

High School Athletes' Parents' Perceptions and Knowledge of the Skills and Job Requirements of the Certified Athletic Trainer

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Context: Parents play a crucial role in determining medical services for their children, and it is important they understand the scope of practice and skills of the athletic trainer (AT).

Objective: To understand parents' perceptions and knowledge of the skills and job requirements of the secondary school AT.

Design: Cross-sectional study.

Setting: Sport meetings and banquets at 5 high schools in southwest Michigan during the fall, winter, and spring seasons.

Patients or Other Participants: A total of 539 parents whose children competed in at least 1 high school sport participated.

Data Collection and Analysis: A Parents' Perceptions and Knowledge of Certified Athletic Trainers Survey consisting of 32 questions, divided into 3 sections (demographics, perceptions, and knowledge), was developed and given to parents of high

school athletes. One-way analyses of variance were used to determine significance among 3 categories of experience and perception and knowledge of ATs.

Results: Of the 539 parents who responded, 28% responded yes, and 72% responded no to having experience with an AT for their own injuries. When asked if they had experience with an AT due to their child's injuries, 60% responded yes. We found a difference among the 3 categories of experience for perception scores ($P = .002$) and knowledge scores ($P < .001$).

Conclusions: In the absence of past experience with an AT, parents' perceptions and knowledge of the skills and job requirements of the secondary school AT are limited. Athletic trainers should educate parents on their professional roles, which may enhance their ability to provide better health care.

Key Words: secondary schools, awareness, guardians

Key Points

- Parents have varying perceptions of athletic trainers based upon past experiences.
- Parents view the athletic trainer as a valued member of the secondary school health care team.
- Parents who have limited past experience with athletic trainers rate emergency care as the primary job responsibility.

Over the past 20 years, secondary school sport participation among students in the United States has consistently increased.¹ To ensure the proper care of these athletes, the American Medical Association recommended that all secondary schools provide athletic training services.² In addition to the athletic trainer (AT), the National Athletic Trainers' Association has recommended that an athletic health care team (AHCT) be established that includes an AT, school nurse, physician, and other health care professionals.^{3,4} The AHCT's primary purpose is to work with the athletic director, coaches, and parents to ensure that appropriate medical care is provided for all athletes.

To work congruently in providing the best possible care for secondary school student-athletes, members of the AHCT, along with athletic directors, coaches, and parents, must understand the variety of responsibilities of the AT. Previous investigations^{5–7} showed that physicians and administrators have a basic understanding of the roles of ATs, but conversely, coaches did not fully recognize the

scope of the ATs' credentials or certification requirements. Additionally, when emergency medical service personnel were questioned, they too showed an incomplete comprehension of ATs' roles as health care providers, predominantly in sport-related emergency care.⁸ These investigations led to a general consensus on misconceptions of ATs' roles and responsibilities, likely stemming from a lack of experience with an AT in a secondary school setting.

Less studied but perhaps one of the most important groups affiliated with the health care of the secondary school athlete is parents. Parents had a basic idea of the roles of an AT but lacked full understanding of the athletic training profession.⁹ Because parents play a crucial part in determining medical services for their children in the secondary school setting, they must have a thorough understanding of the scope of practice and skills of ATs in order for their children to receive the best medical care possible. Therefore, the purposes of our study were to further investigate parents' overall perceptions and knowledge of the secondary school AT and to determine whether

Table 1. Parents' Perceptions and Knowledge of Certified Athletic Trainers Survey: Parents' Perception Statements^a

1. I perceive a certified athletic trainer as a healthcare professional.
2. I feel it is necessary for athletic trainers to pass a certification exam and acquire state licensure.
3. I feel it is necessary for certified athletic trainers to obtain continuing education units.
4. I perceive a certified athletic trainer as an appropriate or effective source in rehabilitating injuries.
5. I perceive high school certified athletic trainers as less qualified than certified athletic trainers at the college or professional level.
6. I trust the certified athletic trainer's opinion.
7. I consider athletic training and personal training the same thing.
8. I feel society needs certified athletic trainers.
9. I take the certified athletic trainer's recommendation seriously in regards to the recovery period of injuries.
10. I consider the athletic training room a medical care facility and expect the certified athletic trainer to maintain appropriate documentation and medical records.
11. I feel more comfortable about my child's well-being with a certified athletic trainer present on site.
12. I would send my child to see the certified athletic trainer before taking them to the doctor or emergency room.

Abbreviation: exam, examination.

^a Statements are presented as in the instrument.

parents' past experiences with ATs influenced their overall perceptions and knowledge of the athletic training profession and professional practice domains.

METHODS

Participants

We studied a convenience sample of parents with children in southwest Michigan secondary schools. A total of 539 parents whose children competed in at least 1 high school sport participated in the study. Of the parents who participated, 236 had their student-athlete enrolled in a private high school (Class C) and 303 in a public high school (Class A/B).

Instrumentation

We adapted the Parents' Perceptions and Knowledge of Certified Athletic Trainers (PPKCAT) survey from the *Role Delineation Study*¹⁰ and the Physician's Knowledge and Perceptions of the Roles and Responsibilities of Athletic Trainers.⁶ The PPKCAT comprises 32 questions divided into 3 sections. The first section contains 7 demographic questions. The second section consists of 12 Likert-scale questions regarding parents' perceptions of ATs on a 3-point scale: (1) *never*, (2) *sometimes*, or (3) *always* (Table 1). The final section consists of 12 Likert-scale questions that required parents to rate their knowledge of ATs' skills and professional domains on a 4-point scale: (1) *not familiar*, (2) *somewhat familiar*, (3) *moderately familiar*, or (4) *extremely familiar* (Table 2). The PPKCAT concludes with 1 final question asking whether the parent would be more likely to send his or her child to an AT after completing the survey.

Table 2. Parents' Perceptions and Knowledge of Certified Athletic Trainers Survey: Parents' Knowledge Statements^a

13. Measure body fat, body weight and develop appropriate nutrition and hydration programs
14. Fabricate custom made protective materials and properly fit protective equipment (ie, helmets and shoulder pads)
15. Recognize potentially life threatening conditions (ie, diabetes, asthma, heat stroke) and carry out an emergency action plan
16. Recognize and monitor environmental risk factors (ie, heat index or lightening [lightning])
17. Recognize predisposing conditions to specific injuries or illnesses and perform appropriate evaluation tests to identify specific injuries, illnesses, or conditions and their severity
18. Properly immobilize fractures or dislocations with the appropriate splinting materials and determine a suitable timeline for return to activity after injury
19. Administer therapeutic modalities using standardized techniques and procedures in order to facilitate recovery, function, and/or performance
20. Administer rehab and conditioning exercise(s) using standard techniques and procedures in order to facilitate recovery, function, and/or performance
21. Identify psychosocial factors associated with injuries or illnesses and recognize psychological disorders (ie, burnout, depression, and eating disorders)
22. Establish action plans for response to injury or illness using available resources to provide the required range of health care services for individuals, athletic activities, and events
23. Establish policies and procedures for the delivery of health care services following accepted guidelines to promote safe participation, timely care and legal compliance
24. Interpret pre-participating physicals and other relevant screening information in accordance with accepted guidelines to minimize the risk of injury and illness

Abbreviation: rehab, rehabilitation.

^a Items are presented as in the instrument.

Instrument Development

We initially distributed the PPKCAT to a panel of 12 ATs (22 ± 9.78 years of experience) to assess content and face validity. We asked the ATs to review the survey for grammar, proper formatting, and clarity of questions and to determine if the content of each question pertained to the overall scope of the study. Once feedback was received, we made corrections to the survey accordingly, which included rewording of section directions and specific survey questions for better comprehension. To further investigate its content validity, the survey was then distributed to 13 parents (over the age of 31 years) of high school student-athletes who were not within the targeted area. We instructed the parents to complete the survey and to examine any aspects of the survey that were unclear or could be misunderstood. A total of 10 parents completed and returned the survey, and all comments or suggestions about wording of the perceptions and knowledge sections were addressed.

Data-Collection Procedures

We received approval from the institution's Human Subject Internal Review Board for our study and then obtained consent from the athletic directors from 5 local high schools within southwest Michigan to participate. We

Table 3. Parents' Perceptions and Knowledge of Certified Athletic Trainers Survey: Prevention Domain Score Distribution^a

Item	Average Score	%			
		Not Familiar	Somewhat Familiar	Moderately Familiar	Extremely Familiar
Measure body fat, body weight and develop appropriate nutrition and hydration programs	2.65 ± 0.93	13	27	41	19
Fabricate custom made protective materials and properly fit protective equipment (ie, helmets and shoulder pads)	2.32 ± 0.99	25	31	30	14
Recognize and monitor environmental risk factors (ie, heat index or lightening [lightning])	3.01 ± 0.86	6	19	43	32

^a Items are presented as in the instrument.

went to sport meetings and sport banquets for the fall, winter, and spring sport seasons at each school and gave parents a detailed description of the study with directions for completing the survey. We personally distributed consent documentation and the survey to each interested parent. We instructed parents to place the surveys face down in a pile when completed; the surveys were then placed into an envelope to ensure anonymity.

Data Analysis

Once we collected all the surveys, the data were input into SPSS (version 20.0; IBM Corporation, Armonk, NY). We then divided the type of experience each parent had with an AT into 3 categories. The first category included parents who were exposed to an AT due to their own injuries, as well as their child's injuries in the past (category 1); the second category included parents who were exposed to an AT due to only 1 type of previous experience (category 2); and the third category included parents lacking any experience with an AT (category 3).

We categorized the knowledge portion into 5 sections according to the 5 domains of athletic training in the *Role Delineation Study*. The sections were prevention (questions 13, 14, and 16), clinical evaluation and diagnosis (questions 17 and 21), immediate and emergency care (questions 15 and 18), treatment and rehabilitation (questions 19 and 20), and organization and professional health and wellbeing (questions 22, 23, and 24). Scores from the perceptions and knowledge sections of the survey were averaged from the Likert responses.

We conducted 1-way analysis of variance (ANOVA) on the 3 experience categories with the (1) composite perceptions and knowledge scores and (2) 5 domains of athletic training within the knowledge section. Tukey post hoc tests were performed to determine differences among the 3 experience categories for each analysis. For all ANOVA results, the means and standard deviations are reported. To confirm parametric results, we also conducted a Kruskal-Wallis test on the experience categories and the 5 domains due to the smaller combinations of questions in these categories. The level of significance was set at $P < .05$ for all tests.

RESULTS

A total of 760 surveys were distributed, and 539 were returned, giving us a 72% response rate. Of the 539 parents, 39% were male ($n = 201$) and 61% were female ($n = 314$).

The majority of parents (62%) were over the age of 41, and 25% were greater than age 50. Most parents had received a bachelor's degree (46%), and the second highest group had received a master's degree (19%). When parents responded to the question of having experience with an AT because of their own injuries, 28% replied *yes*, while 72% replied *no*. When parents responded to the question of having experience with an AT due to their child's injuries, 60% replied *yes*, while 40% replied *no*. Of the 3 categories of experience, the majority of parents were in category 2 ($n = 248$, 46%), followed by category 1 ($n = 175$, 33%), and finally category 3 ($n = 113$, 21%).

We found a difference among the 3 categories of experience and mean perception scores ($F_{2,490} = 6.11$, $P = .002$). Tukey post hoc testing revealed that category 1 (2.38 ± 0.24) had higher perceptions of ATs than category 3 (2.47 ± 0.23 ; $P < .05$). However, categories 2 and 3 did not differ.

A difference was evident among the 3 categories of experience and mean knowledge scores ($F_{2,516} = 7.69$, $P < .001$). Tukey post hoc testing demonstrated that category 1 (2.79 ± 0.68) had a higher knowledge score compared with category 2 (2.57 ± 0.75), and category 3 (2.43 ± 0.76). However, there were no differences between categories 2 and 3.

Examining further, we observed a difference among the 3 categories of experience and mean scores in the domains of Prevention ($F_{2,521} = 7.81$, $P < .001$), Clinical Evaluation and Diagnosis ($F_{2,527} = 7.61$, $P < .001$), Treatment and Rehabilitation ($F_{2,525} = 8.78$, $P < .001$), and Organization and Professional Health and Well-Being ($F_{2,526} = 4.62$, $P = .010$; Tables 3 through 6). Using Tukey post hoc testing, we noted that category 1 had higher knowledge scores than categories 2 and 3 within these domains ($P < .05$). Kruskal-Wallis test results also confirmed statistical differences for Prevention ($P < .001$), Clinical Evaluation and Diagnosis ($P < .001$), Treatment and Rehabilitation ($P < .001$), and Organization and Professional Health and Well-Being ($P = .012$). Neither the ANOVA nor Kruskal-Wallis test demonstrated a difference among the 3 categories of experience and mean score in the domain of Immediate and Emergency Care.

To the final question of the survey, which asked the parent's likelihood of sending his or her child to see an AT now after completing the survey, 57% responded *yes*, 38% responded that they *already do*, and 5% responded that they *still would not be more likely to send their child to see an AT*.

Table 4. Parents' Perceptions and Knowledge of Certified Athletic Trainers Survey: Clinical Evaluation and Diagnosis Domain Score Distribution^a

Item	Average Score	%			
		Not Familiar	Somewhat Familiar	Moderately Familiar	Extremely Familiar
Recognize predisposing conditions to specific injuries or illnesses and perform appropriate evaluation tests to identify specific injuries, illnesses, or conditions and their severity	2.62 ± 0.94	13	31	36	20
Identify psychosocial factors associated with injuries or illnesses and recognize psychological disorders (ie, burnout, depression, and eating disorders)	2.34 ± 0.93	21	34	34	11

^a Items are presented as in the instrument.

DISCUSSION

The first focus of our study was to investigate parents' perceptions of the secondary school AT. Parents who had combined experience with an AT (21%) showed an overall higher perception of ATs in the secondary school setting when compared with parents who had only minimal or no experience with an AT. Our results support those of previous researchers who found that quality exposure to the athletic training profession is a determining factor in how members of the AHCT view the secondary school AT. Athletic directors in secondary schools had a better impression of ATs than principals, who had less interaction with ATs.⁵ Similar conclusions were drawn in other health care professions, such as nursing: interaction and visibility of a school nurse influenced parents' and educators' perceptions and predetermined attitudes of school nurses.¹¹

When we analyzed the perception questions separately, we discovered that the majority of parents always perceived the secondary school AT as a health care professional (50%) and always felt society needs ATs (62%). However, we also learned that the majority of parents did not always trust the AT's opinion (61%). These results are similar to how parents and educators value the school nurse. With less knowledge or absence of quality interaction with the school nurse, parents often misperceive or fail to value the role of the school nurse.^{11,12} Parents who have more experience and interaction with an AT may have more trust in and better perceptions of AT skills and job requirements.

Similarly, the existing literature⁵⁻⁸ has established that limited knowledge of the athletic training profession is attributed to a lack of experience with the secondary school

AT. In our study, parents with only 1 type of experience or no experience with an AT were less knowledgeable about AT skills and job requirements compared with parents who had combined experience. Our results are similar to those of other studies that showed orthopaedic physicians and athletic directors who had more interactions with ATs often displayed a better understanding of them than nonorthopaedic physicians and high school principals.^{8,9} Additionally, we found that parents with combined AT experience scored highest in the domain of Treatment and Rehabilitation, which is most likely due to past treatment or rehabilitation for their own injuries or a child's injuries, and therefore, they already knew about these AT skills. Parents with only 1 type of experience or no experience scored highest in the domain of Immediate and Emergency Care, which may be a result of their observing an AT's skills only in an acute injury situation or seeing ATs manage emergency situations during sporting events. However, the reasons for the better knowledge scores of parents who had limited experiences with an AT need to be further investigated to provide insight.

After completing our survey, the majority of parents responded that they were more likely to send their child to see an AT (57%), which could be a result of reviewing the entire scope of practice of the athletic training profession while completing the survey. The AT is the onsite health care professional who should be considered by the parents and student-athletes as a referral source to other health care professionals of the AHCT,⁴ not only to recognize and manage injuries or illnesses but also to save parents and school districts unwanted medical expenses. Parents have a large influence on the medical care of their child, and when AT services are bypassed, unnecessary visits to the

Table 5. Parents' Perceptions and Knowledge of Certified Athletic Trainers Survey: Treatment/Rehabilitation/Conditioning Domain Score Distribution^a

Item	Average Score	%			
		Not Familiar	Somewhat Familiar	Moderately Familiar	Extremely Familiar
Administer therapeutic modalities using standardized techniques and procedures in order to facilitate recovery, function, and/or performance	2.49 ± 1.03	21	27	32	20
Administer rehab and conditioning exercise(s) using standard techniques and procedures in order to facilitate recovery, function, and/or performance	2.63 ± 1.00	17	25	36	22

Abbreviation: rehab, rehabilitation.

^a Items are presented as in the instrument.

Table 6. Parents' Perceptions and Knowledge of Certified Athletic Trainers Survey: Organization/Administration Score Distribution^a

Item	Average Score	%			
		Not Familiar	Somewhat Familiar	Moderately Familiar	Extremely Familiar
Establish action plans for response to injury or illness using available resources to provide the required range of health care services for individuals, athletic activities, and events	2.52 ± 0.96	16	32	35	17
Establish policies and procedures for the delivery of health care services following accepted guidelines to promote safe participation, timely care and legal compliance	2.35 ± 1.01	24	32	29	15
Interpret pre-participating physicals and other relevant screening information in accordance with accepted guidelines to minimize the risk of injury and illness	2.52 ± 1.01	20	27	35	18

^a Items are presented as in the instrument.

physician or emergency room could result in increased medical costs to the family.

Our survey might have served as an educational tool that resulted in a better understanding of AT skills and job requirements, which may have led parents to think about using the services of the secondary school AT more frequently. Overall, secondary school ATs need to further educate parents, as well as members of the AHCT, about their skills and job requirements. Parental programs should be conducted before each sport season to encourage interaction with the secondary school ATs. These programs should reiterate the services that are available to their children and encourage communication between secondary school ATs and parents. As exposure to and awareness of athletic injuries (ie, concussions, sudden death) increase in the news, the AHCT may become advocates for better athlete care, thus enhancing the need and scope of practice for AT services and providing more incentives for parents to partner with an AT for high school services.

To expand upon and further validate the results of our study, future researchers should investigate the type of experience a parent has with an AT versus the quality of the experience and whether these experiences differ by school type (public and private). Moreover, a larger sample with similar population characteristics across National Athletic Trainers' Association districts should be conducted to confirm the generalizability of the present study. Researchers should also explore the referral process involving the AT and how the parent can use the AT's skills to their fullest potential. In addition, communication and interaction processes and programs should be explored to determine how to connect the parent with the AT for preventive and treatment programs of injured athletes.

Limitations

We personally distributed the survey, and we may not have adequately reached a random population of parents. The secondary schools in this study were restricted to the southwest Michigan area, and each had access to a part-time AT. Although our sample size was large, it may not represent all high school parent populations across the country. Survey responses may have depended upon previous experience with 1 of the researchers who is an

AT or may have been influenced by the profession of each parent (eg, being a health care professional versus in an unrelated field).

CONCLUSIONS

In the absence of past experience with an AT, parents' perceptions and knowledge of the skills and job requirements of the secondary school AT remain limited. Based on our results, ATs should be encouraged to become more accessible to parents and integrate them into the injury-management process. Creating or fostering more parent-AT interactions, as well as educating parents on the professional roles of the AT, may increase parents' understanding and trust of ATs' skills and lead to overall better health care for student-athletes in the secondary school setting. We hope the information gathered from this study can be used to advocate for the roles and placement of ATs in the secondary school setting.

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