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ORIGINAL RESEARCH

Program Directors' Perception of the Importance of Soft Skills in Athletic Training

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Context: Soft skills have been reported to be a necessary aspect of athletic training education and clinical practice. However, almost no empirical research has explored the level of importance of soft skills or the frequency with which they are evaluated within athletic training education.

Objective: To delineate the perceived importance of soft skills within athletic training education and describe the frequency with which those soft skills are evaluated within athletic training programs.

Patients or Other Participants: Four hundred eight program directors (PDs) of Commission on Accreditation of Athletic Training Education–accredited athletic training programs were invited to patriciate; 122 responded and 108 of those responses (88.5%) were usable (64% PDs of baccalaureate programs, 28% PDs of professional masters, 8% did not disclose), yielding a 26.5% response rate. All 10 National Athletic Trainers' Association districts were represented, with the highest representation (26%) from District 4. A majority of respondents were female (57%). Most respondents (79%) had 11 or more years of experience (33% of those $\geq$21 years) as an athletic training educator, and 98% of respondents identified as white/non-Hispanic.

Main Outcome Measure(s): Importance and frequency of soft-skill evaluation were measured using the Athletic Training Soft-Skills Assessment Instrument (ATSSAI). Data of perceived importance and frequency of evaluation were organized by various demographic variables and between scale dimensions.

Results: The ATSSAI psychometric analysis yielded satisfactory internal consistency and validity ($\alpha = .84$ to .93). Paired-samples *t* test indicated significant differences between the ATSSAI Perceived Importance and Frequency of Evaluation scales (mean = 1.65 $\pm$ .47 versus mean = 3.29 $\pm$ 1.17, $P = .000$; Cohen d = 1.83). Pearson *r* correlation showed a positive relationship between perceived importance and frequency of evaluation, $r = 0.81$. Independent-samples *t* tests revealed female PDs perceived 2 soft skills (18%; *observant and exact* and *prepared and adaptable*) as more important ($t_{99} = 2.12$ and 2.18, $P = .31$ and .37) than did male PDs and evaluated 3 (27%; *decisive and confident*, *prepared and adaptable*, and *observant and exact*) more frequently ($t_{99} = 2.35$–2.50, $P = .14$–.21) than did male PDs.

Conclusions: All soft skills identified as necessary for inclusion in athletic training education were perceived to be very or extremely important by PDs. However, those same soft skills were not evaluated as often as their importance might suggest. *Dependability and responsibility* was the most important and most frequently evaluated soft skill (mean = 1.31 $\pm$ .51 and 2.21 $\pm$ 1.30, respectively). Female PDs generally perceived soft skills as more important and reported evaluating them more frequently. Soft-skill development is a tacit-based phenomenon that contributes to leadership effectiveness and clinical preparedness.

Key Words: Leadership, professionalism, preparedness, tacit knowledge

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KEY POINTS

- Soft skills are necessary and important to include in athletic training education.
- Evaluating a student's soft skills may facilitate successful transition to practice.
- Soft skills were not evaluated as frequently by athletic training programs as their perceived importance would indicate.

INTRODUCTION

Leadership and associated soft skills are critical to the success of athletic training. Research in patient safety states that "soft skills are the building blocks of leadership."[1] Lazarus[2] reports that health care leaders are placing equal or greater emphasis on soft skills over clinical or technical skills. The absence of soft skills causes leadership to suffer and sabotages many well-trained managers and administrators. The leadership skills needed today versus 20 years ago have seen an "evident shift" toward soft skills.[3] Furthermore, collaborative work, including teamwork and interprofessional practice, is highly dependent on the presence of soft skills.[4] Therefore, leadership-related soft skills may be evolving in importance for athletic trainers (ATs).

Allied health care professions such as occupational therapy, physical therapy, and athletic training all require the demonstration of soft skills.[5] *The 2015 Athletic Trainer Practice Analysis Study*[6] states that ATs must have skills in "collaborating with professionals," and should be able to demonstrate teamwork among peers and interdisciplinarily.

Soft skills carry significant importance to clinical practice and education,[5] have a positive influence on physician's surgical ability,[1,7] and provide an important contribution to patient safety.[1] Leadership has also been shown to influence the perception of clinical skill.[8] Therefore, as building blocks of leadership, soft skills may play an important role in factors that affect ATs and their patients, for example clinical skill, patient safety and outcomes, interprofessional practice, interpersonal communication, socialization, and influence.

Soft skills have been compared with interpersonal skills and identified as essential for professional development.[9] Defining soft skills has been difficult, as there are a myriad of related skills. The athletic training literature has described soft skills as desirable qualities for certain forms of employment that do not depend on "acquired knowledge" (eg, common sense, interpersonal skill, positive attitude).[5] As such, desirable qualities vary from job to job and are largely inferred; consequently there is little consensus around a comprehensive definition of soft skills and how they can be developed and evaluated.[10] It is generally understood that soft skills include people skills, social skills, and personal career attributes.[10]

Davlin-Pater and Rosencrum[5] have identified 11 soft-skill themes that are necessary for inclusion in professional education of ATs (Table 1). Furthermore, research on athletic training students indicate a correlation between clinical skills and leadership ability.[8] Given the strong connection between soft skills and leadership and how both contribute to clinical practice it is necessary to explore how important soft skills are perceived to be and if (or to what degree) they are evaluated within athletic training education. It is possible that evaluating the importance of soft skills may help to guide leadership development and ultimately clinical preparedness. To date very little empirical research on soft skills within athletic training has been conducted. Therefore, the purpose of this study is to explore the importance of Davlin-Pater and Rosencrum's[5] 11 soft skills within athletic training education and how often they are evaluated. Thus, the following research questions were framed:

1. How important are athletic training-soft-skills to administrators of professional athletic training programs?
2. If important, how frequently do athletic training program administrators evaluate these soft skills ?

METHODS

A survey to PDs of professional bachelor and masters accredited athletic training programs was conducted. The institutional review board from the primary investigator's institution approved the methods for use with human subjects.

Respondents

Four hundred and eight PDs were invited to participate in this investigation. Participants' contact information was collected from the Commission on Accreditation of Athletic Training Education (CAATE) Web site (in the public domain). Inclusion criteria required being identified as an active PD of a professional Bachelor or Master level CAATE-accreditied program; none were excluded. E-mail invitations were sent to all identified PDs.

Instrumentation

The Athletic Training Soft-Skills Assessment Instrument (ATSSAI) developed for this investigation consisted of 3 sections. Eleven soft skills were identified by Davlin-Pater and Rosencrum[5] as necessary for inclusion in athletic training education. Table 1 is a description of the soft skills. Section 1 consisted of a 7-point Perceived Importance scale using a Likert range of 1 to 7 (1 = *extremely important* to 7 = *not important*). Section 2 consisted of a 7-point Frequency of Evaluation scale with a Likert range of 1 to 7 (1 = *always* to 7 = *never*). The final section of the ATSSAI collected participants' demographic information (eg, sex, ethnicity, experience, member district, type of program directed).

Table 1. Soft Skills Necessary for Inclusion in Athletic Training Education[5]

Soft Skill Theme	General Description
Masters time and energy conscious	Understands the importance and impact of sleep and energy management; combats procrastination
Listen and lead	Is skillful in verbal and nonverbal communication and is flexible in method of communicating
Knowledgeable and curious	Appreciates and practices lifelong learning; seeks to apply what he or she has learned
Decisive and confident	Is decisive yet calm during challenging situations
Dependable and responsible	Models dependability and responsibility through being reliable, accountable, and consistent
Positive attitude and perseverance	Demonstrates general happiness and positive emotions
Prepared and adaptable	Is organized and flexible, is able to adapt to unforeseen circumstances
Growth mindset and action oriented	Seeks constructive feedback and risks making mistakes to learn and improve
Observant and exact	Strives to be accurate, gives attention to detail
Good character and trustworthy	Adheres to ethical standards, is honest and trustworthy
Givers and takers	Collaborative and supportive of group success; balances giving and taking; does not expect immediate return on investment

Statistical Analyses

Statistical analysis was conducted using SPSS 25.0 (SPSS Inc, Chicago, IL). Differences in respondents' demographic characteristics were evaluated using independent-samples t tests and 1-way analysis of variance (ANOVA) followed by Tukey post hoc comparisons. The Cronbach α with item analysis was used to test the internal consistency/reliability of the ATSSAI. The Pearson r correlation coefficient was calculated to determine associations (effect size) between scale items and sections. Paired-samples t tests were used to describe differences between ATSSAI scale sections (eg, perception of importance and frequency of evaluation), and the Cohen d was used to determine effect size for paired-samples t tests. When necessary, frequencies and measures of central tendency were also reported.

RESULTS

Participants

Of the 408 PDs invited, a total of 122 (30%) completed the survey and 108 (88.5%) of those surveys were usable, for a final response rate of 26.5%. A majority (57%) were female, and all 10 National Athletic Trainers' Association (NATA) districts were adequately represented, with the highest percentage (26%) coming from District 4. A majority of PDs (64%) were from professional baccalaureate programs and 28% were from professional master's programs; 8% chose not to disclose. A majority of respondents (79%) reported having at least 11 years of experience, and of those, 33% reported having 21 years of experience or more. The highest percentage of PDs (46%) reported overseeing programs with 20 or fewer students, 31% oversaw programs with 21 to 49 students, and 16% reported overseeing programs with at least 50 students. Almost all (98%) identified as Caucasian. Table 2 describes the participants.

Instrument Psychometrics

Cronbach coefficient α for the ATSSAI was 0.88, with α if item deleted ranging from 0.867 to 0.885. Cronbach coefficient α's for the separate ATSSAI dimensions were $\alpha = 0.84$ and 0.93, $P = .000$, for Perceived Importance and Frequency of Evaluation, respectively; α if item deleted ranged from 0.813 to 0.925, indicating strong internal consistency/reliability. Content validity of the ATSSAI was established by using existing athletic training literature[5] to frame the scale items. Pearson r correlation coefficients for all 11 scale items within the Perceived Importance dimension ranged from 0.21 to 0.59, $P \leq .05$, and within the Frequency of Evaluation dimension ranged from 0.34 to 0.67, $P \leq .05$. Pearson r correlation coefficients of the aggregate means of Perceived Importance (scale section 1) and Frequency of Evaluation (scale section 2) were strong, $r = 0.81$, indicating a large effect size, which indicates a large association between perception of importance and frequency of evaluation, establishing convergent validity. Paired-samples t tests showed aggregate mean for importance of soft skills were significantly higher than the frequency with which soft skills are evaluated (mean = 1.65 ± .47 versus 3.29 ± 1.17, $t_{100} = -13.383$, $P = .000$). A Cohen d was calculated to determine effect size of paired-samples t tests; d = 1.83, indicating a large effect size. Therefore, the ATSSAI is believed to be a reliable and valid instrument.

Importance of Soft Skills

All 11 soft-skill themes were perceived to be at least very important (scale range 1 to 7; 1 = *extremely important*, 7 = *not important*) during professional education of athletic training students. The soft skill perceived to be most important was *dependability and responsibility* (mean = 1.31 ± .51); the least important was *givers and takers* (mean = 1.97 ± .81). Female PDs perceived *observant and exact* (mean = 1.70 ± .72 to 2.10 ± 1.1, $P = .031$) and *prepared and adaptable* (mean = 1. 51 ±. 60 to 1.85 ± 1.0, $P = .037$) as more important than did male PDs ($t_{99} = 2.12$ and 2.18, $P = .31$ and .37, respectively). There were no significant differences in the perceived importance of soft skills between PDs of professional baccalaureate or professional master's levels. One-way ANOVA did not indicate any differences in perceived importance of soft skills among PDs from different NATA districts, from programs of different sizes (ie, with different numbers of students), or with different years of experience. Table 3 is a rank order list of the soft skills' perceived importance.

Table 2. Participants' Demographic Characteristics (N = 108)

Characteristic	No. (%)
Sex	
Female	61 (57)
Male	40 (37)
Undisclosed	7 (6)
Size of athletic training program, No. of students	
≤20	50 (46)
21–49	34 (31)
≥50	17 (16)
Undisclosed	7 (6)
Ethnicity	
Caucasian	98 (91)
Hispanic	1 (∼1)
Asian American	1 (∼1)
Undisclosed	8 (7)
Type of program	
Baccalaureate	69 (64)
Masters	30 (28)
Undisclosed	9 (8)
Time as athletic training educator, y	
≤10	15 (14)
11–20	50 (46)
≥21	36 (33)
Undisclosed	7 (7)
NATA district	
1	7 (7)
2	7 (7)
3	11 (10)
4	28 (26)
5	12 (11)
6	9 (8)
7	6 (6)
8	3 (3)
9	11 (10)
10	7 (6)
Undisclosed	7 (6)

Abbreviation: NATA, National Athletic Trainers' Association.

Frequency of Soft Skills

No soft skills were evaluated *always*. Only 1 soft skill, *dependability and responsibility,* was evaluated *frequently* (eg, ∼80% of the time, mean = 2.21 ± 1.3). The remaining 10 soft skills were evaluated at least *sometimes* (≥50% of the time). The least frequently evaluated soft skill was *growth mindset and action oriented* (mean = 4.2 ± 1.6). Female PDs reported evaluating *decisive and confident* (mean = 2.87 ± 1.2 to 3.55 ± 1.6, P =.015), *prepared and adaptable* (mean = 2.85 ± 1.4 to 3.63 ± 1.7, P = .014), and *observant and exact* (mean = .05 ± 1.5 to 3.80 ± 1.6, P = .021) more frequently than male PDs (t_{99} = 2.35 to 2.50, P = .014 to .021). There were no significant differences in frequency of soft-skill evaluation between PDs at baccalaureate and master's levels. One-way ANOVA did not indicate any differences in frequency of evaluation of soft skills among PDs from different NATA districts, from programs of different sizes (eg, number of students), or with different years of experience.

DISCUSSION

Program directors perceive soft skills to be important for athletic training education. In response to research question 1, in general, PDs believe all 11 soft skills are at least very important to include in their academic programs and 3 (27%) are extremely important to include (Table 3). Relative to research question 2, PDs reported evaluating all 11 soft skills at least *sometimes*, with 8 (72%) being evaluated *usually* or *frequently*. Therefore, the findings of this study support the claim of Davlin-Pater and Rosencrum[5] that soft skills are necessary for inclusion in athletic training education.

Although only a few skills showed a significant difference between male and female PDs, in general female PDs perceive soft skills as more important and evaluate them more frequently. Our findings indicate that athletic training educators and administrators believe that soft skills are very important and that they are being evaluated. However, the frequency with which they are evaluated does not appear to correspond with their reported level of importance. For example, only 1 soft skill, *dependability and responsibility*, was reported to be evaluated *frequently*, despite all soft skills being considered very or extremely important. It should be noted that it is not clear how these soft skills were evaluated; future

Table 3. List of Soft Skills, Perceived Importance, and Frequency of Evaluation

	Perceived Importance		Frequency of Evaluation	
Soft-Skill Themes	Importance	Mean ± SD	Frequency	Mean ± SD
Dependable and responsible	Extremely	1.31 ± .51	Frequently	2.21 ± 1.30
Listen and lead	Extremely	1.43 ± .67	Usually	2.93 ± 1.47
Good character and trustworthy	Extremely	1.43 ± .75	Usually	3.09 ± 1.61
Decisive and confident	Very	1.57 ± .63	Usually	3.14 ± 1.39
Knowledgeable and curious	Very	1.61 ± .68	Usually	3.47 ± 1.59
Masters time and energy conscious	Very	1.62 ± .76	Usually	3.32 ± 1.72
Prepared and adaptable	Very	1.65 ± .82	Usually	3.16 ± 1.56
Observant and exact	Very	1.87 ± .89	Usually	3.35 ± 1.60
Positive attitude and perseverance	Very	1.88 ± .81	Sometimes	3.67 ± 1.58
Growth mindset and action oriented	Very	1.94 ± .81	Sometimes	4.20 ± 1.59
Givers and takers	Very	1.97 ± .81	Sometimes	3.62 ± 1.51

research should explore the method used to measure and assess soft skills.

It is not surprising that soft skills are evaluated with a lower frequency than clinical or technical skills. The lower frequency of evaluation may be a consequence of the difficulty associated with measuring and evaluating soft skills (and related affective behaviors) in a competency-based profession.[11] For example, a majority of faculty and preceptor evaluations of students focus on standards and clinical proficiency set forth by national accrediting bodies. As this is unlikely to change, and we are not suggesting it should, there must also be an added focus on soft skills associated with leadership and professionalism. As health care leaders move to place a greater emphasis on soft skills,[2] athletic training educators must also consider this trend. Therefore, research and strategies for including and evaluating soft skills in athletic training education and practice must be explored, as the profession continues to advance and attempts to keep pace with allied partners and interprofessional expectations. The "evident shift" toward soft skills[3] outlined in professional literature should give pause to educators as they consider how to include and evaluate them in their professional educational programs.

Our findings support the notion that soft skills are tacit,[12] and therefore can be difficult to assess. Students learn soft skills by means of experiential learning informed by tacit knowledge.[12] As such, these are nonclinical skills, and, despite being clinically significant (eg, contributing to patient safety[1] and improved surgical skill[7]), are often considered to be subjective. Research in athletic training has discussed nonclinical skills and their importance in athletic training.[8] Unfortunately, nonclinical skills are often marginalized.[8,13] This may inadvertently impede their evaluation, despite perceived importance; the findings of this investigation tend to support that sentiment.

Adamson et al[14] reported that some health care practitioners criticize their formal professional education for failing to adequately prepare them for many of their job's nonclinical requirements. If athletic training educators fail to evaluate any skill (clinical or nonclinical) that is deemed to be very or extremely important, there is a risk of that same criticism, the consequences of which may be far-reaching. These findings add considerable impetus to the need for athletic training educational programs to explicitly teach and evaluate soft skills, as Davlin-Pater and Rosencrum[5] recommended. It is likely that the development and evaluation of soft skills will impact students' growth, transition to practice, and development of professional socialization. For example, experiential learning (clinical education) with directed critical reflection is crucial for successfully developing the tacit-based soft skills.[12] Therefore, we recommend that PDs, faculty, and preceptors include soft-skills assessment in their evaluation of students' clinical experiences. This serves as an effective form of evaluation and adds much needed value to the concept of soft skills and their importance to leadership and clinical practice.

Another key aspect of this research is the implication of these findings on leadership development. The connection of soft skills to leadership is established,[1–4] and leadership's importance within athletic training has been clearly demonstrated.[15–17] Additionally, other aspects of leadership, interprofessional collaboration and teamwork, are highly dependent on the presence of soft skills.[4] Integrating evaluation of soft skills into clinical courses and experiences is likely to bolster their perceived importance and enhance the practice frequency and skillful application of important leadership behaviors. Therefore, despite being nonclinical, there is compelling evidence that for an effective leader and skilled AT soft skills are part of an essential skill set.

Our findings may help to explain Brungardt's[4] conclusion of a gap in soft skills in new or incoming professionals entering a career field. Our findings suggest that part of that gap may be due to a high level of perceived importance but a relative lack of the evaluation of those soft skills. Skills that are espoused to be very important but are not evaluated with equal vigor may be more easily discarded. This would seem to indicate a need to establish an agreed-upon description of soft skills within athletic training education and to establish general consensus as to which soft skills should be evaluated and why. These findings, in conjunction with Davlin-Pater and Rosencrum's[5] recommendations, serve as an important first step in establishing that consensus. Next steps should include an exploration of how soft skills are evaluated by professional education programs. Future research should investigate the outcomes of soft skills within health care in general and athletic training specifically. Furthermore, it may be necessary to explore any perceived differences in the value of soft skills between male and female athletic training educators.

CONCLUSIONS

This study supports Davlin-Pater and Rosencrum's[5] deduction that PDs and educators should include soft skills in their curriculum. Program directors agree that soft skills are important. However, the degree to which the soft skills should be integrated into athletic training education and evaluated needs further discussion and research. Soft skills are informed via tacit knowledge and consequently are difficult to evaluate. Despite the difficulty, it is incumbent upon athletic training educators to seek ways to introduce and evaluate soft skills into the leadership development and clinical practices of ATs and students.

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