

# Evaluation of Professional Preparation in Athletic Training by Employed, Entry-Level Athletic Trainers

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**ABSTRACT:** *The purpose of this study was to determine the perceived adequacy of professional preparation in athletic training among employed, entry-level certified athletic trainers. Data were gathered by means of a self-reporting questionnaire designed specifically for the study. There were 277 questionnaires mailed, and 183 entry-level certified athletic trainers (66%) responded to the survey. Demographic and employment characteristics of the respondents were examined. Respondents rated their perceptions of adequacy of professional preparation and growth in several academic and clinical task areas. Entry-level athletic trainers felt more prepared in the areas of prevention of athletic injuries/illnesses, evaluation and recognition of athletic injuries/illnesses, and first aid/emergency care. They felt less prepared in the areas of rehabilitation and reconditioning, organization and administration of athletic training programs, counseling and guidance of athletes, and education of athletes. Many entry-level certified athletic trainers were not strongly impressed with the adequacy of the number of clinical hours required or the areas of clinical experiences encountered during their professional preparation programs. Respondents felt that their mentors/certified athletic trainers could have provided more leadership, guidance, and evaluation. According to this study, pro-*

*fessional preparation programs in athletic training are adequately preparing entry-level professionals, but certain task areas need increased emphasis.*

Since the completion of the initial athletic training role delineation study in 1982 (6) and the subsequent development of both a revised entry-level certification examination (1) and a list of educational competencies (8), no evaluation of the success of screening and professional preparation tools relevant to performance during initial employment has been conducted. The professional preparation programs of other allied health professionals already have been researched in these areas (2,7). Though descriptive statistics are available on certification examination results and initial placement of certified athletic trainers, no data exist on the strengths and weaknesses of athletic training professional preparation. Information to apprise athletic training educators and students of specific job performance requirements will assist both groups in the preparation process.

The purpose of this study was to determine the perceived adequacy of professional preparation in athletic training by employed, entry-level (first 18 months) certified athletic trainers. The following questions were addressed:

1. What are the demographic and employment characteristics of entry-level athletic trainers?
2. What are the general perceptions of adequacy of professional preparation in athletic training?
3. Are there any differences between selected demographic and employment characteristics and perceptions of professional preparation in athletic training?

## Methods

We gathered data through the use of a self-reporting questionnaire designed specifically for the study. Respondents used a 5-point Likert scale to rate the extent of their agreement or disagreement with statements concerning adequacy of professional preparation. The general items listed and the areas investigated either were partially derived from the major task areas in athletic training or from the NATA guidelines for implementation of undergraduate athletic training education programs (1,8,9). This study investigated demographic and employment characteristics, academic (classroom) and clinical preparation and experiences, and aspects of professional growth and development. Members of the NATA Professional Education Committee reviewed the questionnaire for content validity.

Mailing labels were obtained from the NATA Certification Office for all those who passed the NATA certification examination during the spring of 1989 (N=277). Each person received a questionnaire packet containing a cover letter describing the importance and purpose of the study, a survey instrument, and a stamped, self-addressed return envelope. We performed all tabulations and computations using the BMDP Statistical Software Programs (3). Percentage differences between academic and clinical preparation variables were detected through analysis of variance (ANOVA). The descriptive statistics and comments from the open-ended questions were computed by hand.

## Results

A total of 183 (66%) of the questionnaires were returned. Since every respondent did not answer all questions, the percentage for each question is based on the number of responses to that particular

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question rather than on the basis of the total number of respondents. The lowest frequency count for any question was 160 (87% of all respondents). Frequencies are reported for all tables.

### Demographic and Employment Characteristics

Of the 183 respondents, 108 (59%) were males, and 75 (41%) were females. Seventy-five (41%) had been employed for 12 to 18 months, and 126 (70%) had completed over 1,800 clinical hours during their professional preparation (Table 1). Of 181 respondents, 64 (35%) reported that they had completed an internship program, 81 (45%) an NATA-approved undergraduate program, and 36 (19%) an NATA-approved graduate program.

Table 1.—Distribution of Clock Hours of Clinical Experience During Professional Preparation (N=179)

Clock Hours	Respondents	
	n	(%)
800-1200	14	(9)
1200-1800	39	(22)
1800-2500	66	(37)
over 2500	60	(33)

More than half of 181 respondents, 71 (39%) were employed at sports medicine centers. Of these, 45 (25%) had high school responsibilities as well. There were 43 (24%) respondents working at colleges/universities, 36 (20%) at high schools, and 4 (2%) at community colleges. Thirty-five of 180 respondents (19%) functioned in an assistant athletic trainer role. Seventy of 180 (39%) of the entry-level certified athletic trainers did not work with any other athletic trainers on staff; however, 51 (28%) did work on staffs with three or more athletic trainers. Only 28 of 179 (16%) entry-level athletic trainers rated the facilities and the availability of consumable supplies as inadequate.

### Adequacy of Professional Preparation

Using a 5-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = undecided; 4 = agree; 5 = strongly agree), respondents rated their perceptions of adequacy of professional preparation and growth in several academic clinical areas. The greatest satisfaction (strongly agree), both academically and clinically, was

reported most frequently in the areas (domains) of prevention of athletic injuries/illnesses (academic, 42%; clinical, 44%); evaluation and recognition of athletic injuries/illnesses (academic, 42%; clinical, 46%); and first aid and emergency care (academic, 54%; clinical, 47%) (Table 2). Satisfaction was reported less frequently in the areas of rehabilitation and reconditioning (academic, 25%; clinical, 24%); organization and administration of athletic training program (academic, 14%; clinical, 14%); counseling and guidance of athletes (academic, 11%; clinical, 11%); and education of athletes (academic, 16%; clinical, 16%) (Table 2).

programs were the least satisfied (Table 3). As illustrated in Table 4, respondents were not greatly satisfied (strongly agree) with their preparation in any of the selected areas of clinical experiences: men's sports (31%) and women's sports (23%), youth sports (21%), affiliated athletic training settings (19%), and allied medical settings (14%).

Growth and development aspects of professional preparation in athletic training also were examined. Entry-level certified athletic trainers felt only somewhat certain (strongly agree = 30%, 50/168) that they developed an appropriate level of professional maturity prior to entering

Table 2.—Perceived Adequacy of Academic and Clinical Preparation in Athletic Training (N=177)

Domain	Respondents' Perceptions					
	Academic			Clinical		
	Agree n (%)	Strongly Agree n (%)	Total Agree n (%)	Agree n (%)	Strongly Agree n (%)	Total Agree n (%)
Prevention of athletic injuries/illnesses	87 (49)	75 (42)	162 (92)	80 (45)	77 (44)	157 (89)
Evaluation of athletic injuries/illnesses	87 (49)	75 (42)	162 (92)	76 (43)	81 (46)	157 (89)
First aid and emergency care	71 (40)	96 (54)	167 (94)	74 (42)	83 (47)	157 (89)
Rehabilitation/reconditioning	76 (43)	44 (25)	120 (68)	70 (40)	43 (24)	113 (64)
Organization/administration of athletic training program	79 (45)	24 (14)	103 (58)	69 (39)	24 (14)	93 (53)
Counseling and guidance of athletes	73 (41)	19 (11)	92 (52)	65 (37)	20 (11)	85 (48)
Education of athletes, parents, and coaches	78 (44)	29 (16)	107 (60)	68 (38)	28 (16)	96 (54)

Most responding entry-level certified athletic trainers were not satisfied with the adequacy of the number of clinical hours required (too few hours required) or with the areas of clinical experiences encountered during their professional preparation programs. Respondents from NATA-approved graduate programs were the most satisfied with their clinical hours requirement, while those respondents from internship and NATA-approved undergraduate

the job market. Related to this, about 20% of the respondents strongly agreed (20/102) that their clinical instructors provided them with a realistic impression of their overall professional readiness to enter the job market. A similar attitude (strongly agree = 29%, 48/164) was reported regarding the adequacy of the "mentoring" (leadership and guidance) from the clinical instructors or others associated with the athletic training program. An ANOVA

Table 3.—Perceptions of Adequacy of Clinical Clock Hour Requirements in Athletic Training Professional Preparation Programs (N=169)

Program Type	Agree; n (%)	Strongly Agree; n (%)	Total Agree; n(%)
NATA undergraduate (800 hours)	21 (28)	7 (9)	28 (37)
Internship (1500 hours)	24 (39)	5 (8)	29 (47)
NATA graduate	7 (23)	8 (26)	15 (49)

Table 4.—Perceived Adequacy of Professional Preparation for Selected Clinical Experiences

Clinical Experience	Total number of respondents	Agree n (%)	Strongly Agree n (%)	Total Agree n (%)
Men's sports	163	51 (31)	50 (31)	101 (62)
Women's sports	170	56 (33)	39 (23)	95 (56)
Youth sports	170	57 (34)	36 (21)	93 (55)
Affiliated settings	161	35 (22)	30 (19)	65 (40)
Allied settings	160	35 (22)	23 (14)	58 (36)

revealed no significant difference between any of the demographic and employment variables and adequacy of professional preparation in the seven major task areas that define the athletic training profession.

Open-ended responses appeared to support the objective findings of the study. Strengths dealing with academic preparation included recognition/evaluation, prevention, and emergency care of athletic injuries. Strengths dealing with clinical preparation included the overall value of the clinical hours as well as the value of experiences in allied and affiliated settings and with different sports. The athletic training staff and faculty associated with professional preparation programs were frequently commended. Weaknesses in the academic preparation area included rehabilitation of athletic injuries, therapeutic modalities, organization of athletic training programs, and counseling of athletes. Weaknesses in the clinical preparation area included lack of experience with administrators and lack of experiences in allied and affiliated settings. Other reported weaknesses included a wide variety of specific complaints.

## Discussion

Based on the respondents studied, both types of athletic training professional preparation programs—NATA-approved curriculum and internship—adequately prepare students to function as certified athletic trainers. There were no significant differences between these program types, and the number of clinical hours completed did not seem to affect perceptions of adequate professional preparation for the first job. A study in which certification examination results were investigated supports this conclusion, finding no differences between either the two types of professional preparation programs or the number of clinical hours completed (4). Also, a follow-up study 5 and 10 years after certification revealed that the perceived academic and clinical preparation of entry-level athletic trainers and their confidence at their first jobs were independent of both years of certification and the method of educational preparation (5).

The majority of student athletic trainers in the two types of professional preparation programs completed more than the minimum number of clinical hours required. Even though additional clinical hours have no impact on either certification examination results or the perceptions of adequacy of preparation, entry-level certified ath-

letic trainers felt that the clinical hours requirements were not sufficient. Perhaps research that studies the relationship between certification exam results and the areas investigated in this study would be meaningful (eg, allied medical clinical experiences, professional maturity, clinical experience in major task areas). More or less emphasis in these areas may affect performance on the NATA certification exam.

This study revealed that there were no significant differences between those employed in traditional and nontraditional settings. It appears, then, that certified athletic trainers feel prepared to work in sports medicine centers, despite the lack of specific educational guidelines or recommendations to prepare students for these nontraditional settings. An earlier study, which examined the roles of athletic trainers employed in sports medicine centers, also supports this finding (13).

Professional preparation programs in athletic training appear to be providing adequate academic and clinical preparation in the three task areas of evaluation/recognition of athletic injuries/illnesses, prevention of athletic injuries/illnesses, and first aid and emergency care. Because of the "criticality" of the above task areas (1), it is notable that students are being adequately prepared. Further research might examine the size (number of students and certified athletic trainers) of a program and the relationship of adequate clinical preparation in the above areas. Perhaps in programs with a large number of student athletic trainers and staff certified athletic trainers, opportunities to evaluate and treat injuries are more limited. Subsequent perceptions of adequacy of preparation in these areas would likely decline.

Although this study is an initial attempt to examine entry-level athletic trainers' perceptions of the adequacy of their professional preparation, their responses warrant careful consideration. The items within this study are suggested for use in individual program self-assessment. The following recommendations are made to enhance professional preparation in athletic training:

1. Improve and increase both the academic and clinical experiences in the following four task areas: rehabilitation of athletic injuries; organization and administration of athletic training programs; counseling and guidance of athletes; and education of athletes,

parents, and coaches. The 1990 Role Delineation Validation Study (1) supports this recommendation, especially noting that increased time is now being spent on the last three of these listed task areas.

2. Improve and increase the clinical experiences in both allied medical (eg, physical therapy, podiatry) and affiliated settings (eg, high school, community college). Particular efforts to provide clinical experiences with youth sports will be necessary. Where injury reconditioning experiences are limited, student athletic trainers may especially benefit from clinical work with physical therapists at sports medicine centers.
3. Improve and increase the mentor relationship with student athletic trainers. Place more emphasis on professional

evaluation of these students. Programs with a large number of students may need to concentrate harder on this goal.

4. Improve and increase clinical experiences in both men's and women's sports. It appears that too often students concentrate a disproportionate amount of time on sports involving only one gender.

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