

# The Nature of Coupling with Intercollegiate Athletic Departments: Undergraduate Athletic Training Education Program Directors' Perceptions

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**Context:** Coupling theory, based on a tight-loose continuum, describes the nature of a connection, relationship, or interaction between entities. Understanding the nature of an ATEP's relationship with intercollegiate athletic departments is important to their growth and responsiveness to environmental change.

**Objective:** To determine program directors' general perceptions of coupling, as well as perceptions of coupling relative to personnel, physical resources, and financial resources.

**Design:** Descriptive, exploratory.

**Setting:** CAATE accredited undergraduate ATEPs.

**Participants:** The participants were 151 program directors from CAATE accredited undergraduate ATEPs.

**Data Collection and Analysis:** Program directors were queried regarding their perceptions of coupling between the ATEP and the host institution's athletic department relative to 5 subscales: general perceptions, personnel, equipment, facilities, and financial resources. Descriptive statistics were used to provide institutional and program director profiles. Composite means were used to determine the perceived degree of coupling relative to the 5 subscales. ANOVA (post-hoc analysis,  $p < 0.05$ ) and independent paired samples  $t$  tests determined differences in program directors' perceptions of coupling based on individual and institutional characteristics.

**Results:** Program directors perceived moderate generalized, equipment, and personnel coupling, and slight coupling relative to facilities and financial resources. Significant differences were related to years of program direction experience, role orientation, institutional athletic affiliation, school or college affiliation, and funding source.

**Conclusions:** Program directors perceive a tighter degree of generalized coupling than coupling specific to equipment, facilities, personnel, or financial resources. Institutional and program director characteristics may influence perceptions of coupling.

**Key Words:** accreditation, formal instruction, physical resources, financial resources, personnel

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# The Nature of Coupling with Intercollegiate Athletic Departments: Undergraduate Athletic Training Education Program Directors' Perceptions

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## INTRODUCTION

Researchers have used coupling theory in various ways, including to characterize the nature of organizational relationships, such as those found in higher education.<sup>1-5</sup> Coupling can be viewed on a tight-loose continuum, where loose coupling describes elements that may be tied together rather infrequently and often with minimal interdependence.<sup>5</sup> Conversely, tight coupling denotes significant interaction and connectivity between elements, where change in one element normally produces responsive change in another.<sup>1</sup>

Researchers have used the coupling framework to analyze organizational models and coupling characteristics in continuing education, academic discipline areas, and academic and non-academic nursing center faculty.<sup>2,6,7</sup> Although coupling theory has not been applied specifically to athletic training education, both Sauers<sup>8</sup> and Perrin<sup>9</sup> indirectly addressed the concept of coupling in their discussions relative to the departmental or school placement of ATEPs within college or university settings. In particular, Sauers<sup>8</sup> noted that athletic training education programs would be ill-prepared to meet the changing face of health-care professional education demands if these programs continued to isolate themselves from colleges of allied health.

Researchers have also illuminated various other aspects of coupling between ATEPs and intercollegiate athletic departments.<sup>10-11</sup> Personnel and physical resources, such as facilities, represent two of these historically coupled elements.<sup>12-15</sup> The nature of this coupling is especially important for ATEPs. Tightly coupled relationships between ATEPs and athletic departments, in particular with personnel, have been identified as potentially problematic in terms of burnout and role strain related to role orientation.<sup>16-17</sup> In his research of planned change for internship programs, Mackowiak<sup>18</sup> noted a high degree of conflict between clinical and faculty athletic training staffs centered around the prioritization of student-athlete health care needs over athletic training students' needs for supervised clinical experiences. Relative to personnel who maintain split clinical/academic appointments, Freese's<sup>14</sup> research indicated that the salaries for athletic trainers often were paid wholly by either the academic department or the intercollegiate athletic department. Financial coupling of this manner and its effects have gone relatively unexplored. Coupling related to physical resources, such as laboratory and classroom space and equipment, has also received little attention. However, Hansen<sup>19</sup> and Seegmiller<sup>20</sup> noted the importance of adequate personnel and resources when attempting to infuse quality into an athletic training education program.

Wilkerson<sup>21</sup> noted that the image of athletic training as a valid health care profession would be enhanced by focusing on the concept of population health, as opposed to a specific niche related strictly to athletics. A tightly coupled relationship

between ATEPs and intercollegiate athletic departments relative to personnel, finances, or physical resources may hamper opportunities to illuminate this image. Furthermore, a tight level of coupling may preclude ATEPs from reacting responsively to environmental changes characteristic of the complexities of higher education, including accreditation standards.<sup>1,12</sup> Therefore, the purpose of this study was to identify undergraduate athletic training education program directors' perceptions of the nature of coupling with intercollegiate athletic departments. This investigation focused on four primary questions:

1. How do program directors perceive coupling of the ATEP with intercollegiate athletic departments?
2. How are CAATE-accredited undergraduate athletic training education programs coupled to intercollegiate athletic departments?
3. What differences exist in CAATE-accredited undergraduate athletic training education program directors' perceptions regarding the nature of coupling with their host institution's intercollegiate athletic department?
4. What differences exist in CAATE-accredited undergraduate athletic training education program directors' perceptions regarding the nature of coupling with their host institution's intercollegiate athletic department?

## METHODS

### Design

This study employed a mixed-methods approach that predominantly focused on closed-ended questions with quantifiable responses. An open-ended qualitative question was included to obtain a more accurate measure of reality and the "meaning" linked to program directors' perceptions of coupling.<sup>22</sup>

### Participants

The population under study in this investigation was CAATE-accredited undergraduate athletic training education program directors. These program directors represented public and private four-year institutions at the NAIA, NCAA Division I-A, NCAA Division I-AA, NCAA Division I-AAA, NCAA Division II, and NCAA Division III levels from every geographical region in the United States. All undergraduate athletic training education program directors identified on the ATEP database on the CAATE web site<sup>23</sup> were invited to participate in this study; of the 323 eligible program directors, 151 individuals agreed to participate. Program directors from entry-level Masters programs were excluded from this study to help control extraneous factors unique to graduate study that may have biased perceptions of coupling.

## Instrumentation

A researcher-designed survey instrument, "Perceptions of the Nature of Coupling," was used to identify the relationships between selected institutional characteristics, athletic training education program director characteristics, and perceptions of coupling with intercollegiate athletic departments.

The survey, developed and managed electronically through Survey Monkey®, consisted of 4 parts: 1) Perceptions of Relationship; 2) Coupling Specific to CAATE Standards; 3) Additional Perceptions; and 4) Demographic Information. Part 1 examined program directors' general perceptions of coupling with intercollegiate athletic departments rated on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Participants were asked to characterize their level of agreement with 6 coupling statements (Table 2). Part 2 included statements that examined program directors' perceptions of coupling between ATEPs and intercollegiate athletic departments relative to CAATE Standards surrounding personnel, facilities, equipment, and finances (Table 3). Participants were asked to characterize to what extent the ATEP was coupled with the host institution athletic department based on a five-point Likert scale (1 = to little or no extent, 5 = to a very great extent); one statement from Part 2 read "The ATEP uses a primary athletic training health care facility at the institution for formal classroom instructional space." Another statement from Part 2 read "The therapeutic modalities that the ATEP uses for formal instruction and practice are shared with the institution's athletic department for use with clinical health care of student-athletes." Part 3 was an open-ended question asking for additional perceptions regarding the relationship between the ATEP and athletic department at the host institution. Part 4 of the survey assessed demographic information. Individual characteristics included number of years as a program director, number of years at the current institution, role orientation (How would you ideally like to spend your time working, clinical practice or teaching?), and experience as a student, instructor, or program director in an internship athletic training education program. Institutional characteristics included athletic affiliation, funding source (public or private), ATEP department affiliation, and ATEP school affiliation.

Face and content validity of the instrument were established through critique by a panel of three CAATE-accredited undergraduate athletic training education program directors with more than 50 years of combined program direction experience. These individuals were purposely selected based on their differences in individual characteristics such as years of program direction experience, and institutional characteristics such as school/college or athletic affiliation. The panel was contacted electronically and asked to complete the survey, as well as review the instrument for content clarity and format. Based on feedback from the expert panel, several revisions related to question wording were made. A survey content matrix based on a substantial review of coupling literature was also used to establish the content validity of the survey instrument. Calculation of Cronbach's alpha for internal reliability of each of the five survey subscales indicated the following: general perceptions of coupling ( $\alpha = .53$ ) and perceptions of coupling relative to facilities ( $\alpha = .842$ , equipment ( $\alpha = .91$ ), personnel

( $\alpha = .75$ ), and finances ( $\alpha = .79$ ). Upon completion of final revisions, the researchers proceeded with data collection.

## Data Collection and Analysis

After receiving institutional review board approval from the University of South Dakota, an electronic mail requesting participation in this study was sent to all CAATE-accredited undergraduate athletic training education program directors, including the panel of experts. This initial contact described the study and included a hyperlink to the survey instrument. In addition, the email informed participants that clicking on the hyperlink implied they were consenting to participate,

Table 1. Demographic Information

| Demographic                         | n   | %    |
|-------------------------------------|-----|------|
| Years as a program director         |     |      |
| 0 to 4                              | 55  | 36.7 |
| 5 to 9                              | 52  | 34.7 |
| 10 to 14                            | 23  | 15.3 |
| 15 or more                          | 20  | 13.3 |
| Years at current institution        |     |      |
| 0 to 4                              | 26  | 17.3 |
| 5 to 9                              | 59  | 39.3 |
| 10 to 14                            | 30  | 20.0 |
| 15 or more                          | 36  | 23.3 |
| Experience with internship programs |     |      |
| Yes                                 | 106 | 70.7 |
| No                                  | 44  | 29.3 |
| Role orientation                    |     |      |
| Teaching                            | 128 | 90.8 |
| Clinical Practice                   | 13  | 9.2  |
| Institution Athletic Affiliation    |     |      |
| Division I                          | 59  | 39.9 |
| Division II                         | 39  | 26.4 |
| Division III                        | 32  | 21.6 |
| NAIA                                | 18  | 12.2 |
| Institution Funding Source          |     |      |
| Public                              | 81  | 54.0 |
| Private                             | 69  | 46.0 |
| ATEP Department Affiliation         |     |      |
| Athletic Training                   | 25  | 17.1 |
| Kinesiology                         | 110 | 75.3 |
| Allied Health                       | 11  | 7.5  |
| ATEP School Affiliation             |     |      |
| Allied Health/Medicine              | 25  | 19.5 |
| Arts and Science/HPER               | 30  | 23.4 |
| Education and Professional Studies  | 37  | 28.9 |
| Hybrids                             | 36  | 28.1 |

Table 2. General Perceptions of the Nature of Coupling

| CAATE Standard  |      |      | Strongly Disagree             | Disagree      | Neutral       | Agree         | Strongly Agree |
|---|------|------|-------------------------------|---------------|---------------|---------------|----------------|
|   | M    | SD   | Percentage of respondents (n) |               |               |               |                |
| The athletic department and the ATEP are responsive to one another.                                     | 4.28 | 1.02 | 2.6%<br>(4)                   | 7.9%<br>(12)  | 2.0%<br>(3)   | 33.1%<br>(50) | 54.3%<br>(82)  |
| A great deal of interaction exists between the ATEP and the athletic department staff.                  | 4.03 | 1.30 | 9.3%<br>(14)                  | 6.7%<br>(10)  | 6.0%<br>(9)   | 28.0%<br>(42) | 50.0%<br>(75)  |
| There is interdependence between the athletic department and the ATEP.                                  | 3.93 | 1.05 | 4.6%<br>(7)                   | 6.6%<br>(10)  | 11.2%<br>(17) | 46.7%<br>(71) | 30.9%<br>(47)  |
| The identity of the ATEP is connected to the athletic department.                                       | 3.03 | 1.25 | 14.5%<br>(22)                 | 23.7%<br>(36) | 15.1%<br>(23) | 37.5%<br>(57) | 9.2%<br>(14)   |
| Small changes within the athletic department can result in significant change for the ATEP.             | 2.78 | 1.18 | 11.8%<br>(18)                 | 40.1%<br>(61) | 12.5%<br>(19) | 28.9%<br>(44) | 6.6%<br>(10)   |
| Changes that occur within the athletic department often create directly responsive changes in the ATEP. | 2.70 | 1.05 | 10.5%<br>(16)                 | 39.5%<br>(60) | 22.4%<br>(34) | 24.3%<br>(37) | 3.3%<br>(5)    |

but that they could discontinue the survey at any point in time. Furthermore, participants could also request no further reminder messages. Program directors received two reminder emails at two-week intervals requesting their participation.

Responses from the completed surveys were downloaded into an Excel spreadsheet. This data was then imported into SPSS (version 16.0) for data analysis. Data were analyzed using descriptive and inferential statistics, including means, standard deviations, independent t tests, and one-way analyses of variances (ANOVAs). Tukey's post-hoc analysis was used to determine group differences for all significant ANOVA tests.

Responses to the open-ended question were evaluated through an interpretive content analysis technique as advocated by Berg.<sup>22</sup> Responses were thematically organized into several categories. Responses such as "has to be a cooperative relationship," "it is a good working relationship, we each support each other," and "the relationship is very strained and we have exhausted all means to improve it" were categorized under "working relationship." Emerging themes were reviewed by a certified athletic trainer with substantial experience in the college and university setting to ensure credible results.

Table 3. Perceptions of Coupling Specific to the CAATE Standards

| CAATE Standard   |  | Little/No<br>extent           | Somewhat<br>extent | Moderate<br>extent | Considerable<br>extent | Very great<br>extent |
|--|--|-------------------------------|--------------------|--------------------|------------------------|----------------------|
| Physical resources: Equipment<br>mean $\pm$ SD<br>= 3.36 $\pm$ 1.45  |  | Percentage of respondents (n) |                    |                    |                        |                      |
| Modalities for formal instruction are shared with IAs                |  | 17.4%<br>(26)                 | 10.7%<br>(16)      | 10.7%<br>(16)      | 11.4%<br>(17)          | 49.7%<br>(74)        |
| FA/E equipment for formal instruction are shared with IAs            |  | 26.2%<br>(39)                 | 22.1%<br>(33)      | 10.7%<br>(16)      | 14.1%<br>(21)          | 26.8%<br>(40)        |
| Rehab resources for formal instruction are shared with IAs           |  | 18.7<br>(28)                  | 10.7%<br>(16)      | 14.7%<br>(22)      | 16.7%<br>(25)          | 39.3%<br>(59)        |
| Physical resources: Facilities<br>mean $\pm$ SD<br>= 2.27 $\pm$ 1.12 |  |                               |                    |                    |                        |                      |
| Classrooms for formal instruction are shared with IAs                |  | 50.3%<br>(73)                 | 18.6%<br>(27)      | 13.1%<br>(19)      | 11.0%<br>(16)          | 6.9%<br>(10)         |
| ATEP uses IAs healthcare facility for classroom space                |  | 49.3%<br>(72)                 | 24.7%<br>(36)      | 13.7%<br>(20)      | 5.5%<br>(8)            | 6.8%<br>(10)         |
| ATEP uses IAs healthcare facility for lab space                      |  | 23.1%<br>(34)                 | 27.9%<br>(41)      | 15.6%<br>(23)      | 17.7%<br>(26)          | 15.6%<br>(23)        |
| Labs for ATEP formal instruction are shared with IAs                 |  | 47.9%<br>(70)                 | 17.1%<br>(25)      | 8.9%<br>(13)       | 11.0%<br>(16)          | 15.1%<br>(22)        |
| Personnel<br>mean $\pm$ SD<br>= 3.32 $\pm$ 0.88                      |  |                               |                    |                    |                        |                      |
| ATs for IAs teach formal coursework in ATEP                          |  | 21.0%<br>(30)                 | 25.9%<br>(37)      | 16.8%<br>(24)      | 11.9%<br>(17)          | 24.5%<br>(35)        |
| ATs for IAs serve as clinical instructors for ATEP                   |  | 16.0%<br>(20)                 | 9.6% (12)          | 4.8%<br>(6)        | 13.6%<br>(17)          | 56.0%<br>(70)        |
| ATs for IAs serve as ACIs for the ATEP                               |  | 1.4%<br>(2)                   | 1.4% (2)           | 6.2%<br>(9)        | 15.2%<br>(22)          | 75.9%<br>(110)       |
| Faculty ATs have clinical responsibilities in IAs                    |  | 54.5%<br>(78)                 | 14.0%<br>(20)      | 10.5%<br>(15)      | 7.0%<br>(10)           | 14.0%<br>(20)        |
| Financial resources<br>mean $\pm$ SD<br>= 1.66 $\pm$ 0.67            |  |                               |                    |                    |                        |                      |
| IAs funds ATEP faculty salaries                                      |  | 74.8%<br>(101)                | 6.7%<br>(9)        | 12.6%<br>(17)      | 5.2%<br>(7)            | 0.7%<br>(1)          |
| IAs funds ATEP course instruction                                    |  | 94.0%<br>(125)                | 3.0%<br>(4)        | 3.0%<br>(4)        | 0.0%<br>(0)            | 0.0%<br>(0)          |
| IAs funds ATEP expendable supplies                                   |  | 58.0%<br>(83)                 | 21.7%<br>(31)      | 9.1%<br>(13)       | 6.3%<br>(9)            | 4.9%<br>(7)          |
| IAs funds ATEP capital equipment                                     |  | 47.9%<br>(69)                 | 18.8%<br>(27)      | 16.7%<br>(24)      | 7.6%<br>(11)           | 9.0%<br>(13)         |
| IAs funds ATEP operating expenses                                    |  | 85.3%<br>(116)                | 8.8%<br>(12)       | 2.2%<br>(3)        | 2.2%<br>(3)            | 1.5%<br>(2)          |



Table 3 continued

|   |                |               |               |              |               |
|---|----------------|---------------|---------------|--------------|---------------|
| IAs funds ATEP faculty professional development | 74.6%<br>(103) | 13.8%<br>(19) | 8.0%<br>(11)  | 1.4%<br>(2)  | 2.2%<br>(3)   |
| Academics funds clinical service for IAs        | 59.4%<br>(79)  | 9.8%<br>(13)  | 8.3%<br>(11)  | 9.8%<br>(13) | 12.8%<br>(17) |
| Academics funds rehab resources for IAs         | 53.2%<br>(75)  | 18.4%<br>(26) | 15.6%<br>(22) | 5.7%<br>(8)  | 7.1%<br>(10)  |
| Academics funds expendable supplies for IAs     | 76.6%<br>(108) | 9.2%<br>(13)  | 5.0%<br>(7)   | 2.1%<br>(3)  | 7.1%<br>(10)  |

## RESULTS

Of the 346 program directors, 23 had previously opted out of receiving online survey instruments through Survey Monkey®. Therefore, electronic mails including the link to the survey instrument were delivered to 323 CAATE-accredited undergraduate athletic training education program directors. A total of 151 valid surveys were completed. This total represented a response rate of approximately 46.7%.

### Demographic Data

Survey responses indicated that the number of program directors with 0-4 and 5-9 years of program direction experience were fairly similar (36.7% and 34.7%, respectively) (Table 1). The largest percentage of program directors had been employed at their current institution for 5-9 years (39.3%). Relative to internship experience, 70.7% of respondents indicated they had prior experience as a student, instructor, or program director in an internship athletic training education program. The vast majority of program directors indicated that they would ideally like to spend their time engaged in activities related to teaching.

Relative to institutional characteristics, just over half of the program directors (54.0%) reported being employed at a publicly-funded institution, with 39.9% of respondents working at an NCAA Division I (A, AA, or AAA) school.

Program directors reported a wide range of department affiliations which were condensed into three broad categories: stand alone Athletic Training, Kinesiology, and Allied Health. As indicated in Table 1, the overwhelming majority of respondents (75.3%) indicated that the ATEP was housed in a department related to kinesiology. Likewise, respondents also reported a high degree of variability in terms of school or college affiliation for the ATEP which were condensed into four categories: Allied Health/Medicine, Arts and Science/HPER, Education and Professional Studies, and hybrids of schools composed of more than one discipline. Affiliations with Education and Professional Studies (28.9%) and Hybrid (28.1%) schools were most commonly reported.

### General Perceptions of Relationship

Research Question 1 addressed program directors' general perceptions of the nature of coupling between the ATEP and the institution's intercollegiate athletic department. Program directors were asked to rate their perceptions of each statement using a five-point Likert scale (1 = strongly

disagree; 5 = strongly agree; Table 2). Generally, the 151 program directors noted a more tightly than loosely coupled relationship to the athletic department at their institution. Program directors perceived a considerable degree of coupling based on interactions between ATEP and athletic department staff and overall responsiveness between one another, and to a lesser degree, perceived that changes that occur within the athletic department can lead to significant change for the ATEP.

### Perceptions of Coupling Specific to CAATE Standards

Program directors' perceptions of coupling related to the CAATE standards specific to physical resources, including equipment and facilities, financial resources, and personnel, were addressed through Research Question 2. Program directors were asked to rate their perceptions of each statement using a five-point Likert scale (1 = to little or no extent; 5 = to a very great extent; Table 3). Program directors perceived a moderate degree of coupling between the ATEP and athletic department related to the CAATE equipment standards, including therapeutic modalities, rehabilitation resources, and first aid and emergency equipment and personnel. Program directors perceived the least coupling between the ATEP and athletic department in terms of financial resources.

### Perceptions of Coupling Based on Program Director Characteristics

#### Years of Experience

Based on years of experience as an accredited program director, a one-way analysis of variance (ANOVA) yielded a significant difference relative to program directors' general perceptions of coupling between the ATEP and the athletic department ( $F_{3,142}=2.816$ ,  $P=.041$ ). Results of the Tukey's HSD post-hoc test indicated that respondents with 15 or more years of accredited program direction experience perceived a moderate degree of coupling between the ATEP and the athletic department, which was significantly greater than the perceptions of program directors with 10-14 years of accredited program director experience. No other significant differences were found relative to the nature of coupling between ATEPs and athletic departments based on program directors' years of accredited program leadership experience (Table 4). Additionally, no significant differences were noted in terms of perceptions of coupling based on program directors' years of experience at the current institution.

Table 4. Differences in Perceptions of Coupling Based on Years of Experience as an Accredited Program Director

| Coupled element     | M               |               |                   |                   | F     | p     |
|---------------------|-----------------|---------------|-------------------|-------------------|-------|-------|
|                     | 0-4 p<br>(n=55) | 5-9<br>(n=52) | 10-14<br>(n=23)   | > 15<br>(n=20)    |       |       |
| General perceptions | 3.44            | 3.51          | 3.11 <sup>4</sup> | 3.62 <sup>3</sup> | 2.816 | .041* |
| Equipment           | 3.39            | 3.46          | 3.45              | 2.83              | 0.995 | .397  |
| Facilities          | 2.36            | 2.26          | 2.17              | 2.83              | 0.323 | .809  |
| Personnel           | 3.37            | 3.25          | 3.42              | 3.25              | 0.235 | .872  |
| Financial resources | 1.71            | 1.61          | 1.68              | 1.52              | 0.406 | .749  |

\*Indicates significant difference at the .05 level. Superscript identifiers identify those groups reporting significant difference.

1 = 0-4

2 = 5-9

3 = 10-14

4 = > 15

#### Role Orientation and Experience with Internship Programs

Differences in perceptions of coupling based on program directors' preferred role orientation (clinical practice or teaching) and experience as a student, instructor, or program director in a former internship program, were analyzed with 2-tailed independent paired samples t tests.

Relative to role orientation, a comparison of perceptions of coupling were significantly different in two areas: financial resources ( $t_{106}=2.193$ ,  $P=.030$ ) and personnel ( $t_{107}=2.84$ ,  $P=.005$ ). Program directors who indicated they would prefer to spend their time engaged in activities related to clinical practice perceived slight coupling relative to financial resources, which differed significantly from the little to no perceptions of coupling held by program directors that would prefer to spend their time engaged in teaching. The considerable perceptions of coupling relative to personnel held by program directors who prefer clinical practice were significantly tighter than the moderate perceptions reported by program directors with a preferred teaching orientation. Based on role orientation, no significant differences were noted relative to facilities, equipment, or general perceptions of coupling (Table 5). Furthermore, no significant differences were found for perceptions of coupling based on experience as a student, instructor, or program director for an internship athletic training program.

#### Perceptions of Coupling Based on Institutional Characteristics

##### Athletic Affiliation

Regarding athletic affiliation, a significant difference was found relative to program directors' perceptions of coupling in four areas: facilities ( $F_{3,133}=2.27$ ,  $P<.001$ ), equipment ( $F_{3,142}=3.34$ ,  $P<.001$ ), financial resources ( $F_{3,110}=1.65$ ,  $P=.002$ ), and personnel ( $F_{3,111}=3.32$ ,  $P=.021$ ). Results of the Tukey HSD post-hoc test demonstrated that program directors from Division I affiliated institutions perceived

a slight degree of coupling between the ATEP and the athletic department in terms of facilities, as opposed to the moderate perceptions of coupling from program directors at Division III and NAIA affiliated institutions. Program directors employed at Division II affiliated institutions perceived slight coupling in terms of facilities, as compared to moderate coupling perceived by program directors from NAIA affiliated institutions. Specific to equipment, program directors employed at Division I institutions perceived a slight to moderate degree of coupling with the athletic department that was significantly lower than program directors' perceptions at Division III and NAIA institutions. Program directors at Division III institutions perceived a slight degree of financial resource coupling that was statistically significantly different than the perceptions of little to no coupling reported by program directors from Division I institutions. The moderate perceptions of personnel coupling held by program directors employed at Division III institutions were significantly tighter than the perceptions of program directors from Division I institutions. There were no significant differences found in terms of general perceptions of the nature of coupling between ATEPs and athletic departments based on athletic affiliation (Table 6).

##### Department or Division and School or College Affiliation

When comparing program directors' perceptions of coupling between ATEPs and athletic departments by ATEP department affiliation, no significant differences were found. However, when considering program directors' perceptions of coupling with athletic departments by school or college affiliation, one-way analysis of variance (ANOVA) yielded significant differences relative to facilities ( $F_{3,114}=3.533$ ,  $P=.017$ ), equipment ( $F_{3,122}=6.448$ ,  $P<.001$ ), financial resources ( $F_{3,96}=3.793$ ,  $P=.013$ ), and general perceptions ( $F_{3,122}=3.955$ ,  $P=.010$ ). Tukey's HSD post-hoc test indicated that program directors who lead ATEPs housed in schools or colleges of Allied Health/Medicine perceived little to no coupling regarding facilities, which is significantly looser than the slight perceptions of coupling held by program directors

from ATEPs housed in Arts and Science/HPER. Regarding equipment, program directors who lead ATEPs affiliated with schools or colleges of Allied Health/Medicine perceived a significantly different slight degree of coupling as opposed to program directors from schools or colleges related to Arts and Science/HPER or Education/Professional Studies, who perceived moderate equipment coupling. In addition, the perceptions of equipment coupling reported by program directors in schools or colleges related to Arts and Science/HPER were moderate compared to the significantly lower degree of slight coupling perceived by program directors in hybrid schools or colleges.

In the area of financial resources, program directors leading ATEPs housed in schools or colleges related to Arts and Science/HPER perceived a slight degree of coupling with their institution's athletic department that differed statistically significantly from the slight perceptions of coupling held by program directors in schools or colleges of Allied Health/Medicine and hybrid schools or colleges. The perceptions of generalized coupling held by program directors in schools or colleges related to Education/Professional Studies were significantly tighter than those perceived by program directors in hybrid schools or colleges even though both fell in the moderate range. There were no significant differences in program directors' perceptions of coupling in terms of personnel based on ATEP school or college affiliation (Table 7).

#### Funding Source

Based on the institution's funding source (public or private), a 2-tailed independent paired samples t test revealed significant differences in program directors' perceptions of coupling between the ATEP and the athletic department relative to facilities ( $t_{136} = -2.521$ ,  $P = .013$ ), and equipment ( $t_{145} = -2.786$ ,  $P = .006$ ). Program directors employed at publicly funded perceived slight levels of coupling related to facilities compared to those at private institutions. In addition, program directors employed at public institutions perceived a moderate degree of coupling in terms of equipment with the athletic department that was significantly different from their privately funded peers (Table 8).

#### Additional Perceptions of Coupling

Program directors also responded to an open-ended question: "What additional perceptions do you have regarding the relationship between the ATEP and the athletic department at your institution?" Several common themes emerged from the 103 responses to this question; three of the most significantly reported themes related to "coupling advantages," "job responsibilities," and "working relationship."

#### Coupling Advantages

The advantages of both tightly and loosely coupled relationships between ATEPs and athletic departments were reported. Several program directors described a tightly coupled relationship with the athletic department at their institution as both efficient and pragmatic. One in particular noted:

*We are very collaborative and do not have turf battles over identity or resources. All 14 clinical staff have paid teaching appointments in the academic unit. We are still overly reliant on expendable supplies, space, and equipment from athletics, but it makes more sense to do many labs in their space than in an artificially created one.*

In contrast, the perceived benefits of a tightly coupled relationship between ATEPs and athletic departments were not shared by all program directors. Some program directors felt that a more loosely coupled relationship between these entities was most appropriate for preparing athletic training students for future practice.

*The athletic department only serves as a clinical site for the ATEP. No other relationships exist between the athletic department and the ATEP. This works very well for us. When I started here 10 years ago, athletics pretty much ran the ATEP. The ATEP now has a high reputation as an academic discipline on our campus, which was not the case when I started. The separation of athletic departments and ATEPs should occur everywhere and is in the best interests of the ATEP.*

Table 5. Differences in Perceptions of Coupling Based on Role Orientation

| Coupled element     | Means                 |                             | t      | df  | p     |
|---------------------|-----------------------|-----------------------------|--------|-----|-------|
|                     | Teaching p<br>(n=128) | Clinical practice<br>(n=13) |        |     |       |
| General perceptions | 3.44                  | 3.27                        | -0.906 | 135 | .367  |
| Equipment           | 3.26                  | 3.90                        | 1.488  | 137 | .139  |
| Facilities          | 2.19                  | 2.81                        | 1.885  | 127 | .062  |
| Personnel           | 3.21                  | 4.00                        | 2.840  | 107 | .005* |
| Financial resources | 1.60                  | 2.01                        | 2.193  | 106 | .030* |

\*Indicates significant difference at the .05 level.



Table 6. Differences in Perceptions of Coupling Based on Institutional Athletic Affiliation

| Coupled element     | M                   |                   |                     |                     | F     | p     |
|---------------------|---------------------|-------------------|---------------------|---------------------|-------|-------|
|                     | Div. I p<br>(n=59)  | Div. II<br>(n=39) | Div. III<br>(n=32)  | NAIA<br>(n=18)      |       |       |
| General perceptions | 3.09                | 3.31              | 3.75                | 3.56                | 0.500 | .683  |
| Equipment           | 2.75 <sup>3,4</sup> | 3.42              | 4.02 <sup>1</sup>   | 3.85 <sup>1</sup>   | 7.094 | .000* |
| Facilities          | 1.80 <sup>3,4</sup> | 2.16 <sup>4</sup> | 2.80 <sup>1,4</sup> | 3.01 <sup>1,2</sup> | 9.738 | .000* |
| Personnel           | 3.09 <sup>3</sup>   | 3.31              | 3.75 <sup>1</sup>   | 3.56                | 3.388 | .021* |
| Financial resources | 1.41 <sup>3</sup>   | 1.66              | 1.98 <sup>1</sup>   | 1.74                | 5.196 | .002* |

\*Indicates significant difference at the .05 level. Superscript identifiers indicate those groups reporting significant difference

1 = Div. I

2 = Div. II

3 = Div. III

4 = NAIA

#### Job Responsibilities

One of the recurring themes throughout the 103 responses to the open-ended question related to the concept of dual academic/athletic appointments. One program director noted:

*All 5 of our "staff" ATCs are on academic appointments...they are hired, paid and evaluated to: a) teach courses, b) provide clinical instruction, c) be active department members (committees, etc), and d) provide AT services to athletics. Athletics does not pay any of their salaries; the funds come from our school (within the college).*

While a number of program directors described the benefits of dual appointments (credibility as clinician and teacher), for others, the presence of unrealistic or undesired job responsibilities emerged as a significant point of contention. One program director in particular noted:

*The dual-appointments between academics and athletics has its benefits (ie, ACI's are involved in classroom teaching AND direct patient/student athlete care). However, there are limitations. It seems that athletics always gets "more" than their share of the split. For example, a staff member had a 75% academic, 25% athletic appointment, and was working DI men's basketball. This is certainly more than 10 hours of clinical time per week.*

#### Working Relationship

Program directors provided a diverse array of responses indicating the presence of positive and negative working relationships between ATEPs and athletic departments. Some program directors described the current working relationship with the athletic department at their institution as "collaborative" or "strong," while others described the relationship as "strained" or "adversarial at best." Despite these differences, one program director summarized the sentiments expressed by many:

*[It] has to be a cooperative relationship. Despite formal separation, both groups must have the flexibility to "cross-over" and support one another. The ATEP faculty and ICAs staff have to invest time in*

*maintaining a constructive positive relationship. Both parties have to present a unified front with athletic and academic administration.*

Although program directors expressed a diverse array of perceptions regarding coupling between the ATEP and the institution's athletic department, many alluded to the importance of a sound personnel relationship as the most critical key to ensuring a quality educational experience for students.

#### DISCUSSION

##### General Perceptions

While program directors perceived a moderate degree of generalized coupling between the ATEP and the athletic department, this perception varied depending on the construct in question. For example, program directors reported a considerable degree of interaction and interdependence between the ATEP and the athletic department, yet only felt to a slight extent that the identity of the ATEP was linked to the athletic department and that changes within the athletic department resulted in significant change for the ATEP. The overall finding of a moderate level of coupling supports prior research on the nature of coupling; a high degree of interdependence and interaction typifies a more tightly coupled relationship, yet an element's lack of responsiveness to change in the opposing element typifies a more loosely coupled relationship.<sup>1,5</sup> Program directors' overall perceptions could stem from the fact that ATEPs are recognizing the need to diversify the types of clinical experiences in which students engage, yet value the opportunities that a positive collaboration between the ATEP and the athletic department can provide. Several program directors used the open-ended question at the end of the survey to elaborate on the importance of job roles between the ATEP and the athletic department. The results of this study seem to indicate that program directors perceive that ATEPs have embraced recommendations from prior research regarding the need for ATEP and

athletic department personnel to maintain a high degree of interaction and communication in order to create the best learning environment for athletic training students.<sup>10,18-24</sup>

#### Coupling Relative to the CAATE Standards

##### Personnel

Program directors perceive ATEP and athletic department coupling related to the CAATE standards surrounding physical resources, including equipment and facilities, financial resources, and personnel, as varied from moderate to slight. Many respondents described how the personnel relationship between the ATEP and athletic department was a key factor in the overall success of the ATEP. Program directors' perceptions of moderate personnel coupling were supported by research that has shown how ATEP faculty members often provide clinical service to the institution's athletic department, while clinical staff members often serve as clinical instructors, approved clinical instructors, or even as classroom or laboratory instructors for the ATEP.<sup>10,14,18</sup> Understanding the nature of personnel coupling is critical due to the potential effects of role strain on the athletic trainer and the subsequent effect on students who are supervised or instructed by that athletic trainer.<sup>16,17,25</sup>

##### Physical Resources

Relative to physical resources, program directors noted a moderate level of coupling between the ATEP and the athletic department related to equipment, and a slight level of coupling specific to facilities. These findings could be the result of the potential cost of duplicating equipment between the ATEP and the athletic department, as well as the need to ensure a quality learning environment for formal classroom and laboratory instruction. These findings are important because an emphasis on patient care could limit the availability of athletic training facility space, which has traditionally been available for varying degrees of instruction within the ATEP.<sup>10,15</sup>

An important consideration regarding the coupling of equipment and facilities between the ATEP and the athletic department revolves around the impact on athletic training students. Athletic training students need to have many opportunities to use equipment for formal instruction and practice outside of clinical education, but a tightly coupled relationship between the ATEP and the athletic department may limit quality educational opportunities in this regard. ATEPs that rely predominantly on equipment (eg, therapeutic modalities) also used by the athletic department for student-athlete healthcare may adversely limit athletic training students' opportunities for formal instruction and practice. Likewise, ATEPs that rely on instructional facilities that also serve as primary student-athlete healthcare sites may experience limited or poor quality access to the facility (eg, class disruption for injured athlete treatment.) This in turn can affect students' opportunities to engage in formal instruction and evaluation situations that are conducive to the learning process.

##### Financial Resources

Financial resources represented the CAATE standard that program directors perceived to be least coupled between the ATEP and athletic department. Perceptions of slight coupling were noted, which supports research by Duderstadt,<sup>26</sup> but seems to contradict Freese's<sup>14</sup> research demonstrating a particularly tight level of financial resource coupling related specifically to ATEP and athletic department clinical staff salaries. The current study's finding of slight coupling in terms of financial resources could be related to the fact that financial resources are often separate for auxiliary programs, such as athletic departments, or that the complexity of an institution's financial resourcing does not lend itself to a thorough understanding through a quantitative survey.<sup>27</sup> For example, one program director in this study noted that all programs at the institution fell under the academic budget line, including athletics. Financial resourcing of this nature may not give the impression of a tightly coupled relationship simply because all programs

Table 7. Differences in Perceptions of Coupling Based on School/College Affiliation

| Coupled element     | M                   |                     |                   |                   | F     | p     |
|---------------------|---------------------|---------------------|-------------------|-------------------|-------|-------|
|                     | AH/M p<br>(n=25)    | A&S/HPER<br>(n=30)  | E/PS<br>(n=37)    | H<br>(n=36)       |       |       |
| General perceptions | 3.36                | 3.36                | 3.71 <sup>4</sup> | 3.22 <sup>3</sup> | 3.955 | .010* |
| Equipment           | 2.43 <sup>2,3</sup> | 3.83 <sup>1,4</sup> | 3.56 <sup>1</sup> | 2.81 <sup>2</sup> | 6.448 | .000* |
| Facilities          | 1.74 <sup>2</sup>   | 2.68 <sup>1</sup>   | 2.12              | 1.99              | 3.533 | .017* |
| Personnel           | 3.06                | 3.56                | 3.42              | 3.01              | 2.476 | .066  |
| Financial resources | 1.40 <sup>2</sup>   | 1.92 <sup>1,4</sup> | 1.69              | 1.45 <sup>2</sup> | 3.793 | .013* |

\*Indicates significant difference at the .05 level. Superscript identifiers indicate those groups reporting significant difference.

1 = Allied Health/Medicine

2 = Arts and Science/HPER

3 = Education/Professional Studies

4 = Hybrid

Table 8. Differences in Perceptions of Coupling Based on Institutional Funding Source

| Coupled element     | Means         |                | t      | df  | p     |
|---------------------|---------------|----------------|--------|-----|-------|
|                     | Public (n=81) | Private (n=69) |        |     |       |
| General perceptions | 3.44          | 3.45           | -0.105 | 144 | .916  |
| Equipment           | 3.05          | 3.70           | -2.786 | 145 | .006* |
| Facilities          | 2.04          | 2.51           | -2.521 | 136 | .013* |
| Personnel           | 3.23          | 3.43           | -1.217 | 114 | .226  |
| Financial resources | 1.57          | 1.73           | -1.449 | 113 | .150  |

\*Indicates significant difference at the .05 level.

fall under one funding source. Regardless, the relatively low perceptions of coupling related to financial resources warrants further investigation, especially through different methodologies such as qualitative approaches which rely on thick and detailed descriptions of coupling.<sup>5</sup> These approaches may also help to better identify the true nature of financial resource coupling between ATEPs and athletic departments.

#### Differences in Perceptions Based on Individual Characteristics

Regarding individual characteristics of program directors, it was interesting to note the significant differences in the generalized perceptions of coupling between program directors with 10-14 years of accredited program direction experience and those with 15 or more years of experience. This could reflect the fact that program directors with 15 or more years of experience perceive a more tightly coupled relationship with the athletic department, as this was more common prior to the educational reform movement.<sup>28-29</sup> Although the number of years at the current institution had no significant bearing on program directors' perceptions of the nature of coupling between ATEPs and athletic departments, role orientation yielded significant differences in the areas of personnel and financial resources. Program directors who would prefer to spend their time in clinical practice perceived a considerable degree of personnel coupling when compared to peers who would prefer to spend their time engaged in teaching activities. This finding suggests that program directors that prefer to spend their time in clinical practice may actively seek out and engage in clinical practice for a greater percentage of time than program directors that prefer to teach. It would be interesting to interview faculty members who work in these programs to find out how their job roles are influenced by the program director with a preferential clinical practice orientation, as research has shown that the role orientation of faculty members often mimics the expectations set by an immediate supervisor.<sup>16</sup> Program directors with a preferred clinical practice orientation also perceived a slight level of financial resource coupling as compared to program directors with a preferred teaching orientation who perceived little or no coupling. Although the difference is significant, the low overall perception of financial resource coupling may mean that a quantitative survey is insufficient for thoroughly understanding the complex nature of finances in a college or university setting.

This research found that a majority of the program directors reported having experience as a student, faculty member, or program director within an internship athletic training education program. Interestingly, there were no significant differences in program directors' general perceptions of coupling regarding the CAATE standards of physical resources, financial resources, or personnel. The lack of significant differences in the perceptions of coupling based on internship experience could be the result of program directors' type of internship experience (ie, student, faculty member, program director), or simply that program directors have embraced a more academically-focused type of practice. Regardless, this finding was somewhat surprising based on the nature of former internship programs relative to the quantity of required field experience hours, as well as the tightly coupled personnel and facilities relationship that was characteristic of internship programs.<sup>18,30</sup>

#### Differences in Perceptions Based on Institutional Characteristics

Several institutional characteristics, including athletic affiliation, funding source, department affiliation, and school affiliation, were analyzed for their relationship to program directors' perceptions of coupling between the ATEP and the athletic department. One of the most interesting findings involved the differences in program directors' perceptions of coupling based on the institution's athletic affiliation. Overall, program directors at institutions supporting Division I athletic programs indicated a looser degree of coupling relative to physical resources, personnel, and finances than their counterparts at Divisions II, III, or NAIA affiliated institutions. In addition, program directors from institutions affiliated with Division II athletic programs perceived slight coupling relative to facilities that was significantly different from NAIA program directors' perceptions of moderate coupling. These findings seem to support the notion that a clearer delineation regarding the roles and responsibilities of the ATEP and the athletic department exists especially at the Division I level. Furthermore, these findings suggest that there is less financial reliance between ATEPs and Division I athletic departments than there is between ATEPs at institutions supporting non-Division I athletic departments. It would be interesting to identify the advantages and disadvantages that program directors perceive regarding coupling with the athletic department, based on an institution's athletic affiliation. Since many ATEPs use their institutional athletic department as an affiliated site for students' clinical

experiences, the relationship to the institution's athletic affiliation warrants further investigation. For example, a tightly coupled relationship between the ATEP and the athletic department regarding clinical experiences may limit students' perspectives on the profession or their opportunities for job placement in other settings. Program directors' perceptions of a looser degree of coupling relative to equipment and facilities at publically-funded institutions could be due to the fact that privately-funded colleges and universities tend to be smaller and more cohesive than public institutions, which are often times larger and more fragmented.<sup>31</sup>

The results of this study indicated that the strong majority of program directors reported that the ATEP at their institution was housed in a department related to kinesiology. This finding substantiates prior research conducted by Charles-Liscombe,<sup>16</sup> and begs the question what role these departments also play with the institution's athletic department. Sperber<sup>27</sup> noted that some institutions employed coaches who possessed varied levels of teaching responsibilities, typically in physical education and/or kinesiology departments. He cited one situation in which the University of North Carolina System campuses employed more than 100 coaches who were also classified as instructors. The portions of these contracts funded through academic dollars amounted to approximately \$2.3 million. The implications for ATEPs housed in Kinesiology departments remain largely unexplored; however, resource allocation could become a critical issue if substantial amounts of financial resources are dedicated to athletic department support.

Departmental leadership can also significantly influence ATEP growth. In their discussions about academic department leadership, Lee<sup>32</sup> and Whetten and Cameron<sup>33</sup> noted that change processes, now commonplace in a higher education environment seeking greater accountability, are enhanced by supportive leadership. By the same token, change efforts can be impeded by resistant departmental leaders, especially those who may be complacent with the status quo.<sup>33-34</sup> Coupling of intercollegiate athletics and athletic training education programs could be problematic when administrative leaders charged with the support and growth of athletic training education programs have multiple and potentially conflicting allegiances. Although no significant findings in terms of differences in program directors' perceptions of coupling based on department affiliation emerged in this study, there were significant differences noted relative to the broader school or college affiliation of the ATEP.

Program directors of ATEPs housed in schools of Allied Health/Medicine perceived a slight level of coupling with the athletic department relative to equipment which was significantly different than the moderate perceptions reported by program directors in schools of Arts and Science/HPER and Education/Professional Studies. Program directors in schools of Allied Health/Medicine also perceived coupling between the ATEP and the athletic department relative to facilities and financial resources to be significantly lower than program directors from schools of Arts and Science/HPER. These findings could support the view that ATEPs housed in schools of Allied Health/Medicine have better overall access to equipment, facilities, and financial resources,

which certainly has implications for the type of learning environment that can be provided for athletic training students. Researchers have advocated that ATEPs begin to align themselves with schools of allied health, and the results of this study seem to support the potential benefits of doing so.<sup>8-35</sup> Furthermore, the potential cultural benefits and educational environment provided to ATEPs working more closely with other allied health care professions could be important to the socialization of athletic training students and overall function of the ATEP.<sup>36-37</sup> This alignment also falls more in line with recommendations for health care professions to adopt a more holistic and integrated approach to education.

Program directors from ATEPs located in hybrid schools or colleges perceived a significantly lower level of coupling between the ATEP and athletic department regarding equipment and financial resources as compared to program directors from schools of Arts and Science/HPER. The perceptions of tighter coupling regarding equipment and financial resources from program directors in Arts and Science/HPER could be reflective of the historically close ties between ATEPs, physical education, and athletic departments.<sup>29</sup> Furthermore, both hybrid and Education/Professional Studies program directors' general perceptions of coupling were moderate yet significantly different. Hybrid schools were classified as such because of their broad, multi-discipline nature; the variability in programs in a multi-disciplinary hybrid school or college may preclude ATEPs from establishing close ties with athletic departments.

### Limitations and Delimitations

The survey responses were based on perceptions provided only by athletic training program directors. Thus, the information gathered may have been limited by the program director's understanding of the nature of coupling between intercollegiate athletics and the athletic training education program. Furthermore, this study did not take into account the perceptions of other athletic training faculty members, athletic training clinical staff, athletic training students, or intercollegiate athletic directors.

This study identified athletic training education program directors' perceptions of coupling at a particular point in time in the presence of various internal and external factors (eg, current workload) which may have led to biased responses. Additionally, only CAATE-accredited undergraduate athletic training education programs were analyzed; therefore, the results should not be generalized to CAATE-accredited entry-level graduate athletic training education programs or post-certification athletic training education programs. Finally, the construct of general perceptions of coupling demonstrated low internal consistency. While this may be due to ambiguity of the questions on this subscale, results of this study relating to program directors' general perceptions of coupling should be interpreted cautiously.

### Suggested Further Research

Based on the findings of this investigation, several recommendations are in order. This study should be replicated through a qualitative research methodology. A multiple institution, case study approach would generate more detailed descriptions of the nature of coupling



between ATEPs and athletic departments, especially in the realm of financial resources. This study should also be extended to include additional institutional characteristics, such as Carnegie classification, that may significantly affect program director's perceptions of coupling. Moreover, future research on perceptions of coupling should include athletic training students, ATEP faculty members, academic deans or administrators, and athletic department personnel. This feedback could prove invaluable to understanding and clarifying the roles and responsibilities of individuals in the ATEP and athletic department. This study illuminated program directors' perceptions of coupling between the ATEP and athletic department, yet the advantages and disadvantages associated with the varying degrees of coupling went relatively unexplored. Further studies should address the nature of coupling between particular elements and the advantages or disadvantages associated with this relationship, especially in the areas of equipment, facilities, and personnel.

The concept of coupling should be used to explore the relationship between the ATEP and entities other than the athletic department, including other academic programs at the respective institution. A more thorough understanding of the relationship between the ATEP and other academic programs may prove beneficial when considering whether or not ATEPs as a whole need to align with other allied health education programs.

The information provided by this study is useful to ATEP program directors, faculty members, and students, as well as academic deans, athletic directors, and clinical athletic trainers with any kind of role in educating athletic training students. The results of this study support the contention that varying degrees of coupling between ATEPs and athletic departments are perceived to exist. With the continual evolution of athletic training as a valid and significant allied health care field and a diverse array of employment opportunities facing prospective athletic trainers, understanding the nature of coupling between ATEPs and athletic departments is critical. This understanding will help ATEPs continue to foster the development of quality athletic training students who are prepared to meet the demands and changing face of health care worldwide.

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