

# Factors Influencing Athletic Trainers Pursuing Residency Training

Daniel J. Dobrowolski, DAT, ATC\*; Cailee E. Welch Bacon, PhD, ATC†; Matthew J. Rivera, DAT, LAT, ATC\*; Lindsey E. Eberman, PhD, ATC\*

\*Applied Medicine and Rehabilitation, Indiana State University, Terre Haute; †Athletic Training Programs, A.T. Still University, Mesa, AZ

**Context:** Residency training in athletic training is an educational priority for specialist development; however, little is known about what motivates athletic trainers (ATs) to pursue this training.

**Objective:** To identify the motivating factors that influence ATs to pursue postprofessional athletic training residencies.

**Design:** Qualitative study.

**Setting:** Individual telephone interviews.

**Patients or Other Participants:** Twelve postprofessional athletic training residency candidates (8 females, 4 males; age =  $26 \pm 3$  years; years of experience as a practicing AT =  $4 \pm 3$  years) participated.

**Data Collection and Analysis:** Each teleconference interview was transcribed verbatim. All information was retrieved, coded, and categorized under domains, subdomains, and categories. Three members of the research team coded and compared transcripts using multiple-analyst triangulation and peer review to confirm their findings. An external auditor was used to verify the accuracy of the codebook.

**Results:** We identified 4 emergent domains: (1) support to pursue, (2) personal influencers, (3) professional influencers, and (4) future recruitment considerations. Web resources, direct residency contacts, and mentors with knowledge of residencies provided potential residents with information about residency programs. Personal influencers included financial considerations, work/life balance, and increased respect. Professional influencers included practice setting, working in teams, developing a specialization, and self-improvement. Professional influencers also included a subdomain, by which potential residents acknowledged what is gained from postprofessional learning in terms of advanced practice clinical, scholarship, and leadership skill development. Participants suggested residencies should use social media and conference presentations to clarify the central message around the purpose of residencies and specialization.

**Conclusions:** The purpose of this study was to identify the motivating factors that influence ATs to pursue residency training. Participants applied to residencies for several different reasons, but all wanted to advance their practice and improve their ability to perform their job functions through both additional clinical and didactic education.

**Key Words:** Specialization, specialty training, advanced practice

---

*Dr Dobrowolski is currently an Athletic Trainer with Holy Cross Hospital in Fort Lauderdale, Florida. Please address correspondence to Daniel J. Dobrowolski, DAT, ATC, Indiana State University, Applied Medicine and Rehabilitation, 567 North 5th Street, Room A-10, Terre Haute, IN 47809. ddobrowolski@sycamores.indstate.edu.*

---

**Full Citation:**

Dobrowolski DJ, Welch Bacon CE, Rivera MJ, Eberman LE. Factors influencing athletic trainers pursuing residency training. *Athl Train Educ J.* 2022;17(4):363–372.

# Factors Influencing Athletic Trainers Pursuing Residency Training

Daniel J. Dobrowolski, DAT, ATC; Cailee E. Welch Bacon, PhD, ATC; Matthew J. Rivera, DAT, LAT, ATC; Lindsey E. Eberman, PhD, ATC

## KEY POINTS

- Athletic trainers pursued residency training to advance their practice skills, based on personal factors, as well as to develop a specialty.
- Residency programs can improve recruitment strategies to better match clinicians to programs based on their goals and motivations.
- Central messaging regarding residency training and postprofessional pathways needs to improve to clearly define residency training and its role in specialty development to consumers and mentors of those that may pursue residency training.

## INTRODUCTION

In athletic training, the need for specialization through postprofessional-level education has emerged.<sup>1-3</sup> The need for specialists has encouraged athletic trainers (ATs) to pursue additional training or other professional development to cultivate advanced practice skills beyond those gained during their professional preparation. Residency training is a postprofessional pathway through which health care professionals can develop specializations within a specific discipline. In athletic training, residency programs are designed to provide ATs with advanced training and experiences within a specific area of clinical focus.<sup>2</sup> Previous research<sup>1-3</sup> regarding residencies show the effectiveness of residency-trained ATs in delivering quality health care, improving outcomes, and increasing physician satisfaction and patient throughput. As the profession of athletic training has grown and demanded ATs with specific areas of clinical experience and knowledge, several residencies have surfaced to develop advanced clinical specialists. The Commission on Accreditation of Athletic Training Education (CAATE) recognizes 8 approved residency specialty areas, as follows: prevention and wellness, urgent and emergent care, primary care, orthopedics, rehabilitation, behavioral health, pediatrics, and performance enhancement. As of March 2020, there are 10 CAATE-accredited residency programs.<sup>4</sup>

Previous research<sup>5-9</sup> has focused on motivators for other postprofessional pathways in athletic training as well as other health care fields. Researchers have investigated the motivators that influenced ATs to pursue the Doctorate in Athletic Training Degree.<sup>5</sup> Research has been conducted in other health care disciplines, such as surgery<sup>6-9</sup> and nursing,<sup>10</sup> to identify motivators and barriers to individuals in these respective fields. Motivation research in medical education has identified factors such as mentorship,<sup>11</sup> autonomy,<sup>12,13</sup> and the expectation of a particular result due to their actions<sup>14</sup> as factors contributing to the motivation of health care residents. Although the Strategic Alliance encourages the development of accredited residencies, specializations, and specialty certifications,<sup>15</sup> current research lacks information or investigation regarding motivation or participation in specialty clinical training for ATs. Therefore, the purpose of this

study was to identify the motivating factors that influence ATs to pursue residency training.

## METHODS

We used a qualitative semistructured interview and consensual qualitative research approach to explore motivating factors that influenced ATs to pursue athletic training residency training. We used the Standards for Reporting Qualitative Research<sup>16</sup> to guide both project development and presentation of data. The Consensual Qualitative Research approach was chosen to identify, explain, and provide context to the experiences that the residency applicants had regarding pursuing residency through a recorded, transcribed, and coded phone interview.<sup>17,18</sup> The university institutional review board deemed this project “exempt” before we conducted any interviews or participant recruitment. Participants provided informed consent before recording each interview.

## Participants

Participants were included if they were ATs who had applied to and interviewed with at least one of the CAATE-accredited athletic training residency programs. It was possible that participants had interviewed at more than one residency program, and it was also possible that they had interviewed with residency programs that had not been CAATE accredited. Participants were not excluded if they had not been selected or if they had not chosen to enroll in a residency program because of their application. ATs who had already started their residency training were excluded because of the potential for their motivations to change with a greater understanding of programmatic goals. To recruit participants for the study, the program directors of each of the 10 CAATE-accredited athletic training residency programs were contacted by email in March 2020; the email explained the goals of the study and the desired participant population. The program directors were then asked to send the recruitment message to final interview candidates for their programs. Additionally, the research team used criterion sampling to recruit potential participants via social media postings, confirming eligibility for the project before conducting the interview.

Twelve residency candidates (8 females, 4 males; age  $26 \pm 3$  years; years of athletic training experience =  $3.5 \pm 3$  years) who met the inclusion criteria were interviewed before data saturation was achieved. Demographic information for each participant, including the participant pseudonym used to protect participant identity, is displayed in Table 1.

## Instrumentation

A semistructured interview script (Table 2) was established that consisted of questions regarding how the participants learned about residency programs, what factors motivated them to pursue residency training, and areas in which the

**Table 1. Factors Influencing Athletic Trainers Pursuit of Residency Training**

Participant Demographics				
Pseudonym	Gender	Age, y	Years of Athletic Training Experience	Number of Residencies applied to (both accredited and unaccredited)
Barbara	F	30	6	2
Gordon	M	23	2	3
Selina	F	22	0	1
Ivy	F	28	6	6
Jada	F	32	11	15
Renee	F	25	4	3
Edward	M	23	2	1
Harvey	M	32	3	1
Leslie	F	24	2	1
Tabitha	F	24	3	1
Harper	F	24	0	1
Bruce	M	26	4	3

applicant felt that the residency programs could improve. The interview script was created by the primary and senior investigators. With permission, we used the interview script from a previous study<sup>5</sup> exploring motivators to pursue a Doctor of Athletic Training (DAT) degree to guide the development of this interview script. After the script was developed, it was revised and validated by peers who are experts in both qualitative research and residency content. The primary investigator conducted 2 pilot interviews to refine the script. The 2 pilot interviews were done with ATs who had either already completed a residency program or were already matriculating in a residency program. After the pilot interviews, one question was added to the interview script, which was used to identify how the participant would describe the purpose of athletic training residency training.

### Procedures

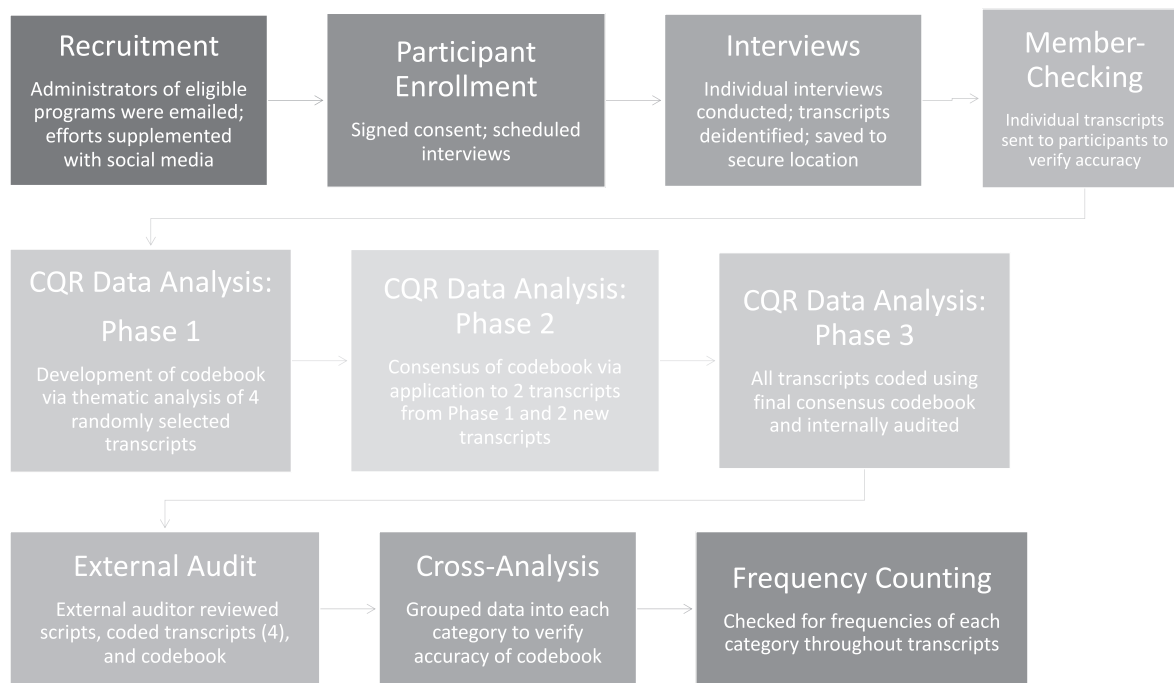
The procedures for this project are represented in Figure 1. Potential participants contacted the primary investigator via email expressing their interest in the study. The primary investigator provided the potential participants with the informed consent document and invited them to schedule a Web-based teleconference interview. The participant then confirmed their enrollment status. Any questions regarding the study were answered before starting the interview. When the interview began, the primary investigator reviewed the purpose of the study, informed consent, and information regarding member-checking and withdrawal. Each interview lasted approximately 25 minutes, and participant interviews were recorded via Zoom (San Jose, CA) in a private room to ensure that the responses were confidential. At the end of each

**Table 2. Factors Influencing Athletic Trainers Pursuit of Residency Training**

Interview Script
<ol style="list-style-type: none"> <li>1. How did you learn about postprofessional athletic training residency programs for athletic trainers?               <ol style="list-style-type: none"> <li>a. Specifically, what resources, if any, did you use to learn more about postprofessional athletic training residency programs?</li> <li>b. In your own words, what is a residency and what is its purpose?</li> </ol> </li> <li>2. What motivated you to apply to a postprofessional athletic training residency?</li> <li>3. What professional factors compelled you to pursue residency training? (Job setting, skills, scholarship)               <ol style="list-style-type: none"> <li>a. In what ways, if any, did colleagues, preceptors, mentors, or supervisors influence your decision to apply?</li> </ol> </li> <li>4. What personal factors compelled you to pursue residency training? (Monetary, family, etc.)               <ol style="list-style-type: none"> <li>a. In what ways, if any, did family or other personal support networks influence your decision to apply?</li> </ol> </li> <li>5. Was there one dominant factor that was most influential in making your decision to apply to postprofessional athletic training residencies? If so, please describe.</li> <li>6. Describe the application process for applying to postprofessional athletic training residencies.               <ol style="list-style-type: none"> <li>a. Were there any challenges you experienced? How did you overcome those barriers/challenges?</li> </ol> </li> <li>7. If you applied to other postprofessional athletic training residencies, why did you choose the one that you are going to attend?</li> <li>8. What, if anything, do you think programs can do to promote postprofessional athletic training residencies?</li> <li>9. What, if anything, do you think the members of the Strategic Alliance (NATA, BOC, CAATE, Foundation) can do to promote postprofessional athletic training residencies?</li> <li>10. Is there anything else you think we need to know about factors that motivated you to apply and enroll in a postprofessional athletic training residency?</li> </ol>

Abbreviations: BOC, Board of Certification; CAATE, Commission on Accreditation of Athletic Training Education; NATA, National Athletic Trainers' Association.

**Figure 1. Methods flow chart.**



interview, the primary investigator deidentified the transcripts and created a pseudonym for each of the participants. The deidentified transcripts were then sent to the participant to check for accuracy (ie, member checking). Data collection continued until the research team reached saturation with 12 interviews.

### Data Analysis

Once all data were accurately transcribed and confirmed for accuracy, 3 members of the data analysis team (D.J.D., C.E.W.B., L.E.E.) used a Consensual Qualitative Research approach to complete the data analysis.<sup>17,18</sup> Comparison<sup>19</sup> was used throughout data analysis to ensure consistency among the investigators. Four transcripts were individually coded to identify domains, subdomains, and categories.<sup>20</sup> The data analysis team then met to establish a preliminary codebook. The team then checked the codebook against 2 transcripts from the first step and 2 new transcripts. The team met again to establish a consensus codebook. Once consensus was reached regarding the codebook, the transcripts were divided evenly (4 each) among the members of the data analysis team. Each member analyzed their assigned transcripts using the consensus codebook and coded the applicable domains, subdomains, and categories. We internally audited the coded transcripts by verifying the coding with one other member of the data analysis team. Any discrepancies were discussed by the data analysis team, and a two-thirds majority was used to confirm a code. After the analysis was reviewed and confirmed, an external auditor (M.J.R.) served to confirm and verify the accuracy of the information that was collected and reviewed. The data analysis team included the primary investigator (novice qualitative researcher) and 2 expert qualitative researchers (L.E.E., C.E.W.B.). The external auditor, an experienced qualitative researcher, served in this role based on previous experience with qualitative research and familiarity with postprofessional educational pathways.

Once the consensus codebook was confirmed by the external auditor, cross-analysis of the coded information was performed by the primary investigator to ensure all coded material was appropriately aligned with the codebook. We then calculated the frequency of responses.<sup>17,18</sup> With respect to the 12 transcripts analyzed, a category was labeled *general* if all or all but one participant case was coded, *typical* if 7 to 10 participant cases were coded, *variant* if 4 to 6 participant cases were coded, or *rare* if 3 or fewer participant cases were coded.<sup>17</sup>

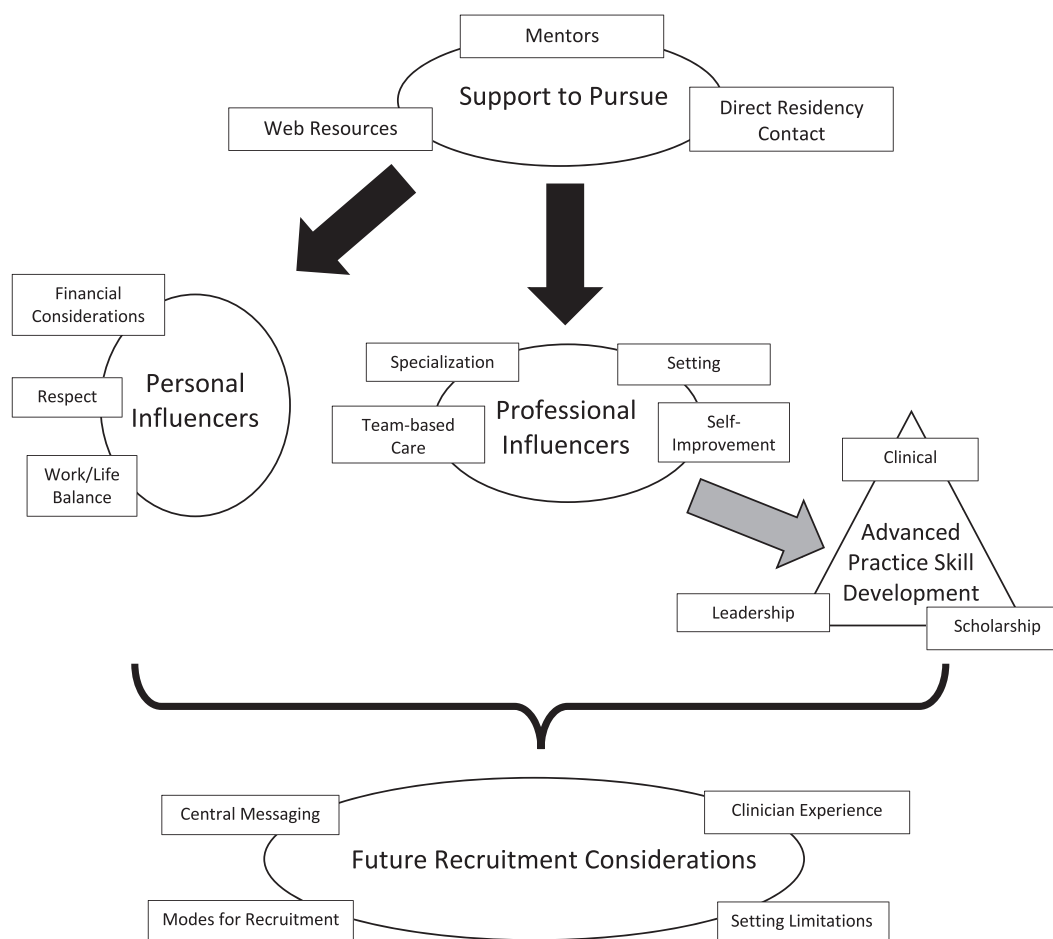
### RESULTS

Four domains emerged: (1) support to pursue, (2) personal influencers, (3) professional influencers, and (4) future recruitment considerations (Figure 2; Table 3). With support to pursue, ATs described the resources, individuals, and events that led to their exposure and an increase of knowledge about residencies. The personal influencers described by the participants included factors that stemmed from their personal lives: specifically, the participants improved respect, work/life balance, and financial standing as a result of completing a residency program. The participants also discussed professional influencers like self-improvement, specialty training, a change of professional setting, as well as a team-based approach to care that they hoped would change their professional life as a result of completing a residency program. Professional influencers also included a subdomain in which potential residents aimed to gain advanced practice skills in clinical care, scholarship, and leadership. Future recruitment considerations focused on the participants' feedback regarding central messaging, modes for recruitment, clinician experience, and setting limitations.

### Support to Pursue

All participants described mentors (including program and clinical educators), with knowledge of residencies, as a

**Figure 2. Domains, subdomain, and categories.**



primary source for learning about the existence of residency programs. Edward stated that:

*after I graduated with my degree and I just found [residency] as well as all the other routes.*

*I learned about the professional residency programs from my professional education. I was exploring options that I could do*

Other participants learned of, or were exposed to, residencies through direct residency contacts. These contacts included

**Table 3. Factors Influencing Athletic Trainers Pursuit of Residency Training**

Frequency Table			
Domain and Subdomain	Category	Frequency	Category Frequency
Support to pursue	Web resources	12	General
	Mentors	12	General
	Direct residency Contacts	8	Typical
Personal influencers	Financial considerations	8	Typical
	Respect	7	Typical
	Work/life balance	8	Typical
Professional influencers	Specialization	9	Typical
	Setting	10	Typical
	Team-based care	9	Typical
	Self-improvement	6	Variant
Advanced practice skill development	Clinical	11	General
	Leadership	2	Rare
	Scholarship	5	Variant
Future recruitment considerations	Central messaging	12	General
	Clinician experience	3	Rare
	Modes for recruitment	11	General
	Setting limitations	2	Rare

previously established colleagues with direct knowledge of a residency, electronic communication with program administrators, or interactions at educational conferences/events with ATs associated with a residency program. Gordon described his initial interaction with residency-trained ATs through a colleague of his with whom he already had a relationship:

*One of my classmates from my undergraduate institution went on to a residency program. I was able to talk to him and then was able to learn what the residency program entails.*

Participants also initiated contact with residency faculty to garner more information regarding the programs. Barbara described her experience as follows:

*I'd gone to [National Athletic Trainers' Association] NATA last year and [residencies] were mentioned in a couple presentations there. I had talked to the Directors and the director of that particular residency before they had even started accepting candidates and applicants. I showed interest before interviews.*

All the participants also highlighted the importance of Web resources to improving their knowledge and understanding of residencies. However, some participants were able to discover more resources than others. The NATA, CAATE, and Athletic Trainers in the Physicians Practice Society (ATPPS) Web sites, as well as the program-specific Web sites for each residency, served as common sources of information. Leslie described her data-retrieving process by noting, "I used the NATA website and the CAATE website to find out what programs they offered and what made up those programs." Tabitha also stated that she found the program-specific Web sites to be valuable tools with which to uncover more information: "I looked into their website. Once I looked at all of the specialties I then realized where I preferred to go."

### Personal Influencers

Personal influencers were factors that were driven by personal reasons, feelings, and motivations to seek residency training. Participants were hopeful a residency would improve work/life balance compared to their current or previous job setting. Harvey described his work/life balance and how the residency would impact it by saying:

*I think that had more to do with my personal life. I wanted more traditional hours and a schedule that was much more reasonable and not just subject to the whims of whoever. That was certainly a driver to pursue residency from personal aspect of things.*

Participants also hoped residency training would improve their experience of feeling respected. Bruce said:

*I really see ATs as a very vital part of sports medicine and I think that gets overlooked quite a bit by people who are a part of sports medicine. If we can create ATs that are the best health care providers for their organizations and can easily communicate with the doctors and other providers within that field, it will make the whole system better. It [residency] will make the perception of ATs more respected.*

Bruce goes on to say, "I think a big part of it [completing a residency] is the respect of my current peers and those that I

work with right now and having the support of physicians." Jada also spoke to how residency training can bolster ATs' perceptions of being respected and valued by stating "It [residency] is allowing us as athletic trainers to demonstrate our work and value in areas other than just soccer fields and basketball courts." Harvey spoke more to personal respect and trust:

*I think a big part of it is the respect of my current peers and those that I work with right now and having the support of physicians. Specifically, when they [physicians] trust your judgment on diagnosis; that is definitely an indicator of growth.*

Edward also spoke on the importance of being a clinician who can provide consulting to other peers:

*I believe someone that operates at the top of their license is someone that causes change in their practice and colleagues around them. They are someone that others come to for help with troubling cases and consulting.*

Financial considerations also played a role in the participants' choice to pursue residency. Ivy spoke of some of the potential financial issues with which someone could be faced when trying to identify residencies that they are interested in: "I think even my selection of the residency program that I chose had a lot to do with cost of living in certain areas and what I could afford." Harvey, a consistent proponent of pursuing residency training for personal reasons, also spoke to the idea that graduates may make more money upon completion of the program: "It's been shown that most ATs that follow the residency program [pathway] start their salary at a higher rate than those in a more traditional setting."

### Professional Influencers

Participants identified self-improvement as a clinician as a professional influencer for pursuing a residency. Bruce described his desire as follows:

*I am really passionate about the field so when I think about how I could propel myself in terms of the next level, it is becoming the most competent and most capable AT I possibly could. I felt like I had a decent time handling that on my own when I was working in colleges and at universities, but there was definitely a clinical aspect that I had very limited exposure to and therefore a limited knowledge on some things there.*

Since several athletic training residency programs are located in the physician practice setting (especially those with an orthopaedic focus), the setting of the residency played a role in participant reasoning to pursue the residency. Gordon spoke to his desire to work with a new patient population: "I just want to experience a different patient population, besides college athletes, that I've been exposed to for the past few years."

Participants also indicated that specialization was an important professional influencer for pursuing residency training. Leslie stated:

*Residency is designed to allow ATs to have a more in-depth and specialized set of knowledge, whether that be through*

*working with physicians who are specialized or working with surgeons and being able to see a more in-depth and detailed approach to care.*

As a result of working within the physician's practice setting, many residents also described a desire to take a more team-based approach to health care. Gordon explained his desire to work with interprofessional teams:

*One of the programs that I applied to had a physical therapy residency program as well. So being able to work with other professionals while you're going through this kind of specialty training and being able to bounce ideas off of each other and then share different perspectives and see how someone else will approach the same problem was appealing.*

Harper also described a desire to pursue a team-based approach to care through collaboration by stating:

*I want to be around people who make me better, challenge me, and expect me to be the best that I can be. I want to be in an environment around others to collaborate and provide the best possible care for the patient.*

**Advanced Practice Skill Development.** As a subdomain of professional influencers, participants recognized that some program benefits came from studying in any postprofessional pathway. Specifically, they identified that they would develop advanced practice skills in clinical practice, scholarship, and leadership. Participants indicated they wanted to develop clinical skills specific to the residency program's focused area of practice. Renee identified specific orthopedic-based skills that she was seeking to gain from residency:

*In my past, examination of radiography (X-rays), Magnetic Resonance Imaging (MRIs), and Computed Tomography (CT) was not something that I saw a lot, but it is something that has always been very important within the practice. It is something I don't know a lot about.*

Several others, like Harvey, also discussed how residency programs can be used to improve skills for which they have foundational knowledge, such as orthopedic clinical examination skills:

*A motivating factor for me was the desire to continue to pursue the diagnosis. How do they get to their true diagnosis? What is the treatment algorithm that the physician is taking into account in the specific patient population? I was wishing to have better and deeper knowledge in that area. So my pursuit was motivated by my desire to learn more and to work more closely with a physician, primarily to become more accurate in the diagnosis.*

Another component of residency training is the opportunity to participate in activities related to scholarship. Using outcome measures and other clinical tools, residents can advance their scholarship through data collection, quality improvement, and research activities. Tabitha discussed her excitement to participate in scholarship activities as a part of her residency program: "I know that through the program that I am a part of we will be doing research and doing more outcomes-based research within the residency." Renee also stated:

*I very much identify myself professionally as a clinician and a researcher. I have been working as a traditional athletic trainer and something that I have really been missing has been the academic and the research aspect of athletic training.*

Finally, Barbara described her desire to prepare for a position of leadership in the profession, specifically as a clinical teacher:

*It makes me want to be able to be a better AT because I am a preceptor now, so I am going to have graduate students coming to me with these questions and I don't want to be uneducated. I wanted to expand my knowledge in this realm.*

Ivy identified that scholarship and leadership were areas in which she was not seeing herself grow, supporting her professional influence to pursue a residency:

*There's potentially more opportunity for leadership roles and research roles, which are two other areas that I just didn't see really getting fulfilled in the current career that I'm in.*

### Future Recruitment Considerations

Most participants stated a concern that there is not enough general understanding of what residency training is and what it entails. There is a concern that the term "residency" is used interchangeably with other words, such as "fellowship" and "internship," causing confusion as to the real meaning of residency. Bruce described this uncertainty as follows:

*I think one of the things that hinders athletic training residencies right now is there's just a lack of awareness. In conversation with a lot of people that term residency got thrown around in conjunction with words like fellowship or extended internship, so it was a little confusing for me at first to really decide what that meant. The residency name was still something that I was struggling to identify what it means.*

There also seemed to be a general misunderstanding as to the role of residency programs. Some clinicians believed that residency training is another program to help young professional transition to practice. However, Barbara identified that this is not the purpose of residency:

*I was very adverse to applying in the beginning because my idea of these programs is it is out there for newer students. But, I think widening that and making sure it's known that you can apply if you are a little further along in your career and you just want more. Making it more clear that it's not a transition to practice versus adding on to your own practice.*

Several participants also indicated that more can be done to promote residency programs, to explain what being a resident means, and to explain the pathway through different modes of recruitment. Some residencies are doing presentations at local universities and conferences, which participants like Selina stated were important in their motivation:

*I really liked how they came out to my university to do a presentation. I think that was really a pushing factor for two other people in my cohort to apply for it. I don't think they do enough social media; if they could do some blasts or have people like quick interviews of the current residents.*

**Table 4. Factors Influencing Athletic Trainers Pursuit of Residency Training**

Resource Table	
Title	Resource Link
CAATE residency programs	<a href="https://caate.net/Programs/Residency-Fellowship">https://caate.net/Programs/Residency-Fellowship</a>
NATA postprofessional Athletic training residency	<a href="https://www.nata.org/blog/toddc/post-professional-athletic-training-residency">https://www.nata.org/blog/toddc/post-professional-athletic-training-residency</a>
ATPPS—athletic training Residency programs	<a href="https://atpps.org/athletic-training-residency-programs/">https://atpps.org/athletic-training-residency-programs/</a>
AT Each Moment	<a href="https://ateachmoment.com/athletic-trainer/residency-fellowships/">https://ateachmoment.com/athletic-trainer/residency-fellowships/</a>

Abbreviations: ATPPS, Athletic Trainers in the Physicians Practice Society; CAATE, Commission on Accreditation of Athletic Training Education; NATA, National Athletic Trainers' Association.

Participants indicated that the perception that residency training is limited to one setting (physician practice) and requires experience in a specific setting was problematic. They indicated it was important for programs to speak about the transferability of the skills learned in a residency program, regardless of training setting. Edward states:

*More people see the clinical side where you are working and that is what the resident is. But in my eyes, it is the didactic portion that's going to put you along that path. I sought out residency for the content area and not just the setting specifically.*

## DISCUSSION

The purpose of this study was to identify the motivating factors that influence ATs to pursue residency training. In this study, 4 domains and 1 subdomain emerged that were recurrent among participants. Participants indicated they had both personal and professional reasons to pursue a residency. Among the professional reasons, participants were influenced by professional factors that impacted their ability to provide care in a specific setting that was team-based. They had a desire to engage in learning that led to specialization and self-improvement. Most of all, they wanted to advance their skills in clinical practice, leadership, and scholarship. The participants also had supportive factors that helped them learn more about residency program opportunities and provided recommendations for future recruitment considerations. These findings illuminate what motivates ATs to pursue residency training compared to other forms of postprofessional education and draw connections to specialization development in other health care professions.

### Factors Influencing Pursuit of Residency Training

In this study, we found that most ATs learned about residency programs through mentors with a knowledge of residency or through direct contact with an individual involved in a residency and then further discovered pertinent information through Web resources. Research in physical therapy residencies highlights that expert training is an accepted pathway, and the method by which to pursue this pathway is taught as part of the learner's professional-level education.<sup>21,22</sup> This, however, was not clearly or consistently communicated to participants seeking athletic training residency through their professional-level education. Since anecdotal evidence suggests there is a knowledge gap about the value of residency training and postprofessional pathways among mentors who guide early career ATs, further research should seek to

identify areas to help improve central messaging. Without the influence of mentors and direct residency contacts who had a knowledge of residency, most ATs stated that they would be unaware of the existence of residencies.

Participants also indicated needing to use multiple Web resources to find the information that they needed to understand the position of a resident. While this did not deter ATs from pursuing residency training, it shows that there is need for more concise central resources from the profession. This central messaging should be designed to adequately explain what a residency is, for whom residencies are targeted, and how residency impacts the career path of an individual. The resources developed already should also be shared to improve their reach (Table 4).

The participants who were pursuing athletic training residency training described that while they had social support from friends and family, they considered the financial implications (cost and future benefit) as well as hoped-for improved work/life balance and respect anticipated to result from residency training. Similar to ATs pursuing the DAT degree, financial considerations were seen as a barrier to some because of the cost of living and attending the program.<sup>5</sup> While one does not have to pay to be a resident, some participants described having to take a pay cut in order to participate in the program, which can impact decision-making of potential residents when considering a program. Residents also described a desire to improve their work/life balance compared to that associated with their current or previous positions. When compared to those pursuing a DAT degree,<sup>5</sup> there is a drastic difference in the participants' opinion of how further education would change their work/life balance. For those pursuing the DAT degree, work/life balance was seen as an initial challenge<sup>5</sup> that would negatively impact their current balance while completing the degree. This may be due to the current state of DAT programs, which are nonresidential and add additional responsibilities to one's current clinical practice, versus the integrated learning environment offered within a residency. When participants described discontent with their current positions, they saw residency as a path to potential improvement, especially because they considered a residency in the physician practice setting as a setting with more work/life balance, one offering a more traditional schedule.

Another key factor for participants was their desire to increase their internal feeling of respect in their workplace and their desire to develop respectful relationships with other providers. This demonstrates a similar desire to achieve respect shown in



both other postprofessional athletic training pathways and other health care professions. DAT students described a desire to improve professional advocacy and to gain respect for their profession as a whole.<sup>5</sup> Athletic training residency candidates reported an idea of respect that was more consistent with that identified by medical students and surgical residents<sup>7,9</sup>; by gaining greater respect among their peers, they then foster further their internal motivation through a feeling of respect as well as through serving as models for the profession of athletic training.

The participants demonstrated a desire to pursue specialization, engage in self-improvement, take a team-based approach to patient care, and change the setting in which they work. For other professions, such as surgical residents<sup>9</sup> and physical therapy residents,<sup>21,22</sup> the focus of the residency program was not to provide an avenue to change the place in which they worked but rather to develop expert-level knowledge in the specific area of focus that they chose.

Development of specialization was also a primary influencer for participants who wanted to practice at the top of their license and engage in skills to be as effective and efficient as possible within a new setting. Residencies are expected to be one avenue for specialty certification in athletic training and incorporate both clinical and didactic education in the development of clinical specialists. Several participants in the study applied to residency programs of differing specialty areas. In residency training for physical therapists, it is suggested that clinicians do not pursue a specialty unless they are completely invested in that focused area of practice.<sup>23</sup>

Participants also discussed the desire to work with and learn from multidisciplinary teams and specialists to provide higher quality, team-based care to their patient panels. In nursing residencies, nurses viewed residency as an avenue for improving interprofessional practice and a multidisciplinary team approach to care.<sup>10</sup> Residency-trained ATs have also been shown to improve team-based outcomes that have been shown to increase success and throughput in a sports medicine clinic.<sup>3</sup>

As part of postprofessional education, participants anticipated advancing their practice skills. Like surgical residents<sup>9</sup> and physical therapy residents,<sup>21–23</sup> athletic training residents seek the development of skills within a specific discipline to develop a specialization. Currently, most participants seek to develop skills related to orthopedic evaluation and assessment. The development of these skills within the physician practice setting is also consistent with literature<sup>1–3</sup> regarding the effectiveness of athletic training residents within the setting. Moreover, the skills cited by the participants were consistent with those detailed in the *2020 BOC Orthopedic Practice Analysis*<sup>24</sup> for an orthopedic specialty. This redundancy in motivator, standard of program delivery through accreditation, and specialty certification demonstrate alignment and further reinforce that residency serves as the industry standard in the pathway of developing ATs for specialty certification.

Previous research<sup>25</sup> on specialization in athletic training highlights the importance of continued education and pursuit of knowledge within a specialty area, similar to the desires of participants to be more engaged in clinical scholarship. Residencies serve as an opportunity for clinicians to not only

gain the knowledge of how to become a specialist but also give clinicians the responsibility for maintaining their specialization and continuing professional development upon completing the training.

### Future Recruitment Considerations

Participants described a lack of consistent and accurate central messaging through which to define residency. The 2012 “Future Directions in Athletic Training Initiative”<sup>15</sup> describes the use of standardized language to describe the nature of residency. There appears to be a disconnect among what residencies are, the role they play in the postprofessional pathways, and the scope of athletic training positions. Currently, programs that are CAATE-accredited or are pursuing accreditation are the only programs required to use standardized language to define residency and fellowship. The Strategic Alliance should continue to encourage adoption of these standard definitions and actively work to help those who are misusing the term residency to refine their offerings and pursue accreditation. Consumers need clarity and consistency from the professional organizations to define the scope and purpose of the residency pathway within athletic training.

Participants also described having mixed information on the target applicant for residency programs. Some thought residency training was a means of improving transition to practice; however, literature<sup>1</sup> describes residency as a way to develop specialization within a specific focus. Mentors are likely to be in the strongest position to guide early career ATs into postprofessional pathways. Messaging that emphasizes the distinction between residency training and transition to practice would be helpful to improve mentorship aimed at guiding early career AT next steps after professional training. Since the participants in this study described the importance of direct residency contacts in their motivation and pursuit of residencies, experts across the spectrum of postprofessional education should be encouraged to educate both professional-level students as well as credentialed ATs about the postprofessional opportunities available to them. Currently, the field of physical therapy offers dedicated resources that outline and explain the goals of residency training using common language to explain the pathway.<sup>22,23</sup> This common language unifies the profession by delineating postprofessional pathways as well as preventing the creation of positions that claim to be residency training but that lack the standards necessary to uphold the standards of the pathway through accreditation. Greater use of standardized language as well as pathway role delineation can reinforce the purpose of residency within the scope of athletic training.

Participants also described a limitation that the clinical setting of a residency may be a limiting factor. This perception may be a result of the limited research in residency effectiveness, in that the only setting where evidence exists is physician practice.<sup>1</sup> Continued proliferation of residency programs beyond the physician practice setting are needed, and those programs should be actively focused on publishing and publicizing their effectiveness at training clinical specialists in their focused areas of practice. The “Future Directions of Athletic Training” Initiative<sup>15</sup> calls for the development of more residencies across the different specialty areas.

## Limitations and Future Research

We originally aimed to recruit participants who interviewed and secured a position in a CAATE-accredited residency program. Because of the COVID-19 pandemic, some residency programs were unable to fill residency positions and we were forced to adjust the recruitment strategy to those who interviewed. Although we used comprehensive recruitment strategies that accessed all potential programs, not all programs are represented within the sample. The nature of qualitative research is exploratory; future research should seek to generalize these findings among current and former residency-trained ATs. In addition, continued research should seek to understand interest among ATs currently enrolled in professional programs for residency training, including understanding of residency training and specialization.

## CONCLUSIONS

ATs who pursued residency programs described personal and professional influencers in pursuing residency training. Participants also identified supportive resources that helped them better understand residency training and provided suggestions for how the athletic training professional and residency programs can improve recruitment strategies. Participants expressed several concerns regarding central messaging regarding the role, purpose, and goals of residency training. This lack of consistency can be a limiting factor for the growth of residencies because ATs may lack the knowledge of this pathway as well as understanding related to the outcomes of this pathway. Central messaging from professional organizations must clearly align and reinforce the role of residency in developing specialization.

## Acknowledgments

We would like to thank Nicholas “Nick” Pfeifer, Jefferson Jackson “JJ” Wetherington, and Bonnie Van Lunen for their contributions in reviewing our interview script. Their knowledge and experience with residency education were valuable to the project.

## REFERENCES

1. Pecha FQ, Bahnmaier LA, Hasty ML, Greene JJ. Physician satisfaction with residency-trained athletic trainers as physician extenders. *Int J Athl Ther Train*. 2014;19(2):1–3.
2. Pecha FQ, Bahnmaier LA, Wetherington JJ, Homaechevarria AA, Schott J. Development of a rural family practice rotation in an athletic training residency program. *Athl Train Educ J*. 2017;12(3):188–194.
3. Pecha FQ, Xerogeanes JW, Karas SG, Himes ME, Mines BA. Comparison of the effect of medical assistants versus certified athletic trainers on patient volumes and revenue generation in a sports medicine practice. *Sports Health*. 2013;5(4):337–339.
4. Commission on Accreditation of Athletic Training Education (CAATE). *Standards for the Accreditation of Post-Professional Athletic Training Residency Programs*. CAATE; 2017:1–16.
5. Mulder ER, Welch Bacon CE, Edler JR, et al. Motivators, anticipated challenges, and supportive factors for athletic trainers pursuing the Doctor of Athletic Training degree. *Athl Train Educ J*. 2018;13(2):148–157.
6. Symer MM, Abelson JS, Yeo HL, Sosa JA, Rosenthal MZ. The surgical personality: does surgery resident motivation predict attrition? *J Am Coll Surg*. 2018;226(5):777–783.
7. Wouters A, Croiset G, Galindo-Garre F, Kusurkar RA. Motivation of medical students: selection by motivation or motivation by selection. *BMC Med Educ*. 2016;16(1):37.
8. Hoffman RL, Hudak-Rosander C, Datta J, Morris JB, Kelz RR. Goal orientation in surgical residents: a study of the motivation behind learning. *J Surg Res*. 2014;190(2):451–456.
9. O’Herrin JK, Lewis BJ, Rikkers LF, Chen H. Why do students choose careers in surgery? *J Surg Res*. 2004;119(2):124–129.
10. Wierzbinski-Cross H, Ward K, Baumann P. Nurses’ perceptions of nurse residency: identifying barriers to implementation. *J Nurses Prof Dev*. 2015;31(1):15–20.
11. Yehia BR, Cronholm PF, Wilson N, et al. Mentorship and pursuit of academic medicine careers: a mixed methods study of residents from diverse backgrounds. *BMC Med Educ*. 2014;14(1):26.
12. Kusurkar RA, Croiset G. Autonomy support for autonomous motivation in medical education. *Med Educ Online*. 2015;20(1):27951.
13. Hager MS, Chatzisarantis NLD. The trans-contextual model of autonomous motivation in education: conceptual and empirical issues and meta-analysis. *Rev Educ Res*. 2016;86(2):360–407.
14. Shweiki E, Martin ND, Beekley AC, et al. Applying expectancy theory to residency training: proposing opportunities to understand resident motivation and enhance residency training. *Adv Med Educ Pract*. 2015;6:339–346.
15. National Athletic Trainers’ Association. Future directions in athletic training. National Athletic Trainers’ Association Web site. <http://www.nata.org/sites/default/files/ECE-Recommendations-June-2012.pdf>
16. O’Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research. *Acad Med*. 2014;89(9):1245–1251.
17. Hill CE, Thompson BJ, Williams EN. A guide to conducting consensual qualitative research. *Couns Psychol*. 1997;25(4):517–572.
18. Hill C, Thompson B, Hess S, Knox S, Williams E, Ladany N. Consensual qualitative research: an update. *J Couns Psychol*. 2005;52(2):196–205.
19. Thorne S. Data analysis in qualitative research. *Evidence-Based Nurs*. 2000;3:68–70.
20. Pope C, Ziebland S, Mays N. Analysing qualitative data. *BMJ*. 2000;320(7227):114–116.
21. Jensen G. Expert practice in physical therapy. *Phys Ther*. 2000;80(1):145–173.
22. Furze JA, Tichenor CJ, Fisher BE, Jensen GM, Rapport MJ. Physical therapy residency and fellowship education: reflections on the past, present, and future. *Phys Ther*. 2016;96(7):949–960.
23. Flowers D. Residency: Yes or No? When it comes to deciding whether a residency is right for you, there are several issues to consider. Here’s what PTs who have completed a residency say. *Phys Ther*. 2015;16–19.
24. 2020 BOC Orthopedic Specialty Practice Analysis (Board Certified in Orthopedics). Board of Certification. [https://at.bocac.org/practice\\_analysis\\_types](https://at.bocac.org/practice_analysis_types)
25. Wetherington J. Specialization in athletic training: a natural evolution. *Clin Pract Athl Train*. 2018;1(1):33–36.