ATHLETIC TRAINING EDUCATION JOURNAL

www.natajournals.org
ISSN: 1947-380X
DOI: 10.4085/1203165

ORIGINAL RESEARCH

Frequency of Leadership Behaviors Among Athletic Trainers in University Settings

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Context: Leadership has been reported to be an important factor in the practice of athletic training. However, no research has identified the frequency in which leadership is practiced by athletic trainers.

Objective: To explore and compare the frequency with which athletic trainers practice leadership in their athletic training and non–athletic training roles.

Setting: Survey design using athletic trainers in clinical and academic roles.

Patients or Other Participants: One hundred one athletic trainers in university settings (69% program directors; 31% university-based clinicians), yielding a 12% response rate and a satisfactory effect size ($d = 0.73$); mean age of respondents was 41 ± 9.5 years, mean experience was 18 ± 9.0 years, and 98% of respondents had at least a master's degree.

Main Outcome Measure(s): Frequency of leadership behavior by athletic trainers was assessed using the Frequency of Leadership in Athletic Training Scale (FLATS). Data on frequency of use were organized by different demographic variables and between athletic training roles and non–athletic training roles.

Results: The FLATS psychometric analysis yielded satisfactory internal consistency and validity ($\alpha = 0.91$ to 0.96; correlations ranged from $r = 0.39$ to $r = 0.87$, $P \leq .05$; concurrent validity was supported by differences between scale items and selected demographic characteristics). Paired-samples t tests indicated significant differences between practice frequencies of leadership behaviors in athletic training roles when compared with out of athletic training roles (mean = 2.24 ± 0.33 versus 1.98 ± .38, $P = .000$). Furthermore, mean scores for 44 (of 47) FLATS items were significantly higher for in versus out of athletic training roles ($P \leq .05$). Independent t tests showed significant differences between specific item frequencies among different variables (ranges: $t_{43–99} = –3.290$ to 3.339, $P = .001$ to .05).

Conclusions: A majority (85%) of leadership behaviors are practiced frequently (often or always) by athletic trainers. Frequency of leadership behavior by athletic trainers decreases when they are not functioning in an athletic training context.

Key Words: Context, workplace, role, leadership importance

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Full Citation:
Kutz MR, Doherty-Restrepo J. Frequency of leadership behaviors among athletic trainers in university settings. *Athl Train Educ J*. 2017;12(3):165–178.

Frequency of Leadership Behaviors Among Athletic Trainers in University Settings

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INTRODUCTION

The importance of leadership within health care and specifically athletic training has been well documented.[1–7] The need for effective leadership in all health care disciplines, regardless of specialty, is increasing rapidly as health care becomes progressively complex.[8,9] As a consequence of overwhelming complexity, health care leaders must learn to shift away from the "individual expert" model and move towards a model that includes interdisciplinary teams spanning disciplines, levels, functions, generations, and even professions.[8] Health care leaders must begin to practice leadership across multiple institutional, organizational, political, and geographic boundaries.[8,10] Engaging in leadership regardless of scale (team, department, unit, hospital, or industry) is a professional obligation of all clinicians.[10] Therefore, it is incumbent upon athletic training educators to ensure leadership is introduced and evaluated during professional preparation[3] and developed into athletic trainers' careers.[11]

Domain V, task 1 of the 7th Edition of the Board of Certification's Practice Analysis[11] states that athletic trainers must have "knowledge of leadership styles and theories" and demonstrate "skills in providing leadership appropriate to situations and people."[(p61)] This is dependent upon recognizing the needs and capacity of different stakeholders as well as recognizing the diverse contextual factors that influence different situations. This can be challenging for even the most experienced athletic trainer. Despite its difficulty, for athletic trainers as health care clinicians, this requirement remains a "professional obligation."[10(p22)] Therefore, instructing leadership at the entry level and ensuring its continued development are necessary.[3]

Leadership development, assessment, and feedback must be provided throughout the education and training of all health professionals.[10] Subsequently, athletic training educators should be familiar with different leadership theories and themselves demonstrate leadership that differentiates between situations and context, including situations that transcend the workplace. The literature[12–14] is clear that contemporary leaders and those who aspire to lead must be astutely aware of the environment outside of their organizations. Further, health care leaders must practice "multi-disciplinary, inter-disciplinary, and trans-disciplinary" leadership.[15(p179)] Therefore, athletic trainers who do not demonstrate leadership behaviors both within and outside of their professional context are at a disadvantage.

Demonstrating leadership both within the responsibilities of an athletic trainer's professional role and outside of that role (eg, in the community) becomes an important determinant of credibility. For example, it has been reported[3] that athletic training students who demonstrate a consistent level of leadership behavior are perceived to be better clinicians. Furthermore, quality affirmation theory[16] suggests that athletic trainers who demonstrate certain leadership-like behaviors (eg, communicate effectively, value professional knowledge, and show commitment and integrity) are perceived as quality professionals. Presumably there is no restriction on when or where those behaviors are demonstrated. In fact, the Pew Health Professions Commission[17] recommends that all health care professionals practice leadership whether they are seeking management positions or not. It is not difficult to imagine how athletic trainers who effectively demonstrate leadership behaviors could contribute to the positive advancement of the profession. In fact, leadership has been identified as one of the major constructs contributing to the perception of meaningful action, especially in times of change and uncertainty.[18] Therefore, without leadership it is difficult to establish oneself or one's profession as a viable contributor to society.

To that end, there has been a growing interest in leadership-related research in athletic training.[3–6,19–25] In addition to increasing productivity, reducing burnout, increasing employee satisfaction, enhancing credibility, improving morale, contributing to greater learning, and fostering innovation and creativity,[1] the practice of leadership has been reported to improve patient outcomes.[26,27] To achieve these outcomes and potentially greater respect and recognition within health care and the general public, it is necessary to delineate specific leadership behaviors practiced by athletic trainers.

Athletic training research[23] has validated 49 leadership behaviors, organized by 4 domains, important for practice and for inclusion into athletic training education. Thirty-one of those leadership behaviors were reported[23] to be extremely or very important. Although these leadership behaviors are important, there is no research that indicates the frequency with which athletic trainers demonstrate these leadership behaviors. To further establish the usefulness of these leadership behaviors, it is necessary to explore whether they are practiced and how frequently. Furthermore, some research[28–30] asserts leadership may be demonstrated differently according to certain demographic characteristics. For example, males consistently rate themselves as more effective leaders than females.[28] According to role congruity theory,[30] men and women are expected to demonstrate different types of leadership behaviors, and violation of these behavior norms by either sex causes confusion in the workplace.[30] Relative to education, athletes perceive coaches with more education as being able to demonstrate leadership more effectively,[31] and Kutz et al[6] established that athletic trainers with graduate degrees in athletic training reported the importance of practicing leadership as higher than athletic trainers with graduate degrees not related to athletic training. Finally, it has been shown that as education level of athletic trainers increases from entry level to doctoral, the importance of leadership behaviors increases incrementally at each level.[23] Therefore, it is important to investigate if these and other demographic characteristics play a role in the practice frequency of leadership behaviors by athletic trainers.

Therefore, the purpose of this investigation is multifaceted: first, to develop an instrument to examine leadership

frequency in athletic training; second, to determine if leadership frequency varies according to demographic characteristics; and third, to examine the frequency with which athletic trainers report demonstrating leadership behaviors and whether any leadership behaviors are practiced with more frequency and if so under what conditions.

METHODS

A survey design using athletic trainers in university settings was conducted. The human subjects review board from the primary investigator's institution approved the methodology of the study.

Respondents

Invitations to participate in this study were sent to university-based athletic trainers who instruct and evaluate entry-level athletic training students at various institutions throughout the United States. E-mail invitations were sent to all entry-level program directors listed on the Commission on Accreditation of Athletic Training Education (CAATE) Web site. Program directors were chosen because their e-mail contact information was easily accessible. Clinical coordinators' e-mail information was not available at the CAATE Web site and therefore they were excluded. Additionally, to capture clinical preceptors, e-mail invitations were sent to head athletic trainers and full-time staff athletic trainers from several National Collegiate Athletic Association athletic conferences (eg, Southeastern Conference, Atlantic Coast Conference, Western Athletic Conference, Mid-American Athletic Conference, Big East, Big Ten, Pac-12, Big 12, Conference USA). E-mail addresses for university-based clinical athletic trainers were acquired through their respective university's Web site and chosen based on convenience.

Statistical Analysis

Statistical analysis was conducted using SPSS 22.0 (SPSS Inc, Chicago, IL). Differences between respondents were evaluated using independent-samples t tests and 1-way analyses of variance (ANOVAs) followed by Tukey post hoc comparisons. The Cronbach α with item analysis was used to test the internal consistency reliability and validity of the Frequency of Leadership in Athletic Training Scale (FLATS) instrument. The instrument was developed for this research project based upon previous athletic training literature[2,19,23] on important leadership behaviors. Convergent validity was evaluated by using Pearson r correlations between different scale dimensions (within and outside), and criterion-related concurrent validity was evaluated by comparing differences between demographic characteristics using independent-samples t tests and ANOVAs with Tukey post hoc comparisons. Paired-samples t tests were used to determine frequencies of leadership behaviors in athletic training roles when compared with out of athletic training roles, and the Cohen d was used to determine effect size of any differences in FLATS dimensions. When necessary, frequencies and descriptive statistics (central tendency) were also reported.

Instrumentation

Frequency of leadership behavior by athletic trainers was assessed using FLATS. Table 1 includes a description of the leadership behaviors originally described by Kutz.[23]

The FLATS was based on athletic training leadership behaviors, which were delineated through a multiple-phase study consisting of a Delphi technique (phase 1) and national survey (phase 2).[23] The internal consistency of the original instrument used to assess important leadership behaviors for athletic trainers was estimated using coefficient α followed by item analysis ($\alpha = 0.96$). Convergent validity for this instrument was established using Pearson r correlations ($r = 0.94$; $P = .001$), demonstrating a strong relationship between leadership behaviors important for practice and those leadership behaviors important for inclusion in athletic training education. Construct validity of this instrument was established by exploratory factor analysis using a maximum likelihood extraction and promax rotation that extracted 4 factors (eigenvalues were ≥ 1.0). Reliability of the 4 leadership factors originally identified was estimated with coefficient α ranging from 0.83 to 0.93 (factor 1 [$\alpha = 0.93$], Personality Characteristics, had 15 items; factor 2 [$\alpha = 0.91$], Diagnosing Context and People Skills, had 16 items; factor 3 [$\alpha = 0.88$], Communication and Initiative, had 12 items; and factor 4 [$\alpha = 0.83$], Strategic Thinking, had 6 items.[23] Criterion-related concurrent validity was established using independent t tests, 1-way ANOVA (Tukey post hoc), and repeated-measures ANOVA (Sidak post hoc adjustment) and it was found that there were significantly ($P \leq .05$) different levels of importance between leadership behaviors according to 4 different levels of athletic training education (ie, baccalaureate, entry-level masters, postcertification masters, and doctorate).

For this investigation, the FLATS consisted of 3 sections. The first section contained questions about respondents' demographic characteristics (eg, sex, age, ethnicity, years' experience, work setting, highest degree earned, major of master's degree); section 2 consisted of 47 items pertaining to the frequency with which leadership behaviors were practiced within their formal athletic training roles and responsibilities; and section 3 consisted of the same items pertaining to the same leadership behaviors practiced outside of their athletic training roles and responsibilities (eg, social and personal contexts). From the original 49 behaviors, 1 was eliminated (leads quietly) because it was not significant in importance and 2 were combined (resilience and flexible/adaptable) to eliminate redundancy, leaving 47 items for the FLATS. For the FLATS instrument, *within* the athletic training context was described to respondents as the behaviors used in their current athletic training role. *Outside* of athletic training was described to respondents as non–athletic training roles, and they were given cues of nonwork scenarios such as social and personal settings. Psychometric characteristics of the FLATS instrument used in this study are reported in the Results section and in Table 2.

Respondents were asked to rate the frequency with which they performed each of the leadership behaviors identified in the FLATS (Table 1) on a 4-point scale twice, once for within their formal athletic training context and again when outside of their formal athletic training context. The FLATS frequency scale ranged from 0 to 3 (0 = *never*, the athletic trainer does not perform this behavior at all; 1 = *sometimes*, the athletic trainer sometimes performs this behavior; 2 = *often*, the athletic trainer often performs this behavior; 3 = *always*, the athletic trainer always performs this behavior).

Table 1. Alphabetical Listing of Leadership Behaviors Important for Athletic Training Practice

Name of Behavior	Brief Description
1. Advocate for others	Takes responsibility for actions of others, and acts, when appropriate, as an advocate for others.
2. Ambitious	Uses available resources and other effective strategies to promote professional and personal development.
3. Applies knowledge[a]	Uses clinical evidence, research, and best practices in the promotion of the profession by professional communication (abstracts, lectures, poster presentations, etc), original investigations, and literature review.
4. Assertive	Is proactive about new ideas, innovations, and change initiatives, while maintaining respect for personal boundaries.
5. Assured and certain	Has strong convictions and holds to those convictions when faced with challenges.
6. Change agent[a]	Has the bravery to raise difficult and challenging questions that others perceive as a threat to the status quo. Proactive rather than reactive to rising challenges.
7. Collaborates[a]	Effectively collaborates with other professionals and facilitates collaboration between colleagues.
8. Communicates in writing[a]	Writes thoughts and ideas accurately, effectively, and succinctly to others.
9. Communicates verbally[a]	Verbally articulates thoughts and ideas accurately, effectively, and succinctly to others.
10. Consensus builder[a]	Exhibits interpersonal skill and convinces other people to see the common good or a different point of view for the sake of the mission by using listening skills, managing conflict, and creating win-win situations.
11. Contextually intelligent[a]	Appropriately interprets and reacts to changing and volatile surroundings.
12. Controls risk	Implements quality management strategies and risk management to continuously improve care.
13. Credible[a]	Is believable, honest, and ethical in dealing with others and demonstrates trustworthiness.
14. Critical thinker[a]	Has cognitive ability to make connections, integrate, and make practical application of different actions, opinions, and information.
15. Culturally sensitive[a]	Promotes diversity across multiple contexts. Provides opportunities for diverse members to interact in a nondiscriminatory manner.
16. Dedicated and diligent[a]	Has the desire, energy, and the discipline to achieve stated goals.
17. Delegates	Appropriately gives responsibility and authority to others for accomplishing tasks.
18. Disciplined[a]	Is consistent and steady in performing unpleasant or mundane tasks that provide long term benefits.
19. Emotional stability[a]	Handles and manages stress associated with leadership roles. Exhibits cool, calm, and relaxed leadership style in the face of crisis or adversity.
20. Empathetic[a]	Demonstrates concern for the personal and professional lives of coworkers and peers. Takes risks on behalf of others.
21. Empowers others	Is influenced by and possesses the interpersonal ability to promote and encourage personal growth among others.
22. Ethical[a]	Promotes team practices of ethical behavior in the pursuit of goals and objectives. Reports incompetent, unethical, and illegal practice objectively.
23. Flexible and resilient[a]	Adapts and copes well with unforeseen changes and volatile circumstances.
24. Future minded[a]	Has a forward-looking mentality and sense of direction and concern for where the organization/individual should be in the future.
25. Handles crisis[a]	Effectively handles unforeseen crises and limits or corrects problems in a reasonable amount of time and deals with conflict by providing effective strategies for conflict resolution.
26. Identifies leaders	Identifies leadership attributes in others and takes initiative to facilitate their development.
27. Improves morale	Facilitates and encourages a positive attitude in others toward their work and life.
28. Influencer	Uses interpersonal skills to ethically and noncoercively effect the actions and decisions of others.
29. Influences effectively[a]	Uses different types of power to affect the behavior of others. Demonstrates effective use of different types of power in developing a powerful image.
30. Innovative and creative	Produces plausible ideas when asked or needed related to management and leadership practices.

Table 1. Continued.

Name of Behavior	Brief Description
31. Intentional leadership[a]	Assesses and evaluates own leadership performance and is aware of strength and weakness. Takes intentional action toward improving as a leader.
32. Knowledgeable	Knows, understands, and is capable of performing the details and demands of tasks and roles specific to the job.
33. Leadership planner[a]	Has an action guide and delineated goals for achieving personal best.
34. Mission minded	Understands and communicates how the performance of self and others influences how others perceive the mission is being accomplished.
35. Multicultural leadership[a]	Can noncoercively influence and affect the behaviors and attitudes of peers who are ethnically/culturally diverse.
36. Nurtures professional relationships	Builds relationships with other members of the health care community that are advantageous to the mission, values, and goals of the organization.
37. Open-minded	Discards old ways of doing things when evidence fails to support them.
38. Organizationally savvy[a]	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.
39. Protector[a]	Provides a secure environment and carefully tends to the needs of others.
40. Provides scholarship[a]	Contributes to professional advancement by promotion and participation in scholarly activity.
41. Responsible for actions	Handles scrutiny and criticism professionally and with tact.
42. Socially responsible[a]	Expresses concern about social trends and issues and volunteers in social and community activities.
43. Takes necessary risk	Is willing to accept a degree of uncertainty for the sake of implementing an idea or needed value or to see a goal accomplished.
44. Thrives on responsibility[a]	Has a strong sense of duty and dependability in a variety of situations and roles.
45. Time manager[a]	Makes use of processes and tools that increase efficiency and sets parameters for availability.
46. Uses body language appropriately[a]	Uses nonverbal cues and body language effectively and appropriately when communicating with others.
47. Uses different leadership style[a]	Demonstrates the ability to implement and transition between varieties of leadership styles when appropriate and when different situations dictate. Can identify when it is appropriate to transition between leadership styles.

[a] Reported by Kutz[23] to be *extremely* or *very important* leadership behaviors for athletic training practice.

RESULTS

A total of 101 athletic trainers from the university setting (69% program directors; 31% university-based clinicians) completed the survey, yielding a 12% response rate. The mean age of respondents was 41 ± 9.5, and they had 18 ± 9.0 years of experience. A majority (98%) of respondents had earned at least a master's degree, with 35% majoring in athletic training or sports medicine. Fifty-two percent of respondents were male and 47% were female. Table 3 summarizes additional characteristics of the respondents.

Psychometric Qualities of FLATS

The Cronbach α for the FLATS was 0.96, and item analysis if item was deleted ranged from $\alpha = 0.958$ to $\alpha = 0.964$. The FLATS psychometric analysis yielded satisfactory internal consistency reliability and validity for FLATS Within and

Table 2. Psychometric Qualities of the Frequency of Leadership in Athletic Training Scale (FLATS)

	Reliability		Validity			
				Convergent Validity[a]		
	Internal Consistency	Cronbach α Item Analysis if Item Deleted, Item Range	Content Validity	*r*	*P* Level	Criterion-Related Concurrent Validity
FLATS	.96	0.958–0.964	Items based on literature review and previous research	0.76[b]	.000	Significant differences found with paired-samples and independent *t* tests
FLATS IN	.91	0.907–0.911		0.39–0.87[c]	≥.05	
FLATS OUT	.94	0.941–0.944				

Abbreviations: IN, within athletic training role; OUT, outside of athletic training role.
[a] Pearson correlations.
[b] Aggregate means of IN versus OUT.
[c] IN versus OUT items.

Table 3. Demographic Characteristics of Respondents

Demographic Variable	No.	Valid %	Mean
Gender			
Male	53	52.5	
Female	48	47.5	
Total	101		
Age, y			41.52 ± 9.5
Young professionals (≤35)	26	25.7	
36–50	55	54.5	
51+	20	19.8	
Total	101		
Ethnic background			
African American	1	1	
Hispanic	2	2	
Asian American	1	1	
Native American	1	1	
White	95	94.1	
Total	100		
No. of years as a certified athletic trainer			18.19 ± 9.1
1–9	21	20.8	
10–15	24	23.8	
16–20	23	22.8	
21+	33	32.7	
Total	101		
Work setting/role			
Program director/faculty	70	69.3	
Head athletic trainer/ university-based clinical athletic trainer	31	30.7	
Total	101		
Master's degree major			
Athletic training	30	29.7	
Sports management	20	19.8	
Exercise physiology	14	13.9	
Education	14	13.9	
Kinesiology/biomechanics	11	10.9	
Sports medicine	5	5	
Total	94		
Highest degree earned			
Bachelor's	2	2	
Master's	60	59.4	
Doctorate	39	38.6	
Total	101		

FLATS Outside sections ($\alpha = 0.91$ and 0.94 respectively); correlations between the individual scale items for within and outside ranged from $r = 0.39$ to $r = 0.87$, $P \leq .05$; and concurrent validity was supported by differences ($P \leq .05$) between scale items of selected demographic characteristics. Convergent validity for the FLATS is demonstrated with a Pearson r correlation between the aggregate mean totals of all within and outside items ($r = 0.76$, $P = .000$). Content validity was established based on scale items from previously reported research.[23]

Frequency of Leadership Behaviors

For leadership behaviors practiced within athletic training roles, 5 leadership behaviors were practiced always (scale range 0–3, always = mean ≥ 2.50); credible (mean = 2.78 ± 0.42), ethical (mean = 2.70 ± 0.52), thrives on responsibility (mean = 2.64 ± 0.59), communicates verbally (mean = 2.55 ± 0.56), and knowledgeable (mean = 2.52 ± 0.58), representing behaviors from Kutz's[23] factors 1, 2, and 4. For leadership behaviors practiced outside athletic training roles, credible (mean = 2.72 ± 0.47) was the only leadership behavior practiced always. Of all leadership behaviors, practices scholarship was the least frequently practiced leadership behavior in both settings (means = 1.54 ± 0.82 and 1.04 ± 0.89).

Forty leadership behaviors (85%) were practiced often or always (mean = 2.05–2.78) by athletic trainers within their formal athletic training role. Seven (15%) were practiced sometimes (mean = 1.54–1.95) and none were practiced never. Of the 40 most frequently practiced behaviors within the athletic training role, all (100%) of Kutz's factor 4 (Strategic Thinking), 93% of Kutz's factor 1 (Personality Characteristics), 83% of Kutz's factor 3 (Communication and Initiative), and 69% of Kutz's factor 2 (Diagnoses Context and People Skills) were represented.

Twenty-four leadership behaviors (51%) were practiced often or always (mean = 2.01–2.72) when outside the formal athletic training role. Twenty-three (49%) were practiced sometimes (mean = 1.04–1.99) and none were practiced never. Of the 24 most frequently practiced behaviors outside the formal athletic training role, 63% of those in Kutz's factor 3 (Communication and Initiative), 53% of Kutz's factor 1 (Personality Characteristics), 50% of Kutz's factor 4 (Strategic Thinking), and 38% of Kutz's factor 2 (Diagnoses Context and People Skills) were represented.

The mean score for 44 FLATS items (94%) was significantly higher for within versus outside the athletic training role ($P \leq .05$). A paired-samples t test indicated aggregate mean of leadership behaviors practiced within athletic training was significantly higher than that of those practiced outside of athletic training (mean = 2.24 ± 0.33 versus 1.98 ± 0.38, $P = .000$). Because of the small return rate, the Cohen d was used to determine effect size: d = 0.73, indicating a good effect size. Table 4 is an alphabetical side-by-side comparison of frequency means for leadership behaviors within and outside of athletic training roles, their Pearson r correlations, and respective domain factors.

Frequency of Leadership Behaviors According to Job Title

Within their athletic training role, program directors demonstrated 9 behaviors—written communication, socially responsible, provides scholarship, future minded, mission minded, change agent, consensus builder, empowers others, and assertive—more often compared with university-based clinicians (mean = 2.28 ± 0.31 versus 2.14 ± 0.36, $t_{99} = -2.053$, $P = .043$). Of these, 4 (44%) represented behaviors from factor 2 (Diagnosing Context and People Skills).

Outside of their athletic training role, program directors also demonstrated 9 behaviors—organizational savvy, written communication, use of body language, consensus builder, identifies leaders, empowers others, influencer, advocate for others, and change agent—more often than university-based clinical athletic trainers (mean = 2.03 ± 0.39 versus 1.87 ±

Table 4. Comparisons of Leadership Behaviors Between Within and Outside the Athletic Training Role

Domain/ Factor No.[a]	Leadership Behavior	Frequency of Leadership Behavior, Mean ± SD		Correlation (r) between IN and OUT ($P = .000$)	d
		IN	OUT		
	FLATS (instrument aggregates)[b]	2.24 ± 0.33	1.98 ± 0.38	.76	0.73
3	Advocate for others	2.29 ± 0.66	2.22 ± 0.70	.80	
1	Ambitious[b]	2.26 ± 0.66	1.85 ± 0.80	.61	
3	Applies knowledge[b]	2.24 ± 0.71	1.52 ± 0.95	.55	
1	Assertive[c]	2.16 ± 0.76	1.98 ± 0.71	.70	
3	Assured and certain[c]	2.36 ± 0.66	2.24 ± 0.69	.87	
2	Change agent[b]	1.94 ± 0.71	1.72 ± 0.70	.69	
2	Collaborates[b]	2.19 ± 0.70	1.86 ± 0.76	.59	
3	Communicates in writing[b]	2.33 ± 0.72	1.82 ± 0.86	.51	
3	Communicates verbally[b]	2.55 ± 0.56	2.15 ± 0.69	.57	
2	Consensus builder[b]	2.16 ± 0.67	1.79 ± 0.71	.59	
2	Contextually intelligent[b]	2.07 ± 0.68	1.92 ± 0.74	.83	
1	Controls risk[b]	2.14 ± 0.71	1.99 ± 0.73	.74	
3	Credible[c]	2.78 ± 0.42	2.72 ± 0.47	.74	
2	Critical thinker[b]	2.45 ± 0.69	2.20 ± 0.74	.72	
2	Culturally sensitive[b]	2.31 ± 0.74	2.05 ± 0.82	.83	
2	Dedicated and diligent[c]	2.40 ± 0.57	2.24 ± 0.61	.67	
1	Delegates[b]	1.95 ± 0.66	1.65 ± 0.76	.61	
1	Disciplined[c]	2.40 ± 0.61	2.23 ± 0.69	.74	
1	Emotional stability[b]	2.42 ± 0.62	2.28 ± 0.62	.73	
3	Empathetic[c]	2.39 ± 0.58	2.22 ± 0.74	.64	
1	Empowers others[b]	2.26 ± 0.61	1.96 ± 0.68	.65	
1	Ethical[b]	2.70 ± 0.52	2.44 ± 0.73	.72	
1	Flexible and resilient[b]	2.34 ± 0.61	2.13 ± 0.65	.71	
4	Future minded[b]	2.35 ± 0.68	2.09 ± 0.72	.66	
3	Handles crisis[b]	2.33 ± 0.64	2.08 ± 0.70	.67	
3	Identifies leaders[b]	1.88 ± 0.65	1.49 ± 0.78	.52	
1	Improves morale[c]	2.28 ± 0.67	2.15 ± 0.68	.69	
4	Influencer	2.24 ± 2.22	1.92 ± 0.76	.39	
4	Influences effectively[b]	2.11 ± 0.65	1.85 ± 0.74	.72	
1	Innovative and creative[c]	2.05 ± 0.63	1.90 ± 0.63	.69	
3	Intentional leadership[b]	2.19 ± 0.63	1.82 ± 0.74	.63	
4	Knowledgeable[b]	2.52 ± 0.58	2.18 ± 0.69	.61	
2	Leadership planner[c]	2.22 ± 0.73	2.09 ± 0.76	.82	
4	Mission minded[b]	2.39 ± 0.57	2.07 ± 0.73	.75	
2	Multicultural leadership[c]	1.70 ± 0.72	1.60 ± 0.73	.87	
1	Nurtures professional relationships[b]	2.33 ± 0.65	1.81 ± 0.77	.51	
1	Open-minded[b]	2.35 ± 0.56	2.18 ± 0.68	.81	
4	Organizationally savvy[b]	2.20 ± 0.76	1.91 ± 0.69	.60	
2	Protector	2.48 ± 0.56	2.44 ± 0.61	.71	
2	Provides scholarship[b]	1.54 ± 0.82	1.04 ± 0.89	.57	
1	Responsible for actions[b]	2.36 ± 0.63	2.10 ± 0.75	.66	
2	Socially responsible[c]	1.89 ± 0.72	1.77 ± 0.72	.74	
2	Takes necessary risk[b]	1.93 ± 0.71	1.69 ± 0.75	.64	
1	Thrives on responsibility[b]	2.64 ± 0.59	2.45 ± 0.70	.78	
2	Time manager[c]	2.14 ± 0.70	2.01 ± 0.71	.78	
3	Uses body language appropriately[c]	2.32 ± 0.66	2.15 ± 0.71	.66	
2	Uses different leadership style[b]	2.12 ± 0.73	1.72 ± 0.79	.65	

Abbreviations: FLATS, Frequency of Leadership in Athletic Training Scale; IN, within athletic training role; OUT, outside of athletic training role.

[a] Factor 1, personality characteristics; factor 2, diagnosing context and people skills; factor 3, communication & initiative; factor 4, strategic thinking.

[b] IN means significantly higher than OUT means ($P = .000$).

[c] IN means significantly higher than OUT means ($P = .05$).

Table 5. Independent *t* Tests Between Program Director and University-Based Clinical Athletic Trainers for Leadership Frequency Outside the Athletic Training Role

Leadership Behavior	Athletic Training Role (Mean ± SD)				
	Program Director	University-Based Clinical Athletic Trainer	*t*[a]	*df*	*P* Level
Organizationally savvy	2.00 ± 0.69	1.69 ± 0.66	2.065	99	.041
Communicates in writing	1.93 ± 0.85	1.55 ± 0.87	2.022	99	.046
Uses body language appropriately	2.29 ± 0.70	1.79 ± 0.62	3.339	99	.001
Consensus builder	1.92 ± 0.69	1.48 ± 0.69	2.871	99	.005
Identifies leaders	1.58 ± 0.84	1.24 ± 0.58	2.017	99	.046
Empowers others	2.06 ± 0.69	1.71 ± 0.60	2.300	98	.024
Influencer	2.03 ± 0.74	1.64 ± 0.73	2.335	96	.022
Advocate	2.33 ± 0.67	1.96 ± 0.64	2.395	96	.019
Change agent	1.81 ± 0.69	1.50 ± 0.69	2.040	96	.044
Composite leadership outside the athletic training role	2.03 ± 0.39	1.87 ± 0.33	1.980	99	.050

[a] All significant at $P \leq .05$.

0.33, $t_{99} = 1.980$, $P = .05$). Of these, 4 (44%) represented behaviors from factor 3 (Communication and Initiative). No leadership behaviors were demonstrated more frequently by clinical athletic trainers in either setting. Tables 5 and 6 include comparisons between program directors' and university-based athletic trainers' frequency of leadership behaviors.

Frequency of Leadership Behaviors According to Graduate Major

Athletic trainers whose graduate major was athletic training practiced 4 leadership behaviors more frequently within their athletic training role than those whose major was in a discipline other than athletic training: organizational savvy, 2.50 ± .68 versus 2.08 ± .73, $P = .013$; empowers others, 2.07 ± .58 versus 1.92 ± .75, $P = .042$; uses influence effectively, 2.33 ± .61 versus 1.97 ± 62, $P = .009$; and improves morale, 2.50 ± .63 versus 2.19 ± .67, $P = .04$. These data are summarized in Table 7.

Frequency of Leadership Behaviors According to Sex

Male athletic trainers reported practicing verbal communication more often than females within and outside of their athletic training roles (2.27 ± .66 versus 2.00 ± .69, $P = .05$; 2.65 ± .52 versus 2.43 ± .58, $P = .042$, respectively). Males also identified leaders more often outside of athletic training roles than females (1.63 ± .77 versus 1.31 ± 78, $P = .040$). These data are summarized in Table 8.

Frequency of Leadership Behaviors According to Degree Level

Within their athletic training role, doctoral-educated athletic trainers practiced provides scholarship, future minded, and change agent more often than athletic trainers with lesser degrees ($F_{2,96} = 4.15$, $P = .004$ and $F_{2,97} = 5.76$, $P = .019$, respectively). Outside of their athletic training role, doctoral-educated athletic trainers practiced written communication more often than those with lesser degrees ($F_{2,98} = 3.54$, $P = .033$).

Table 6. Independent *t* Tests Between Program Directors and University-Based Clinical Athletic Trainers for Leadership Frequency Within the Athletic Training Role

Leadership Behavior	Athletic Training Role (Mean ± SD)				
	Program Director	University-Based Clinical Athletic Trainer	*t*[a]	*df*	*P* Level
Communicates in writing	2.42 ± 0.71	2.10 ± 0.72	−2.000	99	.048
Socially responsible	2.01 ± 0.72	1.59 ± 0.63	−2.792	99	.006
Provides scholarship	1.67 ± 0.84	1.21 ± 0.69	−2.539	98	.013
Future minded	2.48 ± 0.63	2.00 ± 068	−3.293	96	.001
Mission minded	2.46 ± 0.58	2.21 ± 0.50	−2.073	57.7	.043
Change agent	2.06 ± 0.65	1.64 ± 0.78	−2.483	42.7	.017
Consensus builder[b]	2.26 ± 0.65	1.94 ± 0.68	−2.256	99	.026
Empowers others[b]	2.37 ± 0.57	2.00 ± 0.64	−2.875	98	.005
Assertive[b]	2.27 ± 0.72	1.90 ± 0.80	−2.282	98	.025
Composite leadership within the athletic training role[b]	2.28 ± 0.31	2.14 ± 0.36	−2.053	99	.043

[a] All significant at $P \leq .05$.

[b] Academic athletic trainers versus university-based clinical athletic athletic trainers.

Table 7. Independent *t* Tests Between Major of Graduate Study for Leadership Frequency Within the Athletic Training Role

	Graduate Major (Mean ± SD)				
Leadership Behavior	Athletic Training	Non–Athletic Training	*t*[a]	*df*	*P* Level
Organizational savvy	2.50 ± 0.68	2.08 ± 0.73	−2.533	92	.013
Empowers others	2.07 ± 0.58	1.92 ± 0.75	−2.062	91	.042
Uses influence effectively	2.33 ± 0.61	1.97 ± 0.62	−2.669	91	.009
Improves morale	2.50 ± 0.63	2.19 ± 0.67	−2.088	90	.040

[a] All significant at $P \leq .05$.

Frequency of Leadership Behaviors According to Age and Years of Experience

Older athletic trainers (51 years or older) practiced cultural sensitive and multicultural leadership more often than their younger (all those <51 years old) counterparts ($F_{2,95} = 2.04$, $P = .018$, and $F_{2,98} = 3.32$, $P = .040$, respectively).

Athletic trainers with 10 to 15 years of experience demonstrated 3 leadership behaviors (ambitious, nurtures professional relationships, and leadership planner) within their athletic training role more frequently than those other experience levels ($F_{3,96} = 2.76$, $P = .010$, and $F_{3,96} = 3.98$, $P = .046$, respectively). Outside of their athletic training role, athletic trainers with 10 to 15 years of experience and 21 or more years of experience reported demonstrating time manager more frequently than those with 16 to 20 years of experience and athletic trainers with 10 to 15 years of experience reported demonstrating leadership planning more frequently than those with 21 or more years of experience ($F_{3,94} = 3.47$, $P = .019$, and $F_{3,95} = 3.61$, $P = .016$, respectively). Tables 9 and 10 are descriptions of 1-way ANOVA followed by Tukey post hoc analysis of leadership behaviors between athletic trainers within athletic training roles among different demographic characteristics.

Athletic trainers <51 years old reported demonstrating use of body language more frequently outside of their athletic training role than athletic trainers over 51 years old ($F_{2,96} = 3.71$, $P = .018$). Tables 9 and 10 delineate the specific ages where differences were noted.

Other findings included young professionals, that is, athletic trainers under the age of 35, reporting significantly higher frequency than older professionals (≤36 years old) in demonstrating innovation and creativity and applies knowledge outside of athletic training roles ($t_{99} = 2.022$, 2.12 ± .67 to 1.82 ± .61, $P = .042$, and $t_{96} = 2.063$, 1.85 ± .97 to 1.41 ± .93, $P = .046$, respectively).

DISCUSSION

The purpose of this investigation was to develop an instrument to examine leadership frequency in athletic training and to examine the frequency with which athletic trainers report demonstrating specific leadership behaviors that have been reported to be important for athletic training practice. To date no research has been published supporting whether the leadership behaviors described by Kutz[2,19,23] are actually being practiced by athletic trainers and if so to what extent. Therefore, it was necessary to develop an instrument to assess the frequency with which leadership behaviors are practiced by athletic trainers. The FLATS instrument was developed for that purpose. Our findings indicate the FLATS to be a valid and reliable measure of the frequency of leadership behaviors practiced by athletic trainers (Table 2).

Practice Frequency of Leadership Behaviors by Athletic Trainers

Our findings show that athletic trainers do practice the behaviors Kutz[23] reported to be important for athletic training practice. For example, of the top 10 most frequently practiced leadership behaviors, 9 (90%) were identified in Kutz's[23] original research as either extremely or very important. These findings contribute to a usable leadership taxonomy in athletic training. A taxonomy is a formal system for classifying multifaceted, complex phenomena according to a set of common conceptual domains and dimensions.[32] The development of any taxonomy is an ongoing process that describes complex real-world phenomena. The Figure is an introductory leadership taxonomy for athletic training practice and education. Although this is a promising first step, it is a long way from explicit. Future research on leadership should confirm these behaviors and factors with a larger sample from more diverse practice settings.

There are further implications of these findings for athletic training education. Kutz's[23] original research reported leadership behaviors important for practice and for inclusion in athletic training education. The behaviors included in

Table 8. Independent *t* Tests Between Sexes for Leadership Frequency of Athletic Trainers in Various Roles

	Sex (Mean ± SD)				
Leadership Behavior	Female	Male	*t*[a]	*df*	*P* Level
Communicates verbally in an athletic training role	2.00 ± 0.69	2.27 ± 0.66	1.981	97	.050
Communicates verbally outside an athletic training role	2.43 ± 0.58	2.65 ± 0.52	−2.065	97	.042
Identifies leaders outside an athletic training role	1.31 ± 0.78	1.63 ± 0.77	2.085	98	.040

[a] All significant at $P \leq .05$.

Table 9. One-Way Analysis of Variance for Within Athletic Training Roles

Leadership Behavior Items Within the Athletic Training Role	Significant Differences of Specific Items Based on Demographic Characteristics (Mean ± SD)	*F* (*df*)	*P* Level	Tukey Post Hoc
Education level				
Provides scholarship	Doctorate (1.87 ± 0.78) > master's (1.32 ± 0.80)	5.76 (2, 97)	.004	.003
Future minded	Doctorate (2.61 ± 0.60) > master's (2.17 ± 0.78)	5.18 (2, 95)	.007	.005
Change agent	Doctorate (2.17 ± 0.72) > master's (1.78 ± 0.67)	4.15 (2, 96)	.019	.026
Age range, y				
Culturally sensitive	51+ (2.65 ± .059) > 36–50 (2.16 ± 0.79)	3.32 (2, 98)	.040	.032
Multicultural leadership	51+ (2.05 ± .076) > 36–50 (1.54 ± 0.72)	2.04 (2, 95)	.018	.017
Years of experience				
Ambitious	10–15 (2.58 ± 0.58) > 21+ (2.00 ± 0.66)	3.98 (3, 96)	.010	.005
Nurtures professional relationships	10–15 (2.63 ± 0.58) > 16–20 (2.13 ± 0.63)	2.76 (3, 96)	.046	.044
Leadership planner	10–15 (2.61 ± 0.58) > 1–9 (2.05 ± 0.89)	3.56 (3, 94)	.017	.050
	10–15 (2.61 ± 0.58) > 21+ (2.03 ± 0.70)			.017

education were anecdotal, based on a perception of importance. These findings support those perceptions with evidence that they are actually being practiced with a high degree (always or often) of frequency. Bos[33] reported that nursing students demonstrated improved critical thinking, technical skill, resource allocation, and prioritizing after focused leadership training. If implemented into athletic training education, the frequently practiced leadership behaviors described in this study may also serve to generate similar outcomes with athletic training students. Unfortunately, students are typically trained for context-specific leader roles (eg, to manage a facility) and are not intentionally educated to practice leadership in general.[34] Athletic training must avoid this mistake. Therefore, it is our recommendation that educators begin to evaluate the proposed leadership framework for use in leadership development and assessment, but more importantly as a springboard for additional research on leadership within athletic training. These findings can be useful in helping educators begin to evaluate how leadership is being defined, instructed, and assessed in athletic training programs. It is imperative that as athletic training education continues to evolve, leadership becomes a point of intentional instruction not to be dismissed by educators as a vague or nebulous construct that can be learned only by trial and error. Rather, leadership must be recognized as a construct that includes evidence-based competencies that can be incorporated into curricular development.

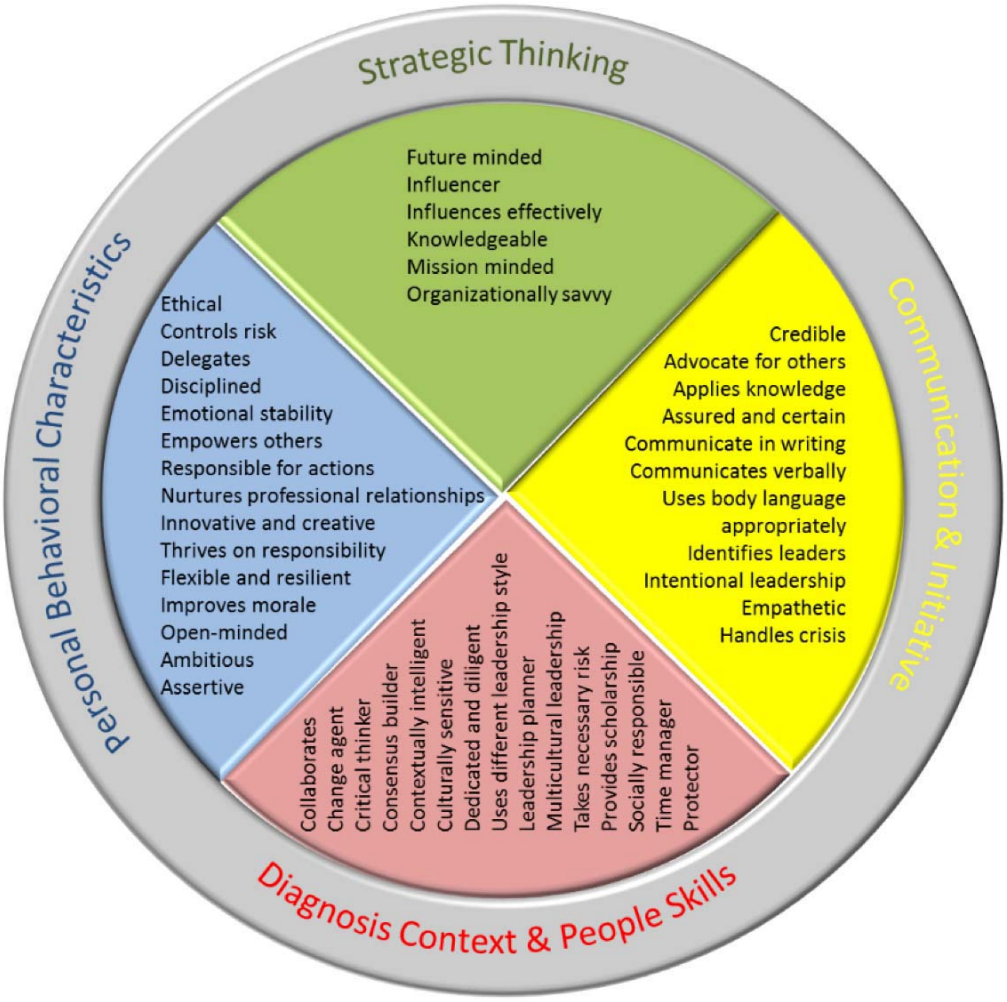
Other athletic training research[6] reported that athletic trainers with master's degrees in athletic training view leadership to be more important than athletic trainers with master's degrees in other disciplines. Our finding that athletic trainers with master's degrees in athletic training practice certain leadership behaviors more frequently than those athletic trainers with degrees in other disciplines lends support to that claim. Nursing research also suggests that advanced-practice clinicians practice leadership more effectively than less-educated nurses.[35] Therefore, leadership instruction may be more sustainable and have a greater impact on the clinician (and ultimately the profession) if introduced and evaluated in an athletic training curriculum as opposed to some other program or source.

According to this investigation, athletic trainers report a high practice frequency (13% always and 85% always and often) of the leadership behaviors within their athletic training roles and much less frequency (<1% always and 51% always and often) outside of their athletic training workplace. Of those behaviors, there was a marked decrease (100% within versus 50% outside) in behavior frequency from Kutz's factor 4 (Strategic Thinking), indicating that athletic trainers are not comfortable using strategic thinking outside of the workplace or they do not think it is necessary. Future investigations should explore these and other possible rationales behind this decrease.

Table 10. One-Way Analysis of Variance for Outside Athletic Training Roles

Leadership Behavior Items Outside the Athletic Training Role	Significant Differences of Specific Items Based on Demographic Characteristics (Means ± SD)	*F* (*df*)	*P* Level	Tukey Post Hoc
Education level				
Communicates in writing	Doctorate (2.00 ± .83) > bachelor's (0.50 ± .71)	3.54 (2, 98)	.033	.042
Age range, y				
Uses body language appropriately	25–35 (2.27 ± 0.60) > 51+ (1.75 ± 0.72)	4.17 (2, 98)	.018	.035
	36 to 50 (2.24 ± 0.72) > 51+ (1.75 ± 0.72)			
Years of experience				
Time manager	10–15 (2.17 ± 0.82) > 16–20 (1.61 ± 0.58)	3.61 (3, 95)	.016	
	21+ (2.17 ± 0.68) > 16–20 (1.61 ± 0.58)			.03
				.021
Leadership planner	10–15 (2.52 ± 0.67) > 21+ (1.94 ± 0.72)	3.47 (3, 94)	.019	

Figure. Leadership taxonomy in athletic training.



Although athletic trainers do practice leadership in both contexts, these findings may indicate that athletic trainers are more comfortable or familiar with leadership behaviors within their work setting. This finding was expected, as Kutz's leadership behaviors were identified by athletic trainers for use in clinical practice. However, leadership behaviors have value beyond the workplace. There is a large body of literature in a variety of disciplines to suggest that leadership behaviors should transcend the workplace.[10,12–15,36] Quality affirmation theory, described in the athletic training literature by Raab et al,[16] suggests that athletic trainers who demonstrate leadership-like behaviors might be perceived as better professionals. Therefore, unless leadership behaviors are practiced outside with greater frequency, there is a possibility of losing this benefit. As athletic training education evolves, it is necessary for educators to require leadership education with outcomes associated with "multi-, inter-, and trans-disciplinary" success.[10]

Additionally, there were several leadership behaviors practiced at significantly different frequencies relative to the respondent's demographic characteristics. For example, when combining both within and outside behaviors, athletic training program directors practiced 14 leadership behaviors (30%) more frequently than university-based clinical athletic trainers. Of those, when outside their athletic training role, program directors claimed to practice the behaviors in factor 4 (Communication and Initiative) more frequently; within their role, program directors claimed to practice behaviors belonging to factor 2 (Diagnosing Context and People Skills) more frequently. Given the differences in the roles of program directors and clinical athletic trainers, this is not surprising. Furthermore, it supports Laurent and Bradney's[5] findings of differences in leadership practices between program directors and head athletic trainers. Research in nursing has also reported that advanced clinical specialists demonstrate leadership to a higher degree than clinical specialists and suggest closing this gap by encouraging additional training in leadership.[35] We would recommend a similar strategy for athletic trainers, with the caveat that it begin more intentionally in early stages of entry-level education.

Athletic trainers reported practicing 94% of leadership behaviors more frequently within their formal athletic training roles as compared with *outside*. Only 3 leadership behaviors, advocate for others, influencer, and protector, were practiced with similar frequency within and outside of their athletic training role. No leadership behaviors were practiced more frequently outside of the athletic trainer's role compared with within. Many leadership behaviors identified by Kutz[23] and other researchers[1,2,37] (eg, culturally sensitive, verbal communication, ethical, time management, emotional stability, social responsibility) included on the FLATS are not unique to a job or role. For example, effective verbal communication is

needed regardless of context or workplace. Therefore, it is possible that respondents may not think of themselves as leaders outside of their athletic training role or that someone else is responsible for demonstrating these specific leadership behaviors in settings where they have no formal authority or expertise.

Epistemology and Ontology of Leadership in Athletic Training

The fact that leadership is practiced more frequently in one setting over another may indicate a deeper issue for athletic training education: an issue that points to an absence of an epistemological understanding of leadership, which may be detrimental to advancing the profession. Epistemology is the study of how knowledge is formed and accepted. It is how one comes to know something or the rules for how to know something and is entirely "a matter of perspective."[38(p372)] To develop an epistemology, one undergoes a process to be able to justify (presumably with empirical evidence or direct experience) a held belief as opposed to an opinion. Therefore, it is the belief about how knowledge occurs, what counts as relevant knowledge, and how knowledge is evaluated.[39]

Without an epistemological framework for leadership, it is impossible to know if leadership is occurring or even learnable. For instance, if there is no process for verifying leadership knowledge, how can students say they are learning it? Even more dramatic, how would students know they have demonstrated it, especially if it is arbitrarily defined and haphazardly instructed, evaluated, and practiced? Therefore, supposing an absence of an epistemological framework for leadership in athletic training, it is reasonable that leadership would be practiced only as a duty of the job and not beyond it. Without an epistemological framework for leadership, the only recourse is for athletic trainers to consider leadership a job responsibility equivalent to managing, administrating, budgeting, etc, as a formal responsibility is something relegated to perform a job, not something that someone is or can become, and therefore is rarely if ever performed off the clock.

To begin to have athletic trainers think of themselves as leaders needing to demonstrate leadership everywhere as part of who they are personally and professionally, an epistemology of leadership needs to be integrated into athletic training education. Athletic training educators and scholars should work to establish a consensus on what leadership is and how it can be learned. Future research should explore whether athletic trainers believe leadership is learnable, and if so how and under what conditions. It is important to note that having an epistemology of leadership does not mean that learning leadership has to occur in the classroom, but the learner does have to believe learning leadership has occurred, and therefore athletic training educators should at the very least confirm it has taken place even if they are not the ones teaching it. Therefore, athletic training educators and scholars should begin the long process of developing an epistemology of leadership by intentionally introducing leadership and should facilitate the belief that the athletic trainer (and student) is capable of learning leadership and ultimately becoming a leader.

Ontology explores the defining features or fundamental realities of being[40]—in a word, identity. A simple illustration would be the response to the question, what are you? One might answer, "I'm an athletic trainer," "I'm a professor," "I'm a human," "I'm a program director," or "I'm a leader." An ontological framework requires knowing when (after what professional experiences/milestones) an athletic trainer feels comfortable saying, "I am a leader" without feeling the need to justify it. Ironically, the milestones along this journey are personal and idiosyncratic to families, cultures, professional organizations, industries, and even nations. Therefore, it is possible that an athletic trainer may be a leader without any formal authority or positional power in a job or professional association.

One additional explanation (an ontological one) for why leadership is demonstrated less frequently outside of athletic training roles is that athletic trainers do not believe they are leaders. This raises the question, is it possible to be a leader in one setting and not another? This is an ontological question and a matter of personal identity. Obviously, one can demonstrate leadership behaviors in one setting and not another; that is exactly what our findings show. However, an ontological understanding requires the distinction between *leadership* and *leader*. Therefore, to answer this ontological question, future researchers could ask, "Why do athletic trainers practice leadership behaviors, but fail to recognize themselves as leaders?" Our findings seem to indicate this is true, but certainly further study and dialogue are required to assert it.

Therefore, athletic training educators and scholars should begin to delineate a process for becoming a leader who is recognized not only within the profession, but also by athletic training's stakeholders. The process starts with delineating what leadership is, how we know what it is, and how to become a leader. It ends when one goes through the process, a process which is deemed credible by stakeholders, and ends with an identity as a leader. The leadership taxonomy (Figure) is a start. Hopefully additional research will develop, refine, or replace this model over time. It is incumbent upon athletic training educators and recognized leaders within the athletic training profession to create an environment where this is understood; otherwise, any leadership development within athletic training will be haphazard and unpredictable.

Perhaps it is time that athletic trainers enter the dialogue with our nursing and medical colleagues on the importance of leadership on the identity, meaning, and establishment of a profession and professional. Avoiding this conversation could hinder the development of athletic training in general, but more importantly, by engaging in the conversation athletic training could quickly advance the profession's reputation. This could prove a crucial strategy given the current transition to entry-level graduate education.

Therefore, future researchers should investigate how athletic trainers perceive their context (ie, what constitutes an athletic trainer's work environment or when they are [or aren't] in their "athletic training mindset") and why they believe they are practicing leadership more within it as compared with outside. For example, it is possible that some athletic trainers consider every place they go within their athletic training role, because they believe they are an athletic trainer regardless of their context, and others may not. The obvious conclusion from this investigation is that there is a perception among

respondents that leadership is not needed or used as much outside of their work context.

Work-Life Integration

Another possible explanation for this may be a consequence of misapplying the work-life balance concept. Recently, it has been suggested that a more healthy aspiration is work-life integration.[41] Munn[41] reported that work-life–balance research has demonstrated that one's life cannot be sufficiently isolated between different contexts, and the very idea that you can isolate aspects of life from one another would be to "perpetuate what Kanter referred to as the myth of separate spheres."[41(p402)]

Therefore, future researchers must also undertake the difficult task of answering the question in athletic training: is leadership a job responsibility that is demanded only when on the clock or an aspect of an athletic trainer's identity regardless of what the athletic trainer is currently doing? We would argue that the professions with the most credibility in society are those whose professional members see themselves as capable and trained leaders and not merely practitioners. As an example, it is not uncommon to see physicians occupying leadership roles in their communities and society that have little direct relationship to their medical practice. The value of engaging in these leadership roles without any direct relationship to medicine should be self-evident. Likewise, athletic trainers, when demonstrating leadership in the community, may indirectly advance and promote athletic training.

Other Outcomes of Leadership Education

Furthermore, practicing leadership has been reported to have significant impact on patient outcomes. For example, nursing students who participated in leadership activities reported a greater sense of responsibility to their patients.[37] Other scholars[27(p222)] report that there is "strong and growing evidence" that links good patient outcomes to leadership behavior. In a systematic review of the relationship between leadership and patient outcomes,[26] it was reported that practicing leadership improves patient outcomes (eg, patient satisfaction, patient mortality, complications of immobility, adverse events). Furthermore, leadership by clinicians can enhance the overall quality of care that patients receive and improve patient satisfaction.[37] In summary, the increased leadership behaviors within athletic training observed in this study may benefit patients, but demonstrating leadership outside the formal athletic training workplace could also engage the quality affirmation theory,[16] which could contribute toward realizing positive outcomes within society.

LIMITATIONS

The primary limitation of the study was the small response rate. However, lower response rates can be expected of lengthy exploratory Web-based surveys.[42–44] It has been demonstrated that if respondents are from a homogenous group that represents the target sample, a high response rate is not essential to establish generalizability.[43] However, despite a small response rate, given the satisfactory effect size ($d = 0.73$), our response rate is a small threat. The second limitation is generalizability because of the exclusive use of university-based athletic trainers. Future investigations should include a larger sample and consist of athletic trainers in multiple work settings. Future investigators should explore whether there are similar "within and outside" leadership behaviors in athletic trainers in other settings. Finally, it is possible that in survey research of this type outside leadership behaviors are not actually less frequent, but only perceived to be less frequent because of the absent cues of the athletic training context combined with the heightened awareness athletic trainers have of their behaviors when within their work setting. Therefore, future investigations on leadership practices of athletic trainers should include mixed or qualitative methodology that includes focus groups within athletic training and outside stakeholders to confirm the practice frequency of leadership behaviors. Future investigations should include open-ended questions of respondents requiring them to delineate specific characteristics of what they believe outside the athletic training workplace means to them.

CONCLUSIONS

Athletic trainers reported practicing leadership behaviors very frequently within their athletic training role, but much less when outside of their athletic training role. Program directors reported practicing leadership behaviors more frequently than university clinical athletic trainers. Demonstrating leadership may help to promote and advance the credibility of athletic training among patients, within the health care community, and in the general public. Therefore, intentional leadership development and the awareness of important leadership behaviors should be incorporated into athletic training education and the continued development of athletic trainers. One way to do this is to engage in leadership-based research as a valuable piece of our own unique body of knowledge and to engage in interprofessional conversation with other health care providers on the importance of leadership behaviors.

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