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Utilization of Leadership Behaviors in Athletic Training According to Job Title

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UTILIZATION OF LEADERSHIP BEHAVIORS IN ATHLETIC TRAINING
ACCORDING TO JOB TITLE

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Leadership is an important aspect of any profession. Without it, many advances would not take place. The hardest thing about leadership is defining what it is. Because the idea of leadership is so subjective, "it has become an imprecise, vague and even ethereal construct" (Kutz, 2012) and is often used synonymously with managements. Management definitions tend to focus more on knowledge of policies and procedures, job descriptions, and evaluations (Hazelbaker, 2003). On the other hand, several studies have presented operational definitions of leadership with the most complete definition coming from an analysis done by Winston and Patterson (2006). This analysis compiled operational definitions and measures from 160 articles and books to create a holistic definition (Winston, 2006). As a result, their definition is long and complicated. For the purposes of this study however, leadership will be defined as the ability to ethically influence others, regardless of title or role, toward the accomplishment of goals and objectives that reflect their mutual purposes (Nellis, 1994; Kutz, 2008; Kutz 2010; Hazelbaker, 2013).

In allied healthcare, the ability to improve the quality of care by amending traditional models is subject to effective clinical leadership (Wylie, 2009). In a statement by the Pew Health Professionals Commission, it was indicated that all healthcare professionals need to practice leadership, even if they are not in leadership or management roles (1998). In the context of nursing, Wong, Cummings, and Ducharme (2013) concluded that as leadership processes change for the better (positive processes increase and negative processes decrease), adverse events and patient mortality decrease while patient satisfaction increases. Furthermore, "good leadership skills have been shown to increase productivity, to improve the work environment, to reduce burnout, and to increase employee satisfaction" (Laurent et al., 2007).

As the role of athletic trainers (ATs) continues to evolve and gain recognition as allied healthcare professionals, it is important for the profession to practice leadership in their clinical practice. The 6th edition of the Board of Certification, Inc. (BOC) Role Delineation Study and Practice Analysis (RDS/PA) (2010) states that "athletic trainers… must utilize leadership techniques to compete in today's healthcare market" (p 70). This supports the idea that leadership plays a large role in healthcare. This is especially true with the growing specialization with all health fields. As specialization increases, so too does the need for medical professions to collaborate in the care of their patients. Anonson, Ferguson, MacDonald, Murray, Fowler-Kerry, and Bally (2009) distinguished six competencies for inter-professional collaboration of which leadership was the most recurring theme.

The importance of leadership has driven many healthcare professions (i.e., physicians) to develop educational competencies for entry-level professions so as to prepare them to be successful in the workforce. Competency-based education, while being more effective from a student's perspective (Leggett, 2015), is difficult to apply to a construct such as leadership because of the lack of a clear definition (Fan et al, 2015). As a result, it is important that educators do not replace leadership skills with those of management techniques (Kutz, 2012). Despite the lack of a clear definition, Kutz (2010) described 49 leadership competencies used in athletic training practice (Table 1). These competencies are defined as "the integrated cluster of knowledge, skills, and abilities that an athletic trainer uses to influence others" (Kutz, 2010). An overall lack of research in this area however, could be one of the reasons for the "negative impact on the professional development and socialization of athletic trainers" (Kutz, 2012).

Therefore, the purposes for this study are to use the important leadership competencies described by Kutz (2010) to examine leadership utilization in the practice of athletic training and

to determine if different practitioners practice leadership differently. This is the first study that will examine utilization of leadership behaviors in athletic training. Because of this, generalizability of the study will be limited to the groups used for comparisons. This study will be able to be used by certification and educational organizations in order to prepare professionals to be successful practitioners by providing guidance in the creation of educational competencies and continuing education unit (CEU) opportunities.

Review of Literature

While Athletic Trainers (ATs) are some of the most visible medical providers within the athletic community, the profession as a whole is still widely misunderstood. Even the title of "Athletic" Trainer is a misrepresentation as a large number that practice within the profession work outside the realm of athletics. The National Athletic Trainers Association (NATA) defines athletic trainer as a healthcare professional who, in collaboration with and under direct supervision of physicians, provide medical services consisting of prevention, emergency care, clinical diagnosis, therapeutic intervention and rehabilitation of injuries and other medical conditions (NATA, 2014). This definition allows ATs to work in a variety of settings ranging from hospitals and rehabilitations clinics to the military. As a result of the various work settings, the profession of athletic training has grown tremendously since its inception in 1950 and will continue to grow. The Bureau of Labor Statistics has projected athletic training to grow 30% between the years 2010 and 2020. This is over twice the average growth of other professionals between those same years (Bureau of Labor Statistics, 2012). However, even with this rapid growth within the profession, as of 2006, university degree programs and credentialing organizations for athletic trainers only exist within the United States and Canada (Ferrara, 2006)

As a result of the rapid growth within the profession, ATs are required to possess not only a variety of clinical skills, but also have well developed leadership abilities. The Board of Certification (BOC) Role Delineation Study/Practice Analysis (RDS/PA) states, "Athletic Trainers must utilize… leadership techniques to compete in today's healthcare market" (2010, pg. 70). Even though leadership has long been viewed as an essential aspect of both organizational and societal functioning (Day, 2012), it is also noted as one of the most researched yet least understood topics in social sciences (Avery, 2004). The idea that it is least understood comes from the fact that, to date, a complete and concise definition of the term has yet to be created. In a manuscript by Winston and Patterson (2006), a definition of leadership was formed, yet it was far from concise and, as they stated, "will continue to develop as scholars, researchers, and practicing leaders gain greater insight into the concept (pg. 32)." This ambiguity does not stop researchers from examining how this construct affects daily living.

The most important differentiation when discussing the topic of leadership is in distinguishing the difference between leadership and management. Management tends to be driven by the status quo. It is defined by the adherence to an organizations outlined policies and procedures than by innovation and advancement (Tschohl, 2014). Leadership on the other hand, in its simplest form, is "the ability to ethically influence others, regardless of title or role, toward the accomplishment of goals and objectives that reflect their mutual purposes" (Nellis, 1994; Kutz, 2008; Kutz 2010; Hazelbaker, 2013). Toor (2011) differentiated these two concepts another way by using three main themes: 1) maintain order tied to the bottom line vs change coupled with sustainability, 2) position power and structural hierarchy vs personal power and relational influence, and 3) imposing authority vs empower people. Making this distinction is important to make because it plays a large role on the advancement of organizations and

professions. This is caused by managements rigid and structured approaches whereas leadership is open to new ideas (Toor, 2011).

<div align="center">Leadership Theory</div>

As leadership is one of the oldest examined constructs, models and theories have changed many times over the years. Several theories exist in order to help create understanding of this abstract concept such as great man theory, transactional, transformation and servant leadership.

Trait/Great Man Leadership Theory

Trait or "Great Man" leadership theory are similar in that they both view leaders as possessing inherent qualities, suggesting that being a successful leader is an issue of genetics or divine gift. A common phrase used to describe this theory is that "great leaders are born, not made" (Malos, 2012). Aristotle has even stated in his writings that "from the hour of their birth, some are marked for subjection, others for rule" (as cited in Cawthon, 1996, pg. 2). This theory thrived in societies that were separated by classes, where the upper class members were believed to be born with these innate traits of leadership. As a result of such divides, leadership positions and opportunities to develop one's abilities were rarely afforded those in the lower classes, thus diminishing their chances of becoming leaders (Malos, 2012).

A study conducted by Borgatta, Bales, and Couch (1954) aimed to examining the effect of a "great man" on group productivity. Task ability, individual assertiveness, and social acceptability were used to determine a "great man". It was believed that in order to lead in this style, an individual must possess all three of the previously mentioned factors. Borgatta et al. (1954) utilized 126 enlisted Air Force males split into groups of three in order to observe the interactions within the groups. Leaders were determined following an initial group interaction. This study found that once a great man was identified, he remained as the leader of the group.

Also, the group in which "great men" were identified showed greater positive affect than groups where no "great men" were identified. With athletic trainers seldom taking a spot-light role, this study presents a barrier for the profession taking a leadership role. While this study does present strong findings because of its use of several groups, it is limited in that it only utilized only enlisted air force personnel. As the idea of great man theory began to die out, leadership contracts began to emerge.

Transactional Leadership Theory

Also referred to as managerial leadership, transactional leadership theory focuses on awards and reprimands based on performance (Malos, 2012; Kutz, 2012). This theory is very common within the business world because it occurs when there is a clear and defined chain of command (Malos, 2012). Because this leadership theory is primarily used to maintain an organization's status quo, during a time of turmoil or innovation, this type of leadership does not have its normal desired effects of increased productivity and satisfaction. While transactional leaders are often able to achieve goals efficiently, this system also allows followers to achieve their own self-gratification (McCleskey, 2014). While the gratification is primarily of low-level needs (material possessions), this allows followers to move on to higher level needs such as liberty and equality (Day, 2012).

A study by Judge and Piccolo (2004), aimed at examining the prediction capabilities of three types of transactional leadership (contingent reward, management by exception – active, management by exception – passive). This meta-analysis utilized 87 studies (68 journal articles, 18 dissertations, and 1 unpublished data set) to calculate a regression in order to predict follower job satisfaction, follower satisfaction with leader, follower motivation, leader job performance, group/organization performance, and leader effectiveness. The results of this study revealed a

strong correlation between transactional leadership and follower satisfaction with leader, follower motivation, leader job performance, and leader effectiveness. Contingent reward leadership shows a strong positive correlation with these leadership criteria while the other side of the leadership spectrum, management by exception – passive shows strong negative correlation to the same variables. This study's strength lies in its design. Being a meta-analysis, this study uses a total of 626 correlations to calculate its regressions. However, the analysis does include dissertations and unpublished works that are not peer reviewed. This allows for error in the reporting of this information. This study presents positive results for any professional working with rehabilitation of injured patients as return to daily activity or return to sport participation is often contingent on the patients' willingness to perform their program.

A study by Yammarino, Spangler, and Bass (1993) examined the relationship of transactional leadership scales (contingent promises, contingent rewards, active management by exception, passive management by exception measured by multifactor leadership questionnaire) exhibited by naval officers and attributed performance (satisfaction and effectiveness of their fleet) and appraised performance (rating by superiors). These variables were measured in 186 United States Naval officers. The results of this study showed an overall moderate positive relationship between transactional leadership and both performance measures. This shows that the performance of fleets under the command of transactional leaders can be estimated. This study's strength is in its longitudinal design. This provides more valid data about individual participants as well as allows the researchers to consider changes that occur over the researched time frame. However, much like the study by Borgatta et al. (1954), Yammarino's study can only be applied to military officers, limiting its ability to predict performance outside of this setting. While this study may not be directly applicable to healthcare, it does present the idea that

by measuring transactional leadership of HATs or PDs, it may be possible to predict the performance of the program they are leading.

Transformational Leadership Theory

The other side of the coin of the transactional theory is transformational leadership. A transformational leader has the ability to motivate followers to achieve gratification within themselves as well as adapt individual values to those of the organization (Ruggieri, 2013). Leaders do this by "employing idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration" (Malos, 2012; McCleskey, 2014; McLaurin, 2008). Within transformational leadership, respect and admiration is earned by the leader by respecting followers (Kutz, 2012). Unlike transactional or trait theory, these leaders can appear within any position in the organization and do not have to be in a formal position of power (Avery, 2004).

A study by Laurent and Bradney (2007) utilized the Leadership Practices Inventory (LPI) in order to compare leadership behaviors of athletic training leaders with leaders in other fields. The LPI is a survey of 30 questions ranked on a 1-10 scale measuring five different leadership behaviors (Model the way, Inspiring a shared vision, Challenging the process, Enabling others to act, Encouraging the heart). This study was completed by surveying 238 undergraduate athletic training education program (ATEP) program directors (PDs) and head athletic trainers (HATs). Due to the extensive use of the LPI in a variety of professions, Laurent and Bradney were able to use normative population means to compare to their data. This study found that athletic training leaders reported higher modeling and enabling, but lower inspiring and challenging behaviors. Between PDs and HATs, PDs reported higher scores in four of the five behaviors (Inspiring, Challenging, Enabling, and Encouraging). This study's strength is in its use of the LPI as its

measurement tool. This tool has been utilized more than 1.1 million times amongst varying professions (Schwartz, n.d.) and therefore allows Laurent and Bradney to make the comparison to a generalizable population. While this study is one of the initial studies examining leadership utilization within the profession of athletic training, it is unfortunately only applicable to HATs and PDs and is therefore leaving out a large part of the profession. Even with its limited applicability, this study presents positive results as it shows athletic training leaders exhibit leadership similarly to leaders of other healthcare fields.

Servant Leadership Theory

Finally, servant leadership is based on the ethics, virtues, and morality of the leader (Parris, 2013). Within the servant leadership model, the relationship between the leader and the follower is placed in higher regard than the performance of the organization (Winston, 2006). The idea behind putting the follower first is that when "leaders place a priority on providing tangible and emotional support to followers and assisting followers in reaching their full potential, followers in turn see the leader as a role model and engage in appropriate behaviors, not through coercion, but because they want to do so" (Liden, 2014). In as much as the previous theories are more management techniques, servant leadership is a lifestyle (Parris, 2013).

A review of the literature on servant leadership by Parris et al. (2013) utilized 39 peer-reviewed journal articles to investigate the effects of servant leadership within an organization. The results of this review revealed servant leadership can lead to increases in overall effectiveness of both individuals and the team as a whole. Servant-led organizations were shown to "enhance leader trust and organizational trust, organizational citizenship behavior, procedural justice, team and leader effectiveness, and the collaboration between team members" (Parris, 2013, pg. 387). As such, this is an effective and efficient theory of leadership. As mentioned by

the researchers, the major limitation of this study is that it did not include articles not originally written in English. This article showed that servant leadership is of universal interest thus making this an important limitation. On the other hand, this article's strength is in its utilization of articles that examined numerous aspects of this leadership theory including follower well-being, spirituality, and cross-culture applicability.

A study conducted by Vondey (2010) examined servant leadership and its correlation with person-organizational fit, organizational identification, and personal initiative. By examining servant leadership utilization via the Servant Leadership Assessment (SLA) of 114 participants from various industries across the country, this study revealed a moderate positive correlation within interpersonal helping organizational citizenship behavior (OCB), individual initiative OCB, person-organization fit, and loyal boosterism OCB. These findings supported the researcher's rationale that servant leaders serve both the organization and their followers. This study also revealed that a leader's behavior makes effects follower attitudes. The major weakness for this study is in its self-reported nature. When self-reporting behaviors, individuals often over-inflate the actual occurrences. Its strength on the other hand, lies in its use of a validated instrument. The servant leadership instrument utilized by Vondey (2010) was developed by Liden and has been used extensively in the examination of servant leaders.

Both of these studies represent similar impacts on healthcare. As several faith-based universities and healthcare organizations begin employing athletic trainers, it is important that these professionals are able to adapt to this follower-first style. Even out of this context, it is important for athletic trainers, and all healthcare providers, to remember that healthcare is a service first profession. Servant leadership is a great theory for organizations that hold such an effect on society as a whole.

Leadership in Healthcare

Oliver (2006) stated that in order to cope with the constantly changing landscape within healthcare, clinicians must "demonstrate leadership skills and act as role models at all levels of health care provision" (pg. 38). This necessity lies in the need to improve health care delivery and redesign the traditional medical models that are no longer efficient in today's environment (Wylie, 2009).

A study completed by Wylie and Gallagher (2007) examined self-reported transformational leadership profiles within six allied health profession groups in Scotland including dietetics, occupational therapy (OT), physiotherapy, podiatry, radiography, and speech and language pathology. Their aim was to determine if seniority, training and other variables are predictors of transformational leadership behaviors (attributed charisma, behavioral charisma, inspirational motivation, intellectual stimulation, and individualized consideration). This study found significant differences in behavioral charisma (Radiography vs Dietetics/Occupational Therapy/Physiotherapy/Podiatry/Speech and Language Therapy), inspirational motivation (Occupational Therapy vs Dietetics/Podiatry/Radiography; Physiotherapy vs Podiatry/Radiography), individual consideration (Occupational Therapy vs Dietetics/Podiatry/Radiography; Physiotherapy vs Podiatry/Radiography; Dietetics vs Podiatry; Speech and Language Therapy vs Podiatry/Radiography), and intellectual stimulation (Dietetics vs Podiatry/Radiography; Occupational Therapy vs Podiatry/Radiography; Physiotherapy vs Podiatry/Radiography; Speech and Language Therapy vs Podiatry/Radiography). Wylie and Gallagher (2007) also report significantly higher total leadership scores in those professionals who had received previous leadership training as well as those in positions of higher authority. The major strengths of this study are in its use of a highly validated instrument as well as

performed a pilot study in order to determine appropriate sample size. While this study does examine a comprehensive view of transformational leadership, it does not take a holistic approach to leadership and further presents the question of how leadership is utilized differently within the professions, not just between professions. This study suggests that leadership training may be the next step in developing ATs into leaders within the healthcare profession.

Hazelbaker (2013) conducted a study that examined the knowledge, skills, and abilities (KSAs) that are required of athletic trainers employed within hospital and clinical management positions. As such, the KSAs presented in this study are also necessities for any individual in these positions. This study utilized a Delphi technique that consisted of surveying eight experts participating in three rounds of surveys. This study reported that the ability to effectively manage and lead people is the most important KSA to possess as an athletic trainer practicing as a hospital or clinical manager (Hazelbaker, 2013). As such, leadership is important no matter what the practice setting of an athletic trainer is. The results of this study suggest healthcare managers, as well as ATs, need to possess leadership skills in order to be successful with in healthcare. This study's strength lies in its use of a three round Delphi technique. This technique was chosen because of the limited research available in the area of KSAs of athletic trainers employed in other professions. However, this study fails to address specific leadership competencies required of athletic trainers in all settings. This study also lacks generalizability because the low number of participants that were included on the panel (Hazelbaker, 2013).

Leadership in Athletic Training

Kutz (2010) did a study on practice and educational implications of leadership in athletic training. The aim of his study was to determine leadership competencies that are important to the practice of athletic training, and to determine at what level (entry-level baccalaureate, entry-level

masters, post-certification master's, doctoral) these competencies should be taught. This study

utilized a Delphi technique combined with a national survey. The Delphi panel and national

survey consisted of athletic trainers from both clinical practice and education settings. The

Delphi panel resulted in a list of 49 leadership competencies viewed to be important in the

practice of athletic training. This list of competencies was then sent out as a national survey to be

rated on a 1 to 3 scale for their importance in clinical practice as an athletic trainer. The results of

the national survey showed that 44 of the 49 competencies were rated as significant to athletic

training clinical practice. When examining the level at which the competencies should be taught

13 were significantly more important to be taught in entry-level master's (ELM) than entry-level

baccalaureate (ELB), 21 were rated more significant for inclusion in post-certification master's

(PCM), and 9 were rated more significant for doctoral (DOC) programs the PCM (Kutz, 2010).

The results of this study show that not only is leadership important for practice, but it also a

necessity to include within the education of future athletic trainers. This study's strength is that it

is the first study to examine specific leadership competencies and their relation to practice and

education of athletic training. The major weakness for this study, however, is that it only looks at

importance of competencies and therefore leads to the question of how often these competencies

are utilized within athletic training practice.

<div align="center">Clinical Competency</div>

Competencies in Education

Leadership as a whole has been shown to be an important aspect of athletic training

(Kutz, 2010; Kutz, 2012; Laurent, 2007). Therefore, in leadership, it is critical for athletic

training educators to ensure those entering the profession are competent. Competence can be

defined as having the knowledge, judgment, skill, or experience in order to be successful in the

workforce (Wimmers, 2006; Boahin, 2014). In order to measure competence, professions have developed industry specific competencies. While the terms competence and competency are often used synonymously, competence focuses on what the action or behavior is, whereas competency describes a person's actions that supports competent performance (Scott-Tilley, 2008).

The development and re-evaluation of competencies is a process that takes the collaboration of many different groups within the professional community. These reviews are referred to a practice analyses. Practice analyses are crucial in determining the competencies of professionals within their respected industries. The analysis is started by a committee that is responsible for sending out comprehensive job survey to a large number of professionals (Babcock, 2011; Peterson, 2005). These surveys are then analyzed to find groupings of similar knowledge, skills, and abilities (KSAs) that then become the standard competencies (Peterson, 2005). These competencies have become the basis for the transition to a new style of education called competency-based education (CBE) or competency-based training (CPT).

Competencies in Healthcare

CBE has become popular amongst many allied health programs as employers and educators begin to define disconnects between education and practice (Scott Tilly, 2008) and has begun to expand to a greater range of programs since 2013 (Leggett, 2015). CBE focuses of students' performance on specific learning objectives (Fan, 2014) and "allows for effective student learning by providing a knowledge foundation prior to the performance of procedures" (Leggett, 2015).When developing a competency-based education program, there are five principles to consider: 1) The degree reflects competencies proven important to both practice and education, 2) students are encouraged to learn at their own pace and are afforded the resources

needed to learn, 3) resources can be accessed at any time and can be accessed multiple times, 4) there is a definitive process for connecting competencies with courses, learning outcomes and assessments, 5) assessments are secure and reliable (Johnstone, 2014). It becomes difficult to implement if the competencies are not clear (Fan, 2014). As CBE and leadership continue to gain momentum within the medical community, and athletic trainers look toward gaining greater acceptance into this community, it is vital to examine how leadership is practiced similarly between these professionals as well as how athletic training education can better prepare its students to be successful in the profession.

The BOC Role Delineation/Practice Analysis (RDS/PA) (2010) develops the competencies taught within athletic training education. This study utilized a Delphi technique with 23 athletic training experts from around the country. These experts developed a list of 28 tasks required of all athletic trainers and categorized them into five practice domains followed by the development of several knowledge and skill statements for all of the tasks. Following the consensus of the experts, a national survey was conducted with 1,152 certified athletic trainers responding out of 5,003 total surveys sent out (BOC, 2010). This study revealed 28 educational competencies that are necessary for athletic training practice. This study's strength is in its combination of expert panel consensus and a national survey. By using this design, along with the high number of participants, this practice analysis has a high validity.

Anonson et al. (2009) performed a study examining the competencies required for healthcare professionals working within an interprofessional team atmosphere. With the ever-changing landscape within healthcare, and an ATs responsibility within the sports medicine team, it is more important than ever for individuals to work as a team with other professionals. This qualitative study utilized interviews of 24 participants involved in team collaboration with

other healthcare professionals. These participants were employed in healthcare professions including nursing, medicine, pharmacy, physical therapy (PT), primary health care practitioners, and addiction counselors among others. Six competencies were reported including communication, knowledge of one's own profession, knowledge of the others' professions, teamwork, negotiation for conflict resolution and leadership with leadership being the most recurring of the competencies. Because of this recurrence, Anonson et al. (2009) examined leadership in several different contexts. Those being shared leadership, willingness to assume leadership, self-regulation of team function, and advocacy for team practice. Being able to utilize the leadership skills presented in this study are vital in the ability to work within a healthcare team as well as running a successful and efficient athletic training room (Nellis, 1994). Anonson's study's strength is in its use of professionals from a variety of healthcare careers and settings. This study presents group leadership skills, however it fails to present what specific abilities an individual can possess in order to be successful.

As the literature has demonstrated, leadership plays an integral part within all aspects of healthcare (Board of Certification, 2009; Anonson, 2009; Oliver, 2006; Kutz, 2010; Kutz, 2012; Wylie, 2009). However, as previously represented, there are several large gaps within the literature in regards to how leadership is utilized within healthcare, especially within athletic training. It is important to close these gaps in order to better understand how specific leadership behaviors are utilized and to discover how educators can better prepare students to enter the profession as successful members. By answering the questions raised by previous research, athletic training educators will be able to better prepare future professionals to be successful practitioners and leaders.

Methods

Instrumentation

The Leadership Utilization in Athletic Training Scale (LUATS) used for this research was derived from the Leadership Development in Athletic Training (LDAT) instrument developed by Matthew Kutz (2010). The LUATS is a web-based survey (designed with Survey Monkey, www.surveymonkey.com) consisting of three sections; informed consent, demographic section and frequency of leadership competency use section. The demographic section included questions regarding age, race/ethnicity, gender, years of experience as an AT, job title, and primary work setting. The frequency of leadership competency use section consisted of 49 leadership competencies (table 1) to be rated on a 5-point likert scale by the participant (1-Never, 5-Always). In order to control for individual definitions of the leadership behaviors, the survey included corresponding definitions for each term.

Procedures

This study was approved by the university human subjects review board. An invitation e-mail with an active link to the survey was sent out by the National Athletic Trainers' Association (NATA) national office to 1,000 randomly selected Board of Certification (BOC)-certified NATA members. Following a two-month collection period, a follow-up email was sent out by the NATA as a reminder to complete the survey. In an effort to further increase participation, the e-mail was also sent out to 381 Athletic Training Education Program (ATEP) program directors. The final response rate was estimated at 9.9%.

Participants

Respondents to this survey were male (n=32) and female (n=59) certified ATs with an average age of 38.24 years old and 15.48 years of experience. Participants worked in a range of

professional setting including university/college (n=55), high school (n=27), clinics (n=8), and

health/fitness clubs and youth sports (n=7). They also worked under a variety of job titles

including head athletic trainer (n=33), staff athletic trainer (n=26), graduate assistant (n=2) and

educator (n=37). Table 2 provides a complete description of respondent demographics.

Data Analysis

Statistical analysis included Cronbach's alpha and item analysis to determine reliability

estimates of the survey. Two-tailed independent sample *t*-tests and one-way ANOVA's with

Sidak post-hoc comparisons were used to compare mean differences between leadership

competencies based on demographic variables. Statistical significance was set a priori at *p*=.05.

Means are reported as mean ± standard deviation (SD).

Results

Internal consistency of the LUATS was α=.96; individual item analysis revealed α-

values ranging from .961-.963 (Table 3). All Leadership behaviors were utilized at least

sometimes, according to mean score (M≥3.00; 5-point scale 1-5). The three most utilized

leadership behaviors were *credibility* (*M*=4.80±.43), *thrives on responsibility* (*M*=4.67±.55), and

critical thinking (*M*=4.59±.61). The three least utilized leadership behaviors were *scholarship*

(*M*=3.32±1.24), *socially responsible* (*M*=3.72±1.02), and *willing to take appropriate risk*

(*M*=3.84±0.89) (Table 4). Women utilized *discipline* more than men (*M*=4.25±.65, *M*=3.97±.72

respectively; *p*=.05) (Table 5). *Courageous leadership* (confidence) was utilized more frequently

by those with greater than 20 years of experience compared to those with 9 or less years of

experience, ($F_{(3,92)}$=3.421, *p*=.021) (Table 6). Clinic-based athletic trainers reported using

excellent verbal communication more than college/university-based athletic trainers, ($F_{(3,93)}$=3.399, *p*=.037). Secondary school athletic trainers reported using *crisis management* more

than athletic trainers in health & fitness settings, ($F_{(3,93)}$=3.077, p=.034) (Table 7). Those under

the title educator/clinical reported using *ethical behavior* more than head athletic trainers

($F_{(3,94)}$=3.159, p=.025). Educators/clinicians also utilized *intentional leadership* ($F_{(3,94)}$=3.131,

p=.032), *social responsibility* ($F_{(3,94)}$=3.013, p=.035), *excellent written skills* ($F_{(3,94)}$=3.439,

p=.012), *scholarship* ($F_{(3,94)}$=3.959, p=.009), *identification of leaders* ($F_{(3,94)}$=4.576, p=.003), *risk

taking* ($F_{(3,94)}$=2.791, p=.048), *responsibility for actions* ($F_{(3,94)}$=4.906, p=.028), *knowledgeable*

($F_{(3,94)}$=3.946, p=.006), and *nurtures professional relationship* ($F_{(3,94)}$=3.772, p=.008) more than

staff athletic trainers. Educator/clinician athletic trainers also practiced *courageous leadership*

more than both head athletic trainers ($F_{(3,94)}$=7.332, p=.002) and staff athletic trainers

($F_{(3,94)}$=7.332, p=.001) (Table 8).

Discussion and Implications

Previous research in leadership in athletic training is remarkably sparse when compared

to other healthcare professions. The research that does examine this construct focuses primarily

on what construct of leadership is utilized (i.e., transformational) (Platt-Meyer, 2002; Laurent,

2007, Herzog, 2009) and what competencies (i.e., behaviors) are deemed important in the

clinical practice of athletic training (Kutz, 2010). Specific leadership behavior utilization

however, has been unexplored. This investigation provides empirical evidence that all of these

behaviors are utilized at least sometimes within the profession (Table 4). These results support

the importance of leadership as a necessary component in not only the practice of athletic

training but also in the education of athletic trainers (Kutz, 2010). These findings also support

the generally accepted idea that leadership is an important aspect of all allied health professions

(Kutz, 2004).

Job Title

The responsibility variations inherent in differing job title may help to explain the differences in leadership behaviors used by athletic trainers who work primarily as educators (PDs) and those in clinical practice (HAT, SAT, GAAT). PDs reported using ethical behavior more than HATs. It is unclear however if this difference is simply a result of PDs being exposed to more situations that require ethical decisions. As such, if there are lapses in ethical judgement, this is a large detriment to the profession as a whole. PDs also reported utilizing several behaviors significantly more than SATs. This is most likely due to the fact that SATs have fewer responsibilities than do PDs. Along with that, PDs are also responsible for the development of students on a professional level. This creates differing operating environments, which have been shown to influence how leaders perform (Eagly, 2001). Therefore, these differences are not surprising to find because of the variety of environments that ATs practice in.

Job Setting

Similarly to job title, responsibilities can be assumed to vary depending on where and with whom an athletic trainer may work. However, this study revealed that ATs in different settings practice leadership similarly with only a few small differences. Excellent verbal communication was utilized most by athletic trainers in the clinical setting. It has been shown that improved verbal communication can improve patient outcomes (Stewart, 1995). As such, the differences discovered by this study are moderately surprising. However, the differences could be explained by the numerous different types of patients those within a clinic see on a daily basis.

Crisis management was reported to be used more by secondary school athletic trainers than those that worked in the health/fitness and youth settings. The type of athletes these

individuals are working with may explain this difference. A study conducted by Backx, Beijer, Bol, and Erich (1991) of 1818 school children revealed that of the 399 sports injuries that occurred during the study, 62 % occurred during organized sports while only 18% occurred during non-organized/recreational athletics. As such, this difference is not surprising as those working with organized sports will spend more time focused on crisis management.

Experience

Tourangeau (2003) reported that more experienced leaders generally reported greater utilization of leadership behaviors than less experienced leaders. However, the results of the current study opposes this claim by Tourangeau (2003) and agrees with the findings of Kutz (2010) in that all athletic trainers need to practice these behaviors no matter how many years they have been practicing. The one significant difference discovered in this study between experience levels (i.e., courageous leadership) could be explained by the idea that as professionals move along the continuum from novice to expert as experience is gained, they become confident in their decisions and therefore hold to their convictions more closely (Kutz, 2010).

Implications

With the requirements regarding continuing education units (CEUs) that the BOC maintains over athletic trainers along with the importance of leadership within the profession, the finding of this study, especially those represented in table 4, could play a large role in the design of CEU opportunities. At the same time, these results can also be used by the Commission on Accreditation of Athletic Training Education (CAATE) to develop and implement competencies for the education of young professionals. This can be done by utilizing those competencies that had a mean of 4.0 or greater and developing educational competencies while leaving the bottom six as CEU courses.

Along with being used by educational organizations, these results can also be used by educators. By utilizing this research appropriately, educators can individualize leadership training depending on what setting a student wants to work in. This preparation will allow professionals to be more successful in their chosen fields.

Limitations

This study is limited in its generalizability. Due to the numerous settings in which athletic trainers could practice and this study only utilizing a small sample of these settings, the results can therefore only be applied to the settings utilized for comparison. Unfortunately, along with this sample, the response rate was very low. However, due to the web-based nature of the survey, lower response rates have been shown in lengthy surveys (Manfreda, 2002). This is acceptable as long as the respondents are representative of the population as a whole. It has been demonstrated that if the sample represents the whole, high response rates are not a necessity for generalizability (Leslie, 1972). This study was also unable to determine if the differences between competency utilization was due to the general utilization of these behaviors or because of the exposure to situations that require their use. Being able to differentiate between these two conditions could further allow educators to prepare young professionals for a desired setting. Another limitation of this study is in its utilization of the LUAT. This measure was developed specifically for this study based on a Delphi study. While this does mean there is some validity within this measure, it has not been independently validated. This measure is also self-reported. By using a peer-reported measure it could be possible to control for self-biased reporting.

Future Research

In conjunction with studies by Laurent and Bradney, as well as several by Kutz, this study has opened the door to several new questions. For example, why do the various settings

differ in how leadership is practiced? Future studies should focus on how these behaviors can be taught in order to best prepare students to be successful as practitioners. Where most current research in limited to quantitative studies, it is necessary to perform both quantitative and qualitative studies in order to gain an all-around view of this construct and its application to athletic training.

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APPENDIX B

Table 1. Leadership Competencies Important for Athletic Training Practice	
Leadership Competency	**Description**
1. Advocate	Takes responsibility for actions of others and defends actions of others, acts when appropriate as an advocate for others.
2. Ambitious	Uses available resources (intrinsic and extrinsic) and other effective strategies to promote professional and person development.
3. Applies known and attained knowledge	Uses clinical evidence, research, and best practices in the promotion of the profession by professional communications (abstracts, poster presentations, lectures, etc), original investigations, and literature reviews.
4. Assertive	Proactive about new ideas, innovations, and change initiatives while maintaining respect for personal boundaries and rights of others.
5. Change agent	Has the bravery to raise difficult and challenging questions that others may perceive as a threat to the status quo. Proactive rather than reactive in rising to challenges, leading, participating in, or making changes.
6. Collaborator	Effectively collaborates with other professionals within the local community in achieving goals. Facilitates the collaboration as a leader and participant with colleagues and other health care professionals.
7. Consensus Builder	Exhibits interpersonal skill and convinces other people to see the common good or a different point of view for the sake of the organizational mission or values by using listening skills, managing conflict, and creating win-win situations.
8. Contextual Intelligence	Appropriately interprets and reacts to changing and volatile surroundings.
9. Controls risk	Implements quality management strategies (prevention of patient care problems) and risk management (analyze problems and minimize losses after a patient care error occurs) to continuously improve care. Strives to improve quality while simultaneously decreasing risks.
10. Courageous leadership	Has strong convictions and holds to convictions when faced with challenges.
11. Creative/innovative leadership	Produces plausible ideas when asked or needed related to management and leadership practices.
12. Credible	Is believable, honest, trustworthy, and ethical in dealing with subordinates, peers, and supervisors.
13. Crisis management	Effectively handles unforeseen crises and limits or corrects problems in a reasonable amount of time (via problem solving and dialogue); and deals with conflict by providing effective strategies for conflict resolution.
14. Critical thinker	Cognitive ability to make connections, integrate, and make practical application of different actions, opinions, and information.
15. Cultural sensitivity	Promotes diversity in multiple contexts and aligns diverse individuals by creating and facilitating diversity and provides opportunities for diverse members to interact in nondiscriminatory manner.
16. Dedicated	Has the desire and energy and the discipline to achieve stated goals.
17. Delegates effectively	Appropriately gives responsibility and authority to others in accomplishing desired tasks.

18. Disciplined	Is consistent and steady in performing unpleasant or mundane tasks that provide long-term benefits
19. Effective and constructive use of influence	Uses interpersonal skills, personal power, and influence to constructively and effectively affect the behavior and decisions of others. Demonstrates the effective use of different types of power in developing a powerful image.
20. Emotionally stable	Handles and manages stress associated with leadership roles. Exhibits a cool, calm, and relaxed demeanor even in the face of crisis or adversity.
21. Empathetic	Demonstrates concern for the personal and professional lives of coworkers and peers. Exhibits empathy by: giving full attention, listens, expresses concern, advocates, assists, understands different cultures, beliefs, and perspectives. Takes risks on behalf of team members.
22. Empowerment	Uses influence and interpersonal ability to promote and encourage personal growth of others. Ensures transformation and development of others.
23. Ensures an awareness of mission	Understands and communicates how individual performance of others influences subordinate's, peer's, and supervisor's perception of how the mission is being accomplished.
24. Ethical	Promotes team practices of ethical behavior in the treatment of patients and in the pursuit of organizational goals and objectives. Reports incompetent, unethical, and illegal practice objectively, factually, and according to current standards/procedures. Treats people equitably and fairly.
25. Excellent verbal communication skills	Verbally articulates thoughts and ideas accurately, effectively, and succinctly to subordinates, team members, supervisors, other professionals, and collaborative community partners.
26. Excellent written communication skills	Writes thoughts and ideas accurately, effectively, and succinctly to subordinates, team members, supervisors, other professionals, and collaborative community partners.
27. Flexible, adaptable, and resilient in times of change, crisis, or stress	Adapts and copes well to unforeseen changes or volatile circumstances brought on by supervisors, peers, subordinates, or the environment.
28. Future-minded	Has a forward-looking mentality and sense of direction and concern for where the organization should be in the future.
29. Identifies leaders	Identifies leadership attributes in emerging leaders and takes the initiative to facilitate their development.
30. Improves morale	Facilitates and encourages a positive attitude in peers, subordinates, and supervisors toward their work and life.
31. Influencer	Uses interpersonal skills to ethically and non-coercively affect the actions and decisions of others.
32. Intentional leadership	Assess and evaluates own leadership performance and is aware of strengths and weaknesses. Takes intentional action toward continuous improvement of leadership ability.
33. Knowledgeable	Knows, understands, and is capable of performing the details and demands of tasks and roles specific to the profession.
34. Leadership planner	Has an action guide and delineated goals for achieving person best.
35. Leads quietly	Moves patiently, carefully, and incrementally. Doing what is "right" for the organization while using modesty and restraint to accomplish goals.

36. Multicultural leadership	Can influence and affect the behaviors and attitudes of peers and subordinates in an ethnically diverse context.
37. Nurtures professional relationships	Builds relationships with other members of the healthcare community that are advantageous to the organization's mission, values, goals.
38. Open-mindedness	Willingness to discard old ways of doing things when evidence fails to support them.
39. Organizationally savvy	Carefully observes the environment and people, participates in fulfilling the needs of the organization and industry, and interacts effectively with people in and outside the organization.
40. Protector	Provides a secure environment, tending to others carefully, and prevents indiscretions.
41. Resilience	Ability to recover from or adjust easily to misfortune or change.
42. Responsible for actions	Handles scrutiny and criticism professionally and with tact when offered by subordinates, peers, superiors, other professionals, and community partners for activities and initiatives.
43. Scholarship	Contributes to professional advancement by promoting and participating in scholarly activity, such as, conduction research, giving/hosting professional presentations, participating in peer reviews, or writing articles.
44. Socially responsible	Expresses concern about social trends and issues (encourages legislation and policy when appropriate) and volunteers in social and community activities.
45. Thrives on responsibility	Has a strong sense of duty and dependability in a variety of situations and roles.
46. Time management	Makes use of processes and tools that increase efficiency and sets parameters for availability to subordinates and peers.
47. Uses body language	Uses nonverbal cues and body language effectively and appropriately when communicating to subordinates, team members, supervisors, other professionals, and collaborative community partners.
48. Utilizes appropriate leadership styles	Demonstrates the ability to implement and transition between varieties of leadership styles (i.e., transactional, charismatic, transformation, situational, servant, autocratic, laissez-faire, etc.), when appropriate and when different situations dictate a diversity of leadership styles. Con identify when it is appropriate to transition between leadership styles with subordinates and peers and recognizes when superiors and other professionals are transitioning between leadership styles.
49. Willing to take appropriate risk	Willing to accept a degree of uncertainty for the sake of implementing an idea, needed value, or to see a goal accomplished.

Taken from Kutz, M.R. (2010). Leadership in Athletic Training: Implications for Practice and Education in Allied Health Care. *Journal of Allied Health* (39), 265-279.

Table 2. Demographic and Professional Characteristics of Respondents (*n*=99)			
Demographic Variable	No.	Valid Percentage	Mean ± SD
Gender			
Male	32	35.2	
Female	59	64.8	
Total	91	100	
Age			38.24±10.84
21-30	31	32.6	
31-40	26	27.4	
41-50	21	22.1	
51+	17	17.9	
Total	95	100	
Ethnic Background			
Caucasian	88	90.7	
Other	9	9.3	
Total	97	100	
No. of Years as AT			15.48±10.31
0-9	35	36.5	
10-14	15	15.6	
15-19	14	14.6	
>20	32	33.3	
Total	96	100.0	
Job Setting			
University/College	55	56.7	
High School	27	27.8	
Clinic	8	8.2	
Health/Fitness/Youth Sports	7	7.2	
Total	97	100.0	
Job Title			
Head Athletic Trainer	33	33.7	
Staff Athletic Trainer	26	26.5	
Graduate Assistant	2	2.0	
Educator/Clinic	37	37.8	
Total	98	100.0	

AT, athletic trainer

Table 3. Item Analysis of Leadership Competencies Included in LUATS

Leadership Competency	Corrected Item-Total Correlation		Chronbach's Alpha if Item Deleted
Advocate	0.718		0.961
Ambitious	0.569		0.961
Applies known and attained knowledge	0.394		0.962
Assertive	0.603		0.961
Change agent	0.769		0.961
Collaborator	0.562		0.961
Consensus Builder	0.584		0.961
Contextual intelligence	0.618		0.961
Controls risk	0.627		0.961
Courageous leadership	0.591		0.961
Creative/innovative leadership	0.687		0.961
Credible	0.423		0.962
Crisis management	0.520		0.962
Critical thinker	0.628		0.961
Cultural sensitivity	0.441		0.962
Dedicated	0.515		0.962
Delegates effectively	0.560		0.962
Disciplined	0.560		0.961
Effective and constructive use of influence	0.678		0.961
Emotionally stable	0.590		0.961
Empathetic	0.575		0.961
Empowerment	0.703		0.961
Ensures an awareness of mission	0.674		0.961
Ethical	0.444		0.962
Excellent verbal communication skills	0.564		0.961
Excellent written communication skills	0.601		0.961
Flexible, adaptable, and resilient in times of change, crisis, or stress	0.583		0.961
Future-minded	0.557		0.961

Identifies leaders	0.639	0.961
Improves morale	0.605	0.961
Influencer	0.613	0.961
Intentional leadership	0.684	0.961
Knowledgeable	0.430	0.962
Leadership planner	0.529	0.962
Leads quietly	0.409	0.962
Multicultural leadership	0.651	0.961
Nurtures professional relationships	0.589	0.961
Open-mindedness	0.489	0.962
Organizationally savvy	0.666	0.961
Protector	0.619	0.961
Resilience	0.603	0.961
Responsible for actions	0.522	0.962
Scholarship	0.313	0.963
Socially responsible	0.629	0.961
Thrives on responsibility	0.534	0.962
Time management	0.464	0.962
Uses body language	0.683	0.961
Utilizes appropriate leadership styles	0.762	0.961
Willing to take appropriate risk	0.682	0.961

Table 4. Means and Response Rates of Leadership Competencies

Leadership Competency	Scale Response (Mean±SD)				% Response				
	Sometimes (0-3.99)	Often (4-4.5)	Always (>4.5)		Never (1)	Seldom (2)	Sometimes (3)	Often (4)	Always (5)
Scholarship	3.32±1.244				7.1	22.2	24.2	24.2	22.2
Social Responsibility	3.72±1.021				2.0	8.1	33.3	29.3	27.3
Willing to Take Appropriate Risk	3.84±.889				2.0	5.1	21.2	50.5	21.2
Multicultural Leadership	3.93±.811				1.0	1.0	27.3	45.5	25.3
Delegates Effectively	3.97±.952				3.0	3.0	19.2	43.4	31.3
Influencer	3.99±.802				2.0	2.0	14.1	58.6	23.2
Change Agent		4.00±.881			1.0	3.0	23.2	40.4	32.3
Identifies Leaders		4.01±.909			2.0	3.0	19.2	43.4	32.3
Empowerment		4.01±.789			-	4.0	18.2	50.5	27.3
Leadership Planner		4.04±.925			2.0	2.0	22.2	37.4	36.4
Effective and Constructive Use of Influence		4.05±.734			-	3.0	15.2	55.6	26.3
Uses Body Language		4.06±.806			2.0	2.0	11.1	57.6	27.3
Creative/Innovative Leadership		4.07±.799			1.0	3.0	13.1	53.5	29.3
Utilizes Appropriate Leadership Styles		4.08±.829			1.0	2.0	18.2	45.5	33.3
Ambitious		4.09±.834			1.0	2.0	18.2	44.4	34.3
Contextual Intelligence		4.11±.819				4.0	16.2	44.4	35.4
Nurtures Professional Relationships		4.11±.978			1.0	9.1	9.1	39.4	41.4
Intentional Leadership		4.11±.819			1.0	3.0	13.1	49.5	33.3
Excellent Written Communication Skills		4.13±.841			1.0	3.0	14.1	45.5	36.4
Advocate		4.14±.808			1.0	2.0	14.1	47.5	35.4
Ensures an Awareness of Mission		4.15±.774			1.0	2.0	11.1	52.5	33.3
Disciplined		4.16±.681			-	1.0	13.1	54.5	31.3
Time Management		4.16±.792			-	4.0	12.1	47.5	36.4
Leads Quietly		4.17±.846			1.0	2.0	16.2	40.4	40.4
Courageous Leadership		4.17±.770			-	2.0	16.2	44.4	37.4

	Mean±SD	Mean±SD					
Collaborator	4.17±.796		1.0	1.0	15.2	45.5	37.4
Improves Morale	4.19±.765		1.0	1.0	12.1	49.5	36.4
Resilience	4.19±.752		1.0	-	14.1	48.5	36.4
Controls Risk	4.20±.714		-	1.0	14.1	48.5	36.4
Cultural Sensitivity	4.22±.954		2.0	4.0	12.1	33.3	45.5
Excellent Verbal Communication Skills	4.22±.678		-	-	14.1	49.5	36.4
Crisis Management	4.23±.780		-	3.0	12.1	43.4	41.4
Organizationally Savvy	4.24±.797		1.0	2.0	10.1	45.5	41.4
Emotionally Stable	4.26±.750		-	3.0	9.1	46.5	41.4
Assertive	4.26±.750		-	3.0	9.1	46.5	41.4
Open-mindedness	4.27±.780		1.0	2.0	8.1	46.5	42.4
Applies Known and Attained Knowledge	4.29±.732		-	2.0	10.1	44.4	43.4
Consensus Builder	4.33±.700		1.0	-	7.1	48.5	43.4
Flexible, Adaptable, and Resilient in Times of Change, Crisis, or Stress	4.34±.688		-	-	12.1	41.4	46.5
Future-minded	4.34±.641		-	-	9.1	47.5	43.4
Protector	4.36±.839		1.0	4.0	5.1	37.4	52.5
Empathetic	4.39±.697		-	-	12.1	36.4	51.5
Responsible for Actions	4.43±.657		-	1.0	6.1	41.4	51.5
Dedicated		4.53±.628	-	1.0	4.0	36.4	58.6
Ethical		4.56±.658	-	-	9.1	26.3	64.6
Knowledgeable		4.58±.536	-	-	2.0	38.4	59.6
Critical Thinker		4.59±.606	-	-	6.1	29.3	64.6
Thrives on Responsibility		4.67±.553	-	1.0	1.0	28.3	69.7
Credible		4.8±.428	-	-	1.0	18.2	80.8

Table 5. Gender Specific Utilization of Leadership Competencies

Leadership Competency		Males (n=34)		Females (n=63)			Mean Difference	t-value	p-value
		Mean	SD	Mean	SD				
Advocate		4.12	0.977	4.17	0.708		-0.05	-0.330	0.742
Ambitious		4.03	0.717	4.13	0.889		-0.1	-0.550	0.583
Applies known and attained knowledge		4.41	0.743	4.24	0.712		0.17	1.129	0.262
Assertive		4.29	0.719	4.22	0.771		0.07	0.448	0.655
Change agent		4.06	0.919	3.95	0.869		0.11	0.564	0.574
Collaborator		4.15	0.925	4.19	0.715		-0.04	-0.257	0.798
Consensus Builder		4.29	0.871	4.33	0.596		-0.04	-0.262	0.794
Contextual intelligence		4.03	0.870	4.13	0.793		-0.1	-0.559	0.578
Controls risk		4.24	0.781	4.16	0.677		0.08	0.503	0.616
Courageous leadership		4.12	0.808	4.19	0.759		-0.07	-0.441	0.660
Creative/innovative leadership		4.09	0.933	4.06	0.738		0.03	0.143	0.886
Credible		4.76	0.496	4.81	0.396		-0.05	-0.486	0.628
Crisis management		4.21	0.845	4.22	0.750		-0.01	-0.098	0.922
Critical thinker		4.68	0.638	4.52	0.592		0.16	1.179	0.241
Cultural sensitivity		4	1.181	4.35	0.786		-0.35	-1.742	0.085
Dedicated		4.53	0.662	4.51	0.619		0.02	0.159	0.874
Delegates effectively		4.09	1.026	3.9	0.911		0.19	0.905	0.368
Disciplined*		3.97	0.717	4.25	0.647		-0.28	-1.981	0.050
Effective and constructive use of influence		3.97	0.797	4.08	0.703		-0.11	-0.694	0.490
Emotionally stable		4.26	0.864	4.25	0.695		0.01	0.067	0.947
Empathetic		4.32	0.768	4.41	0.663		-0.09	-0.598	0.552
Empowerment		3.97	0.758	4.02	0.813		-0.05	-0.268	0.789
Ensures an awareness of mission		4.15	0.958	4.14	0.669		0.01	0.025	0.980
Ethical		4.65	0.646	4.52	0.669		0.13	0.877	0.383
Excellent verbal communication skills		4.29	0.719	4.17	0.661		0.12	0.824	0.412
Excellent written communication skills		3.97	0.969	4.21	0.765		-0.24	-1.316	0.191
Flexible, adaptable, and resilient in times of change, crisis, or stress		4.38	0.697	4.32	0.692		0.06	0.440	0.661
Future-minded		4.29	0.604	4.33	0.648		-0.04	0.364	0.717
Identifies leaders		3.97	0.937	4.06	0.821		-0.09	-0.506	0.614

Improves morale	4.12	0.880	4.22	0.706		-0.1	-0.638	0.525
Influencer	3.97	0.834	3.97	0.782		0	0.014	0.989
Intentional leadership	4.29	0.836	4.02	0.813		0.27	1.592	0.115
Knowledgeable	4.65	0.544	4.52	0.535		0.13	1.077	0.284
Leadership planner	4.03	0.904	4.05	0.941		-0.02	-0.092	0.927
Leads quietly	4.15	0.989	4.17	0.773		-0.02	-0.152	0.880
Multicultural leadership	3.85	0.925	3.97	0.740		-0.12	-0.670	0.505
Nurtures professional relationships	4.09	1.138	4.13	0.889		-0.04	-0.185	0.853
Open-mindedness	4.18	1.029	4.32	0.618		-0.14	-0.844	0.401
Organizationally savvy	4.21	0.914	4.24	0.734		-0.03	-0.189	0.851
Protector	4.24	1.075	4.43	0.689		-0.19	-1.077	0.284
Resilience	4.32	0.843	4.11	0.698		0.21	1.328	0.187
Responsible for actions	4.56	0.613	4.35	0.676		0.21	1.505	0.136
Scholarship	3.18	1.193	3.46	1.242		-0.28	-1.089	0.279
Socially responsible	3.56	0.991	3.81	1.045		-0.25	-1.148	0.254
Thrives on responsibility	4.59	0.701	4.71	0.455		-0.12	-1.070	0.287
Time management	4.03	0.866	4.19	0.759		-0.16	-0.602	0.548
Uses body language	3.88	0.977	4.16	0.700		-0.28	-1.608	0.111
Utilizes appropriate leadership styles	4.03	0.937	4.1	0.777		-0.07	-0.370	0.712
Willing to take appropriate risk	3.88	0.946	3.78	0.851		0.1	0.555	0.580

* significant difference

Table 6. Utilization of Leadership Competencies Based on Experience as Athletic Trainer

Leadership Competency		Mean±SD	F	*p-*value	Sidak adjusted *p*-value
Advocate			1.794	0.154	
Experience	0-9	3.94±.765			
	10-14	4.27±.704			
	15-19	4.50±.519			
	>20	4.19±.965			
Ambitious			0.360	0.782	
Experience	0-9	4.20±.868			
	10-14	3.93±.704			
	15-19	4.07±.829			
	>20	4.09±.893			
Applies known and attained knowledge			0.162	0.922	
Experience	0-9	4.26±.741			
	10-14	4.27±.884			
	15-19	4.29±.611			
	>20	4.38±.707			
Assertive			0.806	0.494	
Experience	0-9	4.17±.822			
	10-14	4.47±.640			
	15-19	4.43±.646			
	>20	4.22±.751			
Change agent			0.829	0.481	
Experience	0-9	3.86±.879			
	10-14	4.20±.775			
	15-19	4.21±.579			
	>20	4.03±1.031			
Collaborator			1.809	0.151	
Experience	0-9	3.94±.873			
	10-14	4.33±.617			
	15-19	4.43±.514			
	>20	4.22±.832			
Consensus Builder			0.323	0.808	

		Mean±SD	F	p	Post-hoc
Experience	0-9	4.29±.622			
	10-14	4.47±.640			
	15-19	4.43±.514			
	>20	4.31±.859			
Contextual intelligence			0.852	0.469	
Experience	0-9	4.06±.873			
	10-14	4.13±.743			
	15-19	4.41±.514			
	>20	4.03±.897			
Controls risk			0.344	0.793	
Experience	0-9	4.11±.796			
	10-14	4.27±.594			
	15-19	4.21±.579			
	>20	4.28±.729			
Courageous leadership			3.421	0.021	
Experience	0-9	3.89±.867			
	10-14	4.20±.775			
	15-19	4.50±.519			
	>20	4.38±.660			
	(0-9)<(10-14)				0.683
	(0-9)<(15-19)				0.062
	(0-9)<(>20)*				0.050
	(10-14)<(15-19)				0.862
	(10-14)<(>20)				0.974
	(15-19)>(>20)				0.996
Creative/innovative leadership			0.769	0.514	
Experience	0-9	3.94±.838			
	10-14	4.00±.535			
	15-19	4.29±.611			
	>20	4.16±.954			
Credible			0.206	0.892	
Experience	0-9	4.80±.473			
	10-14	4.80±.414			
	15-19	4.86±.363			
	>20	4.75±.440			
Crisis management			0.386	0.763	

Experience	0-9	4.14±.810		
	10-14	4.20±.941		
	15-19	4.36±.745		
	>20	4.31±.693		
Critical thinker			0.586	0.626
Experience	0-9	4.57±.655		
	10-14	4.60±.507		
	15-19	4.73±.426		
	>20	4.53±.671		
Cultural sensitivity			1.313	0.275
Experience	0-9	4.26±.886		
	10-14	4.60±1.056		
	15-19	4.36±.633		
	>20	4.03±1.062		
Dedicated			0.937	0.426
Experience	0-9	4.51±.612		
	10-14	4.53±.516		
	15-19	4.29±.726		
	>20	4.63±.660		
Delegates effectively			0.577	0.631
Experience	0-9	3.80±1.079		
	10-14	4.07±.704		
	15-19	4.14±.864		
	>20	4.00±.950		
Disciplined			1.620	0.190
Experience	0-9	4.11±.631		
	10-14	4.33±.617		
	15-19	3.86±.949		
	>20	4.28±.634		
Effective and constructive use of influence			1.148	0.334
Experience	0-9	3.91±.781		
	10-14	3.93±.458		
	15-19	4.21±.699		
	>20	4.19±.780		
Emotionally stable			0.471	0.703

Experience	0-9	4.26±.780		
	10-14	4.07±.594		
	15-19	4.29±.611		
	>20	4.36±.827		
Empathetic			0.530	0.663
Experience	0-9	4.46±.701		
	10-14	4.20±.775		
	15-19	4.43±.514		
	>20	4.44±.716		
Empowerment			0.831	0.480
Experience	0-9	3.86±.772		
	10-14	4.00±.655		
	15-19	4.07±.730		
	>20	4.16±.884		
Ensures an awareness of mission			0.608	0.612
Experience	0-9	4.20±.632		
	10-14	4.13±.743		
	15-19	4.36±.929		
	>20	4.03±.897		
Ethical			2.227	0.090
Experience	0-9	4.40±.695		
	10-14	4.47±.834		
	15-19	4.64±.497		
	>20	4.78±.491		
Excellent verbal communication skills			0.398	0.755
Experience	0-9	4.20±.632		
	10-14	4.20±.676		
	15-19	4.14±.700		
	>20	4.34±.701		
Excellent written communication skills			0.994	0.399
Experience	0-9	4.09±.887		
	10-14	3.87±.834		
	15-19	4.14±.770		
	>20	4.31±.859		

Flexible, adaptable, and resilient in times of change, crisis, or stress		0.114	0.951
Experience 0-9	4.34±.684		
10-14	4.33±.816		
15-19	4.29±.611		
>20	4.41±.665		
Future-minded		0.404	0.751
Experience 0-9	4.29±.667		
10-14	4.40±.632		
15-19	4.50±.519		
>20	4.38±.660		
Identifies leaders		0.737	0.533
Experience 0-9	3.89±.832		
10-14	4.13±.834		
15-19	4.07±.616		
>20	4.19±.998		
	4.05±.863		
Improves morale		0.295	0.829
Experience 0-9	4.26±.852		
10-14	4.07±.594		
15-19	4.29±.611		
>20	4.16±.847		
Influencer		1.393	0.250
Experience 0-9	4.14±.692		
10-14	3.67±.816		
15-19	4.07±.616		
>20	3.91±.963		
Intentional leadership		1.525	0.213
Experience 0-9	3.89±.900		
10-14	4.20±.676		
15-19	4.36±.745		
>20	4.22±.832		
Knowledgeable		0.638	0.592
Experience 0-9	4.54±.505		
10-14	4.47±.640		
15-19	4.71±.469		

>20	4.63±.554		
Leadership planner		0.742	0.530
Experience 0-9	3.86±.974		
10-14	4.20±.775		
15-19	4.14±.949		
>20	4.13±.942		
Leads quietly		0.816	0.488
Experience 0-9	4.14±.879		
10-14	3.87±.834		
15-19	4.29±.726		
>20	4.25±.880		
Multicultural leadership		0.214	0.886
Experience 0-9	4.03±.785		
10-14	4.00±.756		
15-19	3.86±.535		
>20	3.91±.963		
Nurtures professional relationships		0.939	0.425
Experience 0-9	3.94±1.056		
10-14	4.07±.884		
15-19	4.14±1.167		
>20	4.34±.865		
Open-mindedness		0.883	0.453
Experience 0-9	4.31±.758		
10-14	4.47±.640		
15-19	4.29±.611		
>20	4.09±.928		
Organizationally savvy		0.331	0.803
Experience 0-9	4.14±.810		
10-14	4.33±.724		
15-19	4.36±.633		
>20	4.25±.916		
Protector		0.308	0.819
Experience 0-9	4.37±.770		
10-14	4.40±.632		
15-19	4.57±.514		

>20	4.31±1.091		
Resilience		2.141	0.100
Experience 0-9	4.09±.612		
10-14	4.07±.799		
15-19	4.64±.497		
>20	4.17±.896		
Responsible for actions		2.406	0.072
Experience 0-9	4.23±.770		
10-14	4.60±.632		
15-19	4.71±.469		
>20	4.47±.567		
Scholarship		1.480	0.225
Experience 0-9	303±1.339		
10-14	3.33±1.175		
15-19	3.43±1.22		
>20	3.66±1.125		
Socially responsible		0.682	0.566
Experience 0-9	3.57±1.065		
10-14	3.87±.915		
15-19	4.00±.877		
>20	3.75±1.107		
Thrives on responsibility		0.120	0.948
Experience 0-9	4.69±.471		
10-14	4.60±.507		
15-19	4.91±.611		
>20	4.66±.653		
Time management		0.259	0.855
Experience 0-9	4.14±.772		
10-14	4.07±.704		
15-19	4.07±.997		
>20	4.25±.803		
Uses body language		0.485	0.693
Experience 0-9	3.97±.664		
10-14	3.93±1.163		
15-19	4.21±.579		
>20	4.13±.871		

			0.144	0.933

Utilizes appropriate leadership styles

Experience				
	0-9	4.03±.822		
	10-14	4.20±.775		
	15-19	4.07±.616		
	>20	4.09±.995		

Willing to take appropriate risk

			1.354	0.262

Experience				
	0-9	3.63±.942		
	10-14	3.80±.862		
	15-19	4.07±.829		
	>20	4.00±.842		

*significant interaction

Table 7. Leadership Competency Utilization Dependent on Primary Work Setting

Leadership Competency		Mean±SD	F	p-value	Sidak adjusted p-value
Advocate			0.880	0.455	
Setting	College/University	4.09±.867			
	Secondary School	4.15±.770			
	Clinic	4.50±.535			
	Health/Fitness/Youth	4.43±.535			
Ambitious			0.837	0.477	
Setting	College/University	4.04±.902			
	Secondary School	4.07±.829			
	Clinic	4.50±.535			
	Health/Fitness/Youth	4.29±.488			
Applies known and attained knowledge			0.697	0.556	
Setting	College/University	4.33±.668			
	Secondary School	4.22±.801			
	Clinic	4.50±.756			
	Health/Fitness/Youth	4.00±1.00			
Assertive			2.256	0.087	
Setting	College/University	4.11±.809			
	Secondary School	4.37±.629			
	Clinic	4.75±.463			
	Health/Fitness/Youth	4.43±.787			
Change agent			0.585	0.626	
Setting	College/University	3.93±.979			
	Secondary School	4.04±.759			
	Clinic	4.25±.707			
	Health/Fitness/Youth	4.29±.756			
Collaborator			0.884	0.452	
Setting	College/University	4.07±.766			
	Secondary School	4.19±.879			
	Clinic	4.25±.866			
	Health/Fitness/Youth	4.57±.535			
Consensus Builder			1.417	0.243	
Setting	College/University	4.25±.726			
	Secondary School	4.30±.724			

	Clinic	4.63±.518			
	Health/Fitness/Youth	4.71±.488			
Contextual intelligence			1.473	0.227	
Setting	College/University	4.04±.793			
	Secondary School	4.22±.847			
	Clinic	4.50±.535			
	Health/Fitness/Youth	3.71±1.113			
Controls risk			2.005	0.119	
Setting	College/University	4.13±.640			
	Secondary School	4.11±.847			
	Clinic	4.75±.463			
	Health/Fitness/Youth	4.29±.756			
Courageous leadership			1.657	0.182	
Setting	College/University	4.22±.786			
	Secondary School	3.96±.808			
	Clinic	4.63±.518			
	Health/Fitness/Youth	4.14±.690			
Creative/innovative leadership			1.542	0.209	
Setting	College/University	3.98±.805			
	Secondary School	4.07±.781			
	Clinic	4.63±.518			
	Health/Fitness/Youth	4.00±1.000			
Credible			0.708	0.550	
Setting	College/University	4.78±.417			
	Secondary School	4.78±.506			
	Clinic	5.00±.000			
	Health/Fitness/Youth	4.71±.488			
Crisis management			3.077	0.031	
Setting	College/University	4.20±.678			
	Secondary School	4.44±.751			
	Clinic	4.50±.756			
	Health/Fitness/Youth	3.57±.976			
	C/U<SS				0.638
	C/U<Clinic				0.859
	C/U>HFY				0.187
	SS<Clinic				1.000
	SS>HFY*				0.034

Clinic>HFY				0.089
Critical thinker		1.668	0.179	
Setting	College/University	4.51±.635		
	Secondary School	4.59±.636		
	Clinic	5.00±.000		
	Health/Fitness/Youth	4.71±.488		
Cultural sensitivity		0.133	0.940	
Setting	College/University	4.22±.832		
	Secondary School	4.22±1.155		
	Clinic	4.13±1.126		
	Health/Fitness/Youth	4.43±.976		
Dedicated		1.403	0.247	
Setting	College/University	4.44±.714		
	Secondary School	4.52±.509		
	Clinic	4.88±.354		
	Health/Fitness/Youth	4.71±.488		
Delegates effectively		0.949	0.420	
Setting	College/University	3.89±1.100		
	Secondary School	4.11±.698		
	Clinic	4.25±.707		
	Health/Fitness/Youth	3.57±.787		
Disciplined		0.064	0.979	
Setting	College/University	4.15±.678		
	Secondary School	4.19±.681		
	Clinic	4.25±1.035		
	Health/Fitness/Youth	4.14±.378		
Effective and constructive use of influence		0.274	0.844	
Setting	College/University	4.02±.782		
	Secondary School	4.11±.698		
	Clinic	4.13±.641		
	Health/Fitness/Youth	3.86±.690		
Emotionally stable		1.013	0.391	
Setting	College/University	4.16±.811		
	Secondary School	4.33±.679		
	Clinic	4.63±.518		
	Health/Fitness/Youth	4.29±.756		

Empathetic			0.080	0.971	
Setting	College/University	4.38±.680			
	Secondary School	4.37±.792			
	Clinic	4.50±.535			
	Health/Fitness/Youth	4.43±.787			
Empowerment			0.603	0.615	
Setting	College/University	3.93±.900			
	Secondary School	4.07±.675			
	Clinic	4.13±.354			
	Health/Fitness/Youth	4.29±.488			
		4.01±.784			
Ensures an awareness of mission			2.052	0.112	
Setting	College/University	4.13±.840			
	Secondary School	4.00±.679			
	Clinic	4.75±.463			
	Health/Fitness/Youth	4.29±.756			
Ethical			1.107	0.350	
Setting	College/University	4.62±.623			
	Secondary School	4.37±.792			
	Clinic	4.75±.463			
	Health/Fitness/Youth	4.57±.535			
Excellent verbal communication skills			3.399	0.021	
Setting	College/University	4.05±.705			
	Secondary School	4.37±.629			
	Clinic	4.75±.463			
	Health/Fitness/Youth	4.29±.488			
	C/U<SS				0.234
	C/U<Clinic*				0.037
	C/U<HFY				0.944
	SS<Clinic				0.634
	SS>HFY				1.000
	Clinic>HFY				0.685
Excellent written communication skills			1.428	0.240	
Setting	College/University	4.05±.803			
	Secondary School	4.15±.864			

Clinic	4.63±.744		
Health/Fitness/Youth	4.43±.787		
Flexible, adaptable, and resilient in times of change, crisis, or stress		2.830	0.043
Setting College/University	4.20±.730		
Secondary School	4.44±.577		
Clinic	4.75±.463		
Health/Fitness/Youth	4.71±.488		
C/U<SS			0.529
C/U<Clinic			0.166
C/U<HFY			0.287
SS<Clinic			0.825
SS<HFY			0.915
Clinic>HFY			1.000
Future-minded		2.380	0.075
Setting College/University	4.33±.579		
Secondary School	4.26±.712		
Clinic	4.63±.518		
Health/Fitness/Youth	4.86±.378		
Identifies leaders		0.838	0.477
Setting College/University	4.02±.892		
Secondary School	3.96±.854		
Clinic	4.50±.535		
Health/Fitness/Youth	4.00±1.000		
Improves morale		1.800	0.153
Setting College/University	4.13±.795		
Secondary School	4.07±.781		
Clinic	4.63±.518		
Health/Fitness/Youth	4.57±.535		
Influencer		1.334	0.268
Setting College/University	3.91±.845		
Secondary School	4.00±.832		
Clinic	4.50±.535		
Health/Fitness/Youth	3.86±.378		
Intentional leadership		0.582	0.628
Setting College/University	4.04±.962		
Secondary School	4.22±.641		

Clinic	4.38±.518		
Health/Fitness/Youth	4.14±.378		
Knowledgeable		2.281	0.084
College/University	4.56±.536		
Setting Secondary School	4.44±.577		
Clinic	5.00±.000		
Health/Fitness/Youth	4.57±.535		
Leadership planner		1.669	0.179
College/University	4.09±.888		
Setting Secondary School	3.89±1.013		
Clinic	4.63±.518		
Health/Fitness/Youth	3.71±1.113		
Leads quietly		0.764	0.517
College/University	4.22±.875		
Setting Secondary School	4.19±.736		
Clinic	4.25±.707		
Health/Fitness/Youth	3.71±1.113		
Multicultural leadership		1.592	0.197
College/University	3.78±.809		
Setting Secondary School	4.15±.718		
Clinic	4.13±.991		
Health/Fitness/Youth	4.14±.900		
Nurtures professional relationships		0.533	0.661
College/University	4.02±1.045		
Setting Secondary School	4.22±.974		
Clinic	4.38±.744		
Health/Fitness/Youth	4.29±.756		
Open-mindedness		1.835	0.146
College/University	4.20±.826		
Setting Secondary School	4.19±.786		
Clinic	4.50±.535		
Health/Fitness/Youth	4.86±.378		
Organizationally savvy		0.537	0.658
College/University	4.18±.863		
Setting Secondary School	4.33±.679		
Clinic	4.50±.756		

	Health/Fitness/Youth	4.14±.690			
Protector			1.246	0.297	
Setting	College/University	4.31±.879			
	Secondary School	4.48±.753			
	Clinic	4.75±.463			
	Health/Fitness/Youth	4.00±1.155			
Resilience			2.515	0.063	
Setting	College/University	4.09±.823			
	Secondary School	4.19±.622			
	Clinic	4.75±.463			
	Health/Fitness/Youth	4.57±.535			
Responsible for actions			1.113	0.348	
Setting	College/University	4.42±.686			
	Secondary School	4.30±.669			
	Clinic	4.75±.463			
	Health/Fitness/Youth	4.57±.535			
Scholarship			0.423	0.737	
Setting	College/University	3.49±1.184			
	Secondary School	3.19±1.241			
	Clinic	3.25±1.165			
	Health/Fitness/Youth	3.29±1.496			
Socially responsible			2.848	0.042	
Setting	College/University	3.56±1.085			
	Secondary School	4.19±.879			
	Clinic	3.75±.707			
	Health/Fitness/Youth	3.29±.951			
	C/U<SS				0.055
	C/U<Clinic				0.997
	C/U>HFY				0.982
	SS>Clinic				0.862
	SS>HFY				0.198
	Clinic>HFY				0.938
Thrives on responsibility			0.819	0.486	
Setting	College/University	4.62±.623			
	Secondary School	4.70±.465			
	Clinic	4.88±.354			
	Health/Fitness/Youth	4.86±.378			

Time management			0.947	0.421
Setting	College/University	4.11±.809		
	Secondary School	4.11±.801		
	Clinic	4.38±.744		
	Health/Fitness/Youth	4.57±.535		
Uses body language			0.498	0.685
Setting	College/University	4.05±.731		
	Secondary School	4.07±.997		
	Clinic	4.00±.535		
	Health/Fitness/Youth	4.43±.535		
Utilizes appropriate leadership styles			1.670	0.179
Setting	College/University	3.96±.860		
	Secondary School	4.11±.751		
	Clinic	4.63±.518		
	Health/Fitness/Youth	4.29±1.113		
Willing to take appropriate risk			1.538	0.210
Setting	College/University	3.73±.912		
	Secondary School	3.85±.770		
	Clinic	4.25±.886		
	Health/Fitness/Youth	4.29±.756		

*significant interaction

C/U, College/University

SS, Secondary School

HFY, Health/Fitness/Sports/Youth/Performance Enhancement Club/Clinic

Table 8. Leadership Competency Utilization Dependent on Job Title

Leadership Competency		Mean±SD	F	*p*-value	Sidak adjusted *p*-value
Advocate			1.525	0.213	
Job Title	Head Athletic Trainer	4.12±.781			
	Staff Athletic Trainer	3.92±.891			
	Graduate Assistant Athletic Trainer	4.00±.000			
	Educator/Clinical	4.35±.753			
Ambitious					
Job Title	Head Athletic Trainer	4.15±.795			
	Staff Athletic Trainer	3.85±.834			
	Graduate Assistant Athletic Trainer	4.00±.000			
	Educator/Clinical	4.24±.863			
Applies known and attained knowledge			2.191	0.094	
Job Title	Head Athletic Trainer	4.15±.755			
	Staff Athletic Trainer	4.23±.815			
	Graduate Assistant Athletic Trainer	3.50±.707			
	Educator/Clinical	4.49±.607			
Assertive			1.615	0.191	
Job Title	Head Athletic Trainer	4.18±.846			
	Staff Athletic Trainer	4.08±.688			
	Graduate Assistant Athletic Trainer	4.00±.000			
	Educator/Clinical	4.46±.691			
Change agent			2.021	0.116	
Job Title	Head Athletic Trainer	3.97±.883			
	Staff Athletic Trainer	3.73±.919			
	Graduate Assistant Athletic Trainer	3.50±.707			
	Educator/Clinical	4.24±.830			
Collaborator			1.794	0.154	
Job Title	Head Athletic Trainer	4.12±.893			
	Staff Athletic Trainer	3.92±.891			
	Graduate Assistant Athletic Trainer	4.00±.000			
	Educator/Clinical	4.38±.594			
Consensus Builder			0.278	0.841	
Job Title	Head Athletic Trainer	4.27±.674			
	Staff Athletic Trainer	4.35±.892			

		Mean±SD	F	p	Tukey
	Graduate Assistant Athletic Trainer	4.00±.707			
	Educator/Clinical	4.57±.603			
Contextual intelligence			0.985	0.403	
Job Title	Head Athletic Trainer	4.09±.843			
	Staff Athletic Trainer	3.96±.871			
	Graduate Assistant Athletic Trainer	3.5±.707			
	Educator/Clinical	4.24±.760			
Controls risk			1.583	0.199	
Job Title	Head Athletic Trainer	4.15±.8.34			
	Staff Athletic Trainer	4.00±.632			
	Graduate Assistant Athletic Trainer	4.00±.000			
	Educator/Clinical	4.38±.639			
Courageous leadership			7.332	0.000	
Job Title	Head Athletic Trainer	3.97±.883			
	Staff Athletic Trainer	3.88±.711			
	Graduate Assistant Athletic Trainer	3.50±.707			
	Educator/Clinical	4.59±.498			
	HAT>SAT				0.998
	HAT<GAAT				0.934
	HAT<Educ/Clin				0.002
	SAT>GAAT*				0.001
	SAT<Educ/Clin				0.196
	GAAT<Educ/Clin				
Creative/innovative leadership			2.164	0.097	
Job Title	Head Athletic Trainer	3.97±.847			
	Staff Athletic Trainer	3.85±.967			
	Graduate Assistant Athletic Trainer	4.00±.000			
	Educator/Clinical	4.32±.580			
Credible			1.121	0.344	
Job Title	Head Athletic Trainer	4.70±.529			
	Staff Athletic Trainer	4.88±.326			
	Graduate Assistant Athletic Trainer	5.00±.000			
	Educator/Clinical	4.81±.397			
Crisis management			0.786	0.504	
Job Title	Head Athletic Trainer	4.27±.801			
	Staff Athletic Trainer	4.04±.958			
	Graduate Assistant Athletic Trainer	4.00±.000			

Educator/Clinical		4.32±.626		
Critical thinker			0.058	0.100
Job Title	Head Athletic Trainer	4.48±.667		
	Staff Athletic Trainer	4.50±.707		
	Graduate Assistant Athletic Trainer	4.00±.000		
	Educator/Clinical	4.76±.435		
Cultural sensitivity			0.058	0.982
Job Title	Head Athletic Trainer	4.21±1.083		
	Staff Athletic Trainer	4.23±.992		
	Graduate Assistant Athletic Trainer	4.50±.707		
	Educator/Clinical	4.24±.830		
Dedicated			0.550	0.649
Job Title	Head Athletic Trainer	4.58±.502		
	Staff Athletic Trainer	4.38±.804		
	Graduate Assistant Athletic Trainer	4.50±.707		
	Educator/Clinical	4.57±.603		
Delegates effectively			0.546	0.652
Job Title	Head Athletic Trainer	3.91±1.042		
	Staff Athletic Trainer	3.81±.981		
	Graduate Assistant Athletic Trainer	4.00±1.414		
	Educator/Clinical	4.11±.843		
Disciplined			1.810	0.151
Job Title	Head Athletic Trainer	4.12±.650		
	Staff Athletic Trainer	3.96±.720		
	Graduate Assistant Athletic Trainer	4.00±.000		
	Educator/Clinical	4.35±.676		
Effective and constructive use of influence			2.274	0.085
Job Title	Head Athletic Trainer	3.94±.827		
	Staff Athletic Trainer	3.88±.653		
	Graduate Assistant Athletic Trainer	3.5±.707		
	Educator/Clinical	4.27±.652		
Emotionally stable			1.997	0.120
Job Title	Head Athletic Trainer	4.30±.728		
	Staff Athletic Trainer	4.04±.824		
	Graduate Assistant Athletic Trainer	3.5±.707		
	Educator/Clinical	4.41±.686		

Empathetic		0.109	0.955	
Head Athletic Trainer	4.36±.742			
Staff Athletic Trainer	4.35±.745			
Graduate Assistant Athletic Trainer	4.50±.707			
Educator/Clinical	4.43±.647			
Empowerment		2.604	0.056	
Head Athletic Trainer	3.97±.847			
Staff Athletic Trainer	3.73±.604			
Graduate Assistant Athletic Trainer	3.50±.707			
Educator/Clinical	4.24±.796			
Ensures an awareness of mission		1.987	0.121	
Head Athletic Trainer	4.00±.707			
Staff Athletic Trainer	4.00±.938			
Graduate Assistant Athletic Trainer	4.50±.707			
Educator/Clinical	4.38±.681			
Ethical		3.159	0.028	
Head Athletic Trainer	4.36±.742			
Staff Athletic Trainer	4.46±.706			
Graduate Assistant Athletic Trainer	4.50±.707			
Educator/Clinical	4.81±.462			
HAT<SAT				0.993
HAT<GAAT				1.000
HAT<Edu/Clin*				0.025
SAT<GAAT				1.000
SAAT<Edu/Clin				0.985
GAAT<Edu/Clin				0.985
Excellent verbal communication skills		2.331	0.079	
Head Athletic Trainer	4.24±.708			
Staff Athletic Trainer	3.96±.662			
Graduate Assistant Athletic Trainer	4.00±1.414			
Educator/Clinical	4.41±.599			
Excellent written communication skills		3.439	0.020	
Head Athletic Trainer	4.09±.947			
Staff Athletic Trainer	3.77±.815			
Graduate Assistant Athletic Trainer	4.00±.000			
Educator/Clinical	4.43±.689			
HAT>SAT				0.583
HAT>GAAT				1.000

HAT<Educ/Clin			0.407
SAT<GAAT			0.999
SAT<Educ/Clin*			0.012
GAAT<Educ/Clin			0.977
Flexible, adaptable, and resilient in times of change, crisis, or stress		3.188	0.027
Head Athletic Trainer	4.42±.614		
Staff Athletic Trainer	4.08±.796		
Graduate Assistant Athletic Trainer	3.50±.707		
Educator/Clinical	4.49±.607		
HAT>SAT			1.000
HAT>GAAT			0.999
HAT<Educ/Clin			1.000
SAT>GAAT			0.998
SAT<Educ/Clin			1.000
GAAT<Educ/Clin			0.996
Future-minded		1.491	0.222
Head Athletic Trainer	4.30±.684		
Staff Athletic Trainer	4.19±.634		
Graduate Assistant Athletic Trainer	4.50±.707		
Educator/Clinical	4.51±.559		
Identifies leaders		4.576	0.005
Head Athletic Trainer	3.94±.827		
Staff Athletic Trainer	3.65±.936		
Graduate Assistant Athletic Trainer	4.00±.000		
Educator/Clinical	4.41±.725		
HAT>SAT			0.708
HAT<GAAT			1.000
HAT<Educ/Clin			0.110
SAT<GAAT			0.993
SAT<Educ/Clin*			0.003
GAAT<Educ/Clin			0.984
Improves morale		0.249	0.862
Head Athletic Trainer	4.12±.740		
Staff Athletic Trainer	4.19±.939		
Graduate Assistant Athletic Trainer	4.50±.707		
Educator/Clinical	4.24±.683		
Influencer		1.283	0.285

The "Job Title" label appears as a rotated side heading beside the four job-title rows in each section.

	Mean±SD	F	p	post-hoc p
Job Title				
Head Athletic Trainer	3.94±.659			
Staff Athletic Trainer	3.77±.951			
Graduate Assistant Athletic Trainer	4.00±.000			
Educator/Clinical	4.16±.800			
Intentional leadership		3.131	0.029	
Head Athletic Trainer	4.15±.834			
Staff Athletic Trainer	3.77±.951			
Graduate Assistant Athletic Trainer	3.50±.707			
Educator/Clinical	4.35±.633			
HAT>SAT				0.356
HAT>GAAT				0.842
HAT<Educ/Clin				0.880
SAT>GAAT				0.998
SAT<Educ/Clin*				0.032
GAAT<Educ/Clin				0.609
Knowledgeable		3.946	0.011	
Head Athletic Trainer	4.36±.603			
Staff Athletic Trainer	4.54±.508			
Graduate Assistant Athletic Trainer	4.50±.707			
Educator/Clinical	4.78±.417			
HAT<SAT				0.734
HAT<GAAT				0.999
HAT<Educ/Clin*				0.006
SAT>GAAT				1.000
SAT<Educ/Clin				0.334
GAAT<Educ/Clin				0.972
Leadership planner		0.930	0.429	
Head Athletic Trainer	3.85±.742			
Staff Athletic Trainer	4.31±1.050			
Graduate Assistant Athletic Trainer	4.50±.707			
Educator/Clinical	4.41±.798			
Leads quietly		1.771	0.158	
Head Athletic Trainer	4.24±.751			
Staff Athletic Trainer	3.85±.967			
Graduate Assistant Athletic Trainer	4.50±.707			
Educator/Clinical	4.30±.812			
Multicultural leadership		1.170	0.325	
Head Athletic Trainer	3.97±.728			

Staff Athletic Trainer	3.73±.919		
Graduate Assistant Athletic Trainer	3.50±.707		
Educator/Clinical	4.08±.795		

Nurtures professional relationships		3.772	0.013	
Head Athletic Trainer	4.21±1.023			
Staff Athletic Trainer	3.62±1.098			
Graduate Assistant Athletic Trainer	4.00±.000			
Educator/Clinical	4.41±.725			
HAT>SAT				0.098
HAT>GAAT				1.000
HAT<Educ/Clin				0.949
SAT<GAAT				0.994
SAT<Educ/Clin*				0.008
GAAT<Educ/Clin				0.992

Open-mindedness		0.104	0.957
Head Athletic Trainer	4.24±.751		
Staff Athletic Trainer	4.27±.962		
Graduate Assistant Athletic Trainer	4.00±1.414		
Educator/Clinical	4.30±.661		

Organizationally savvy		1.966	0.124
Head Athletic Trainer	4.27±.674		
Staff Athletic Trainer	4.00±.980		
Graduate Assistant Athletic Trainer	3.50±.707		
Educator/Clinical	4.41±.725		

Protector		0.083	0.969	
Job Title				
Head Athletic Trainer	4.36±.742			
Staff Athletic Trainer	4.31±1.050			
Graduate Assistant Athletic Trainer	4.50±.707			
Educator/Clinical	4.24±.760			

Resilience		2.713	0.049	
Head Athletic Trainer	4.21±.650			
Staff Athletic Trainer	4.04±.916			
Graduate Assistant Athletic Trainer	3.00±.000			
Educator/Clinical	4.35±.676			
HAT>SAT				0.938
HAT>GAAT				0.146
HAT<Educ/Clin				0.966

Job Title

SAT>GAAT					0.299
SAT<Educ/Clin					0.468
GAAT<Educ/Clin					0.076
Responsible for actions			4.906	0.003	
Head Athletic Trainer	4.27±.674				
Staff Athletic Trainer	4.31±.736				
Graduate Assistant Athletic Trainer	3.50±.707				
Educator/Clinical	4.70±.463				
HAT<SAT					1.000
HAT>GAAT					0.436
HAT<Educ/Clin*					0.028
SAT>GAAT					0.393
SAT<Educ/Clin					0.085
GAAT<Educ/Clin					0.053
Scholarship			3.959	0.010	
Head Athletic Trainer	3.39±1.321				
Staff Athletic Trainer	2.77±1.210				
Graduate Assistant Athletic Trainer	2.50±.707				
Educator/Clinical	3.76±1.011				
HAT>SAT					0.244
HAT>GAAT					0.881
HAT<Educ/Clin					0.739
SAT>GAAT					1.000
SAT<Educ/Clin*					0.009
GAAT<Educ/Clin					0.607
Socially responsible			3.061	0.032	
Head Athletic Trainer	3.88±1.139				
Staff Athletic Trainer	3.23±.951				
Graduate Assistant Athletic Trainer	3.50±.707				
Educator/Clinical	3.95±.880				
HAT>SAT					0.084
HAT>GAAT					0.996
HAT<Educ/Clin					1.000
SAT<GAAT					0.999
SAT<Educ/Clin*					0.035
GAAT<Educ/Clin					0.990
Thrives on responsibility			2.001	0.119	
Head Athletic Trainer	4.73±.452				
Staff Athletic Trainer	4.46±.761				

Graduate Assistant Athletic Trainer	4.50±.707			
Educator/Clinical	4.78±.417			
Time management		0.995	0.399	
Head Athletic Trainer	4.09±.723			
Staff Athletic Trainer	4.00±.849			
Graduate Assistant Athletic Trainer	4.00±.000			
Educator/Clinical	4.32±.818			
Uses body language		1.286	0.284	
Head Athletic Trainer	4.03±.951			
Staff Athletic Trainer	3.85±.881			
Graduate Assistant Athletic Trainer	4.50±.707			
Educator/Clinical	4.22±.584			
Utilizes appropriate leadership styles		2.346	0.078	
Head Athletic Trainer	4.15±.755			
Staff Athletic Trainer	3.77±1.032			
Graduate Assistant Athletic Trainer	3.50±.707			
Educator/Clinical	4.27±.693			
Willing to take appropriate risk		2.791	0.045	
Head Athletic Trainer	3.73±.944			
Staff Athletic Trainer	3.54±1.029			
Graduate Assistant Athletic Trainer	3.50±.707			
Educator/Clinical	4.14±.631			
HAT>SAT				0.956
HAT>GAAT				0.999
HAT<Educ/Clin				0.270
SAT>GAAT				1.000
SAT<Educ/Clin*				0.048
GAAT<Educ/Clin				0.895

* significant interaction

HAT, Head Athletic Trainer

SAT, Staff Athletic Trainer

GAAT, Graduate Assistant Athletic Trainer

Educ/Clin, Education/Clinical

APPENDIX B

Leadership Behaviors Demonstrated in Clinical Practice

Welcome to My Survey

Informed Consent

Introduction: My name is Adam Reel. I am a current graduate student, and with the help of my advisor, Dr. Matthew Kutz, am pursuing a Masters of Education in Kinesiology at Bowling Green State University. The topic of the study you have been invited to participate in is "Leadership Behaviors in Athletic Training". Your selection has come by the National Athletic Trainers' Association (NATA) membership database.

Purpose: The purpose of the current study is to examine the frequency of leadership behaviors utilized within athletic training. While this is the primary purpose, the secondary purpose is to see if different professional settings utilize different leadership behaviors. While there is research examining the importance of certain leadership behaviors within athletic training and other medical professions, to my knowledge, this will be one of the first studies done looking into the frequency of these behaviors and comparing their utilization between settings.

Procedure: During this study, you will be asked to complete a short demographic section the includes age, gender, and primary setting, as well as rate the utilization of 49 leadership behaviors on a scale of one to five, one being never used and five representing always use. This is a one-time survey and should not take longer than 30 minutes. Once you complete this survey, your participation in the study will be completed.

Voluntary Nature: Participation in this study is completely voluntary and are free to withdraw at any time during the survey without penalty. Deciding to participate or not will have no negative repercussions on you in any way and will not affect your relationship with BGSU in any way.

Confidentiality/Anonymity: Because this survey is administered online, there will be no identifying markers and will therefore be completely anonymous. On top of the anonymity of the online survey, original data will be stored on an encrypted flash drive kept in a locked drawer in my office only to be viewed by my advisor or myself. To protect against outside participation in this study, you may want to complete this survey on a personal computer due to some companies using tracking software, as well as keep from leaving the survey open if using a computer others have access to.

Risks/Benefits: Through the information collected from this study, I look to advance the general knowledge within the area of leadership in athletic training as well as improve the ability of educators with athletic training education programs (ATEPs) to better develop their students with leadership skills necessary for success as athletic trainers. With the online nature of this study, there are no increased risks other than those of daily activities. Upon completion of the survey, you should also clear your browser history.

Contact Information: If you have any questions about the nature of this study, feel free to contact Adam Reel (primary researcher) by email at areel@bgsu.edu or Matthew Kutz (advisor) at mkutz@bgsu.edu. If you have any questions about your rights as a participant in this research, you may also contact the Chair, Human Subjects Review Board at 419-372-7716 or hsrb@bgsu.edu.

By clicking the "Continue" button at the bottom of the page, you agree that you have been informed of the purposes, procedures, risks and benefits of th had the opportunity to have all my questions answered and you have been informed that your participation is completely voluntary.

Leadership Behaviors Demonstrated in Clinical Practice

Demographics

Age

[ ]

Gender

◯ Male

◯ Female

Race/Ethnicity

◯ African-American

◯ White/Caucasian

◯ Hispanic

◯ Asian

◯ Other

◯ Prefer Not to Answer

Primary Work Setting

◯ College/University

◯ Secondary School

◯ Clinic

◯ Amateur/Recreational/Youth Sports

◯ Health/Fitness/Sports/Performance Enhancement Clinic/Club

Years of Experience as Athletic Trainer

[ ]

Job Title

◯ Head Athletic Trainer

◯ Staff Athletic Trainer

◯ Graduate Assistant Athletic Trainer

◯ Other

Leadership Behaviors Demonstrated in Clinical Practice

Evaluate the following leadership behaviors based on how often you use them in your primary work setting.

	Never 1	2	3	4	Always 5
Ethical: Promotes practices of ethical behavior in treatment of patients and in the pursuit of organizational goals and objectives. Reports incompetent, unethical, and illegal practice objectively, factually, and according to standards/procedures.	○	○	○	○	○
Consensus builder: Exhibits interpersonal skill and convinces other people to see common good or a different point of view for sake of the organizational mission or values by using listening skills, managing conflict, and creating win-win situations.	○	○	○	○	○
Dedicated: Has the desire and energy and the discipline to achieve stated goals.	○	○	○	○	○
Thrives on responsibility: Has a strong sense of duty and dependability in a variety of situations and roles.	○	○	○	○	○
Cultural sensitivity: Promotes diversity in multiple contexts and aligns diverse individuals by creating and facilitating diversity and provides opportunities for diverse members to interact in nondiscriminatory manner.	○	○	○	○	○
Critical thinker: Cognitive ability to make connections, integrate, and make practical application of different actions, opinions, and information.	○	○	○	○	○

Leadership Behaviors Demonstrated in Clinical Practice

Intentional leadership: Assess and evaluates own leadership performance and is aware of strengths and weaknesses. Takes intentional action toward continuous improvement of leadership ability.	○	○	○	○	○
Collaborator: Effectively collaborates with other professionals within the local community in achieving goals. Facilitates the collaboration as a leader and participant with colleagues nad other health care professionals.	○	○	○	○	○
Excellent verbal communication skills: Verbally articulates thoughts and ideas accurately, effectively, and succinctly to subordinates, team members, supervisors, other professionals and collaborative community partners.	○	○	○	○	○
Socially responsible: Expresees concern about social trends and issues (encourages legislation and policy when appropriate) and volunteers in social and community activities.	○	○	○	○	○
Crisis management: Effectively handles unforeseen crises and limits or corrects problems ina reasonable amount of time (via problem solving and dialogue); and deals with conflict by providing effective strategies for conflict resolution.	○	○	○	○	○
Empathetic: Demonstrates concern for personal and professional lives of coworkers and peers. Exhibits empathy by: giving full attention, listens, advocates, assists, understands different cultures, beliefs, and	○	○	○	○	○

Leadership Behaviors Demonstrated in Clinical Practice

perspectives.

Future-minded: Has a forward-looking mentality and sense of direction and concern for where the organization should be in the future.	◯	◯	◯	◯	◯
Leadership planner: Has an action guide and delineated goals for achieving personal best.	◯	◯	◯	◯	◯
Protector: Provides a secure environment, tending to others carefully, and prevents indiscretions.	◯	◯	◯	◯	◯
Contextual intelligence: Appropriately interprets and reacts to changing and volatile surroundings.	◯	◯	◯	◯	◯
Utilizes appropriate leadership styles: Demonstrates the ability to implement and transition between varieties of leadership styles when appriopriate. Can identify when it is appropriate to transition between styles with subordinates and peers.	◯	◯	◯	◯	◯
Credible: Is believable, honest, trustworthy, and ethical in dealings with subordinates, peers, and supervisors.	◯	◯	◯	◯	◯
Change agent: Has the bravery to raise difficult and challenging questions that others may perceive as a threat to the status quo. Proactive rather than reactive in rising to challenges, leading, participating in, or making changes.	◯	◯	◯	◯	◯
Resilience: Ability to recover from or adjust easily to misfortune or change.	◯	◯	◯	◯	◯
Time management: Makes use of processes and tools that increase efficiency and sets parameters for	◯	◯	◯	◯	◯

Leadership Behaviors Demonstrated in Clinical Practice

availability to subordinates and peers.					
Effective/Constructive use of influence: Uses interpersonal skills, personal power, and influence to contructively/effectively affect the behavior/decisions of others. Demonstrates the effective use of different types of power in developing an image.	○	○	○	○	○
Emotionally stable: Handles and manages stress associated with leadership roles. Exhibits a cool, calm, and relaxed demeanor even in the face of crisis or adversity.	○	○	○	○	○
Excellent written communication skills: Writes thoughts and ideas accurately, effectively, adn succinctly to subordinates, team members, supervisors, other professionals, and collaborative community partners.	○	○	○	○	○
Uses body language: Uses nonverbal cues and body language effectively and appropriately when communicating to subordinates, team members, supervisors, other professionals, and collaborative community partners.	○	○	○	○	○
Organizationally savvy: Carefully observes the environment and people, particpates in fulfilling the needs of the organization and industry, and interacts effectively with people in and outside the organization.	○	○	○	○	○
Leads quietly: Moves patiently, carefully, and incrementally. Doing what is "right" for the organzation while using modesty and	○	○	○	○	○

Leadership Behaviors Demonstrated in Clinical Practice

restraint to accomplish goals.					
Applies known and attained knowledge: Uses clinical evidence, research,a dn best practices in the promotion of the profession by professional communications, orifinal investigations, and literature reviews.	○	○	○	○	○
Multicultural leadership: Can influence and affect the behaviors and attitudes of peers and subordinates in an ethnically divers context.	○	○	○	○	○
Scholarship: Contributes to professional advancement by promoting and participating in scholarly acitvity, such as, conducting research, giving/hosting professional presentations, participating in peer reviews, or writing articles.	○	○	○	○	○
Disciplined: Is consistent and steady in performing unpleasant or mundane tasks that provide long-term benefits.	○	○	○	○	○
Assertive: Proactive about new ideas, innovations, and change initiatives while maintaining respect for personal boundaries and rights of others.	○	○	○	○	○
Identifies leaders: Identifies leadership attributes in emerging leaders and takes the intiative to facilitate their development.	○	○	○	○	○
Open-mindedness: Willingness to discard old ways of doing things when evidence fails to support them.	○	○	○	○	○
Flexible, adaptable, and resilient in times of change, crisis, or stress: Adapts and copes well to unforeseen changes or	○	○	○	○	○

Leadership Behaviors Demonstrated in Clinical Practice

volatile circumstances brought on by supervisors, peers, subordinates, or the environment.					
Advocate: Takes responsibility for actions of others and defends actions of others, acts when appropriate as an advocate for others.	○	○	○	○	○
Risk taker: Willing to accept a degree of uncertainty for the sake of implementing an idea, needed value, or to see a goal accomplished.	○	○	○	○	○
Controls risk: Implements qualtiy management strategies (prevention of patient care problems) and risk management (analyze problems and minimize losses) to coninuously improve care. Strives to improve qualtiy while simultaneously decreasing risks.	○	○	○	○	○
Responsible for actions: Handles scrutiny and criticism professionally and with tact when offered by subordinates, peers, superiors, other professionals, and community partners for activities and initiatives.	○	○	○	○	○
Knowledgeable: Knows, understands, and is capable of performing the details and demands of tasks and roles specific to the profession.	○	○	○	○	○
Ensures an awareness of mission: Understands and communicates how individual performance of others influences subordinate's, peer's, and supervisor's perception of how the mission is being accomplished.	○	○	○	○	○
Influencer: Usses interpersonal skills to	○	○	○	○	○

Leadership Behaviors Demonstrated in Clinical Practice

ethically and noncoercively affect the actions and decisions of others.					
Courageous leadership: Has strong convistions and holds to convistions when face with challenges.	◯	◯	◯	◯	◯
Improves morale: Facilitates and encourages a positive attitude in peers, subordinates, and supervisors toward their work and life.	◯	◯	◯	◯	◯
Creative/innovative leadership: Produces plausible ideas when asked or needed related to management and leadership practices.	◯	◯	◯	◯	◯
Delegates effectively: Appropriately gives responsibility and authority to others in accomplishing desired tasks.	◯	◯	◯	◯	◯
Empowerment: Uses influence and interpersonal ability to promote and encourage personal growth of others. Ensures transformation and development of others.	◯	◯	◯	◯	◯
Ambitious: Uses available resources (intrinsic and extrinsic) and other effective strategies to promote professional and personal development.	◯	◯	◯	◯	◯
Nurtures professional relationships: Builds relationship with other members of the healthcare community that are advantageous to the organization's mission, values, goals.	◯	◯	◯	◯	◯

Leadership Behaviors Demonstrated in Clinical Practice

Thank you for your participation in this study. If you have any follow-up questions regarding this study, feel free to contact Adam Reel at areel@bgsu.edu or Dr. Matthew Kutz at mkutz@bgsu.edu.