ATHLETIC TRAINING EDUCATION JOURNAL

www.natajournals.org
ISSN: 1947-380X
DOI: 10.4085/1004275

ORIGINAL RESEARCH

Supervising Athletic Trainers' Perceptions of Graduate Assistant Athletic Trainers' Professional Preparation

Ashley B. Thrasher, EdD, ATC, CSCS*; Stacy E. Walker, PhD, ATC†; Dorice A. Hankemeier, PhD, ATC†; William A. Pitney, EdD, ATC, FNATA‡
*Health, Physical Education, and Sport Sciences, Arkansas State University, Jonesboro; †School of Kinesiology, Ball State University, Muncie, IN; ‡Department of Kinesiology and Physical Education, Northern Illinois University, DeKalb

Context: Recent debate has ensued regarding the readiness of newly credentialed athletic trainers (ATs) to function as independent clinicians. Some ATs believe the professional preparation of athletic training students is not adequate.

Objective: To describe supervisors' perceptions regarding the preparation of college graduate assistants (GAs) to practice as independent practitioners.

Design: Consensual qualitative research.

Setting: Individual phone interviews.

Patients or Other Participants: Twenty-one collegiate ATs who had supervised GAs in the collegiate setting for a minimum of 8 years (16 men, 5 women; years of supervision experience, 14.6 $\pm$ 6.6 years). Participants who met the inclusion criteria were recruited via e-mail from the Board of Certification database and through snowball sampling. Interviews were conducted until data saturation occurred.

Main Outcome Measure(s): Data were collected via phone interviews, which were recorded and transcribed verbatim. Data were analyzed by a 4-person consensus team, who independently coded the data and compared ideas until consensus was reached and a codebook was created. Trustworthiness was established through member checks and multi-analyst triangulation.

Results: Three themes emerged: (1) previous preparation, (2) shortcomings in GAs, and (3) suggestions for athletic training program improvement. Supervisors felt GAs were prepared academically, but there were some gaps in preparation, such as their ability to independently practice and their rehabilitation skills. Shortcomings were professional communication, role execution, and personality. Supervisors felt preparation could be improved by increasing time in clinical education, developing communication skills, and having increased experience with psychosocial intervention, rehabilitation, and nonorthopedic conditions.

Conclusions: Didactic preparation of GAs is the best it has ever been, yet new ATs still need more experience while being mentored by experienced ATs. Professional programs could implement standardized patient experiences to provide opportunities for new ATs to practice in communication or in other areas of weakness.

Key Words: Professional education, supervisor opinions, weaknesses, qualitative research

Dr Thrasher is currently an Assistant Professor of the Health, Physical Education, and Sport Sciences at Arkansas State University in Jonesboro. Please address all correspondence to Ashley B. Thrasher, EdD, ATC, CSCS, Health, Physical Education, and Sport Sciences, Arkansas State University, 2105 East Aggie Road, Jonesboro, AR 72401. ashleybthrasher@gmail.com.

Full Citation:
Thrasher AB, Walker SE, Hankemeier DA, Pitney WA. Supervising athletic trainers' perceptions of graduate assistant athletic trainers' professional preparation. *Athl Train Educ J*. 2015;10(4):275–286.

Supervising Athletic Trainers' Perceptions of Graduate Assistant Athletic Trainers' Professional Preparation

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INTRODUCTION

The graduate assistantship is a common rite of passage for new athletic trainers (ATs) following graduation, especially for those who enter the collegiate setting.[1] More than 70% of ATs have an advanced degree,[2] and many served as graduate assistant (GAs) ATs while obtaining their degrees. Many newly credentialed ATs pursue graduate assistantships to gain further experience under the guidance and mentorship of a seasoned AT.[3] While new GAs have met all credentialing requirements and are competent, having complete autonomy and ultimate decision-making power is a new experience for GAs. Recent debate and anecdotal evidence have suggested that newly credentialed ATs are not as prepared for professional practice as ATs were in previous years.[4–9] Despite this perceived lack of preparation, many GAs are expected to be autonomous practitioners.[10,11] While some ATs feel the internship route produced better-prepared ATs, the accredited curriculum led to significantly higher success rates on the Board of Certification exam.[7,12]

To assess the effectiveness of educational reform on athletic training education, Weidner[13] recommended that research be conducted on employers' perceptions of the preparedness and readiness of new ATs to function as independent clinicians. Unfortunately, since this recommendation, there have been few studies examining perceptions of the preparation of new ATs. Prior research surveyed supervisor's perspectives of all entry-level ATs and found that preparation was adequate and there were no apparent deficiencies.[7] Although there were no specific technical deficiencies, employers believed the area of interpersonal skills needed improvement. More recently, Carr and Volberding[6] explored the perspectives of recent graduates and employers to determine whether deficiencies existed and found that employers perceived 5 deficient areas in new graduates: (1) interpersonal communication, (2) decision making and independence, (3) initiative, (4) confidence, and (5) humility/ability to learn from mistakes.

Despite these studies examining new ATs, there are no studies specifically examining the preparation of GAs. As one of the largest employers of new graduates, collegiate ATs have been very vocal about inadequate preparation of new AT graduates.[6] In a previous study, we explored how supervisors socialize GAs in the collegiate setting. The data presented in this study are a part of a larger study examining the supervisor's perceptions of professional socialization of GAs in the collegiate setting.[11] Supervisors provided rich data about their perceptions and observations of GA preparedness. The purpose of this article is to describe supervisors' perceptions regarding the preparation of GAs to practice as independent practitioners in the collegiate setting.

METHODS

A qualitative research design was used to explore the meaning and context of the preparation of GAs. A consensual qualitative research approach was used to analyze the data. The consensual qualitative research design uses a research team (the 4 authors) to provide a clearer understanding of the data.[14]

Participants

Twenty-one ATs participated in this study, including 16 men and 5 women from 21 universities (supervision experience: range, 8–33 years; average, 14.6 ± 6.6 years). An estimated 800+ GAs in all were supervised by participants. Individual participant demographics are presented in Table 1. Each participant was assigned a pseudonym. Demographic information and results are presented under the pseudonyms. Participants were recruited via an e-mail sent from the Board of Certification database to all 3138 ATs working in the collegiate setting who had been certified for 10 years. We selected participants who had been certified for 10 years because in that 10-year period they would likely have had a minimum of 8 years supervising GAs. We elected to only include ATs who supervised GAs in the collegiate setting because we wanted to limit the study to collegiate GAs. Participants were also asked to provide the names of other ATs who fit the inclusion criteria and might be interested in participating in the study. Nineteen participants were recruited via the original recruitment e-mail and two participants were recruited via snowball sampling.

Institutional Review Board approval was obtained prior to initiating this study. Interviews were conducted using a semistructured format with a questionnaire guiding the interviews. Prior to beginning the study, all participants' questions were addressed, and participants provided informed consent.

Data Collection and Analysis

Supervising ATs (supervisors) who fit the inclusion criteria and wanted to participate in the study contacted the primary investigator (A.B.T.) via phone or e-mail. The primary investigator then contacted the participants to confirm inclusion criteria, obtain consent and permission to audio record, and set up an interview time. Semistructured interviews of approximately 60 minutes in length were used to collect data. Prior to data collection, the interview guide (Table 2) was peer reviewed by 2 experts in qualitative and athletic training research. To ensure clarity, the interview questions were pilot tested with 2 supervisors who fit the inclusion criteria. The data from the pilot study were not included in the final analysis. No changes were made following the pilot study. All interviews were conducted by the primary investigator (A.B.T.) until data saturation occurred.[15] Data were analyzed via a consensual qualitative research approach[14] in which the 4 authors formed a consensus team. The research team consisted of researchers who have more than 35 years of collective experience with qualitative

Table 1. Participant Demographics

Participants (Pseudonym)	Setting (NCAA Division)	Job Title	Years at Setting	Years Supervising GAs	GAs Supervised
Bob	DI	Head AT	26	18	>30
Steve	DI	Head AT	11	8	>10
Wayne	DI	Head AT	38	33	>120
Gary	DIII	Head AT	17	16	>15
Maggie	DI	Head AT	10	10	>90
Stan	DII	Head AT	12	11	6
Greg	DI	Head AT	23	23	>103
Ted	DIII	Clinical coordinator and supervisor	11	15	15
Kitty	DI	Associate AT	25	24	>100
Larry	DI	Head AT	11	11	6
Michael	DII	Head AT	16	14	10
Paul	DII	Head AT	23	18	30
Adelaide	DI	Head AT	11	12	>30
Mort	DIII	Head AT	24	22	12
Franklin	DI	Assistant AT	10	8	10
Ann	DII	Assistant AT	13	11	15
Tobias	DI	Director of AT services	22	18	>80
Stefan	DI	Clinical supervisor	8	8	45
Lionel	DII	Head AT	21	10	>20
Lindsay	DI	Associate AT	10	10	30
Gob	DI	Head AT	20	8	>15

Abbreviations: AT, athletic trainer; GA, graduate assistant; NCAA DI-III, National Collegiate Athletic Association Divisions I–III.

methods. The authors independently coded 3 randomly selected transcripts using open, axial, and selective coding techniques to develop themes. During the coding process, data were broken down into codes and organized into themes. The research team then discussed the codes until a consensus was reached, and a codebook was created. The codebook included the theme and subthemes. Using the codebook, the authors coded a fourth transcript to ensure the codebook was complete. The primary investigator coded the remaining transcripts. Three randomly selected transcripts were then sent to each member of the research team for cross-analysis to ensure correct coding. Another randomly selected transcript was sent to an independent auditor, with experience in qualitative research, to ensure reliability through independent analysis of the codebook and transcript.

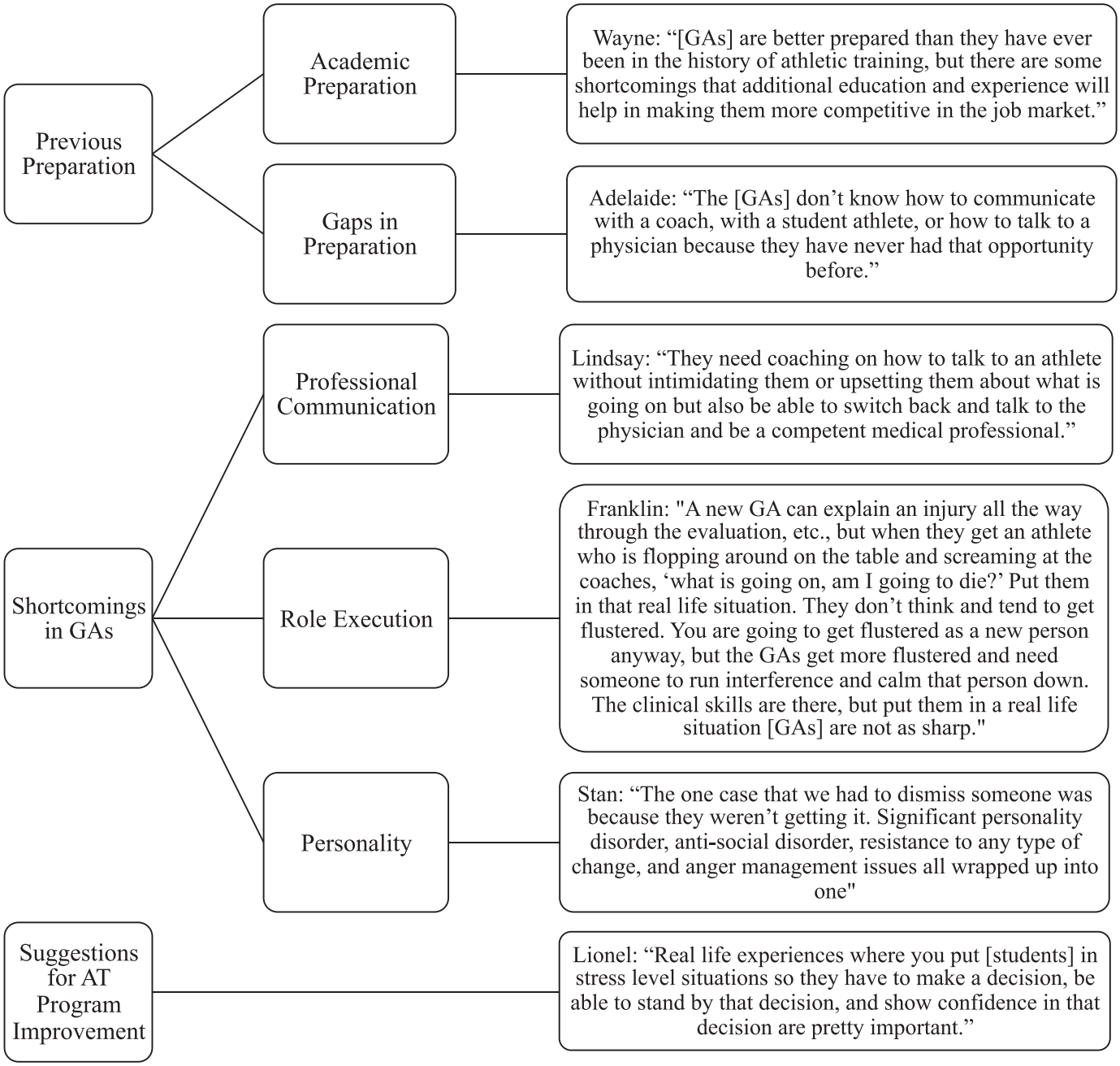
Trustworthiness was established though narrative accuracy member checks[16] and the consensual qualitative research

Table 2. Interview Guide

1. Would you please describe for me your current role in relation to the GAs athletic trainers at your institution?
2. How many athletic training GAs do you currently employ at your institution?
3. How do you feel GAs prepare themselves for their roles at your institution?
4. Can you explain the mentoring process for new GAs at your institution?
5. How are the GAs oriented to their roles at your institution?
   a. Is this orientation different from the orientation you received when beginning this job? How so?
6. How long does it typically take for GAs to be successfully oriented to their position?
   a. What do you feel contributes to the length of this process?
7. Discuss the expectations you have for GAs in regard to clinical skills? (Or, discuss clinical obligations of GAs.)
8. Discuss the expectations you have for GAs in regard to interpersonal skills.
9. What do you feel contributes to the GAs ability to fulfill obligations or keeps them from fulfilling obligations? (Discussed above)
10. Do your expectations (or obligations) (discussed above) change during their second year?
11. How does socialization change during their second year? (eg, Do GAs assist in helping to mentor or socialize the first-year GAs? Do second-year GAs obtain any additional roles?)
12. What shortcomings do you feel the GAs have? (such as clinical skills, interpersonal skills)
13. What processes are in place to help GAs improve their shortcomings?
14. What challenges do GAs face during their first year as a GA?
15. Are there skills (clinical or interpersonal) that you wish were better?
16. Is there something that you feel should be implemented into the educational preparation of students to better prepare them to transition to being a GA?
17. What advice would you give to an individual about to enter the collegiate setting as a GA?

Abbreviation: GA, graduate assistant.

Figure. Emergent themes and subthemes with supporting quotes. Abbreviations: AT, athletic training; GA, graduate assistant.



approach.[14] Through narrative accuracy member checks, participants were given the opportunity to review their transcript and make any necessary changes. The participants were sent a copy of their transcript via e-mail, and participants responded to confirm the content or make necessary changes. No participants made extensive changes (ie, beyond typographic errors) to their transcripts. Member checking was done after all the interviews had been transcribed, which was approximately 3 months following the interviews. The use of a research team and independent auditor reduces bias that is inherent with a single researcher.

RESULTS

Three themes emerged from the findings that described the participants' perceptions of the preparation of GAs in the collegiate setting: (1) previous preparation, (2) shortcomings in graduate assistants, and (3) suggestions for athletic training program (ATP) improvement. These themes were further broken down into subthemes (Figure).

Previous Preparation

The first theme that emerged was previous preparation, which was subcategorized into (1) academic preparation and (2) gaps in preparation.

Academic Preparation. Academic preparation includes the didactic and clinical knowledge obtained during professional education. The participants consistently reported that the academic preparation of the GAs is strong and that many GAs are more prepared than they have ever been before. However, the supervisors reported that the GAs need more clinical experience and that their preparation may also be

dependent on the professional program from which they graduated. Mort stated, "The GAs have good preparation and are technically very sound. They just need more experience." Although the participants reported current GAs are better prepared academically, some participants reported that past GAs were more ready to handle clinical duties. Steve commented,

> *GAs come out knowing more about the ins and outs of athletic training; however, the ability to interact and disseminate information properly has changed. The experiential learning occurs in their first year of graduate school, whereas 7 or 8 years ago [it occurred in professional preparation]. A first-year GA student right now, 2012, is [comparable to] a junior or senior 2003.*

While some participants think the clinical preparation is not as strong as it was in the past, Wayne feels that since the academic preparation is so strong, it outweighs some of the weaknesses in clinical preparation. He states,

> *Without a doubt the academic preparation of our students today is far superior to the internship route. The internship route developed "how-to" clinicians. The strength of graduates from curriculum programs is they know why. The "how to" suffers a little bit, but if I had to choose, I would rather have them know why than how.*

Some participants indicated that a number of GAs were better prepared than others because they took ownership of their academic preparation and continued their education by obtaining internships or attending conferences.

Gaps in Preparation. Although the participants reported that GAs were prepared academically, many reported gaps in the preparation in areas such as independent experience, traveling with a team, rehabilitation, and organization and administration. Many participants reported that many GAs are not completely prepared to provide patient care independently and that some GAs came from programs where they were never allowed to talk to a coach or to touch an athlete. Participants felt that the lack of autonomous experience in professional programs minimized their success. Franklin suggests that the GAs do not get the clinical practice experience they used to get. He stated,

> *These kids are coming out of their undergraduate experience not having any real-life AT experience. They have no idea how to pack for a road game, what it's like to deal with coaches, or what it's like to make these decisions on their own because they have their preceptors holding their hands all the time.*

Many participants believe GAs are not ready for their roles because they lack experience, especially in implementing and progressing athletes through rehabilitation or with administration skills. Franklin commented, "These GAs coming out don't know how to talk to insurance companies. I haven't heard one [professional] student talk to an insurance company with a $2000 claim on the line." Other participants expressed that new GAs are not prepared for the amount of hours required to be a GA, and they do not have a true understanding of the job requirements. Maggie commented,

> *Time management is a problem because they are coming from CAATE [Commission on Accreditation of Athletic Training Education] programs only allowing 20 hours a week, so they are not quite prepared to 'work' the hours needed of GAs.*

Tobias disagreed, stating,

> *Those people criticizing the undergrads for not being prepared are the ones abusing GAs and using them as full-time staff. You can't go to school full time and work full time as a health care provider and make everything work.*

A number of supervisors believe some institutions have ATPs to access cheaper labor pools, instead of focusing on educational preparation.

Shortcomings in Graduate Assistants

The second theme that emerged was shortcomings in GAs. The participants consistently revealed many personal characteristics and performances that they saw as shortcomings in GAs. This theme is described in the following subthemes: (1) professional communication, (2) role execution, and (3) personality.

Professional Communication. Professional communication emerged as a shortcoming for GAs and includes the ability to speak with athletes, coaches, physicians, supervisors, and peers at the appropriate level and with adequate respect. Many participants have been supervising GAs for many years, and they all agree that interpersonal communication has degenerated. Participants noted that new GAs are less mature in dealing with interpersonal relationships, communication, and conflict management. Adelaide reflected,

> *Students need to understand that [texting] is a quick way of communicating, but it is not the most professional way. If you want to get a job you need to emulate a level of professionalism so that people have confidence in you that you can get the job done.*

Participants also reported GAs have trouble communicating professionally with coaches, physicians, and athletes at the appropriate level. Although participants reported that professional communication has declined since the internship route to certification was eliminated, some participants think it might be attributed to generational differences, not a difference in preparation (ie, internship route versus curricular route).

Role Execution. Another area of shortcomings that emerged from the data was role execution, which is the GA's ability to complete the patient care aspects of their role. While the participants reported that GAs were prepared academically, they noted that many had trouble performing their clinical duties. Michael stated, "The diagnostic testing—they are like politicians—they sure can talk about it but when it boils down to doing it, it is a different story." Graduate assistants lack time-management skills but often this improves with experience. Graduate assistants are also not very efficient with evaluations; they are either too thorough and inefficient, or too fast and miss things. Stefan commented, "It takes them about a year to decide not to run off every shoulder test they have when the athlete has hurt their shoulder. The ability to determine which tests are appropriate is lacking." Lindsey reported that they could conduct evaluations, but the decision-making process was lacking. She stated,

> *A lot of them are not really comfortable doing evaluations and making decisions because they are still in student mode. They have never had to put their foot down. Making decisions is where they need help.*

Personality. The final shortcoming subtheme that emerged from the data was personality. Many participants reported that some of the GAs' biggest problems have been because of personal characteristics. Gary stated, "Their problems are rarely skills. It is their personality and character." Most participants reported that GAs come across as entitled, cocky, or as know-it-alls. Participants found that GAs who are unwilling to adapt to policies and procedures are not going to be successful in their roles. Maggie commented, "I have kids that aren't adapting well. They want to be a dominating figure [with coaches] when they can't be; that is not their role. They are not willing to conform to our policies." Some GAs are unable to accept constructive criticism to help improve their skills. Other personal shortcomings noted as hindering a GA's success were not being open minded, inattention to detail, and being afraid to fail. Tobias commented about some GAs, "They are afraid to be wrong, and they are not as open-minded as a health care provider should be. They are set in their ways even at a young age." Participants reported the main reason they ever dismissed a GA was a personality issue, and not related to role execution.

Suggestions for ATP Improvement

Although many participants agreed that professional preparation of athletic training students is better than it has ever been, the majority of participants believe there are areas in which ATPs can be improved. Several participants mentioned the need for athletic training students to have the opportunity to travel, even if it was only one road trip. Franklin sees the benefit of having athletic training students travel. In regards to the restrictions in place to prevent student traveling, Franklin stated,

> *They say they are in place for the benefit [of] the student athletes. I understand that. There is a certified athletic trainer on site, so if something happens that is over [the student's] head, they can always rely on that person. If you could somehow coordinate with the visiting AT and, obviously, get their permission [to let a student] travel. I don't see a problem with that. It [can be] a good experience [to be placed in a] situation you haven't been in before.*

While some participants considered independent travel to be beneficial for students, Tobias observed that GAs had fewer bad habits when under direct supervision as students than when they were providing independent patient care prior to certification. He stated,

> *When they were alone a lot and traveling by themselves, they were doing things that weren't right and no one knew it. We start to mentor them and really actually supervise them, and we would see these practice patterns. No one told them [that they were doing things incorrectly].*

Many participants also believe students are not getting enough clinical experience and that ATPs should require students to "work" or engage in clinical education more than 20 hours a week. Some participants felt that the 20-hour allotted time period often prevented students from gaining as much experience as they should have. Bob stated,

> *They have to work [engage in clinical education] more than 20 hours [per week]. I'm not saying just to put in hours just for hours sake. But there has to be equal emphasis on the clinical education as well as the didactic.*

Another area in which participants believe students need more preparation is professional communication. Participants suggested using role-play as a way to improve students' communication skills. Lionel described a role-play scenario in which a student has to communicate with a coach that an athlete has a concussion and cannot play. While role-play is a good way to practice communication, Ann believes compelling students to communicate with the team physician by presenting cases is also a good way to improve communication skills. At her institution, they have implemented a clinic where students present cases to the physician as part of a course.

Participants suggested that ATPs provide more training in psychology, nutrition, general illnesses, and rehabilitation. Many participants believe that students lack preparation in these areas; therefore further training and experience during professional preparation would better prepare students to be GAs. Kitty stated,

> *They have no training in dealing with psychological issues, emotions, feelings, and the reactions of athletes. [They should have] more training in eating disorders, depression, chemical dependency, cutting, and transgender issues.*

DISCUSSION

The aim of this paper was to describe supervisors' perceptions regarding the preparation of GAs to practice as independent practitioners in the collegiate setting. This study provides a deeper understanding of supervisors' perceptions of the level of preparation of new ATs. Our findings show that GA supervisors believe the professional preparation of ATs is far better than in the past; however, supervisors also noted shortcomings and gaps in preparation that still remain.

Previous Preparation

Academic Preparation. We found participants consistently reported the academic preparation of GAs is better than it has ever been in the history of the profession. Athletic training education has evolved greatly since its inception, progressing from the internship model to the curricular model.[17] Since the educational reform that eliminated the internship route in 2004, there have been anecdotal reports of newly credentialed ATs not being as prepared as they once were. Through eliminating the internship route, professional programs gained standardized competencies to ensure that all ATs have mastered certain proficiencies prior to certification.[17] With the internship model, students were often left unsupervised and may not have had the opportunity to gain the depth of knowledge needed to be ATs. Through curricular programs, the CAATE aimed to improve both the technical knowledge and the practical skills to produce highly qualified health care professionals.[7] Our participants conveyed that previously, through the internship model, students learned how to perform certain technical skills but did not always comprehend why they were performing them. They noted that students now graduating from ATPs may not have gained extensive independent practice performing technical skills, but

they have a greater understanding of the skills and the profession. Recent debate regarding the appropriate level of professional education (ie, baccalaureate versus post baccalaureate) has ensued, and many ATs believe educational preparation would be most effective at the postgraduate level.[18,19] Further research should examine the preparation of newly credentialed ATs graduating from both bachelor's and graduate professional programs.

While supervisors noted that the professional preparation of GAs was stronger than it has ever been, some acknowledged that this was dependent on the program. Despite having standardized requirements for education, some programs have had difficulties ensuring students are obtaining adequate clinical experience and skills required for clinical practice.[7] Massie et al[7] surveyed employers of entry-level ATs and found that 90% of respondents considered the employees were prepared to fulfill their responsibilities both academically and clinically. While there were some areas in which the new employees were unprepared, the majority of employers believed that some aspects of employment can only be learned in the workplace. Our findings reveal that supervisors think GAs are overall well prepared academically, but that they would benefit from more clinical experience. In addition, supervisors believe that there are some aspects of the GA role that can only be learned through experience.

Gaps in Preparation. While academic preparation is good, participants reported shortcomings in areas such as autonomous practice, traveling with a team, rehabilitation, and organization and administration. Participants reported that new GAs are unable to practice completely autonomously; however, many of our participants understood that these GAs were new clinicians and that being independent was a new experience for them; therefore they needed more practice as they transitioned from student to AT. Similar to Carr and Volberding's[6] study of AT employers and new employees, many saw that the new ATs had the skills but struggled with decision making and clinical procedures, which is common during transition to practice. Many supervisors understand that GAs need support and development throughout the assistantship.[11] One way to provide support is through mentored independence, in which there is a balance between independence and the need for assistance.[20] As new clinicians gain more experience, they gain more independence.

An area of weakness reported by our participants was the GAs' lack of experience in developing and progressing rehabilitation plans. This was not a deficiency found in prior studies examining the preparation of new ATs,[6–7,21,22] but many ATs and employers report the importance of rehabilitation.[23] Our participants reported students are moved between clinical experiences too quickly, which often prevents them from gaining experience in the entire rehabilitation process. Additionally, participants noted that students do not gain experience with postoperative rehabilitation. To gain more experience in this area, preceptors could include students in creating, implementing, and progressing athletes through the entire rehabilitation process, including postoperative rehabilitation, regardless of their clinical education assignment.

Our participants also felt GAs had weak organizational and administrative skills. Employers in the study by Massie et al[7] rated new employees' competence with organization and administration as lower than any other content area. New AT employees also rated administrative skills as area with which they felt uncomfortable.[6] New ATs in the clinic setting reported feeling least prepared in the areas of communication and insurance, primarily documentation for evaluations, treatments, and third-party reimbursement.[21] ATs in the clinic setting recommended more education in areas such as documentation and communication with third-party payers and the billing industry. These areas of weakness are not new in athletic training. A study in 1992 reported 4 areas that needed to be improved upon: rehabilitation, organization and administration, counseling of athletes, and education of athletes, parents, and coaches.[24] Over 20 years later, supervisors are still citing these as areas of weakness. Because of this continued deficiency in new ATs, supervisors may want to reevaluate expectations of newly credentialed ATs. Some supervisors demonstrate unrealistic expectations of the skill level of new ATs.[11] In addition, ATPs should continue developing innovative ways to educate students in these areas. For example, utilizing business meetings complete with round-table discussions and meeting briefs to teach organization and administration topics[25] or using standardized patients (SPs) to create realistic learning experiences for uncommon injuries, conditions, or situations.[26] Standardized patients can be used to gain experience in psychosocial intervention and referral[27] or in simulating phone calls to insurance companies. There are many strategies that are used to promote critical thinking in athletic training education such as questioning tactics to promote interpretation, analysis, and conclusions; encouraging students to find answers independently; classroom discussions and debates; and assignments in which students develop their own decisions based on evidence.[28] Other pedagogic strategies that can enhance athletic training education to further prepare GAs are brain-based learning principles,[29] case-based analogic reasoning,[30,31] and problem-based learning,[32,33] which stimulate critical thinking skills by engaging students in clinical decision making by providing ill-structured cases in which students must perform evaluations and reach a diagnosis. Immediate feedback and debriefing sessions allow students to solve problems and create neural pathways for future evaluations.[29–33] Regardless of the educational methods used, programs and supervisors could explore ways to provide further education for students and newly credentialed ATs, respectively.

Although our participants understood that GAs were new practitioners, a few thought that the GAs would be more prepared if they had more independent experience during their professional programs. Anecdotal claims[34,35] and a few participants blame the educational model and supervision guidelines for the new AT's lack of independent practice immediately after graduation. Some participants observed that independent, autonomous practice during professional preparation allowed for higher confidence levels and enhanced decision-making skills and believe students should have time to practice without supervision prior to certification; however, unsupervised practice by students may violate state practice acts, is unethical[36] and unprofessional, and it is unknown how patient care could be affected. Patient care decisions should be made by appropriately credentialed health care professionals (eg, AT, physician)[37]; allowing students to be unsupervised violates best practice principles. This practice also implies that students can replace certified, licensed ATs and sends the

wrong message for the profession. Many participants believed students should gain travel experience prior to becoming GAs. To gain travel experience, students could potentially travel with their preceptor, but the preceptor would encourage the student to be autonomous. This could allow for some rich discussion between the preceptor and the student regarding what the student learned while traveling. In addition, some participants were apprehensive about having new GAs travel independently; therefore a seasoned AT could initially travel with the GA to help mentor and support them.

In addition to violating best practice, unsupervised practice means the students are not being mentored or guided.[34] While confidence may be higher, unsupervised clinical practice could lead to making incorrect decisions and may not provide adequate time for reflection with preceptors.[38] Students can still make decisions while being supervised, but supervision allows them to be mentored and to receive feedback from preceptors. Independent decision making need not happen in isolation. Throughout clinical education, there are ways to allow for independent decision making and reflection based on the level of the learner. One proposed model is the situational supervision model, which recognizes different levels of development as students evolve from eager novices to autonomous learners.[39] Preceptors can use this model to diagnose the learner and adjust their level of supervision and feedback as the student advances. Similar to the situational supervision model, the supervision, questioning, and feedback model[40] provides guidelines for asking questions, providing feedback, and stimulating critical thinking for students based on their developmental level.[40–41] Questioning should be strategically planned to reinforce a student's knowledge and promote comprehension and application, and questions should progress from recall questions to confirm knowledge, comprehension, and application, and finally to develop critical thinking skills. Feedback is vital to correct skills or guide students to refine skills. Another model for clinical education is Scriber and Trowbridge's[38] model of modified direct supervision, which allows for autonomy while being supervised. Students are able to make independent clinical decisions through conducting evaluations while the preceptor is mentally invested in the decision-making process. Regardless of clinical education model, feedback is an immensely valuable tool in clinical education and can improve clinical performance.[40,42] As the preceptor allows for students to perform skills and make decisions, the preceptor should supervise student performance and provide immediate and detailed feedback to help the student to improve.[42]

Shortcomings

Professional Communication. One of the biggest shortcomings reported was interpersonal communication. Employers expect ATs to communicate professionally with coaches, physicians, parents, and supervising ATs.[6,11,21] Although professional communication is vital, AT supervisors in this study and employers in other studies reported that interpersonal communication is lacking in new AT graduates.[6,7,11] Poor communication skills in new health care professionals are not limited to athletic training. Employers and new health care employees (physiotherapists, physical therapists, physicians, and nurses) have reported poor communication with novice clinicians.[21,43] One of the foundational behaviors of professional practice for athletic training students is to demonstrate effective interpersonal communication skills.[44] Despite the importance of communication as a foundational behavior, our findings reveal that many GAs never had the opportunity to communicate with coaches, physicians, or parents. In a recent study exploring the psychosocial intervention and referral preparation of newly credentialed ATs, most new ATs reported they felt underprepared for communication with physicians, coaches, and parents.[45]

Effective communication enhances patient satisfaction, compliance with instructions, and improves health outcomes.[43] Despite the importance of good communication skills, these skills are often not learned in the professional academic preparation for health professionals. In addition, increased technical competency (eg, taping an ankle, applying modality) has actually been shown to reduce relational skills. Communication skills are specifically taught in some medical schools, and in the programs who teach communication, their students have shown improvement in confidence, interpersonal skills, relationship building, organization, time management, patient assessment, and patient outcomes.[46–50] To improve communication of new clinicians, preceptors should aim to increase the amount of interactions and communication experiences that students have with coaches, physicians, and parents.[7] Communication skills can also be evaluated via direct observation and feedback, checklists, patient surveys, and review of videotaped experiences to provide feedback and discuss effective communication strategies.[51,52] Students can also participate in SP experiences to enhance their communication skills.[43,52]

In addition to inadequate experience communicating with coaches and physicians, many supervisors acknowledged the prevalence of emerging media, and they indicated that text messaging or e-mail may not be the most professional mode of communication. However, some supervisors noted that communication style is changing and text messaging is becoming a common way to communicate. Of anecdotal note, coaches and athletes communicate with ATs via text messages, therefore ATs need to know how to communicate professionally through emerging media, such as text messages and e-mails. Our findings show GAs tend to communicate frequently via text message or e-mail; however, their text messages and e-mails often use short-hand or casual, unprofessional language (eg, "u" instead of "you" or "L8" instead of "late"). Supervisors should understand that text messaging and e-mail can be a viable way to communicate but should also educate GAs and students about using appropriate language in text messages and e-mails.

Role Execution. Although our findings reveal that GAs are prepared for their roles, they occasionally have difficulty executing various aspects of their job. Some AT employers and new employees in Carr and Volberding's[6] study reported understanding information, but not always knowing how to proceed or apply knowledge. Our findings reveal that GAs often have trouble with time management, whether they are completing an evaluation and selecting appropriate tests or determining how to manage the amount of time they have with multiple responsibilities. New ATs[6] and new nurses[53] struggle with being organized and anticipating the amount of time a certain task will take. Learning how to prioritize patient care responsibilities takes practice.[53] Our participants

reported GAs are not learning time management during their professional preparation. A few participants felt current GAs struggle more with time management than prior GAs, attributing this struggle to the time limits placed on clinical education during professional programs.

Our findings also revealed GAs have trouble making decisions independently. Many supervisors reported that GAs have clinical skills but that making clinical decisions is a new experience. Carr and Volberding[6] reported similar findings in which decision making was a deficit reported by new ATs and employers. Despite the importance of making decisions in patient care, supervisors perceive that GAs are not getting enough experience making decisions in their professional preparation. In a study examining postprofessional athletic training students, Neibert[54] found that GAs considered the graduate level as the appropriate level to synthesize the evidence to make informed decisions because they have displayed mastery of the information. While students may not have mastered enough information to make independent decisions, preceptors should strive to involve students in the decision-making process for patient care. As students progress and gain more knowledge, they could be more involved in making decisions. Although they may not be able to make decisions independently, involving students in the decision-making process may increase confidence and better prepare them to make independent decisions when they are in their first professional position. Problem-based learning,[32] classroom discussion and debates to promote critical thinking,[28] and use of simulations[55] and SPs[56,57] are other ways to practice decision-making skills during professional preparation. Preceptors could also discuss their own decision-making process regarding their approach to patient care as well as their communication with coaches, parents, and administrators.

Personality. Our findings reveal that personal characteristics are the biggest shortcomings of GAs. Personal characteristics are vitally important in hiring.[58] Some of the most important hiring criteria are communication skills, enthusiasm, initiative, maturity, personal appearance, and confidence. Our findings also show the importance of these personal attributes and that many of these attributes are lacking in GAs. Supervisors of GAs in the collegiate setting cite personal characteristics and the ability to adapt to new roles as key in GA success.[11] Our findings reveal that the biggest problems the participants had with GAs were owing to personal characteristics, not preparation, and that GAs were only released from their positions because of personal characteristics (eg, unwillingness to adapt to their role).

One of the most vital personal characteristics that supervisors noted as lacking in the GAs was confidence. Confidence is important for many new clinicians regardless of setting. A study examining preceptors' expectations of new physical therapists found that confidence is very important for new physical therapists.[20] Regardless of a physical therapist's knowledge, if they did not display confidence, the patients would "pick up on" that and were less likely to listen to the physical therapist's recommendations than when a physical therapist displayed confidence. Similar to our findings, Carr and Volberding[6] found that confidence was a deficiency reported by new ATs. Although new ATs felt confidence might be lacking, those who employ new ATs believe confidence comes with practice. Our findings show that supervisors expect GAs to gain confidence as they gain experience. Neibert[54] found that students in postprofessional ATPs discovered that making mistakes in a controlled, low-pressure environment such as a graduate assistantship helped develop confidence. While our findings showed that supervisors acknowledged that GAs developed confidence throughout their assistantship, they believed confidence was vital to patient care and could be further developed in professional preparation. In a study examining pedagogic strategies for athletic training students, Mensch and Ennis[59] found student's confidence increased when instructors fostered autonomy and decision making and designed activities to allow students to build upon their knowledge.

Generational Differences. While there are many factors that contribute to the shortcomings of GAs, a few supervisors acknowledged that some shortcomings are generational differences more so than differences in the educational model. The majority of current GAs are "Millennials," individuals born after 1982.[60] There are many characteristics of Millennials that supervisors considered to be shortcomings, such as a need for immediate feedback, a high level of confidence (or cockiness), a feeling of entitlement, the inability to think critically or to manage time, discomfort while working independently, not being intimidated by senior individuals, and challenging authority.[61] These characteristics, or perceived shortcomings, are common across many fields and may cause workplace conflicts as multiple generations of workers merge.[62] Communication across generations and extensive organizational socialization may help bridge the generational gap.[61] Graduate assistants and supervisors should meet to discuss expectations regarding feedback and communication. Millennial students are likely to succeed if they receive clearly outlined expectations, regular feedback, and have open access to supervisors.[60] Many supervisors of GAs already aim to have open-door policies for GAs and will provide feedback whenever possible.[11] Supervisors identified many shortcomings in GAs that are characteristic of Millennials; however, despite these predispositions, GAs can work to modify these traits.

Suggestions for ATP Improvement

There are many areas in which participants believed ATPs can improve. The most pervasive recommendation was to allow students to travel independently with athletic teams. Although many participants felt that independent travel as students would further prepare GAs, it would increase liability and potentially decrease patient care at the professional preparation level. One participant was fearful of sending a new GA on the road with an athletic team because he was unsure of the level of patient care and professionalism that would be displayed. While this is a valid concern, the GA is a certified and licensed health care provider, while the student is not and has not displayed the minimal amount of competence required to provide patient care.[17] Although many participants who supervise GAs believed that students should have independent travel experience, it may be detrimental to patient care as well as unethical and may result in litigation if unlicensed students are providing unsupervised patient care.[34]

Our findings revealed that participants believe students are not obtaining enough experience in the clinical setting and

consider the 20-hour restriction to be limiting student learning. However, this is not a requirement, and individual programs are able to choose the number of hours students obtain during their clinical experience, as long as the program specifies minimum and maximum hour requirements.[63] Programs can opt for graduated systems in which lower-level students put in fewer clinical hours than higher-level students or the hour requirement is different based on the clinical setting. While some participants thought hour restrictions limited student learning, others acknowledged that students should be gaining meaningful clinical experiences, not merely obtaining unengaged hours, such as doing field preparation or preparing water. Students in the clinical environment should be actively learning, which is defined by engaging in activities that contribute to their educational or academic success.[64] Research shows that the more actively engaged a student is during a learning experience, the more learning occurs.[65] Simply increasing the amount of time students are engaged in clinical experiences will not necessarily increase student learning. Instead, preceptors should aim to increase the amount of active learning time and decrease unengaged time in the clinical setting. Despite the extent to which clinical time is engaged, some participants believe that the 20-hour restriction placed upon students does not fully prepare them because GAs work substantially more hours; however, a full-time workload for graduate assistants, regardless of assistantship, is 20 hours per week. This workload allows graduate assistants to have time for coursework and also qualifies them for tax benefits.[66] The expectation for GAs to provide care to the same extent as a full-time staff member is unrealistic[11] and may violate graduate assistant contracts.

Participants in this study also noted that students were not obtaining enough experience or knowledge in psychosocial intervention and referral, nonorthopedic medical conditions, rehabilitation, or administration. There are many situations in which students may not have the opportunity to perform certain skills in real time because of an inadequate volume of injuries or the timing of the injuries.[67] Many participants also reported that GAs struggle with performing evaluations in an organized, efficient, and confident manner. To provide more experiences for students, participants mentioned integrating role-play into professional curriculums to better prepare GAs. Standardized patients can also provide worthwhile experiences for athletic training students to gain more hands-on and realistic practice[26] prior to becoming GAs. Standardized patients have been beneficial for athletic training students in increasing confidence,[26,67] improving psychosocial intervention and referral skills,[27] and helping students organize their thoughts.[67]

Limitations

One limitation with this study is that the results may not be generalizable to all settings with GAs or new ATs. While the supervisors in the collegiate setting had specific expectations and perceptions about the preparation of GAs, supervisors in other settings may have different expectations and thus different perceptions of preparation. Although participants have supervised over 800 GAs over many years, the findings are dependent on the GAs with whom supervisors have interacted and the programs from which the GAs graduated. In addition, the results presented in this study are not longitudinal. We are exploring the professional preparation at one point in time, and participants were asked to reflect upon their prior experiences supervising GAs. We only obtained the supervisor's perspectives in this study, and not the GA perspective. It is unclear how GAs in the collegiate setting feel about their professional preparation for their roles as GAs.

Future Research

While the results of this study add to the body of literature regarding professional preparation of ATs, future research could explore other settings (eg, high school, clinic) to determine if GAs and new ATs are prepared for their roles. In addition, future research could examine the GA perspective and their perceptions of their professional preparation. By identifying areas in which GAs feel weaker, professional programs can use that information to further enhance professional preparation. Future research could also explore the perspectives of all newly credentialed ATs to determine if they feel adequately prepared for all of their professional roles.

CONCLUSIONS

Recent debate has ensued about the preparation of new ATs, especially in the collegiate setting. Anecdotal reports claim new ATs are not prepared for their roles; however, our findings show that academic preparation is better than ever before. While GAs still need more experience to further develop their skills, the graduate assistantship allows them to gain practice while being mentored. Academic preparation may be excellent, but there are still some gaps in areas such as rehabilitation, professional communication, and organization and administration. To further prepare future GAs, professional programs should aim to incorporate educational strategies to enhance independent decision making while receiving feedback from preceptors.

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