX(0)FEM	.51	.46	1.25	1	.26	1.68
MGPA	-.26	.62	.178	1	.67	.77
APSS	.61	.84	.51	1	.48	1.83
WGCTA	-.02	.03	.34	1	.56	.98
LPI-CHALL	-.01	.04	.11	1	.75	.99
LPI-INSP	.01	.04	.02	1	.90	1.01
LPI-ENAB	.01	.06	.03	1	.86	1.01
LPI-MODL	-.10	.05	4.12	1	.04	.90
LPI-ENC	.04	.04	.99	1	.32	1.04
MBTI-E	-.35	.80	.19	1	.67	.71
MBTI-I	-.55	.84	.43	1	.51	.58
MBTI-S	-.69	.53	1.70	1	.19	.50
MBTI-T	-.41	.49	.67	1	.42	.67
MBTI-J	.56	.59	.89	1	.35	1.74
Constant	2.70	3.66	.55	1	.46	14.94

EXPLORING THE CONNECTION

As discussed above, self-efficacy has been studied in leadership, including research on organizational effectiveness, decision-making, and training for quite some time. Research has found that those with higher levels of self-efficacy seem to lead and make decisions in a way that increases productivity and performance (Bandura & Jourden, 1991; Wood, Bandura, & Bailey, 1990). A positive relationship was also found to exist between self-efficacy and effective leadership behavior (Endress, 2000; Posner & Rosenberger, 1997; Stage, 1996), as effective leaders possess certain sets of skills or characteristics that correlate positively with the self-efficacy construct. Individuals that use self-leadership and self-regulation concentrate on their behavior and are self-disciplined. These leaders rely on self-imposed strategies to manage behavior in doing difficult, unattractive, though necessary tasks.

Kouzes and Posner (1995) set out to discover what people did when they are at their personal best and found that effective leaders – as measured along five distinct leadership practices - show higher levels of self-regulation and thus are more prone to succeed and persist in their endeavors. Effective leaders demonstrate a high level of personal control and regulation over their abilities to fulfill the responsibilities of their position. Kusy, Essex, and Marr (1995)

confirmed that that effective leaders exhibited persistence when challenged by obstacles and concluded that persistence associated well with the behaviors measured by Kouzes and Posner's instrument.

The connection between exemplary leadership behavior as measured by the Leadership Practices Inventory (LPI) (Kouzes and Posner, 1995) and student persistence appeared somewhat intuitive at the beginning of this study. Nevertheless, in light of findings and the review of the literature around the concepts of self-regulation and self-efficacy, the connection between individuals' leadership behavior and their resilience to be perseverant in their goals and aspirations becomes clearer.

Research suggests that effective leaders demonstrate a high level of self-regulation over their abilities to fulfill the responsibilities of their position, to attain predetermined goals and to stay committed to a task, regardless of the circumstances or difficulties involved (Holst, 1990). Research has also shown that self-regulation, deeply intertwined with the concept of self-efficacy, positively influences distance education success (King, Harner, & Brown, 2000). Brown (2003), for instance, found that a particular positive relationship between self-regulation and the effective leadership behavior of *Modeling the Way*, as measured through Kouzes and Posner's (1995) Leadership Practices Inventory (LPI). Based on this research it was expected that students with higher scores in the various categories of effective leadership behavior would persist in the program through to degree completion. To determine and recognize the value of effective leadership behavior in regards to persistence in online education this study employed the five leadership practices based on Kouzes and Posner's research, as benchmarks for effective leadership. To this day there are no studies that examine the impact of effective leadership behaviors as measured by the Leadership Practices Inventory (Kouzes and Posner) on student's achievement or retention. For this study, the specific leadership behaviors to be measured were derived from a body of research related to organizations and leadership, detailed in the book entitled, *The Leadership Challenge: How To Get Extraordinary Things Done In Organizations*. Based on the reviewed literature, this study employed the self-typing paragraph approach and Kouzes and Posner's LPI to examine the following hypotheses: (a) retention is positively related to the participant's self-scored exemplary leadership practice of challenging the process, (b) retention is positively related to the participant's self-scored exemplary leadership practice of inspiring a shared vision, (c) retention is positively related to the participant's self-scored exemplary leadership practice of enabling others to act, (d) retention is positively related to the participant's self-scored exemplary leadership practice of modeling the way, and (e) retention is positively related to the participant's self-scored exemplary leadership practice of encouraging the heart. As Table 1 shows, one variable - *Modeling the Way* - emerged as significant predictor of persistence and graduation. The study's predictive statistics (Table 1) indicate that the effective leadership behavior of *Modeling the Way* is in fact a significant predictor of persistence. Descriptive statistics showed as well that those that do persist through to degree completion on the doctoral level scored consistently higher (average 3.8%) in the effective leadership behavior of

Modeling the Way than those that did not complete the program. Moreover, significant difference t-test analysis showed that differences in *Modeling the Way* scores between those that persist and those that do not are, indeed, significant.

Thus, the effective leadership behavior of *Modeling the Way* is significant to the prediction of graduation. Individuals who model the way for others concerning the way people should be treated and the way goals should be pursued seem to also concentrate on their own behaviors and self-discipline.

Modeling the Way consists of the two strategies of setting the example and achieving small wins. "Leaders establish principles concerning the way people (constituents, colleagues and customers, alike) should be treated and the way goals should be pursued. They create standards of excellence and then set an example for others to follow. Because the prospect of complex change can overwhelm people and stifle action, they set interim goals so people can achieve small wins as they work toward larger objectives. They unravel bureaucracy when it impedes action; they put up signposts when people are unsure of where to go or how to get there; and they create opportunity for victory" (Kouzes & Posner, 2001, p. 9). When exhibiting behaviors attributed to this scale, leaders stand up for their beliefs, are diligent and hard working.

DISCUSSION AND FUTURE CONSIDERATIONS

Extensive examination of pre-matriculation student characteristics can open the door to many new directions for student persistence research. Better understanding of the construct of persistence will evolve as additional studies are performed.

Based on the descriptive analysis performed in this study, the following profile for the typical persisting and graduating student is represented: Graduates of the online leadership development program are 6.3% more likely to be female, have higher WGCTA-Critical Thinking scores by an average of 4.2%, have higher LPI-Modeling the Way scores by an average of 3.8%, and exhibit a stronger preference for the MBTI profile of Introvert (I), Sensing (S), Thinking (T), and Judging (J).

The findings in particular emphasize the importance of behavioral characteristics in regard to persistence. LPI-Modeling the Way emerged as significant predictive value of retention and persistence in the online doctoral leadership studies program, a finding that - to this date - did not surface in any other research pertaining to retention or persistence. However, Cavins (2005), in a study examining the relationship between emotional-social intelligence and leadership practices among college students, also discovered the positive impact of *Modeling the Way* on student behavior, such as emotional-social intelligence and self-actualization. In her study *Modeling the Way* had the strongest correlation with overall emotional-social intelligence and self-actualization. Both constructs relate to one's ability to identify personal values and strive towards continual self-improvement of one's abilities and talents.

Overall, *Modeling the Way* has to do with an individual's ability to pursue projects through to completion. Kouzes and Posner (1995) explained that this leadership practice is about setting the example and displaying a high level of personal integrity and optimism. The findings of this study also strengthen Goleman, et al.'s (2002) assertion that an individual "who is optimistic can roll with punches, seeing opportunity rather than a threat in a setback" (p. 255). Closely related to the concept of optimism is the notion of hope, to which Grasgreen (2012) had this to say:

"It doesn't seem surprising that someone who can set goals, visualize paths to achieve them, and summon the motivation to start down those paths would be more likely to succeed than someone who can't do those things. But measuring the potential effect of those characteristics – which together compose the characteristic of "hope" – is starting to become more clear. A growing (but still small) body of research is finding that students with high levels of hope get better grades and graduate at higher rates than those with lower levels, and that the presence of hope in a student is a better predictor of grades and class ranking than standardized test scores. In one study at a Midwestern state university, hopeful students graduated at rates 16 percent higher than non-hopeful students. Another, at Indiana University-Purdue University Indianapolis, found that the presence of hope in first-semester law students there better predicted academic success than did ACT or LSAT scores. One study found that high-hope people experience less anxiety in general and in specific relation to test-taking situations. A longitudinal study of more than 100 students at two British universities found that hope was a better predictor of academic success than intelligence, personality or previous scholarly achievement."

Without a doubt, more research needs to be conducted to study in more detail the connection between effective leadership behaviors, as measured through the Leadership Practices Inventory, and retention and persistence in online leadership education. Is the LPI-*Modeling the Way* a significant predictor of success only in leadership development programs or does it also affect persistence and retention in other programs? Would more individuals graduate, if programs could be implemented to strengthen the effective leadership behavior of *Modeling the Way*? Would there be a significant difference between educational environments in regard to LPI-*Modeling the Way*?

Since effective leadership behavior, such as that found in *Modeling the Way*, has been linked to constructs such as self-efficacy and self-regulation, all of which have been linked to student success and persistence in higher education and the online environment, more research needs to be conducted pertaining to effective leadership behaviors and constructs such as self-

efficacy, self-regulation and self-leadership, in order to better understand their impact on persistence and retention in online leadership development.

In light of the findings of this study, which point more toward the importance of behavioral strategies as contributors to persistence, future research should examine in more detail the relationship between persistence and theories such as *Social Learning Theory*, *Social Cognitive Theory*, and/or *Intrinsic Motivation Theory*.

Future research must also recognize the need to apply research based on these study's findings to a variety of institutional environments. Findings must be compared and contrasted to facilitate a broader understanding of what drives individuals to choose specific types of institutions and to further understanding about how background characteristics of those individuals impact persistence. This research, for instance, focused on students enrolled in an online doctoral leadership degree program at a privately-owned Christian institution. How would the results of this research compare to similar research over an entire system of online leadership degree programs at the doctoral level? Would there be dramatic differences from one institution to another or between those that are faith based and those that are not? How would the results of this research compare to similar research conducted at a state-owned public institution? How would it compare to research conducted at the master's or bachelor's degree level? What about non-degree programs and training programs? Would there be significant differences between educational environments, such as online or traditional face-to-face modus operandi?

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