

# Validation of the Professional Identity and Values Scale Among an Athletic Trainer Population

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**Context:** Forming a professional identity is a process by which an individual achieves an awareness of his or her own self-concept in the context of the profession. Identity in relation to an individual's profession includes the ability to articulate one's role as a professional and professional philosophy. Professional identity has been studied extensively in other fields, but currently no professional identity scales have been validated within the athletic training profession.

**Objective:** To validate the Professional Identity and Values Scale (PIVS) among an athletic trainer population.

**Design:** Cross-sectional study.

**Setting:** Web-based questionnaire.

**Patients or Other Participants:** Athletic trainers employed in National Collegiate Athletic Association Division I, II, III, or National Association of Intercollegiate Athletics colleges or universities ( $n = 299$ , 56.5% female, 43.5% male). The average age of the participants was  $33.6 \pm 8.3$  years, and they had  $10.3 \pm 7.6$  years of experience.

**Main Outcome Measure(s):** Participants were asked to complete a demographic questionnaire and the 32-item PIVS.

The variables included demographics and the PIVS (Professional Orientation and Values subscale [18 items] and the Professional Development subscale [14 items]).

**Results:** Exploratory factor analysis reduced the survey from 32 to 20 items and revealed 6 factors. Three factors emerged from the Professional Development subscale and emphasized professional insecurities during the early career stages, the importance of mentors during the intermediate stages, and self-confidence and awareness during the later stages of professional development. An additional 3 factors emerged from the Professional Orientation and Values subscale: (1) patient care and advocacy, (2) professional engagement and collaboration, and (3) personal wellness and values. A Cronbach  $\alpha$  of 0.80 indicated good internal consistency.

**Conclusions:** A modified PIVS is a valid and reliable measure of professional identity among athletic trainers employed in the collegiate setting.

**Key Words:** professional development, self-concept

## Key Points

- Professional identity is an important self-concept that allows an individual an identity in relation to his or her profession.
- A professional identity scale originally validated among a mental health population showed initial validity and reliability among collegiate athletic trainers.

The purpose of this research was to validate the Professional Identity and Values Scale (PIVS) among a collegiate athletic training population in order to better understand the values and professional development of practicing athletic trainers (ATs). Having a clear sense of its own identity is essential for the athletic training profession to advance. Due to similarities between the professional values, definitions, and education of the athletic training and counseling professions, it is appropriate to validate a scale that was developed among counselors in an athletic training population.

Research regarding professional identity in athletic training is necessary to advance the profession and to determine if clinically practicing ATs agree with the essential philosophies and definitions of the profession. It is important to know whether the institutionally valued qualities of the profession are actually being put into practice. There should be congruence between what athletic

training has defined itself to be and how it is actually practiced. The way in which professional identity is defined can affect how individuals in the profession integrate and form their own professional identities. Although many authors have examined professional identity in other fields, currently no known professional identity scales have been validated for the athletic training profession.

## Professional Identity

*Professional identity* has been defined as an individual's professional self-concept based on beliefs, values, motives, attributes, and experiences and has been explored significantly in the literature.<sup>1–7</sup> Nugent and Jones<sup>8</sup> defined professional identity as a combination of personal and training characteristics applied within the professional setting. Professional identity develops over time through interactions with other professionals and by gaining insight

into professional practices and the development of individual skills and values of the profession.<sup>1</sup> Individuals with higher professional identities are able to articulate their roles as professionals, their professional philosophies, and their approaches to others, both inside and outside their fields.<sup>9–11</sup> Career success has been shown to positively correlate with successful professional identity construction.<sup>4,7</sup> The construct of professional identity relates to many aspects of a profession, including practices, philosophies and beliefs, ethics, and the requirements for success within the profession. Colley et al<sup>10</sup> found that if personal values contrast with expectations of successful involvement in a profession, conflicts may arise as the individual attempts to define his or her place in the chosen profession.

### Defining the Counselor and Athletic Training Professions

Both ATs and counselors are considered health care professionals. Health care professionals maintain health in humans through the application of evidence-based practice with the definitive goal of meeting the health needs of individuals and populations.<sup>12,13</sup> Professionally, the well-being of patients is the primary concern of any health care provider, and all health care professionals must comply with federal and state laws. Athletic training, similar to mental health counseling, is a relatively new field that has undertaken many initiatives to advance its status as a health care profession.

The National Athletic Trainers' Association (NATA) has defined an *AT* as a "health care professional who collaborates with physicians. The services provided . . . comprise prevention, emergency care, clinical diagnosis, therapeutic intervention, and rehabilitation of injuries and medical conditions. Athletic trainers work under the direction of physicians, as prescribed by state licensure statutes."<sup>14</sup> This definition matches well with the clinical tasks that are routinely performed by ATs, which are classified into 5 domains: (1) injury/illness prevention and wellness protection, (2) clinical evaluation and diagnosis, (3) immediate and emergency care, (4) treatment and rehabilitation, and (5) organizational and professional health and wellbeing. The 2009 *Role Delineation Study*<sup>15</sup> noted the ability of ATs to empower patients in the improvement of their mental and social wellbeing, and task 0506 specifically addressed the need for ATs to support and refer individuals in order to address unhealthy lifestyle behaviors. Psychosocial strategies and referrals comprise a significant component of the educational competencies of ATs.

Similar to ATs, counselors work with individuals and groups to promote optimal health, though in mental health counseling, the primary focus is on mental and emotional wellbeing. These professionals are responsible for developing and implementing treatment plans; collecting information about their patients via interviews, observations, or tests; and maintaining the confidentiality of records relating to their clients' treatment. Beliefs related to the mental health counseling profession embrace clinical practice from a wellness perspective, advocacy for the profession as well as for patients, community and professional service, and engaging others from a holistic point of view.<sup>16</sup>

### Professional Values of Counselors and Athletic Trainers

The NATA has also established 4 principles of ethical behavior as part of their Code of Ethics<sup>17</sup> that ATs should follow in practice. Similarly, the American Counseling Association established 5 core professional values of the counseling profession: (1) enhancing human development throughout the life span; (2) honoring diversity and embracing a multicultural approach in support of the worth, dignity, potential, and uniqueness of people within their social and cultural contexts; (3) promoting social justice; (4) safeguarding the integrity of the counselor-client relationship; and (5) practicing in a competent and ethical manner.<sup>18</sup>

### Development of Counselors and Athletic Trainers

An extensive amount of research has examined the professional development of counselors.<sup>9,19–24</sup> Gibson et al<sup>19</sup> determined that new counselor trainees relied on external references, such as professors and textbooks, for understanding their professional identity compared with advanced counselor trainees, who incorporated more of their own personal attributes into their professional identity. New professionals are able to move from an external to an internal locus of evaluation, from a dependence on experts to a reliance on their own training and experiences.<sup>9,19,24</sup> Moss et al<sup>22</sup> reported that integration of the personal and professional selves occurs in the later stages of a counselor's career. Developing a professional identity throughout a career does not come without its challenges. Skovholt and Rønnestad<sup>24</sup> reported that counselor trainees experienced anxiety stemming from the ambiguous standards in their training program, and Moss et al<sup>22</sup> found that new counseling professionals struggled with unrealistic expectations of what it meant to be a professional counselor.

Although counselors are currently required to obtain a master's degree, both professions need to complete work experience, pass a certification examination, and apply for state licensure. Students in both fields are exposed to professional mentors in their clinical work experiences that help shape their professional development. Licensed professionals in both fields must abide by state regulations. Therefore, it is appropriate to use these 3 developmental stages in an exploratory factor analysis within athletic training.

### The Uniqueness of Athletic Training

Unlike mental health counselors and many other health care professionals, ATs provide health care within a sport organization. A sport organization creates a unique work environment and can be identified by 5 key elements: (1) social entity, (2) involvement in the sport industry, (3) goal-directed focus, (4) consciously structured activity systems, and (5) identifiable boundary.<sup>25</sup> Working within a sport organization means that athletes are the primary patient population of ATs. Brewer et al<sup>26</sup> identified a concept known as *athletic identity* in which an individual identifies with the role of the athlete, which affects how the person views himself or herself. Similar to professional identity, athletic identity is developed through the acquisition of skills and social interaction. The benefits of an athletic identity include a salient self-identity, self-confidence,

**Table 1. Comparison of Participant Demographics and National Athletic Trainers' Association (NATA) Membership Statistics, %**

Demographic	Current Study	NATA Membership Statistics <sup>a</sup>
Sex (N = 299 in current study)		
Male	43.5	45.43
Female	56.5	54.52
Racial/ethnic identity (N = 299 in current study)		
White (not of Hispanic origin)	86.3	80.81
Black (not of Hispanic origin)	3	3.69
Asian or Pacific Islander	3	3.48
Hispanic	3.7	4.56
Multiethnic	2.7	1.66
Other not specified	1.3	0.93
NATA district (N = 294 in current study)		
1	9.7	6.44
2	13.7	13.99
3	10.7	11.09
4	19.7	20.89
5	9.7	9.51
6	3	6.9
7	4.7	4.99
8	7	7.17
9	13.7	13.92
10	6.4	3.91

<sup>a</sup> Membership statistics were from January 2016.

health and fitness, and performance enhancement. The potential risks include emotional difficulties when dealing with injuries and difficulty adjusting to the end of an athletic career. The concept of athletic identity creates a unique set of circumstances for the health care professional interacting with athletes on a daily basis.

Although ATs work in a variety of settings, the majority of NATA members work in college or university, professional sports, or secondary school settings, all of which constitute sports organizations.<sup>27</sup> The college or university setting represents the largest job setting of certified NATA members, employing almost a quarter of certified members.<sup>27</sup> The college or university setting also creates the “perfect storm” of unique workplace challenges for the AT, which may include atypical hours, long road trips (extended nights away from home), pressure to win, supervision of athletic training students, long competition seasons, last-minute schedule changes, and organizational structures in which supervisors may not be medical professionals.<sup>28–30</sup> These individual concerns may arise in other job settings and professions, yet we do not see them in combination as frequently as in the college or university setting. Athletic training as a profession is unique because it is a health care profession functioning within a sport organization. The goals of athletic training departments often focus on improving the health and wellbeing of their patients, whereas the workplace goals of coaches and sport organizations may focus more on success and profit.

### Professional Identity and Values Scale

Healey<sup>16</sup> developed an instrument known as the PIVS that assesses the attitudes, beliefs, and practices regarding counselors' roles within their profession. The PIVS is a 32-item measure of professional identity among counselors and was created based on information gathered through a

qualitative research process that involved female counseling professionals serving in various roles within their field.<sup>16</sup> Healey and Hays<sup>4</sup> demonstrated face and content validity and reported a total subscale score Cronbach  $\alpha$  of 0.80. The PIVS consists of 2 subscales: Professional Orientation and Values (18 questions) and Professional Development (14). The Professional Orientation and Values subscale gauges agreement with beliefs that are commonly held with regard to the counseling profession and were directly assembled from qualitative data collected via interviews and focus groups. Prior preliminary and exploratory factor analyses<sup>4</sup> established 5 groupings within the Professional Orientation and Values subscale: (1) advocacy and community engagement; (2) holistic, contextual, and relational approach; (3) professional engagement and collaboration; (4) personal wellness; and (5) meaning and values. The Professional Development subscale represents 3 stages of professional development through which a counselor progresses during identity development. Stage 1 involves imitation and internalization of expert beliefs. Stage 2 consists of acceptance of one's inner voice as expert and role exploration. Stage 3 describes individualization of professional beliefs. Although these 3 developmental stages were established via research in the counseling field,<sup>20,31</sup> the education and training requirements of both professions are similar, as previously explained.

## METHODS

### Participants

The participants in this study ( $n = 299$ ) identified themselves as ATs employed in National Collegiate Athletic Association Division I, II, or III or National Association of Intercollegiate Athletics colleges or universities. Athletic trainers employed in the college or university setting were purposefully chosen as they represent the largest population of NATA members.<sup>27</sup> The inclusion criterion was employment in the college or university setting. Participants were excluded from the study if (1) they were graduate assistant or (2) intern ATs. Our participants were  $33.6 \pm 8.3$  (range, 22–61) years old, with  $10.3 \pm 7.6$  (range, 0.5–37) years of experience working as an AT. They worked  $60 \pm 12.1$  (range, 10–100) hours a week during their in-season,  $45.8 \pm 10.6$  (range, 5–85) hours a week during their off-season, and  $21.3 \pm 16.1$  (range, 0–70) hours a week during the summer. The majority of our participants were contracted for 12 months ( $n = 183$ , 61.2%) and on average traveled with  $1.8 \pm 1.4$  (range, 1–13) teams as part of their work responsibilities. A comparison of the demographic information of our participants and NATA membership statistics can be found in Table 1. Our sample represented diversity in demographic variables as compared with the NATA membership statistics. Most of our participants were single ( $n = 161$ , 53.8%) and did not have children ( $n = 204$ , 68.2%). All of our participants who reported having children also reported being married. Additional demographic information can be found in Table 2.

### Procedures

After receiving institutional review board approval, we contacted the NATA to provide us with a list of ATs

**Table 2. Participants' Demographic Information**

Demographic	n (%)
Highest level of education (N = 294)	
Bachelor's	21 (7)
Master's	256 (85.6)
Doctorate	17 (5.7)
Position (N = 299)	
Assistant AT	189 (63.2)
Head AT	26 (8.7)
Associate AT	29 (9.7)
Director of sports medicine	12 (4)
Other	43 (14.4)
Organizational structure (N = 299)	
Academics	16 (5.4)
Athletics	236 (78.4)
Medical	39 (13)
Other	8 (2.7)
Contract length (N = 299)	
9 mo	22 (7.4)
10 mo	62 (20.7)
11 mo	19 (6.4)
12 mo	183 (61.2)
Other	13 (4.3)
Relationship status (N = 299)	
Married	124 (41.5)
Single	161 (53.8)
Divorced	4 (1.3)
Other	10 (3.3)
Sexual orientation (N = 294)	
Heterosexual	274 (91.6)
Homosexual	16 (5.4)
Bisexual	3 (1)
Other	1 (0.3)
Family status (N = 299)	
No children	204 (68.2)
Children	95 (31.8)
College or university setting (N = 299)	
National Collegiate Athletic Association division	
I	154 (51.5)
II	48 (16.1)
III	73 (24.4)
National Association of Intercollegiate Athletics	24 (8)

Abbreviation: AT, athletic trainer.

currently employed in the college or university setting. The NATA provided us 2000 e-mail addresses. Of these, 1653 were viable (for those that were not, either e-mail addresses were inactive or individuals replied to let us know they did not meet the inclusion criterion). Initial e-mail recruitment, which consisted of an overview of the study as well as a link to the online survey (Qualtrics, Provo, UT), was sent out in mid November 2015. Subsequently, 2 e-mail reminders were sent to all participants asking them to complete the survey if they had not yet done so and thanking them for their participation if they had already completed it. The first reminder went out 2 weeks after initial recruitment (the end of November 2015), and the second reminder was sent 4 weeks after initial recruitment (middle of December 2015). Of the 1653 viable e-mails that were sent out to participants, 487 surveys were started (29.4% response rate) and 299 surveys were finished (39%

dropout rate). Accounting for the large percentage of incomplete surveys, our overall response rate was 18.1%. The online survey included demographic questions, 9 Likert-scale surveys, and open-ended questions. This study was part of a larger investigation of the career intentions of collegiate ATs from a multilevel perspective. For the purposes of this study, only demographic information and responses to the PIVS<sup>5</sup> were analyzed (open-ended questions and the other 8 Likert-scale surveys were not assessed).

## Measures

**Demographic Form.** The 22-item demographic form requested information such as age, sex, marital status, sexual orientation, family status, race/ethnicity, and highest level of education. Additionally, the form asked for demographic information specifically related to the athletic training profession, including NATA district, average number of hours worked (in-season, off-season, and summer), length of contract, number of sports for which the AT was responsible for providing medical care, number of fulltime ATs employed at the institution, organizational structure, and college/university setting.

**Professional Identity and Values Scale.** The PIVS<sup>16</sup> was developed as a measure of counselor professional identity development. The Professional Development subscale corresponds to the 3 stages of professional advancement through which a counselor progresses during identity development. The first 5 questions of the PIVS Professional Development subscale represent stage 1, which describes counselors who understand mental health counseling philosophy but are not yet able to clinically practice from a philosophy.

## Data Analyses

All statistical analysis was completed using SPSS (version 22; IBM Corp, Armonk, NY). Our first step was to examine the dimensionality of single survey items by inspecting interitem correlations. Ideally, the average interitem correlation should be between 0.20 and 0.40.<sup>32</sup> Pett et al<sup>33</sup> suggested that correlations of items intended to measure the same construct should range between 0.30 and 0.60. These values suggest that scale items are reasonably homogeneous yet still provide sufficiently unique variance, meaning they are not isomorphic.<sup>32</sup>

Exploratory factor analysis was conducted using principal axis factoring as our reduction approach, which is recommended if the data violate the assumption of multivariate normality.<sup>34</sup> Additionally, we chose to rotate the matrix of loadings to obtain oblique factors (direct oblimin rotation) because we expected factors to be correlated. Eigenvalues were set at 1 in order for item groupings to be retained as a factor. A significant contribution to a factor within the pattern matrix was considered to be an  $r > 0.30$ , which has been recommended in the athletic training literature.<sup>35</sup> Items were removed from the analysis if (1) they had communalities (estimated proportion of variance free of error and shared with other variables)  $< 0.40$ ; (2) they had factor loadings  $> 0.30$  on more than 1 factor (cross-loading); or (3) they did not fit conceptually with other items loading on a factor, as determined by expert review. Based on results from the exploratory factor analysis, we reduced the Professional

**Table 3. Professional Identity and Values Scale Items<sup>a</sup>**

	Mean ± SD
<b>Professional Orientation and Values</b>	
Awareness of social justice issues is an integral part of being a competent athletic trainer.	4.3367 ± 1.05640
Athletes should be dependent on athletic trainers to help them cope with life issues (R).	3.6757 ± 1.06860
Building a strong relationship with an athlete is essential to the rehabilitation process.	5.2896 ± 0.76028
Therapeutic interventions should be flexible with regard to an athlete's presenting concerns.	5.1077 ± 0.75012
Having a holistic perspective is an essential part of being a health care professional.	4.8851 ± 1.01863
Assisting athletes in advocating for their needs is an important component of one's role as an athletic trainer.	5.0471 ± 0.83694
Athlete empowerment is a fundamental component of one's role as an athletic trainer.	4.5152 ± 1.06254
I believe most athletic injuries are the result of diagnosable illness requiring long-term medical and/or biomechanical intervention (R).	3.7432 ± 1.04555
It is an athletic trainer's primary goal to take responsibility for finding and connecting athletes with community resources (R).	3.6655 ± 1.08282
An integral part of the rehabilitation process is assisting athletes in recognizing their strengths.	4.5522 ± 0.83310
An important part of an athletic trainer's role is to provide an objective perspective for athletes.	4.8576 ± 0.68019
Community service is valuable for my work as a health care professional.	3.8514 ± 1.07271
It is important for athletic trainers to be involved in promoting the athletic training profession.	5.1149 ± 0.81114
Building strong professional relationships with other athletic trainers is important to me.	5.1318 ± 0.81482
The quality of my professional work is more important than the quantity of work completed.	4.8990 ± 0.90227
My personal wellness is important to my work as a health care professional.	5.0204 ± 0.90858
My work as an athletic trainer is fundamentally connected to my personal spirituality.	3.9458 ± 1.31078
Athletic trainers work best when professional expectations match personal values.	4.8378 ± 0.84013
<b>Professional Development</b>	
Overall, I do not feel confident in my role as an athletic trainer (R).	5.1137 ± 1.12943
My approach to my work in athletic training is largely modeled after those I perceive to be experts.	4.2508 ± 1.03006
Feedback from my supervisors and experts serve as the primary means by which I gauge my professional competence.	3.7785 ± 1.13021
I am unsure about who I am as an athletic trainer (R).	5.0201 ± 1.06796
I understand theoretical concepts, but I am unsure how to apply them (R).	4.7592 ± 1.03084
I am still in the process of determining my professional approach (R).	4.3880 ± 1.30435
I always gauge my professional competence based on both internal criteria and external evaluation.	4.2508 ± 1.01033
In making professional decisions, I balance my internal professional values and the expectations of others.	4.0438 ± 0.98713
Based on my level of experience within the athletic training profession, I have begun developing specialization within the field.	3.9197 ± 1.09617
I have developed personal indicators for gauging my own professional success.	4.2315 ± 1.00340
I feel confident in my role as an athletic training professional.	5.0669 ± 0.89116
I feel comfortable with my level of professional experience.	4.9064 ± 0.87351
At this stage in my career, I have developed a professional approach that is congruent with my personal way of being.	4.8428 ± 0.83468
I have developed a clear role for myself with the athletic training profession that I think is congruent with my individuality.	4.7960 ± 0.88719

Abbreviation: R, reverse scored.

<sup>a</sup> Instrument is presented in its original form.

Development subscale to 13 questions and removed 6 questions from the Professional Orientation and Values subscale.

Content validity for the items remaining from the PIVS was ascertained through expert review of the instrument. Conceptual definitions for the 4 stages of professional development as well as definitions derived from the NATA Code of Ethics<sup>17</sup> and Role Delineation Study<sup>15</sup> were provided to the reviewers. The expert reviewers were 5 certified ATs currently employed as ATs who were identified as having knowledge related to the topics of professional development and professional values specific to athletic training. The reviewers were asked to rank each item with regard to how well it fit each dimension, without knowledge of the subscale for which each individual question was specifically designed. Reviewers rated each item from *not at all* (0) to *excellent* (7). The criteria used to retain each item depended on overall reviewer agreement

with regard to the strength of the item as well as the opinions of the authors.

## RESULTS

Using exploratory factor analysis, we reduced the PIVS from 32 to 20 items. Each remaining item was gauged with regard to conceptual agreement by the authors and expert reviewers. Means and standard deviations of all original PIVS items are reported in Table 3.

Initial interitem correlation performed on the original PIVS showed that no items on the Professional Orientation and Values subscale exceeded an interitem correlation of  $r = 0.634$ , indicating that each of the 18 items in the subscale was contributing unique information to the overall instrument. The Professional Orientation and Values subscale had a Cronbach  $\alpha$  of  $r = 0.70$ . The Professional Development subscale had a Cronbach  $\alpha$  of  $r = 0.77$ ; no items exceeded an interitem

**Table 4. Professional Identity and Values Scale Pattern Matrix<sup>a</sup>**

Item <sup>b</sup>	Factor					
	Stage 3	Stage 2	Patient Care and Advocacy	Professional Engagement and Collaboration	Personal Wellness and Values	Stage 1
At this stage in my career, I have developed a professional approach that is congruent with my personal way of being.	0.877					
I have developed a clear role for myself with the athletic training profession that I think is congruent with my individuality.	0.764					
I feel comfortable with my level of professional experience.	0.726					
I feel confident in my role as an athletic training professional.	0.602					
Based on my level of experience within the athletic training profession, I have begun developing specialization within the field.	0.504					
I have developed personal indicators for gauging my own professional success.	0.401					
I always gauge my professional competence based on both internal criteria and external evaluation.		0.791				
In making professional decisions, I balance my internal professional values and the expectations of others.		0.508				
Feedback from my supervisors and experts serve as the primary means by which I gauge my professional competence.		0.301				
Assisting athletes in advocating for their needs is an important component of one's role as an athletic trainer.			-0.879			
Athlete empowerment is a fundamental component of one's role as an athletic trainer.			-0.709			
Therapeutic interventions should be flexible with regard to an athlete's presenting concerns.			-0.443			
Building strong professional relationships with other athletic trainers is important to me.				0.787		
It is important for athletic trainers to be involved in promoting the athletic training profession.				0.624		
My work as an athletic trainer is fundamentally connected to my personal spirituality.					-0.622	
Athletic trainers work best when professional expectations match personal values.					-0.430	
I understand theoretical concepts, but I am unsure how to apply them (R).						0.771
I am still in the process of determining my professional approach (R).						0.718
I am unsure about who I am as an athletic trainer (R).						0.672
Overall, I do not feel confident in my role as an athletic trainer (R).						0.562
Percentage of variance	26.09	13.63	8.19	6.91	5.48	4.81
Eigenvalue	5.21	2.73	1.64	1.38	1.10	1.01

Abbreviation: R, reverse scored.

<sup>a</sup> Extraction method: principal axis factoring; rotation method: oblimin with Kaiser normalization.

<sup>b</sup> Items are presented in their original form.

correlation of 0.611, indicating that this subscale was also contributing unique information to the overall instrument.

The exploratory factor analysis yielded 6 factors and 20 total items. All final items contributed significantly to 1 factor ( $r > 0.30$ ). Based on factor analysis, we removed 12 questions from the original PIVS scale, 11 questions from the Professional Orientation and Values subscale, and 1 question from the Professional Development subscale. The Kaiser-Meyer-Olkin value for the scale was 0.813 with a significant Bartlett test of sphericity ( $\chi^2_{190} = 2134.77, P < .001$ ). The Cronbach  $\alpha$  for the entire scale after removal of the nonloading items was 0.80. The pattern matrix for the PIVS can be found in Table 4.

## DISCUSSION

The purpose of our study was to validate the PIVS among an AT population. The PIVS was originally developed by Healey<sup>16</sup> and was validated among professional counselors. An exploratory factor analysis was completed on the PIVS, which indicated it was a valid measure for agreement with the athletic training philosophy according to the NATA definition of athletic training,<sup>14</sup> 5 domains established by the *Role Delineation Study*,<sup>15</sup> and the NATA Code of Ethics.<sup>17</sup> We were able to maintain both subscales, reducing the Professional Development subscale from 14 to 13 items and the Professional Orientation and Values subscale from

18 down to 9 items. Although athletic training and mental health counseling have many commonalities and exploratory factor analysis has been completed on this scale using results from a sample of counselors, we felt it was appropriate to conduct additional exploratory factor analysis to highlight the uniqueness of athletic training in regard to its professional development and as a profession.

Healey and Hays<sup>4</sup> included 5 factors in the Professional Orientation and Values subscale. Our exploratory factor analysis revealed 3 factors that we labeled (1) patient care and advocacy, (2) professional engagement and collaboration, and (3) personal wellness and values. Our conceptualized factors did not match those of the original PIVS, yet they represent the values and principles of the athletic training profession. It is not surprising that our participants valued patient care and advocacy, as multiple researchers<sup>36–38</sup> have highlighted the intrinsic motivation ATs receive from working with athletes and how that reward increases their professional commitment. Additionally, the advocacy component directly relates back to Principles 1 and 3 of the NATA Code of Ethics,<sup>17</sup> which describe the importance of a commitment to providing competent care and respecting the welfare of all, while promoting high standards in their provision of services. Professional engagement and collaboration relates to the importance of professional support networks that have been shown to enhance work-life balance<sup>38–40</sup> and professional socialization that increases work-related outcomes and quality of life within athletic training.<sup>41–43</sup> This concept of professional engagement and collaboration also includes promotion of the profession, which is directly related to the NATA Code of Ethics.<sup>17</sup> Community service and engagement relates to ATs being aware of the services available for their athletes, consistent with Principle 3 of the Code of Ethics<sup>17</sup> (making referrals when appropriate) as well as their personal involvement in community services. The final construct, personal wellness and values, addresses the congruency between an AT's personal values and professional philosophies.

Healey and Hays<sup>4</sup> identified 3 factors in the Professional Development subscale. Our exploratory factor analysis also demonstrated 3 factors; however, the items did not fall into the same categories during our factor analysis. Our factor grouping results indicated that ATs in the earlier stages of professional development were not yet comfortable in their often autonomous new professional roles. They had a sound understanding of theoretical concepts but were not sure how to apply them in their clinical practice. Although athletic training and mental health counseling have similar academic plans and paths toward licensure, the difference observed in the Professional Development subscale concepts may be attributed to differences in the certification processes of ATs and counselors. Counseling requires a master's degree, predegree field work hours (100 practicum and 600 internship hours), and specialization training.<sup>44</sup> In addition, counseling students are required to receive 1 hour of clinical supervision by a licensed supervisor for every 20 hours of direct client care.<sup>44</sup> Many ATs hold a master's degree, but it is not currently required for certification; however, the degree for entry into the profession will soon be a master's degree. Clinical hours required by the Commission on Accreditation of Athletic Training Education occur at the professional level, and individual academic institutions set their required minimum and maximum number of hours. Additionally, the

Commission on Accreditation of Athletic Training Education standards for the accreditation of professional athletic training programs state that all athletic training students must be directly supervised by a preceptor during the delivery of all athletic training services and must be physically present to intervene on behalf of the student or patient.<sup>45</sup> Once an AT graduates and passes the certification examination, he or she is eligible for licensure and may begin autonomous clinical practice. Many ATs go on to graduate school and work as graduate assistants, yet they are immediately responsible for patient care and outcomes and are exposed to varying levels of mentorship and professional socialization. These differences between mental health counseling and athletic training education and clinical supervision could help explain the higher value our ATs put on mentors and role models in stage 2 of professional development and the lack of confidence in their abilities in stage 1.

### Limitations and Future Directions

The results of this study may not be generalizable to all athletic training professionals because we included only ATs employed in the college or university setting. The job demands and patient populations of other athletic training clinical settings may affect ATs' professional identities. Additional testing of ATs employed in different clinical settings is warranted to provide solid indications of professional identity and values across the profession. Further content validity should be established by athletic training professionals. In order to advance validation of this scale, a confirmatory factor analysis is needed to solidify the items, subscale components, and potential applications within the athletic training profession. This scale also needs to be examined for test-retest reliability.

### CONCLUSIONS

A modified PIVS scale was a valid and reliable measure of professional identity among ATs employed in the college or university setting. This scale has the ability to measure the professional development and values of ATs. As the athletic training profession continues to grow, a means of measuring professional identity is essential.

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