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ORIGINAL RESEARCH

Professional Involvement: Requirements as Students and Trends After Certification

Jennifer N. Lancaster, PhD, LAT, ATC; Bettye Myers, PhD; David L. Nichols, PhD; Kerry S. Webb, PhD
Texas Woman's University, Denton. Dr Lancaster is now at Tarleton State University, Stephenville, TX.

Context: The field of athletic training needs young engaged professionals for continued progress in allied health care. Academic and clinical requirements during the entry-level education could potentially impact the decisions and directions these students choose to pursue as young professionals.

Objective: To determine the difference in professional involvement of athletic trainers (ATs) based upon their participation in professional activities while completing their entry-level athletic training program (ATP).

Design: Online surveys to determine ATP requirements of students and to determine the involvement of ATs in 5 professional activities after their certification by the Board of Certification. Perception questions were also included.

Patients or Other Participants: Included 120 ATs from across the United States. All AT participants graduated within the 2004–2005 academic year and obtained certification in 2005.

Data Collection and Analysis: Online surveys were administered through PsychData. The McNemar test was used to determine changes in participation levels of participants as students and as professionals. Frequency of yes/no responses was used to present perceptions, and participants' comments were included in the discussion section.

Results: Student participation in community service, mentoring other students, and submitting presentation proposals did influence participation in these activities as a professional. However, professional involvement was not influenced by student membership in organizations, research, or mentoring by a health care professional.

Conclusions: Participation in some professional activities as students should be encouraged or required in order to promote continued participation in these activities when the students become athletic training professionals.

Key Words: Professional activities, young professionals, ATP requirements

Dr Lancaster is currently an Assistant Professor in Kinesiology, Tarleton State University. Please address all correspondence to Jennifer N Lancaster, PhD, LAT, ATC, Kinesiology, Tarleton State University, Box T-0370, Stephenville, TX 76402. JLanc9@yahoo.com.

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Professional Involvement: Requirements as Students and Trends After Certification

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INTRODUCTION

In order to protect the future of the athletic training profession, it is vital that young professionals become active participants in the further development of athletic training as a profession.[1,2] The National Athletic Trainers' Association (NATA) has launched large-scale efforts to get young professionals involved, as demonstrated through its Involve and Evolve initiative and the Young Professionals committees.[1] However, is it possible for athletic training programs (ATPs) to create an early awareness and interest in professional involvement that results in an increase of new professionals who are more actively engaged in the profession? Education programs prepare students for practicing their skill sets, but perhaps they could improve upon teaching students about the need to be involved as professionals.[3] Previous research has not investigated whether ATP requirements for professional activities placed upon students affect how involved those students become as athletic training professionals.

Through small changes, ATPs can implement activities such as service learning, authentic research, and professional presentations to further enrich the education of their students.[6–13] Studies have shown that participating in service programs leads to an increased sense of social responsibility.[6,14–16] Additionally, students who participate in authentic research and presentation experiences not only strengthen several skills (written and oral communication,[10,13,17] ability to explain and defend work to peers and other professionals,[13,18] ability to connect research evidence to clinical practice,[13] problem-solving skills,[13,18] and confidence to work in research[13,18]), but they are also better prepared for their future professional experiences.[10,11,13,17,18]

Mentoring is believed to be important to the development of young professionals in athletic training as well as other health care fields.[19–22] While mentoring in cohort groups, athletic training students learn clinical skills through practice, are able to adjust to new environments, and gain knowledge from another person's experience.[20] Other benefits of mentoring include the development of communication skills,[23,24] earlier feedback,[23] more confidence,[22–24] building collaborative skills,[22–24] providing relevant perspectives,[22,23] and creating a reflective, meaningful dialogue.[24]

The field of athletic training needs young engaged professionals to help protect and develop the future of the athletic training profession.[1,2] The objective of our study was to determine the difference in professional involvement of ATs based upon their participation in professional activities as students.

METHODS

Participants

The 120 participants for this study were from a pool of 800 randomly selected ATs who graduated during the 2004–2005 academic year and became certified in 2005. These parameters were chosen because this allowed young ATs at least 5 years to become involved as professionals. Also, using participants from earlier years might have reduced their abilities to recall their ATP requirements. The contact list was obtained from the Board of Certification (BOC), and the participant pool was limited to ATs who were actively maintaining their credentials. The contact list was limited to 800 participants due to the cost of obtaining the information.

Instrument

We used an online survey for the AT participants. The initial instrument was developed based on a review of the literature related to the objective of the current study. From the literature review, a list of survey questions was developed to answer the research question for the study. Those questions were then read by 4 ATs for clarity, relevance, and content. Any suggested changes from the ATs were incorporated into the survey, which was then distributed to recent graduates from selected nonaccredited ATPs in the form of a pilot study. Results from the pilot study were used to develop the final survey instrument. The final edition of the instrument was also approved by a dissertation research committee.

The AT participant survey consisted of 48 questions. The survey began with 8 demographic questions followed by 20 questions about requirements and involvement of the participants in professional activities during their ATP experience. Professional activities included presentation proposals, organization memberships, research, community service, and mentoring. These activities were chosen due to the literature supporting their benefits for student participants, as well as the fact that all but mentoring count toward continuing education for AT professionals. Questions were multiple-choice format. For example, ATP requirements were determined by asking for yes or no responses. Next were 16 questions regarding the participants' completion of professional activities since the time of their certification as ATs. Participation questions were presented in the multiple-choice format as well, and reasons for completing professional activities were determined by having participants select all of the applicable responses (ie, required for work [eg, tenure, promotion, annual evaluation], required for additional degree, required for other, or not required). Finally, the survey had 3 questions asking for participants' personal perceptions about professional involvement, with yes or no responses (eg, Do you think that participation in research as a student encourages further research as professionals?), and an open-ended box to allow for comments or thoughts related to the study. Some comments were included in the discussion but were not analyzed for the purpose of this study.

Mentoring was defined as meeting regularly to facilitate professional growth and development.[25] Participants were asked to mark all health care professionals who mentored them, and the list included AT at your university, AT not

employed at your university, family practice doctor, orthopaedic doctor, physical therapist at your university, physical therapist not employed at your university, and other (please specify).

Data Collection Procedures

E-mail contact information for ATs who became certified in 2005 was obtained from the BOC, and ATs who did not graduate during the 2004–2005 academic year were eliminated from the study through an initial question on the survey. Following approval from the Institutional Review Board, e-mails were sent to request consent and participation in the online survey. One week after the initial e-mail request, we sent a second request for participation. A third and final request for participation was sent 1 week after the second request. PsychData (PsychData, LLC) was used for the online surveys.

Incentives were awarded to encourage participation. For completing the AT survey, two $50 gift cards were awarded to winners drawn from those participants who chose to send their name and e-mail at the conclusion of the survey. Names were submitted to an e-mail account separately from the data in order to maintain confidentiality.

Data Analysis

Descriptive data were compiled to describe the participating ATs. The survey used for this study generated data measured on a nominal scale (frequencies and percentages). Participants provided data from 2 time points in their life (repeated measures). Thus the McNemar test in SPSS for Windows (version 19; IBM SPSS, Armonk, NY) was used to look for differences between the participants' behavior as students and their involvement as professional ATs in five specific areas: presentations, professional organizations, research, mentoring, and community service. Frequencies were used to look at ATs' reasons for not participating in professional activities.

RESULTS

Descriptive Data

For the AT group, 800 participation requests were sent to individuals who became certified in 2005, and 3 were returned due to invalid e-mail addresses. A total of 307 survey responses were received, resulting in a response rate of 38.5%. With the first question on the survey, the participant pool was further narrowed down to include only those individuals who graduated from an ATP during the 2004–2005 academic year, which resulted in 128 individuals. These parameters were chosen because this meant that young ATs had 5 to 6 years to become involved as professionals and because using participants from earlier years might have reduced their abilities to recall their ATP requirements. Eight survey participants were excluded due to incomplete survey responses, leaving 120 valid participants.

Most participants were between 25 and 29 years of age (n = 103, 85.8%). Remaining participants were 30 to 34 years (n = 14, 11.7%) or 35 to 40 years (n = 3, 2.5%). Forty-nine (40.8%) were men, and 71 (59.2%) were women. Of the participants, 88 (73.9%) had completed or were working toward a graduate degree beyond their entry-level ATP. Every job-setting category listed for members by the NATA was represented by at least 1 participant, with the majority of participants being in college/university athletics (n = 34, 28.3%), secondary schools (n = 34, 28.3%), and clinics (n = 18, 15%). Participants represented all NATA districts, with each district having at least 6 (5%) participants.

As former students, participants were graduates of 105 different ATPs. These ATPs were largely undergraduate entry-level programs (94.2%), with 7 participants completing master's entry-level programs. Additionally, students attended institutions that fell into the following Carnegie research categories: research university/very high research activity (18%), research university/high research activity (18%), doctoral/research university (6%), master's colleges and universities/larger program (30%), master's colleges and universities/medium program (9%), master's colleges and universities/small program (7%), baccalaureate college/arts and sciences (5%), baccalaureate college/diverse fields (6%), and special focus institution/medical schools and medical centers (1%).

Statistical Results

Response sizes for each of the five specific categories are different because the opportunities and requirements for participation in professional activities were not the same for all students and professionals.

Presentation Proposals

Based on the McNemar test, the number of students required to complete presentation proposals (n = 33, 28%, $P = .071$, $\chi^2 = 3.25$) was not significantly different from the number of presentation proposals submitted by professionals (n = 47, 40%). Additionally, the number who completed presentation proposals (required or not: n = 45, 38%, $P = .888$, $\chi^2 = 0.02$) was not significantly different from the number of presentation proposals submitted by professionals (n = 47, 40%).

Organization Membership

Table 1 shows that membership (required and not required) in a student organization or professional organization as a student did not influence membership in the professional organization as a professional. Significant differences (student organization: $P < .001$, $\chi^2 = 83.1$; professional organization: $P < .001$, $\chi^2 = 76.11$) were seen between participation as a student (in both student and professional memberships) and later participation as a professional in a professional organization, with greater participation occurring once an individual entered professional practice. Using frequencies, we determined the following information. Of the 96 (80.7%) who were student members, 90 (93.8%) considered themselves to be active members of the student organization. Only 55 (47%) of the professionals who were members of an athletic training–related organization considered themselves as active members. More specifically, among those indicating that they were active members in student organizations, 43 (47.8%) reported that they were not active members as professionals. Even though participants determined their own definition of active, the assumption was made that they would use their same definition for both student and professional memberships.

Table 1. Reported Participation in 5 Professional Activities

Professional Activity	Yes (n)	Yes (%)	No (n)	No (%)	*P* Value of Changes
Presentation proposals					
Required as student	33	27.7	86	72.3	
Completed as professional	47	39.5	72	60.5	.071
Completed as student (required or not)	45	37.8	74	62.2	
Completed as professional	47	39.5	72	60.5	.888
Student organization memberships					
Required as student	30	25.2	89	74.8	
Member as professional—professional organization	117	98.3	2	1.7	<.001*
Member as student (required or not)	96	80.7	23	19.3	
Member as professional—professional organization	117	98.3	2	1.7	<.001*
Professional organization memberships					
Required as student	37	31.1	82	68.9	
Member as professional	117	98.3	2	1.7	<.001*
Member as student (required or not)	98	82.4	21	17.6	
Member as professional	117	98.3	2	1.7	<.001*
Research					
Required as student	91	76.5	28	23.5	
Complete as professional	46	38.7	73	61.3	<.001*
Complete as student (required or not)	92	77.3	27	22.7	
Complete as professional	46	38.7	73	61.3	<.001*
Community service					
Required as student	29	24.4	90	75.6	
Participate as professional	88	73.9	31	26.1	<.001*
Participate as student (required or not)	83	69.7	36	30.3	
Participate as professional	88	73.9	31	26.1	.499
Mentoring athletic training students					
Required as student	59	49.6	60	50.4	
Participate as professional	98	82.4	21	17.6	<.001*
Participate as student (required or not)	97	81.5	22	18.5	
Participate as professional	98	82.4	21	17.6	.999
Being mentored by a professional					
Required as student	69	58	50	42	
Being mentored as a professional	88	73.9	31	26.1	.006*
Participate as student (required or not)	104	87.4	15	12.6	
Being mentored as a professional	88	73.9	31	26.1	.003*

* Denotes significant change ($P < .05$) from student participation to professional participation.

Research

As a student, 91 (76.5%) of the ATs were required to complete research, but as professionals, only 46 (38.7%) had conducted research. Based on the McNemar test, this is a significant decrease ($P < .001$, $\chi^2 = 30.73$). Responses indicated that only 1 (0.84%) participant (as a student) completed research that was not required. Therefore, the McNemar test again indicated a significant decrease ($P < .001$, $\chi^2 = 32.66$) from student participation (required or not) to participation as a professional.

The results of our study (shown in Table 1) suggest that requiring research and simply participating in research did not influence participation in research as professionals. From the participants who did not complete research as students but did as professionals, 75% (6) of them were required to conduct the research as professionals. These professional ATs did not choose to do the research on their own. It was not their choice to do so. Out of all the participants, only 2 (0.02%) chose to do research as professionals without any previous research experience.

Community Service

As students, 24.4% (29) of participants were required to perform community service, whereas 73.9% (88) participated in community service as professionals. Based on the McNemar test, this change is significant ($P < .001$, $\chi^2 = 48.75$). However, 69.7% (83) of ATs completed community service as students (required or not), and 73.9% (88) performed community service as professionals. The McNemar test shows that this change is not significant ($P = .499$, $\chi^2 = 0.46$). These findings are shown in Table 1.

Mentoring

When asked about mentoring other students, 49.6% (59) of participants indicated that they were required to participate as students, but as professionals, 82.4% (98) participate in mentoring athletic training students (see Table 1). This change in participation levels was a significant increase ($P < .001$, $\chi^2 = 32.09$). On the other hand, 81.5% (97) of participants indicated that as students they mentored other students (required or not), and 82.4% (98) continue as a professional to mentor students (see Table 1). According to the McNemar test, this is not a significant change ($P = 0.999$, $\chi^2 = 0.00$).

As students, 58% (69) of participants were required to be mentored by a health care professional. Comparing this number with the 73.9% (88) who are mentored as professionals gives a significant increase ($P = 0.006$, $\chi^2 = 7.54$) according to the McNemar test. Also, 87.4% (104) of participants reported that they were mentored as students, and comparing this with the 73.9% (88) who continue to be mentored as a professional resulted in a significant decrease ($P = 0.003$, $\chi^2 = 8.65$). See Table 1 for these results.

Reasons for Professionals' Participation

Participants who had completed activities as professionals in the 5 discussed categories were then asked to indicate whether they were required to complete these activities or it was their choice to participate. Participants were allowed to indicate more than one answer for each activity. A summary of these findings are in Table 2.

Participants' Thoughts

When asked to report whether there were any significant reasons why participants did not participate or had limited

Table 2. Reasons for Participation as a Professional in Five Areas[a]

Participation as an Athletic Training Professional	Participants Responding, n	Required for Work	Required for Additional Degree	Required for Other	Not Required	Total
Presentation proposals						
No. of responses	47	5.0	27.0	2.0	20.0	54.0
% of n		10.6	57.4	4.3	42.6	114.9
Organization membership						
No. of responses	117	22.0	3.0	13.0	79.0	117.0
% of n		18.8	2.6	11.1	67.5	100.0
Research						
No. of responses	46	2.0	35.0	0.0	11.0	48.0
% of n		4.3	76.1	0.0	23.9	104.3
Community service						
No. of responses	88	11.0	3.0	5.0	72.0	91.0
% of n		12.5	3.4	5.7	81.8	103.4
Mentoring						
No. of responses	108	27.0	10.0	7.0	66.0	110.0
% of n		25.0	9.3	6.5	61.1	101.9

[a] There are 88 (73.9%) participants who have completed or are working toward a graduate degree.

participation in the discussed professional activities, several responses were reported (see the Figure). Responses show that the time commitment at work is the most frequently given constraint (n = 81, 68.1%). Additional reasons for limited participation were no resources (n = 46, 38.7%), no interest (n = 25, 21%), family/personal reasons (n = 22, 18.5%), other (n = 8, 6.7%), and do not see the benefit (n = 6, 5%). Descriptions for *other* included do not receive invitations, lack of information, have not made it a priority, understaffed (time constraints), and not sure how to become involved. Also, 1 reported being back in school for a different allied health professional degree, and another was practicing within the corporate health field instead of focusing on athletic training.

At the conclusion of the survey, participants were asked opinion questions. Many (n = 86, 72.3%) believed that participation as a student in at least 2 different beyond-classroom service activities (presentations, mentoring, volunteering, memberships) would lead to becoming a service-oriented professional. Additionally, many (n = 85, 71.4%) felt that participating in research as a student encourages further research as professionals.

DISCUSSION

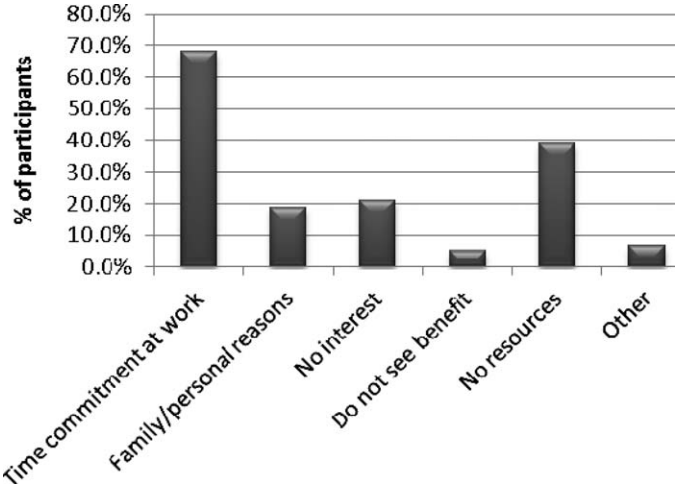
Presentation Proposals

Submission of presentation proposals was the only professional activity in which no significant changes were seen from student participation to professional participation. Because there were no significant changes, the results demonstrate that participation (both required and not) in presentation proposals as students did influence completing these proposals as professionals. Overall, among the professionals who submitted presentation proposals, 57.4% indicated it was required for an additional degree. Almost 75% of participants were pursuing or had completed a graduate degree, which could have impacted the importance of these findings.

Being required to give presentations is one reason that participants completed this task as a professional, but other motivating factors were indicated as reasons for giving presentation proposals by 42.6% of the respondents to this question. If the motivation of the 42.6% of ATs who complete their proposals without being required could be determined, then maybe others could be encouraged to participate without being required to do so.

In one study,[18] findings indicated that students who participated in authentic research and then presented their research at professional conferences had better developed abilities to present, discuss, and defend their research than those who presented only at their respective institutions. The findings from this study support that students who submit presentation proposals are more likely to present as professionals. Thus, ATPs should require authentic research experiences followed by presenting research findings at professional conferences in

Figure. Reasons for limited professional involvement.



order to more fully encourage and develop necessary skills for continued participation in this activity following certification.

Organization Memberships

Requiring membership as a student is not necessary given that all but 2 participants became members of a professional organization after graduating. Most participants (67.5%) indicated that being a member of a professional organization was not required. Even as students, the majority of participants chose to be members of student organizations. Choosing to be members of an organization could be supported by the human development theories of Arnett, Erikson, and Keniston.[26–29] During their late teens and early to mid-20s, most individuals are more willing to try new things as they develop their individual identities, and being a member of organizations helps individuals explore opportunities to determine their strengths and interests.

A point of interest was the number of participants who considered themselves as active members within their organizations. As students, 93.8% of participants reported being active members of their student organization, but as professionals, only 47% indicated that they were active members of their professional organization. Even when looking specifically at the group who indicated being active student members, 47.8% reported that they were not active members as professionals. Perhaps program directors should reevaluate how we encourage students to become active members in our athletic training organizations for the sake of the profession. These findings were supported by the lack of participation in the previous NATA presidential election. Voting in an organization's elections does not make someone an active member of the organization, but active members in an organization will usually vote in the elections. Thus, in 2008, only 16% of eligible members took the time to cast an electronic vote,[30] indicating many members were not active. As a young profession, actively engaged members are needed if we are to serve our physically active population and advance our field.

Many of the new ATs who participated in this study have continued to voluntarily participate in community service. If ATs tend to participate in community service, why not use community service projects for students that will emphasize professional accountability, as suggested by another study?[31] Studies have shown that participation in service learning (community service linked directly to learning goals in education) led to an increased sense of social responsibility and a deeper commitment to civic responsibilities.[6,14–16] Athletic training programs could try using service learning experiences so that students see how their decisions and actions do impact the environment around them. Perhaps these experiences of hands-on application with real-world consequences would give students the confidence to be engaged as professionals and the vision for why it is important for the field of athletic training.

Athletic training programs should continue to reinforce the importance of being active members of organizations but do not need to require this. Based on the results from this study, graduates became members of professional organizations, but just because someone becomes a member does not mean they would necessarily be active in that membership. Individuals tend to develop their own professional attitudes during their educational years, which makes it vital for educators to instill active or participatory ideals in the students.[32] This finding along with the results of the current study indicate that ATPs should emphasize to students the need to be actively engaged in organizations rather than simply having them join as members. Active engagement in organizations as students might help encourage continued involvement in professional organizations after graduation.

Research

The results of our study (shown in Table 1) suggest that requiring research and simply participating in research did not influence participation in research activities as professionals. Even though 59.3% of participants were required to complete research as a student and did not complete research as a professional, the lack of research by professionals could be due to the actual research experience as a student or to the lack of resources and time as professionals. Research in nursing and physical therapy has shown that simply completing research courses improves students' research skills and their need to connect research to clinical practice. However, completing a research course does not have long-term effects on these same skills, nor does it change the students' perception of being responsible themselves for conducting research.[33,34] Results from the present study also support the notion that research as a student does not change students' perceptions of research in the long term. Studies have indicated that participation in authentic research—rather than traditional lab experiments or small class projects—as students has a positive outcome on students' perceptions of research and their decision to pursue research in their future.[10,12] Through authentic research experiences, students not only improved research and communication skills, but they also indicated that they could envision themselves as researchers.[10,12]

If students do not complete research, how will they learn the research process? With little to no research experience, will an individual be able to analyze or apply research findings? One participant stated, "I wholeheartedly think that developing an interest in research early on in one's education will facilitate continued curiosity for field-related research." Of all ATs, 71.4% felt that participation in research as a student encouraged further research as a professional. A recent report indicated that athletic training students at two ATPs, which were using a research engagement model, gained the added benefits of better communication, more use of research-based practice, and higher levels of confidence in questioning evidence for clinical practices.[13] If students are given quality, authentic research experiences and understand the personal and professional benefits, perhaps the experience would be enough to increase participation in research after graduation.

Research needs to be a required component for athletic training students, and the experience needs to extend beyond the realm of classwork. Modeling research experiences after authentic research programs that have been completed successfully by others is a great place for ATPs to start. Two ATPs, discussed in another article, have developed research engagement experiences for their students that have shown positive results.[13] The advancement of athletic training depends upon professionals who are willing to conduct

research, and new professionals need to help fill this role.[2,5] In other words, the future of athletic training depends on ATPs being able to develop student interest in conducting research and to build students' confidence in their ability to complete research after they have graduated.

Community Service

For community service, the findings indicated that required participation in this activity as students did not lead to continued participation as professionals. Participation overall (both required and not required) did lead to continued participation in community service as professionals. Even though required participation did not have a significant impact on continued participation, 83% of those who were required to complete community service continued to participate in further service as professionals. Further increasing the percentage of those who continue participating in community service might be possible by emphasizing student reflection of the experience and by making clear connections between the service and skills being discussed in coursework.[7,8,35,36]

As professionals, 73.9% of ATs participated in community service, and 81.8% reported that their participation was not required. Because athletic training is a service-oriented profession, these findings were not too surprising. Additionally, studies have shown that participating in service programs led to an increased sense of social responsibility.[6,15,16,37]

Participation in community service should be either strongly encouraged or possibly required in order to demonstrate the value of such an activity and to promote continued service as professionals. If ATPs are going to have students complete service, they should use service learning as a way to obtain added benefits such as building civic responsibility and making connections between the service activity and the information being learned in class. As demonstrated in our study, many students already had a desire to take part in community service. By using an activity that students want to complete, ATPs could take advantage of the positive, engaging environment to further develop additional professional skills (civic engagement, research) that students might not otherwise give thought or effort to developing. Studies have shown that participating in service has benefits such as creating a deeper understanding of knowledge, allowing integration and analysis of information, developing professional skills, and understanding the need for being active in policy processes.[8,15,16,38]

Mentoring

The results of our study found that voluntary (rather than required) participation in mentoring other athletic training students was a key factor that led to mentoring students as a professional. While they were students themselves, 81.5% of participants mentored another athletic training student, and 82.4% mentored students once they became professionals. One study[39] showed that 91% of student participants enrolled in accredited ATPs were learning at least a small amount of their clinical skills from their peers, and 66% of participants reported practicing a moderate to large amount of their skills with fellow students. From our study and the study mentioned previously,[39] the majority of athletic training students were being exposed to the concept of mentoring and continued to assist students even when they became professionals. Due to the benefits of mentoring (development of communication, collaboration, increased knowledge, leadership skills, and self-reflection),[22,23,40] this trend of continued involvement by professionals should be a great asset for the field of athletic training because it helps students develop skills needed for becoming leaders and quality professionals.

When noting changes from students who were not required to be mentored and those who were not mentored (required or not) by health care professionals, significant increases were seen for both groups in the number who had been mentored as athletic training professionals. Additionally, 61.1% of those who had been mentored as an athletic training professional indicated that it was not required of them.

Athletic training programs should continue to encourage participation in mentoring, both students mentoring students and health care professionals mentoring students. Our study shows that students who participated in mentoring were likely to continue participation after graduating. Mentoring provides benefits to both the mentor and the mentee. The development of skills, including communication, collaboration, better teaching, increased knowledge, seeing multiple perspectives, leadership skills, and self-reflection,[22,23,40] would strengthen athletic trainers, resulting in a stronger professional field overall.

Participants' Thoughts

When asked what reasons may have limited or prohibited participation in the professional activities discussed, participants indicated time commitment at work (68.1%) as the top constraint. Considering that most ATs work well over the typical 40-hour week,[41–44] this finding was not a surprise. The second highest response was that participants did not have the resources (38.7%). With time commitment at work being the top constraint, the problem might not be that resources were not available, but instead that ATs did not have the time to seek out resources that were available through indirect approaches (eg, grants, teaming with athletic trainers at equipped facilities). The third highest constraint on participating in professional activities was a lack of interest (21%), and that is an alarming response. If 21% of the ATs who become certified every year have no interest in being engaged in professional activities, the profession could be facing further struggles.

Even with these constraints, at least 82% of respondents participated in mentoring as professionals, and 73.9% have completed community service. Although community service may not have required a lot of time, mentoring did. If ATs could make the time to be involved with mentoring, could they not also make the time to be involved in research? When given the opportunity to indicate other reasons for not participating in professional activities, one participant commented, "Have not made it a priority." As this study's findings indicated, most ATs participated in community service and mentoring by choice. Although the personal rewards from completing research may not be the same as rewards from mentoring, personal benefits of conducting

research still exist, as well as the added benefits of research for the entire profession. Another participant commented:

> *Research is very important, and I did not really realize this until I started my master's program. I now understand how research affects our profession, and if we want to grow, it needs to be the basis of everything we do and how we conduct our profession.*

The challenge for ATPs is to get each graduate to arrive at this same level of understanding. Each ATP should strive to develop a professional commitment in students so that they come to the realization that as a profession, involvement and research are necessary. Without active participation from ATs, the profession could not move forward to create better work conditions such as less time commitment to work.

Finally, participants were asked to give their opinion on the connection of participation in professional activities as a student to participating in those activities as professionals. On both questions, more than 70% of participants thought that participation as students would lead to more engaged professionals. Professionals who are fairly new to the athletic training field are saying, "yes, participating in beyond classroom service activities as students will lead to more service-oriented professionals." They also believed that completing research as a student encourages further research as professionals. These responses came from individuals who were students not so long ago and have experienced their first several years as a professional. These perceptions are valuable for the continued growth of the athletic training profession.

Simply having accreditation standards that require professionalism instruction is not enough to create successful and valuable development of skills in new professionals.[45] It is up to each ATP to implement methods beyond simple lecture format that best envelop students in real-world, applicable experiences. This experiential learning can ultimately influence (without technically requiring) students to develop the skills and attitudes, which builds graduates' interests and desires to be actively engaged professionals. As one participant stated, "I now wish I had been forced to be more involved as an athletic training student. I feel I would be more involved now or more comfortable getting involved."

The field of athletic training needs young, engaged professionals to help continue the progress being made in allied health care. Academic and clinical requirements during the entry-level education could potentially impact the decisions and directions these students choose to pursue as young professionals. By recognizing and understanding this possible influence, ATPs can better construct their curriculum requirements or opportunities to significantly impact the development of students within their institutions. The potential outcome would be producing athletic training graduates who are more actively engaged within the profession.

Limitations

One limitation of our study is that the findings relied upon the ability of participants to recall requirements placed upon them during their time within an ATP as well as their ability to recall professional experiences over the years since they became certified. A second limitation is that requirements for professional involvement of participants, when they were students, may not be representative of requirements currently placed upon athletic training students. Additionally, some individuals are more inclined to seek out service activities prior to beginning their ATP experiences. These initial differences are not accounted for within our study. Our participant pool of ATs was randomly chosen from individuals who are actively maintaining their athletic training credential. Due to this selection, individuals who obtained certification and then chose to not renew their credentials were not identified for participation. Information from this group of individuals could be highly beneficial to the further understanding of the participation of the more recently certified professionals.

CONCLUSIONS

Student participation in some professional activities influenced continued participation in these activities as athletic training professionals. Submitting proposals for presentations, completing community service, and mentoring fellow students had a positive influence on continuing these activities as ATs. Even though organizational membership as professionals was not influenced by membership as a student, this study found a dramatic decrease in ATs who considered themselves as active members of their professional organization. Research and being mentored by a health care professional did not influence continued participation in these activities as professionals.

Recommendations for Future Study

Future studies might look at identifying which service activities are most closely related with continued service overall as a professional rather than simply continued participation in that one specific activity. Knowing whether the requirements indicated by students were ATP requirements or institutional requirements would be beneficial as well. The source of the requirements could affect the attitudes that students have regarding participation in the service activities. Program directors and ATP educators should also consider how their perceptions and attitudes might influence student involvement and student response to required or volunteer opportunities in service activities. Additionally, this study found that more than half of the professionals who had been mentored since graduating chose to participate voluntarily. Determining the reasoning for this would be interesting. Did they truly understand the benefits of being mentored, or did they feel unprepared for entering the professional realm? Also, conducting research that follows students who have participated in the ATPs using the research engagement model[13] or authentic research experiences would be beneficial in order to see whether students feel more competent in conducting research or more obligated to support the profession through research. Finally, 47.8% of actively engaged students reported that they were not actively engaged in organizations as professionals. Although this study found some basic answers (time commitment, lack of resources, lack of interest), a better understanding of the cause for not becoming active members should be explored.

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