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Physical Therapists' Views of Certified Athletic Trainers in the Clinical Setting

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**PHYSICAL THERAPISTS' VIEWS OF CERTIFIED
ATHLETIC TRAINERS IN THE CLINICAL SETTING**

By

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THESIS

Submitted to the Department of Physical Therapy
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1994

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ATHLETIC TRAINERS IN THE CLINICAL SETTING**

ABSTRACT

Since certified athletic trainers began working in the clinical setting alongside physical therapists, there has been controversy between the two professions concerning the utilization of the ATCs. Although views of ATCs from the PTs' perspective have been speculated, there has been no conclusive research on this topic. The purpose of this study was to find out how physical therapists in the state of Michigan view ATCs in the clinical setting. The Health Team Stereotype Scale, which was developed by Dr. Harry Parker, was used to determine the PTs' attitudes toward the ATCs. There was a return rate of 47.4% (N=121). The results showed that PTs had an overall favorable attitude toward ATCs in the clinical setting. PTs with more knowledge about the educational background of ATCs were more positive than PTs with less knowledge. PTs with experience in working with ATCs, and PT/ATCs also had a more positive attitude toward the ATCs.

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PREFACE

The following definitions may be helpful to clarify the traditional role in patient care of the health care professionals discussed within this research study:

Certified Athletic Trainer - professional educated in the areas of injury prevention, recognition, and evaluation, and the management, treatment, rehabilitation, and education of the injured (Arnheim, 1985).

Occupational Therapist - professional involved in the treatment of physical and psychiatric conditions through specific activities to help people reach a maximal level of function and independence in daily life (Havard, 1987).

Physical Therapist - professional involved in improving motor function (Wolf, 1985) through the use of physical measures (Havard, 1987).

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CHAPTER 1
INTRODUCTION

Relationships between the professions of physical therapy and athletic training seem to be getting worse rather than improving. This has been most evident in the recent failure of the joint task force that was formed between the National Athletic Trainers Association (NATA) and the American Physical Therapy Association (APTA) to establish guidelines regarding the respective clinical role of each profession (Cormier, York, Domholdt, & Kegerreis, 1993). This predicament prompted the authors to initiate a study to examine the stereotypes held by Michigan physical therapists (PTs) about certified athletic trainers (ATCs) in the clinical setting.

ATCs in the Clinical Setting

Lack of knowledge may have been a contributing factor to the unclear guidelines surrounding the respective role of each profession in the clinical setting (Cormier et al, 1993). Over the past decade there has been an increase of approximately 100% in the number of listed sports medicine treatment centers (Sports Medicine Directory, 1980 & 1990). This major increase occurred while no uniform system existed for the establishment, operation, or evaluation of a sports

medicine practice (Hage, 1982). Data released by the NATA in 1991 (Clinical athletic trainers, 1991) showed that more of its members worked in the clinic rather than in the traditional field and scholastic settings (Weidner, 1988).

This led to the confusion over the specific roles of ATCs within the clinical setting. Should ATCs treat nonathletes? Should they treat athletes if PT is ordered? Should their services be billed as physical therapy? Does the ATC educational program provide adequate preparation for clinical practice? Once again questions about patient care come to mind (Cormier et al, 1993). Confusion of roles leads to what Bing (1983) referred to as a feeling of "we" and "they". Each group has characteristics that influence the treatment of individuals in the other group, in other words they have formed stereotypes about one another (Brown, 1986).

Problems in the Clinical Setting

The major problem between PTs and ATCs in the clinical setting seems to be a lack of teamwork and cooperation between the two professions, a problem already studied between other health care professions. Optimal patient care comes from professionals who cooperate with one another when working closely together (Streed & Stoecker, 1991). One of the main goals of treatment should be to provide the public

served with the highest quality care (Wortley, 1980). Streed and Stoecker (1991) stated that patient care may be influenced by the existence of various types of positive or negative interdisciplinary stereotypes within the clinic. Parker and Chan (1986) generally defined a stereotype as a "prejudgment, preconception, predisposition, belief, or expectation, either negative or positive, about a person or members of a group." The formation of stereotypes often comes from a lack of knowledge about another group (Hewstone, Stroebe, Codol, & Stephenson, 1988). Therefore the authors suspected that 1) PTs who work directly with ATCs or 2) PTs who are also ATCs would have more positive views about ATCs.

Purpose

The main purpose of this study was to 1) identify the existing stereotypes that PTs in the state of Michigan hold of ATCs, and 2) determine if the existing stereotypes are influenced by the degree of knowledge that PTs have about ATCs. The results of this study may help determine further research areas that could lead to another attempt at cooperation between the APTA and NATA.

CHAPTER 2

LITERATURE REVIEW

Stereotypes Between Closely Interacting Professionals

While numerous studies have looked at stereotypes between closely interacting professions, few have involved health care professionals (Streed & Stoecker, 1991). Dunkel (1974) took a survey using a 24 statement questionnaire of the attitudes of physicians and PTs in Arkansas in one of the first studies within the health care field. The information collected was used to determine the professional capacity of PTs in terms of competence, concern, and sense of responsibility. One of the hypotheses was that a doctor's attitude may affect: (1) the degree to which a PT would function as a co-worker, (2) the frequency with which he referred patients to physical therapy, and (3) the amount of respect he had for the therapy his patients received. In fact, 73% of the physicians indicated that they did not feel that they knew as much about physical therapy services as they should.

In the early 1970s, Parker and Reisch developed the Health Team Stereotype Scale based on concepts and format identified by Osgood, Suci, and Tannenbaum (Parker & Chan, 1986). Semantic differential techniques had previously been used to explore such areas as the stereotypes among school

counselors and between self and occupational ratings (Parker & Chan, 1986). In 1981, Parker and Reisch used a survey of 67 adjective pairs that were reliable (with a coefficient of .93) to study stereotyping between employment and rehabilitation counselors. They found that both groups of counselors looked more positively upon their own group than they believed the other group viewed them. The rehabilitation counselors viewed the employment counselors in an inaccurate and negative way. In conclusion, Parker and Reisch stated that these attitudes inhibited a team effort in rehabilitation and suggested that stereotypes may influence clinical behaviors. Post-study analysis concluded that thirteen word pairs could be deleted without severe sacrifice in utilization and reliability of the instrument as acknowledged by J.S. Reisch in an unpublished source in 1984 (cited in Parker & Chan, 1986). Thus the use of only 54 word pairs in further studies using the Health Team Stereotype Scale (HTSS) (Parker & Chan, 1986).

The relationship between another set of close working professions in the health care system, PTs and occupational therapists (OTs), was studied by Dr. Parker (Parker & Chan, 1986). The purpose was to determine the self-perceptions of PTs and OTs and the stereotypes they had toward each other. They surveyed 53 licensed PTs and 53 registered OTs who volunteered to take the 54 word pair version of the

HTSS. They sought PTs and OTs who were employed at five major hospitals to obtain a large number of volunteers who would have a high degree of professional interaction. This would allow them to respond to the items in a knowledgeable way. Following a three minute introduction to minimize bias, the participants completed the HTSS twice, first concerning their own profession and then in regards to their perception of the other profession. Three comparisons were investigated: 1) PTs' perception of themselves compared with the OTs' perceptions of the PTs, 2) OTs' perceptions of themselves compared with the PTs' perceptions of OTs, and 3) PTs' self-perception compared with the OTs' self-perception. Thirty-one pairs differentiated the two groups with statistical significance. Statistically discriminating pairs led to the support of their hypothesis that PTs viewed themselves more positively than OTs viewed PTs. Neither the hypothesis that the OTs' self-perceptions would be more positive than the PTs' views of OTs nor the opinion that the PTs' self-assessment would be more positive than the OTs' self-concept were supported. They concluded that potential sources of friction existed between the two groups.

Streed and Stoecker (1991) expanded the Parker and Chan study to examine the stereotypes of 42 OT and 42 PT students in the junior class at the University of Illinois at Chicago (UIC). Parker and Chan had suggested that work experience

affects stereotypes, therefore Streed and Stoecker wanted to see if attitudes based on less work interaction would affect the level of stereotyping. Students may or may not have had stereotyped views prior to their clinical experience, and as such were subject to the influences of the major department in which they were enrolled. Each group was required to have successfully completed two years of liberal arts and sciences studies before their admission to the College of Associated Health Professionals at UIC. The two groups of students were three months into an 18-month curriculum. They had no formal clinical experience or formal classroom contact with the other group prior to the study. The HTSS was administered following a brief explanation of the study's purpose. They completed the survey twice, just as in the Parker and Chan study. Nonparametric statistics were used to analyze the data. The results supported both of the original hypotheses that stated that PT students had a more positive self-perception than how the OT students viewed them, and that the OT students had a more positive self-perception than the PT students had of them. The authors stated that a social group phenomenon occurred where one's own group is viewed more favorably than other groups rated in reference to it. The competitive environments of the programs could easily have led to ethnocentrism and group conflict (Brown, 1986). Streed and Stoecker concluded that

the isolation of the departments made students especially susceptible to attitude formation. They also supported Miller's (1982) idea that social interactions in the clinic would be dependent on the assumptions, expectations, and social norms that the given participants bring to a situation.

This study was modelled on the research that examined the less than optimal professional relationship that exists between PTs and OTs (Parker & Chan, 1986 and Streed & Stoecker, 1991). The proven reliability and effectiveness of the HTSS in determining stereotyping attitudes both between and within professional health care groups was the reason for selecting that scale. The HTSS was used to aid in the determination of the stereotypes PTs have of certified athletic trainers (ATCs).

The Role of ATCs in the Clinical Setting

The large increase in the number of sports medicine clinics, the lack of standards for staffing and operation (Ryan & Rosenberg, 1982), paired with the multidisciplinary treatment, has led to increasing problems between PTs and ATCs (Weidner, 1988). Cerny, Patton, Whieldon, and Roehrig (1992) completed a study that looked at an organizational model of 75 sports medicine centers in the U.S. The typical clinic had a policy for overall facility operation

established by a PT and/or a physician, and that day-to-day operations were most often the responsibility of a PT.

Cormier et al (1993) used some of the information from the study by Cerny et al to base a study on the utilization of athletic trainers in sports medicine clinics. The clinics' services were found by Esterson, Kegerreis et al, and Weidner to be delivered by PTs, ATCs, and PT/ATCs as pointed out by both Cormier et al and Cerny et al. Cormier et al sampled 35 PTs and 35 ATCs randomly chosen from APTA and NATA membership lists of three states with legislation that regulated ATCs and three states without such legislation. The questionnaires that were mailed to the homes of these professionals were divided into two sections. The first section looked at the roles of the ATC in the sports medicine clinic and the second provided background information about the participants and the clinics they worked in. The section dealing with the ATCs' roles listed 28 specific tasks which were to be rated as to how much participation ATCs had in the task and how much they should have. The questionnaires were sorted by the credentials of the respondent (PT, ATC, PT/ATC) and by the legislation status of his/her state of practice. Mean scores for the ideal usage of ATCs for each task were obtained according to the legislation status and credentials of each respondent. Results showed no significant difference between the states

with legislation regulating ATC licensure and those without it. The ATCs reported the highest mean score for perceived ideal usage while the PTs showed the lowest score. Those individuals with both PT and ATC degrees were intermediate in the ideal usage of ATCs, but their scores were closer to those of the PTs. The authors felt that the current questionable use of support personnel in delivering physical therapy services may have led to restraint by the subjects in answering the questions. Overall the clinics employed a larger number of PTs than ATCs and more ATCs than PT/ATCs. Nearly half of the facilities did not distinguish ATC treatment of athletes from their treatment of nonathletes. This usage of trainers may have increased the difference in opinions as to how ATCs should ideally be used in the clinic.

Although the NATA/APTA task force concluded unsuccessfully, the APTA adopted their own statement regarding ATC utilization (Cormier et al, 1993), entitled "The Definition and Utilization of the Athletic Trainer in Physical Therapy". It was based on the special nature of an ATC in caring for athletes, and it stated that ATCs may be assigned responsibilities in either the traditional team setting or the physical therapy setting. The document required ATCs in the clinical setting to work under a PT's supervision to perform tasks selected and delegated by the

supervising therapists as permitted by law. Such tasks included routine operational functions such as supervision of a physical therapy aide (but not delegation of responsibilities to that aide), and documentation of patient status and treatment progress. The ATC was also able to adjust a patient's treatment in accordance with changes in the patient's status as long as prior approval was obtained by the supervising PT. The document also pointed out the need for PT supervision in the clinic as "the general population that utilizes physical therapy services is frequently very different than the traditional athlete, and because athletic trainers are not educated to manage the broad spectrum of patient problems that are common to physical therapy...". The stated reasons for the restrictions were that of assurance of quality of patient care and assurance of patient safety, possibly relating to such statistics as those summed up by Weidner (1988) who reported that one-third to one-half of the clients who consult sports medicine clinics do not have a concern of an athletic nature.

Hypothesis

These studies and documents helped to make the differences in opinion more obvious between PTs and ATCs. This suggested that definite stereotypes may exist

concerning ATCs as far as PTs are concerned. The authors thus chose to use the HTSS to determine the specific stereotyped views that PTs hold of ATCs in a sample of clinics in the state of Michigan. By adding questions concerning knowledge of ATC education and work experience with trainers, the authors hoped to support the following hypotheses:

1. PTs show more negative than positive feelings toward ATCs.
2. Negative feelings toward ATCs from PTs decrease with increased knowledge by the PTs of the ATCs' educational background.
3. The PTs with experience in working with ATCs have fewer negative views of ATCs with PT/ATCs having an even less negative attitude.

CHAPTER 3
METHODOLOGY

Design

A random sample of sites were selected from a combination of a list of hospitals supplied by the American Hospital Association and from sports medicine clinics listed in the Sports medicine directory (Sports medicine directory, 1992). A letter was sent to the director of the PT department or the supervisor of the clinic, as appropriate for the site, asking for cooperation in the study by distributing the surveys to the PTs and PT/ATCs employed there (Appendix A, page 30). The bottom of the letter was to be returned to the authors with the number of eligible persons employed at the site listed. The proper number of surveys was then sent to each responsive site, with a return envelope enclosed for the respondents' convenience (Appendix B, page 32). The authors felt that sending the questionnaire to the work place may increase the return rate as the respondents will consider it a part of their work day rather than setting it aside should the survey be sent to their homes.

Subjects

The sample population included 359 PTs, of which 7 were also PT/ATCs, who were employed in various clinical settings throughout the state of Michigan. The lists of potential participant sites included both small and large hospitals and outpatient clinics. ATCs did not need to be employed at the facility in order for its employees to be included in the study.

Instrument

Although various techniques exist for measuring stereotypes, such as dichotomous choice questionnaires and adjective check lists (Parker & Chan, 1986), the Health Team Stereotype Scale (HTSS) was chosen in this study of PTs and ATCs. Additional questions were added in terms of the PTs' experience with ATCs and their knowledge of the trainers' education in order to stratify the results during data analysis. The full questionnaire is included as Appendix C on page 34.

The HTSS itself is a collection of adjective word pairs that describe personal and occupational performance attributes that are evaluative in nature (Streed & Stoecker, 1991). The use of seven alternatives has been shown to work most efficiently, as all choices seem to be used with approximately equal frequency (Osgood et al, 1957). The

word pairs are random and counterbalanced to avoid bias and to improve the scale's reliability. The counterbalancing of the survey is achieved by the positive adjective being listed first only half of the time (Parker & Chan, 1986). A three-way partition analysis of variance in a past study showed the scale to have a reliability coefficient of .93. The validity of the HTSS is supported by its similarity to the Adjective Checklist (Streed & Stoecker, 1991).

The questionnaire was of simple design, allowing respondents to place an "X" on appropriate lines to show their degree of agreement in the word pairs. The added questions allow for yes/no answers.

Data Collection

The respondents were requested to return the completed surveys within two weeks of receiving them. A phone number and address were included in the cover letter in case any questions arose when the respondents were completing the survey.

One hundred letters were sent to directors of departments, with 64 responses mailed back to the authors. Of these responses, two directors did not wish for their departments to be included in the study. The authors then sent 359 letters to PTs as dictated by the directors' responses.

CHAPTER 4
DATA ANALYSIS

Demographic Results

One-hundred-seventy of the 359 surveys that were sent to the PTs were returned, for a return rate of 47.3%. Of those, 121 were filled out completely and were used for analysis. One-hundred-fourteen of the respondents were PTs only, while others held dual degrees or certificates. Seven of those with dual degrees were PT/ATCs, one held a Bachelors of Science in Health Sciences, one was an exercise physiologist, one was a certified exercise specialist from the American College of Sports Medicine, and one was certified in Neurodevelopmental Techniques. No respondents were Sportsmedicine certified by the American Physical Therapy Association. Of the responding physical therapists, 57.0% were female, 20.7% were male, and 22.3% gave no response. The years of experience varied from 1 to 25 years, with a mean of 7.471 years. There were 13 different areas of specialization such as orthopedic, sportsmedicine, rehabilitation, pediatrics, and industrial rehabilitation. The average values for the number of PTs, ATCs, OTs, and Exercise Physiologists at each facility were 7.44, 1.59, 2.77, and 0.52 respectively.

Techniques

The surveys were coded with numerals for analysis applied to each response possible by the participants. The adjective pairs were numbered from one to seven, with a score of one applied to the positive word and seven assigned to the more negative. The demographic questions were coded in a binary sequence. The data was analyzed using the SPSS-X computer program. Demographic results were determined by percentages. A chi square test and means analysis were used to determine the differences between the PTs with and without experience working with ATCs, PTs with and without a good understanding of the educational background of ATCs, and between the PTs and PT/ATCs.

Results of Tested Hypothesis

As Table 1 shows (page 40), the overall responses of the PTs toward the ATCs were positive instead of negative. The lower the mean score, the more positive the attitude of the respondent. The mean score for all responses to the word pairs was 3.19. However, PTs with experience in working with ATCs were more positive than the PTs with no experience, but the difference was only significant for 18 of the 54 word pairs. The PTs with a good understanding of the ATCs' educational background also had a more positive attitude toward the ATCs, but again the difference was only

significant for 12 of the 54 word pairs. PT/ATCs also showed more positive attitudes than the PTs in all but nine word pairs (table 2, page 41).

Word Pair Results

Table 1 shows the results for the word pairs. Word pair number 15 had the highest percentage of positive responses with a mean score of 2.37. Word pair number 41 had the highest percentage of negative responses with a mean score of 5.07. Table 2 compares the PTs' mean scores and the PT/ATCs' mean scores. The PT/ATCs scored more negatively on 9 of the 54 word pairs.

Cross Comparisons

PT/ATCs scored more positively than PTs on all but 9 of the 54 word pairs, but there were significant differences for only 8 of the word pairs and also for the question regarding the ability of ATCs to evaluate and treat acute non-sports musculoskeletal extremity injuries. Table 2 shows the mean score comparisons between the PT and PT/ATC responses for the word pairs.

The PTs with experience in working with ATCs had statistically significant results for 18 of the 54 word pairs and for the question regarding the ability of ATCs to evaluate and treat chronic non-sports related

musculoskeletal extremity injuries. PTs who reported having a good understanding of the educational background of ATCs had statistically significant results for 12 of the 54 word pairs and the question regarding the ability of ATCs to evaluate and treat acute sports related musculoskeletal extremity injuries.

ATC Evaluation and Treatment Skills

Thirty-one point four percent of the respondents said that they directly supervise and/or shared evaluation and treatment responsibilities with an ATC(s) at the current time. Sixty-three point six percent said that they had supervised an ATC(s) in the past. Seventy-one point one percent said that they have a good understanding regarding the educational background and training of ATC's. There were varied responses as to how the respondents acquired their information about the educational background of ATCs. These answers included the following: had ATC degree, taught classes, took classes, ATC program at school, worked with ATCs, and personal contact (Table 3, page 42).

Ninety-one point seven percent of respondents indicated that they thought ATCs were adequately trained to evaluate and treat acute sports related musculoskeletal extremity injuries, and 59.5% indicated that ATCs were adequately trained to evaluate and treat chronic sports related

musculoskeletal extremity injuries. Fifty-two point nine percent indicated that ATCs were not adequately trained to evaluate and treat acute non-sports related musculoskeletal extremity injuries, and 71.1% indicated that ATCs were not trained to evaluate and treat chronic non-sports related musculoskeletal extremity injuries. ATCs were also considered to be inadequately trained to evaluate and treat sports related and non-sports related injuries to the spine by 73.6% and 94.2% respectively. However, ATCs were considered to have adequate training to determine proper modality usage for sports related injuries (71.1%), as well as determining the proper development of a rehabilitation program for sports related injuries (81.8%). See Table 4 (page 43).

CHAPTER 5

DISCUSSION AND IMPLICATIONS

Discussion of Findings

The three part hypothesis proposed by the researchers were: 1) that PTs would have an overall negative view of ATCs, 2) that negative feelings toward ATCs decrease with increased knowledge about the ATCs' educational background, and 3) that PTs with experience in working with ATCs have fewer negative views of ATCs with PT/ATCs having an even less negative attitude.

Part one of the hypothesis, that PTs will show more negative than positive feelings toward ATCs, was not supported by this survey. The results showed that overall, PTs had positive feelings toward ATCs. Although no research was found on the stereotypes between PTs and ATCs, the research done by Parker and Chan (1986) or Streed and Stoecker (1991), suggested that conflicts may exist between PTs and OTs and PT students and OT students. Since PTs and ATCs have a similar working relationship as do PTs and OTs, it was accepted that PTs and ATCs might also be in conflict in the work setting. It appears, from the results, that this is not the case. Streed and Stoecker (1991) concluded that isolation between two working professions could make each susceptible to attitude formations. This was found to

be true with this study also, as negative feelings toward ATCs from PTs decreased when the PTs had an increased knowledge about the ATCs' educational background. This supported part two of the hypothesis. The final part of the hypothesis was also supported by this study since the PTs who had working experience with ATCs had fewer negative views toward ATCs, and the PT/ATCs also had less negative views toward ATCs.

The results of this study are encouraging, since a good working relationship between PTs and ATCs is essential for a good working environment. It is the investigators' hope that this trend will continue in the future. However, with the NATA's recently proposed mandate to "be the leading provider for the physically active", being discussed at the APTA's sectional meeting, it may very well be awhile before the two professions will truly become cohesive working partners (B. Hoogenboom, personal communication, February 25, 1994).

Educational Variances Among ATCs

One point that should be brought up is the fact that the NATA has not developed a structured system for the education and licensure of athletic trainers. At the current time, athletic training students can choose two different pathways to complete the requirements of the NATA.

One route is to go through an NATA approved curriculum with at least 800 hours of supervised field experience at a college or university, and the second route is to accumulate 1500 hours of supervised field experience through an apprentice-type program. After the student achieves these prerequisites, he can then sit for the NATA national examination. Hence, there are a wide variety of educational backgrounds among those sitting for the exam.

There are also no structured licensing requirements for ATCs. Several states require licensing in addition to being certified by the NATA in order to work as an ATC. However, other states, for example Texas, require that athletic trainers only be licensed by the state and not certified by the NATA. At the current time the State of Michigan does not require licensure of ATCs.

These variances could lead to confusion among PTs who work with various ATCs. For example, an ATC who went through an apprentice-type education may have excellent on-field skills, but may not have the ability to carry those skills over into the clinical setting. This would leave the PTs with the conclusion that the ATC was undertrained for his role in the clinic. It should also be mentioned that there will certainly be vast differences in the personalities of ATCs (as well as any other profession) which could have influenced the responses one way or the

other. This point was brought up by several of the PTs who responded to this survey.

Limitations

A few of the word pairs from the HTSS did not seem very clear in meaning, which led to confusion for some of the respondents. This problem was encountered by Streed and Stoecker (1991) in their study, after which they suggested an updated form of the scale be devised. Many of the PTs did not fill out the survey as they felt that they had to have worked with ATCs in order to answer in a helpful manner, and this distinction was not clarified on the questionnaire. Many foreign trained therapists also chose not to participate as they did not understand the role of ATCs in the United States. This study only encompassed PTs and PT/ATCs in Michigan, so the results may not be applicable to other states.

Another limiting factor was the fact that the demographic question regarding the training of the ATC to "evaluate and treat" the following conditions was misinterpreted by some of the respondents. Their response was that PTs and ATCs cannot "evaluate and treat" anyone without a physicians referral, which is true in the State of Michigan. It was the investigators' intention that "evaluate and treat" simply meant the evaluation and

treatment that every PT or ATC does after the patient has seen the physician and has been referred for treatment. This was an error on the investigators' part for not presenting the question more clearly.

Any current problems between PTs and ATCs may also have prohibited some of the respondents from answering the questions honestly, which prompted the authors to encourage the respondents to keep their participation confidential. The sample size was also a limiting factor as the authors did not use a complete listing of all APTA members in Michigan from which to draw a random sample.

The authors agree with Streed and Stoecker (1991) that the HTSS should be updated to lessen the confusion over the word pairs. We believe that confusion probably led some respondents to answer with indifference, which could have skewed the results.

Suggestions for Further Research

It is the desire of the researchers that the results of this study will continue to promote discussion on the topic of PT and ATC interactions. Although there have been attempts to define the role of ATCs in the clinical setting, no one definition has been agreed upon. It is imperative that these two professional groups come to a conclusion about this issue so that they can work in harmony, and allow

the clinical sector of therapy to continue to grow. It would also be interesting to find out how ATCs view PTs to determine if there are any conflicts from their point of view.

A related study could be performed to look at the clustering of the adjective pairs as chosen by the PTs compared to the pairs chosen by the PT/ATCs. There were nine pairs that showed higher mean scores for the PT/ATCs than the PTs. A factor analysis could be used to find any differences between these nine pairs and the rest of the word pairs. However, a larger sample size would be necessary in order for a factor analysis to be useful.

Summary

The findings from this study indicate that PTs have an overall positive attitude toward ATCs in the clinical setting. These feelings became more positive when the PT had actual working experience with ATCs or at least had a good understanding about ATCs' educational background. Since the data revealed that PTs with experience working with ATCs were more favorable of the ATCs in the clinical setting, it may be beneficial if exposure to the athletic training profession were included in every physical therapy curriculum. This would allow physical therapy students to gain information on how athletic trainers are educated and

therefore, what they are trained to perform in the clinical setting.

The investigators' main objective of this study was to get concrete evidence as to how ATCs are perceived by PTs in the clinical setting, since there has only been speculation in the past. The investigators feel that the main conflict between PTs and ATCs may be over the issue of limitations. That is, each profession needs to realize their own limitations when it comes to professional practice. This can only be achieved through a better understanding of each other's professional training and ability.

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APPENDIX A



1 CAMPUS DRIVE • ALLENDALE MICHIGAN 49401-9403 • 616/895-6611

October 4, 1993

Physical Therapy Director:

As graduate students at Grand Valley State University, we have designed a study to explore the existing relationship between physical therapists and certified athletic trainers within our state. This area could be of crucial importance as the health care team concept continues to grow. Without a good working relationship between these professions, the patient will ultimately be the one who suffers the most.

The purpose of the study is to identify the stereotypes of athletic trainers that exist from the physical therapists' point of view. The survey consists of the Health Team Stereotype Scale, which looks at 54 adjective pairs that could be used to describe ATC's, followed by some questions regarding the therapist's experience with ATC's. The survey is fairly brief and all participants will remain anonymous since it does not ask for names. We ask your participation in distributing the survey to your staff PT's or PT/ATC's, in the hope that this will increase the return rate.

If you would please complete and return the bottom portion of this letter within the next week, the correct amount of surveys will then be sent to you for distribution to your staff. Your cooperation, along with any of your staff who completes and returns the survey, is greatly appreciated. It is the belief of the investigators that this survey could be very important in identifying any problem areas between PT's and ATC's.

If you have any questions, please feel free to contact Ms. Parizon at the address below or call her at 616-773-7352. Thank you.

Sincerely,

Andrew Snyder

Leah Parizon

500 Glen Oaks
Apt. 1B
Muskegon, MI 49442

Name of Facility _____

Number of PT's and PT/ATC's _____

APPENDIX B



1 CAMPUS DRIVE • ALLENDALE MICHIGAN 49401-9403 • 616/895-6611

October 25, 1993

Dear Physical Therapist:

The enclosed questionnaire is part of a study to determine the relationship between physical therapists and certified athletic trainers. These professions are often viewed as being less than cooperative with one another, which has led the investigators to the study at hand. This questionnaire is an attempt to identify specific stereotypes of athletic trainers that exist from the physical therapist's point of view.

The questionnaire will require approximately 10 minutes to complete, and the investigators request that all participants refrain from discussing their responses with their peers to avoid any bias. All information shall remain completely confidential as your name and your facility will not be included in the survey. By returning the completed survey, you are giving your consent to the investigators to use the information provided.

Please complete the survey and return it in the self-addressed stamped envelope by November 15, 1993. Your cooperation is greatly appreciated.

If you have any questions, you can contact Ms. Parizon at the address below, or call her at (616) 773-7352. Thank you.

Sincerely,

Andrew Snyder

Leah Parizon

500 Glen Oaks
Apt. 1B
Muskegon, MI 49442

APPENDIX C

Please answer the following questions:

Your certification/licensure: PT___ ATC___ APTA Sportsmedicine Certified___
 Other_____ Gender_____ Years of Experience_____
 Areas of Specialization_____

Please indicate the number of people in the following professions that
 work at your facility PT's_____
 ATC's_____
 OT's_____
 Exercise Physiologists_____

Do you directly supervise and/or share evaluation/treatment responsibilities
 with an ATC(s) at the current time

A. Yes

B. No

Have you ever done so in the past

A. Yes

B. No

Do you have a good understanding regarding the educational background and
 training of ATC's

A. Yes

B. No

If yes, how did you acquire your information_____

Do you feel that ATC's are adequately trained to evaluate and treat, the
 following conditions: (Mark each with a "Y" for yes or an "N" for no)

- ___ Acute sports related musculoskeletal extremity injuries
- ___ Chronic sports related musculoskeletal extremity injuries
- ___ Acute non-sports related musculoskeletal extremity injuries
- ___ Chronic non-sports related musculoskeletal extremity injuries
- ___ Sports related injuries to the spine
- ___ Non-sports related injuries to the spine
- ___ Determining proper modality usage for the above area(s) marked "Y"
- ___ Development of a proper rehabilitation program for the above area(s)
 marked "Y"

APPENDIX D

WORD PAIR RESULTS

<u>WORD PAIR</u>	<u>MEAN SCORE</u>	<u>WORD PAIR</u>	<u>MEAN SCORE</u>
1.	2.61	28.	2.60
2.	4.07	29.	3.08
3.	2.67	30.	3.32
4.	3.09	31.	3.64
5.	2.73	32.	2.96
6.	4.33	33.	3.45
7.	2.48	34.	2.51
8.	3.87	35.	2.76
9.	2.74	36.	3.82
10.	2.66	37.	3.74
11.	3.60	38.	3.33
12.	2.49	39.	2.81
13.	2.50	40.	2.43
14.	2.64	41.	5.07
15.	2.37	42.	2.88
16.	4.16	43.	3.13
17.	3.36	44.	3.20
18.	2.65	45.	2.69
19.	3.16	46.	2.74
20.	5.04	47.	2.61
21.	3.06	48.	3.38
22.	3.09	49.	3.27
23.	2.77	50.	3.16
24.	4.80	51.	3.72
25.	2.87	52.	3.51
26.	2.66	53.	4.05
27.	2.73	54.	3.13

TABLE 1

Note. Scoring is from 1 (positive) to 7 (negative)

PT vs. PT/ATC
WORD PAIR RESULTS

<u>WORD PAIR</u>	<u>PT MEAN SCORE</u>	<u>PT/ATC MEAN SCORE</u>	<u>WORD PAIR</u>	<u>PT MEAN SCORE</u>	<u>PT/ATC MEAN SCORE</u>
1.	2.63	2.29	28.	2.62	2.14
2.	4.14	3.00	29.	3.14	2.14
3.	2.73	1.70	30.	3.39	2.29
<u>4.</u>	<u>3.08</u>	<u>3.29</u>	<u>31.</u>	<u>3.64</u>	<u>3.71</u>
5.	2.79	1.71	32.	2.97	2.71
6.	4.37	3.71	33.	3.48	2.86
7.	2.54	1.43	34.	2.55	1.86
<u>8.</u>	<u>3.83</u>	<u>4.43</u>	35.	2.82	1.86
9.	2.78	2.00	36.	3.87	3.00
10.	2.72	1.71	37.	3.79	3.00
<u>11.</u>	<u>3.59</u>	<u>3.71</u>	38.	3.42	1.86
12.	2.55	1.43	39.	2.84	2.29
13.	2.56	1.57	40.	2.46	1.86
14.	2.70	1.71	<u>41.</u>	<u>5.02</u>	<u>5.86</u>
15.	2.42	1.57	42.	2.94	1.86
16.	4.18	3.71	43.	3.14	3.00
17.	3.43	2.14	<u>44.</u>	<u>3.18</u>	<u>3.43</u>
18.	2.69	2.00	45.	2.74	2.00
19.	3.16	3.14	46.	2.78	2.00
<u>20.</u>	<u>4.99</u>	<u>5.86</u>	47.	2.65	2.00
21.	3.10	2.43	48.	3.39	3.14
22.	3.11	2.86	<u>49.</u>	<u>3.26</u>	<u>3.43</u>
23.	2.81	2.14	50.	3.18	2.86
24.	4.81	4.71	51.	3.76	3.00
25.	2.92	2.00	<u>52.</u>	<u>3.51</u>	<u>3.57</u>
26.	2.71	1.86	53.	4.09	3.43
27.	2.75	2.43	54.	3.18	2.43

TABLE 2

The nine underlined pairs indicate higher mean scores from the PT/ATCs.

HOW PTs AQUURED KNOWLEDGE ABOUT ATCs

	<u>PERCENTAGE</u>
1. ATC Degree	5.0
2. Taught Classes to ATCs	5.0
3. Took Athletic Training Classes	5.8
4. Athletic Training Program at School	13.2
5. Worked with ATCs	19.8
6. Personal Contact	21.5
7. No Response	29.7

TABLE 3

ATC EVALUATION AND TREATMENT SKILLS

	<u>YES</u>	<u>NO</u>	<u>MAYBE</u>	<u>N.R.</u>
Acute sports related m.skeletal extremity injuries	91.7	7.4	0.0	0.8
Chronic sports related m.skeletal extremity injuries	59.5	36.4	2.5	1.7
Acute non-sports related m.skeletal extremity injuries	42.1	52.9	3.3	1.7
Chronic non-sports related m.skeletal extremity injuries	23.1	71.1	4.1	1.7
Sports related injuries to the spine	24.8	73.6	0.8	0.8
Non-sports related injuries to the spine	3.3	94.2	0.8	1.7
Determining proper modality usage for the above area(s) marked "Y"	71.1	22.3	3.3	3.3
Development of a proper rehabilitation program for the above area(s) marked "Y"	81.8	14.0	1.7	2.5

TABLE 4

Note. N.R.= No Response