

Program Directors' Perceptions of Undergraduate Athletic Training Student Retention

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Context: The average retention rate for students enrolled in undergraduate athletic training programs (ATPs) nationwide has been reported to be 81%, and slightly more than half of program directors (PDs) have indicated that retention of athletic training students (ATs) is a problem. However, why PDs do or do not believe ATS retention is problematic is unknown.

Objective: To determine why PDs do or do not believe ATS retention is problematic.

Design: Qualitative study.

Setting: Undergraduate ATPs.

Patients or Other Participants: We obtained responses from 177 of the 343 PDs (51.6%). Using data saturation as a guide, we randomly selected 16 PDs from the survey responses to participate in follow-up telephone interviews; 8 believed retention was a problem and 8 did not.

Data Collection and Analysis: During audio-recorded telephone interviews, we asked PDs why they thought retention was or was not a problem for athletic training education. Following verbatim transcription, we used grounded theory to

analyze the interview data and maintained trustworthiness by using intercoder agreement, member checks, and peer review.

Results: Program directors believed that retaining ATs was a problem because students lack information regarding athletic training and the rigor of the ATP. Program directors were consistent in their perception that ATPs do not have a retention challenge because of the use of a secondary admissions process. This finding was likely based on personal use of a secondary admissions process in the ATPs these PDs lead.

Conclusions: Program directors who lead ATPs that struggle to retain ATs should consider using a secondary admissions process. During the preprofessional phase of the ATP, faculty and staff should work to socialize students to the demands of the ATP and the professional lives of athletic trainers.

Key Words: athletic training education, persistence, departure, attrition

Key Points

- Early socialization and orientation of athletic training students into the roles and expectations of athletic trainers and the program may help to improve retention.
- Secondary admissions processes may aid athletic training programs in retaining students.

For a multitude of reasons, athletic training student (ATS) retention has become a strong focus in the literature.^{1–4} One possibility for the increased attention to ATS retention may stem from the move to accredited professional education programs. Before 2004, prospective athletic trainers could enter the profession through either an accredited program or an internship route. With athletic training education reform, the internship route was abandoned and candidates were required to graduate from an accredited athletic training program before sitting for the Board of Certification examination. Elimination of the internship path has caused the number of undergraduate athletic training programs (ATPs) in the United States to more than double to 343 as of the spring 2011 semester.⁵ A previous author found that younger ATPs had lower ATS retention rates (Valerie Herzog, written communication,

2006). Because reform has caused a dramatic increase in the number of young programs, perhaps retention is more of a problem now. Another potential reason for the increase in interest in ATS retention may have to do with upholding the ATPs' reputation⁶ as maintaining high ATS retention rates can help to improve public opinion of ATPs. Finally, reasons for ATS dropout have been identified, particularly the demanding coursework and time-consuming clinical education experiences.⁷ However, whether dropout is considered problematic or a necessity to remove those who cannot complete the ATP or enter professional practice is currently unknown.

Most of the existing literature has examined retention and attrition from the student point of view.^{1–3} Athletic training students persist when they are integrated academically, socially, and clinically through proper socialization and when they experience positive relationships with other ATP stakeholders.^{1,2} Although the findings are insightful and can aid in retention initiatives offered by ATPs, more research

The term "undergraduate" has changed to "professional bachelor's." Original terminology preserved throughout to reflect time of study.

is warranted; additional studies must be undertaken before the current state of ATS retention can be fully understood. Understanding the unique vantage point of program directors (PDs) is important as they are responsible for the overall day-to-day operations of ATPs.⁸ One previous study⁹ sought retention and attrition data from PDs of ATPs before the 2004 athletic training educational reform. Programs at institutions with higher enrollments had a larger number of ATSSs. Similarly, programs at state institutions and institutions with lower tuition costs had larger athletic training class sizes. The participants, 25 PDs, stated that most ATSSs left the ATP in the first 2 semesters after formal acceptance. In addition, the majority of participants confirmed that administrators had not identified the ATS retention rate at their institution as a problem. The authors concluded that larger programs were not as concerned with ATS attrition as smaller programs because they had larger numbers of available ATSSs.⁹

We should further understand the present condition of ATS attrition before investigating ATS retention factors. The overall national retention rate for ATSSs in undergraduate ATPs from formal admittance to graduation has been reported as 81.0%.⁴ Although this rate appears satisfactory compared with other health care professional programs, mainly nursing, which previously set a benchmark of 80%,¹⁰ approximately half of PDs believed that retaining ATSSs was a problem facing athletic training education.⁴ Why some PDs believe retention is a problem while others do not, despite the relatively high overall retention rate, is unclear. Therefore, the purpose of our study was to determine why PDs do or do not believe ATS retention is problematic. We gathered data from PDs because we felt they have a broad understanding of retention based on their experience with cohorts of students, typically over multiple years in their current positions. We also believe PDs have conversations with colleagues about such issues, making their insights meaningful. Although the perspectives of ATSSs can also be helpful, students have a much more centralized focus, making it difficult for them to know if attrition is a problem in athletic training education. Further, ATSSs' perspectives on reasons for persistence and departure have been explored previously.¹⁻³ A broader lens allows PDs to draw on experiences with a multitude of ATSSs who may have departed or persisted for very different reasons. Understanding why PDs feel that ATS retention is or is not a problem may help other PDs or faculty make curricular changes to improve the retention rates of the ATSSs in the ATPs they lead.

METHODS

We collected our data using audio-recorded telephone interviews with selected PDs who volunteered for a larger study.⁴ For this section of the study, we were interested in understanding why the PD did or did not view retaining ATSSs as a problem. Based on their responses to the initial survey, we randomly selected 8 PDs who thought retention in athletic training education was a problem and 8 who thought retention in athletic training education was not a problem for interviews. Randomly selecting 8 participants in each category allowed us to collect

Table 1. Demographic Information for Telephone-Interview Participants

Characteristic	"Retention Was a Problem" No. (%)	"Retention Was Not a Problem" No. (%)
Sex		
Male	3 (37.5)	5 (62.5)
Female	5 (62.5)	3 (37.5)
Carnegie code		
Research	3 (37.5)	1 (12.5)
Master's	4 (50)	2 (25)
Baccalaureate	1 (12.5)	5 (62.5)
Enrollment		
1000–3000	2 (25)	6 (75)
3000–5000	1 (12.5)	1 (12.5)
5000–10 000	3 (37.5)	0 (0)
10 000–20 000	2 (25)	1 (12.5)
30 000 or greater	0 (0)	0 (0)
Institution type		
Public	3 (37.5)	1 (12.5)
Private nonreligious	1 (12.5)	2 (25)
Private religious	4 (50)	5 (62.5)
National Collegiate Athletic Association Division affiliation		
I	3 (37.5)	1 (12.5)
II	2 (25)	3 (37.5)
III	3 (37.5)	4 (50)

responses explaining why retention was or was not a problem.

Participants

For the larger study, we recruited PDs from all 343 accredited undergraduate ATPs in the United States to participate in an online survey.⁴ Using data saturation as a guide, we randomly selected and recruited 16 PDs from the 177 PDs who completed the online survey to participate in follow-up telephone interviews. This subset of participants was 43.6 ± 8.3 years old and had an average of 6.3 ± 4.2 years of experience in their current positions. The ATPs the participants represented had been accredited for an average of 11.8 ± 3.9 years; the programs of those who thought retention was a problem had been accredited for 13.8 ± 4.2 years, and the programs of those who thought retention was not a problem had been accredited for 9.8 ± 2.4 years. Additional demographic information for the institutions that these participants represented can be found in Table 1.

Data-Collection Procedures

The host institution's institutional review board approved the study before we initiated recruitment and data collection. We sent participants e-mails requesting a telephone interview. After receiving signed informed consent forms, we scheduled a date and time for the telephone interview. During each telephone interview, we used an interview guide (Table 2) to aid in flow and to ensure the research questions were addressed. We focused this study on asking the participants to explain why they felt ATS retention was or was not a problem currently facing athletic training education based on their response to

Table 2. Interview Guide

1. Please describe the retention strategies of your ATP.
2. How would you describe the strengths of your ATP? How do your program's strengths alter student retention decisions?
3. How would you describe the ways your ATP can improve? How do your program's areas for improvement alter student retention decisions?
4. In what ways do didactic experiences factor into the persistence decisions of the students in your ATP? Please explain.
5. In what ways do the clinical experiences factor into the persistence decisions of the students in your ATP? Please explain.
6. Please describe a situation where a student questioned his/her decision to finish a degree in athletic training at some point in his/her time as an undergraduate. Why did he/she question finishing? What other program was he/she considering switching to? How did you manage this situation? What was the final outcome [did he/she leave or persist]?
7. Please give some examples of what aspects of your ATP influence athletic training student persistence the most? Why? Do you believe these examples are across the board [in other educational programs, or unique to yours]?
8. Please give some examples of what aspects of your ATP influence athletic training student departure the most? Why? Do you believe these examples are across the board [in other educational programs, or unique to yours]?
9. How are students socialized into your ATP? When does socialization begin for students in your ATP? Please give some examples.
10. How are the expectations your ATP has for athletic training students explained to them? Can you give some examples?
11. How are athletic training students motivated to finish your ATP? Please give some examples.
12. How many students admitted in the class of 2011 graduated in 2011? Is this retention rate typical?

Abbreviation: ATP, athletic training program.

the Internet-based survey for the larger study.⁴ We piloted our interview guide with a focus group and through 3 think-aloud^{11,12} pilot interviews. The semistructured nature of the interviews allowed for further dialogue between the participant and interviewer through follow-up questions or prompts to ensure robust responses and rich data.¹³ At times, we asked participants for an example or to explain what they meant to allow a clear description to emerge from the conversation. We audiotaped the conversation and had the interviews transcribed verbatim before analysis. We continuously reviewed the interview transcripts throughout data collection and ceased collection for both groups (those who believed retention was a problem and those who did not) when theoretical saturation had been achieved. After 8 participants were recruited for each section, our themes reached the point where no new data would add to the findings of the study or produce new themes, and we terminated data collection. Following the recommendations of Strauss and Corbin,¹⁴ we allowed our analysis and recruitment to be guided by the emergence of no new data, a well-supported and developed theme, and the establishment of well-validated categories through the use of credibility strategies, including a peer review.

Data Analysis

To analyze the telephone interview data, we borrowed from the principles of grounded theory using open, axial,

and selective coding.¹⁵ Open coding involves breaking data into distinct parts and noting similarities and differences. To accomplish this, we read the transcripts multiple times and labeled each line of the data. We also began formulating questions about the phenomenon being studied based on the data. We made connections between the data and formed categories and subcategories during axial coding, which included combining similar labels to reduce redundancy. Finally, we developed main categories through selective coding by relating categories to each other and validating the relationships among them. The selective-coding procedure allowed the main themes to emerge from the data. We included categories as themes only if more than 50% of the participants supported the concept contained within the emerging theme. Analyzing data using open, axial, and selective coding was appropriate for this study because the goal was to explain a phenomenon¹⁵: ATS persistence and departure decisions.

We maintained trustworthiness of the qualitative data (ie, the authenticity of the data and conclusions)¹⁶ through multiple-analyst triangulation, member checks, and peer review.¹⁴ First, 2 independent researchers trained in qualitative methods independently analyzed the data. One of the researchers was the interviewer. After coding the data, the lead author (T.G.B.) shared the coding scheme with the co-coder who then independently reviewed the data using the same analysis. We ensured interrater agreement by negotiating over the coding scheme and final categories until 100% agreement was achieved. However, the negotiation was to agree on the terminology for the categories, not the overall content. In addition, we completed member checks with 3 randomly selected participants by providing them with their transcripts and the presentation of the results. We asked the participants to confirm the accuracy of their transcripts and validate the presentation of the results. Finally, a third athletic training researcher with expertise in qualitative methods agreed to perform a peer debrief. The process involved having the peer analyze the transcripts and coding structure for methodologic rigor. The peer also validated the final themes and the presentation of the results.

RESULTS

We identified 2 reasons why the participants believed retention of ATSS is problematic: a lack of information and the rigorous coursework. The use of a secondary admissions process was the only theme that emerged to explain why retaining ATSS is not a problem facing athletic training education. We present the themes (Figure) for each response group with supporting quotes in the upcoming text.

Reasons Retention Was a Problem in Athletic Training Education

When we asked PDs who thought retention was a problem in athletic training why they felt that way, 2 themes emerged. Program directors believed students leave ATPs for 2 main reasons: a lack of information and the rigor of the program.

The most common reason PDs stated they believed retention was a problem in athletic training education pertained to the lack of information students have about

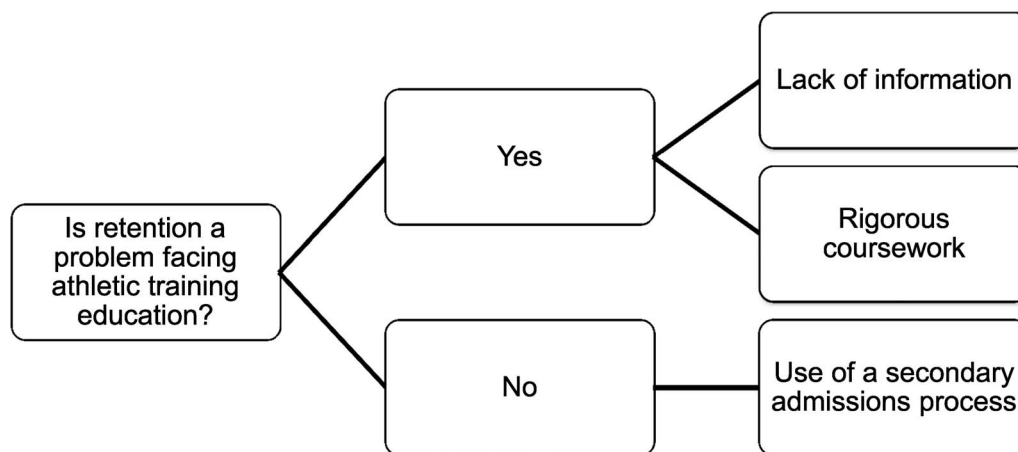


Figure. Themes from the analysis.

athletic training due to insufficient anticipatory socialization. One participant stated:

I think once they actually figure out what they're getting into—I don't know if we can actually call that a retention issue or more like an information issue. So that would be the reason why I would think that some of the drop-off we see is not necessarily due to the fact that we can't retain the students but more that the students aren't exactly educated about what they're getting into in the first place.

Similarly, another participant thought the lack of information altered ATS persistence decisions. He thought that once ATSS understood the time associated with clinical education, they often chose to do other things. He said:

It's just students coming in not really understanding the field, not really understanding what's required. So what we see a lot, we may start out with a large number of students that [sic] come in their first semester, freshmen, but once they kind of get in and get the feel and start seeing and doing some of the observations and start really understanding what it's all about, or they just really didn't understand the profession. So from that standpoint, I think that is where we see most of our issues.

He went on to describe how students frequently like the sound of athletic training and declare it as their field of study. Once they have a more nuanced depiction of what it takes to complete the ATP, they often decide to do other things.

Then, the other issue that we see is I think we get a lot of students that [sic] are thinking about kinesiology/exercise science and don't know what all, they hear athletic training and again, don't understand the term and so jump into it. So I think, initially, we see it more of just a lack of understanding of what the profession and what the degree is about.

Another participant described the importance of advising students early to help them make good decisions about pursuing a degree in athletic training:

I think it has multiple variables. One, within the education component, I think there is [sic] still some misnomers and misconceptions about what athletic training is. . . so that requires a lot of really good advising in the first year to help students understand what it is that they really want.

Finally, 1 participant noted that many prospective students may not be familiar with what an athletic trainer does because they have never interacted with one:

I get a sense that there still is a lack of understanding of the profession. That may be just because they haven't had access or they haven't been exposed to an athletic program. There's still many of our schools in [state name] that don't have athletic trainers—high schools, I mean.

A second theme emerged from the data explaining why PDs thought retention in athletic training education was a problem. Several participants mentioned the time commitment associated with the demanding coursework and clinical education while enrolled in an ATP as a reason why many students leave. One participant explained how the time commitment required to complete clinical education expectations is hard to explain until students actually try it. She said:

I think because you can talk to students as much as you want and tell them what the commitment is and how much they have to do in clinical, and they don't really get it until they try to do it. And so it's just very demanding. And I think some students figure it out, and some students just can't do it.

Another participant explained how difficult courses combined with clinical education makes completing an ATP difficult. He explained that many students "don't

understand or expect the academic rigor that's gonna be connected to it [the ATP], and then quickly realize that it's not a good fit for them, either academically, or again the required time outside of class for clinicals and those kinds of things."

Finally, a similar sentiment came from a participant who noted that students leave ATPs because "it tends to either conflict with something they want to do socially or just they don't want to invest the time."

Reasons Retention Was Not a Problem in Athletic Training Education

We also spoke to PDs who thought that retention was not a problem in athletic training and asked them why they felt that way. Only 1 theme emerged from the data. Program directors were consistent in their perception that ATPs do not have a retention challenge because a secondary admissions process is required to gain entry into an ATP. Many programs use a secondary admissions process to select students for an ATP after at least 1 semester of coursework. Only 7% (n = 13) of PDs reported admitting students into the professional phase of the ATP directly out of high school, whereas the remaining 93% of PDs (n = 164) reported using a secondary admissions process.⁴ Not surprisingly, all 8 of the PDs we interviewed who thought that ATS retention was not a problem led programs that use a secondary admissions process. With such a process, they must often complete observation hours, take a gateway course, and meet a grade point average threshold before applying to the ATP.

One participant explained the use of a secondary admissions process to help prevent ATS attrition from becoming a problem:

Just speaking from my own program, we don't admit kids until their sophomore year, so we have a fairly intensive application and interview process and orientation during their freshman year. That's designed to make sure that the kids understand what they're getting into before they commit to the program. Once they're in our program, they tend to stay in the program, unless they have some extenuating circumstances.

Another participant shared similar ideas. She said:

I think in my program, we work very hard to accept a student based on the minimum criteria that we have set, and statistically what we have found out is that when we have accepted students on probation, those below some of our minimum requirements, they are not successful. Which has led us to, at this point, only accept the students that meet the minimum criteria, to ensure better success, not only in the program, but first-time passing rate [on the Board of Certification examination].

Other participants supported the idea that retention was not a problem in either athletic training education nationwide or the ATPs they directed. A respondent expressed:

Athletic training education, as it relates specifically to me, but also in general, I found that the way our

programs are set up and a lot of people who have that preprofessional phase in athletic training, I think students figure out about athletic training and whether they want this for their profession pretty early. So once they actually get admitted into the athletic training program, I don't think retention was as much of a problem.

Another participant agreed that student departure is not a problem in ATPs nationwide:

Again, just because with accreditation, and the standards, and guidelines, and all of those kinds of things, my assumption is there are probably procedures in place that help better identify kids into those programs.

DISCUSSION

We were able to identify reasons why PDs believed ATS retention was or was not a problem facing athletic training education. The national retention rate for undergraduate ATSS has been identified as 81.0%.⁴ Based on comparisons with other health care professions (primarily the standards used previously for nursing according to a previous article¹⁰), this retention rate has been considered reasonable. It is important to note that PDs who reported higher ATS retention rates did not believe retaining students was a problem, whereas those who reported lower ATS retention rates believed it was a problem.⁴ Retaining students appears to be challenging due to a lack of information regarding the athletic training profession and the rigor of the curriculum. Those PDs who believed retaining ATSS was not a problem explained that a secondary admissions process allowed them to select students who they believed could complete the program, leading to high persistence rates. We believe our findings can be related to the importance of socialization for prospective ATSS and the need to help reduce the amount of frustration ATSS encounter, both of which aid in ATS persistence.

Early Socialization

Our results indicate that students may enter ATPs with a poor knowledge of what athletic training is or what an athletic trainer's job responsibilities can include. These findings support prior research regarding attractors and reasons to apply to an ATP.¹⁷ Mensch and Mitchell¹⁷ noted that student decisions to apply or not apply to an ATP were altered by an initial exposure to athletic training while in high school and an incomplete understanding of the profession. A similar study¹⁸ found that, despite initial exposure to athletic training in the high school setting, an ATS may not have a complete understanding of the complexity associated with the role of the athletic trainer. Based on our results, PDs' beliefs that prospective students do not have a full understanding of the roles and responsibilities of the profession appear credible. Perhaps this lack of information could be ameliorated if students are able to interact with an athletic trainer while in high school. Although the American Medical Association recommended all high schools provide athletic training services in 1998,¹⁹ many still do not. Currently, only approximately 42% of secondary schools have access to athletic trainers.²⁰ If states pass legislation mandating access to athletic trainers, the socialization of potential recruits to the profession might

improve as more high school students could interact with athletic trainers, potentially leading to more informed students entering ATPs.

Although ATSs appreciate the honesty that preceptors show with regard to the rigors of the profession,²¹ it is important to note that socialization while in high school can also be a barrier to entering an ATP if the athletic trainer works long hours or has a negative attitude.¹⁷ Furthermore, exposure to the high school setting may offer only a narrow perspective of the role of the profession, as duties can change based upon the clinical setting in which the athletic trainer is employed. A diversified observation period for the ATS may improve retention by providing a more realistic and holistic impression of the field of athletic training.²² This may be only a partial solution to retention concerns in athletic training but should be helpful based on the documented departure of ATSs due to a shift in interest away from the role of the athletic trainer.¹⁸

The finding that several PDs believed a secondary admissions process improved student retention supports previous research,⁴ which indicated that the timing of formal admission was correlated with the PDs' self-reported retention rates. According to PDs, ATSs were retained at a higher rate when they were formally admitted later in their college careers.⁴ The preprofessional phase of the ATP helps to socialize students to the program and provides them with time to contemplate whether athletic training is the field for them. Students who become engaged early through observation hours during the preprofessional phase of an ATP may become committed to the profession and be more likely to persist; Mazerolle and Dodge²² made a similar recommendation.

Minimizing Frustration

Prior investigators^{7,23,24} found that the rigor of completing an ATP caused frustration among ATSs. Athletic training students can also burn out because of the time commitment required to complete the program.²⁵ Considering these results, it appears that the PDs' opinions of student perceptions are reasonably consistent. Athletic training faculty and preceptors should become flexible with schedules to ensure that students will not abandon the major before they become interested in the core coursework.^{26,27} It is important to note that flexibility is specific to a particular situation. At times, ATSs may need to reduce the number of hours they are engaged in clinical education per week. During other situations, ATSs may simply need to shift their hours around academic responsibilities or extracurricular activities but will still accumulate the same total number of hours in a week. Scholars have suggested that students should be given sufficient time outside of athletic-training-related activities to be involved with other endeavors.^{1,2,27} Students also need time to contemplate and reflect on what they learn²⁸ to maximize the educational experience. Student integration into the institution, both socially and intellectually, alters persistence decisions^{29,30}; therefore, ATSs need to become integrated into the curriculum and their clinical education while finding time to engage socially with other students, faculty, and staff. Clinical education expectations should be appropriate to allow students sufficient free time to engage in extracurricular pursuits²⁸ such as intramural or club sports, Greek

life, fine arts, student government, or other activities. Although most ATPs have clinical education hour requirements,⁴ perhaps a shift away from counting hours and toward providing ATSs with authentic learning experiences by assessing proficiency is warranted.

Recommendations for Future Research

Future researchers should continue to explore the reasons for ATS departure and persistence in athletic training education. Perhaps PDs, clinical education coordinators, and faculty with long tenures in their current positions with programs that have a rich history of success can offer best practices for providing an environment that fosters student success. Less experienced athletic training administrators and educators could use these strategies to help improve ATS retention rates. It would be interesting to see if researchers find similar results with students in professional master's programs or if retention rates for these programs are different. We also believe the timing of the secondary admissions process warrants additional attention. Our results suggest that a later formal admission process improves ATS retention to graduation. An important factor to consider is how shortening the number of academic years of clinical education alters preparation for professional demands. Studying students who depart from ATPs may also produce different results than those reported by PDs. Finally, future authors should continue to shed light on the professional socialization process for ATSs. Specifically, exemplary socialization tactics should be identified to provide students with the proper background to make an informed decision to enter an ATP and the profession of athletic training. It would be interesting to explore whether professional socialization through a high school athletic trainer while prospective students are in secondary school alters persistence decisions once the student reaches college.

Limitations

It is important to recognize limitations of the current study. Most notably, we asked only for the opinions of PDs and not additional faculty, preceptors, or ATSs. However, we chose PDs as our target population because they are responsible for the day-to-day operations of the ATP according to the accreditation standards.⁸ As is the case with qualitative research, generalizing our results to all ATPs nationwide is a challenge, given that we interviewed only 16 PDs. In particular, all of the PDs who thought retention was not a problem led ATPs that used a secondary admissions process. Directors of ATPs that directly admit students would probably have different opinions. However, our purpose was not to broadly generalize but to explore the phenomenon of ATS retention.

CONCLUSIONS

The current findings extend the literature by distinguishing reasons why PDs believed retention of ATSs was or was not a problem in athletic training education nationwide. Athletic training PDs were split on whether they believed retaining students was a problem. For those who believed it was a problem, attrition stemmed from students lacking a clear understanding of the athletic training curriculum or

profession (or both) and from the rigor and stress of completing an ATP. Other PDs reported ATS retention was not a problem because secondary admissions processes allowed PDs to admit only students who they believed could complete the program. Based on our results, PDs should work to provide prospective ATSS with as much information about the ATP and the profession as possible, use a secondary admissions process, and create a supportive environment to foster success once a student is admitted into the professional phase of the ATP.

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REFERENCES

- Bowman TG, Dodge TM. Factors of persistence among graduates of athletic training education programs. *J Athl Train.* 2011;46(6):665–671.
- Dodge TM, Mitchell MF, Mensch JM. Student retention in athletic training education programs. *J Athl Train.* 2009;44(2):197–207.
- Herzog VW, Anderson D, Starkey C. Increasing freshman applications in the secondary admissions process. *Athl Train Educ J.* 2008; 2(2):67–73.
- Bowman TG, Hertel J, Wathington HD. Programmatic factors associated with undergraduate athletic training student retention and attrition decisions. *Athl Train Educ J.* In press.
- Accredited Programs, 2011. Commission on Accreditation of Athletic Training Education Web site. http://www.caate.net/iMIS15/CAATE/Accredited_Programs/Core/directory.aspx?hkey=b91f27b1-2a93-4ed1-b1e6-55cc82ac0fc3. Accessed November 22, 2011.
- Herzog VW. *The Effect of Student Satisfaction on Freshman Retention in Undergraduate Athletic Training Education Programs* [dissertation]. Huntington, WV: Marshall University; 2004.
- Stilger VG, Etzel EF, Lantz CD. Life-stress sources and symptoms of collegiate student athletic trainers over the course of an academic year. *J Athl Train.* 2001;36(4):401–407.
- Standards for the Academic Accreditation of Professional Athletic Training Programs, 2012. Commission on Accreditation of Athletic Training Education Web site. http://www.caate.net/iMIS15/CAATE/Accredited_Programs/Core/directory.aspx?hkey=b91f27b1-2a93-4ed1-b1e6-55cc82ac0fc3. Accessed November 22, 2011.
- Carr WD, Vanic KA. Student athletic trainer recruitment, attrition, and retention: opinions of CAAHEP accredited program directors [abstract]. *J Athl Train.* 2000;35(2 suppl):S41.
- Shelton EN. Faculty support and student retention. *J Nurs Educ.* 2003;42(2):68–76.
- Ericsson KA, Simon HA. *Protocol Analysis: Verbal Reports as Data.* Cambridge, MA: MIT Press; 1993.
- Sudman S, Bradburn NM, Schwartz N. *Thinking About Answers: The Application of Cognitive Processes to Survey Methodology.* San Francisco, CA: Jossey-Bass; 2010.
- Creswell JW. *Qualitative Inquiry & Research Design: Choosing Among Five Approaches.* Thousand Oaks, CA: Sage Publications; 1998.
- Strauss AC, Corbin JM. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques.* Newbury Park, CA: Sage Publications Inc; 1990.
- Strauss AL, Corbin JM. Grounded theory methodology. In: Denzin NK, Lincoln YS, eds. *Handbook of Qualitative Research.* Thousand Oaks, CA: Sage Publications, Inc; 1994:273–285.
- Pitney WA, Parker J. Qualitative inquiry in athletic training: principles, possibilities, and promises. *J Athl Train.* 2001;36(2): 185–189.
- Mensch J, Mitchell M. Choosing a career in athletic training: exploring the perceptions of potential recruits. *J Athl Train.* 2008; 43(1):70–79.
- Mazerolle SM, Dawson A, Lazar R. Career intentions of pre-professional female athletic training students. *Int J Athl Ther Train.* 2012;17(6):19–22.
- American Medical Association. Summaries and recommendations of Council on Scientific Affairs reports. Paper presented at: American Medical Association Annual Meeting; June 1998; Chicago, IL.
- Prentice WE. Focusing the direction of our profession: athletic trainers in America's health care system. *J Athl Train.* 2013;48(1):7–8.
- Mazerolle SM, Dodge TM. Role of clinical education experiences on athletic training students' development of professional commitment. *Athl Train Educ J.* In press.
- Mazerolle SM, Dodge TM. Considerations for the use of the observation experience to aid in early socialization and retention of athletic training students. *Athl Train Educ J.* 2014;9(2):54–58.
- Bowman TG, Dodge TM. Frustrations among graduates of athletic training education programs. *J Athl Train.* 2013;48(1):79–86.
- Heinerichs S, Curtis N, Gardiner-Shires A. Perceived levels of frustration during clinical situations in athletic training students. *J Athl Train.* 2014;49(1):68–74.
- Riter TS, Kaiser DA, Hopkins JT, Pennington TR, Chamberlain R, Eggett D. Presence of burnout in undergraduate athletic training students at one western US university. *Athl Train Educ J.* 2008;3(2): 57–66.
- Mazerolle SM, Pagnotta KD. Student perspectives on burnout. *Athl Train Educ J.* 2011;6(2):60–68.
- Racchini J. Enhancing student retention. *Athl Ther Today.* 2005; 10(3):48–50.
- Dodge TM, Walker SE, Laursen RM. Promoting coherence in athletic training education programs. *Athl Train Educ J.* 2009;4(2): 46–51.
- Tinto V. *Leaving College: Rethinking the Causes and Cures of Student Attrition.* 2nd ed. Chicago, IL: The University of Chicago Press; 1993.
- Tinto V. Classrooms as communities: exploring the educational character of student persistence. *J High Educ.* 1997;68(6):599–623.

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