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# An Exploration of Factors Affecting Student Persistence into Athletic Training Education Programs

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An Exploration of Factors Affecting Student Persistence into Athletic Training Education  
Programs

By  
Heather Hartsell

A Dissertation Submitted to the  
Gardner-Webb University School of Education  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Education

Gardner-Webb University  
2013

## Approval Page

This dissertation was submitted by Heather Hartsell under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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## **Abstract**

An Exploration of Factors Affecting Student Persistence into Athletic Training Education Programs. Hartsell, Heather, 2013: Dissertation, Gardner-Webb University, Persistence/Prospective Athletic Training Students/Retention/Behaviors

This study was designed to examine the factors that contribute to student persistence into athletic training education programs (ATEPs). The researcher also gauged prospective athletic training students' perceptions on experiences that contributed to their decision to either apply or not apply to ATEPs.

Invited study participants included all freshmen prospective athletic training students who were enrolled in the Athletic Training Introductory course/s at three participating CAATE-accredited ATEPs with a secondary admissions process occurring in the fall. Contact persons from each ATEP were e-mailed a study introduction letter and asked to e-mail a student letter with a survey link to students in introductory course/s. The researcher merged two retention theories and developed a survey to gather data with regards to how program attributes, social, academic, clinical integration, and program commitment affect student persistence. Additionally, the survey included demographic items. The researcher also conducted semi-structured interviews with contact persons from each ATEP and gathered institution demographics, program demographics, and program attributes. Mann Whitney U tests were conducted to determine if differences among group responses existed. Spearman Rho correlation analyses were utilized to determine relationships between each independent variable (i.e., academic, social, clinical integration, program attributes, and program commitment) and each group (i.e., persisters and non-persisters). Establishing correlation significance allowed for the application of Binary Logistic Regression analysis to seek predictive variables. All qualitative responses provided in the survey data were coded utilizing an interpretive method of data coding. Overall descriptive statistics were computed on all survey items.

With the results of this study, it was established that both a difference and relationship existed between each group and student persistence with Mann Whitney U and Spearman Rho correlations demonstrating significant results. Binary Logistic regression analysis did not yield predictive variables. The greatest correlation existed between program commitment and persistence. These findings suggested that strong program commitment is more influential in persistence than other variables. Qualitative results revealed that persisters and non-persisters manage the pre-application period differently, resulting in either persistence or non-persistence. Additionally, the rapport between athletes and athletic trainers serving as preceptors, the relationships between prospective athletic training students and athletic training students, and the mentorship displayed by athletic training students were all contributors to persistence.

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## Chapter 1: Introduction

### Statement of the Problem

Retaining students in higher education is not a new issue. Over the past several decades, there has been an increase in students starting programs of study and then leaving without degree completion (Assiter & Gibbs, 2007). Low retention rate is a major concern for colleges and universities, in part, because of the financial loss (on many differing levels) accrued by the college or university when a student begins a major of study and then does not continue with it (Bennett, 2003). Moreover, high student departure rates create an environment of instability for the institution while calling into question the quality of the programs offered by the institution (Berger & Braxton, 1998; Bowman & Dodge, 2011).

Seidman (2005) formally defined *retention* as students who remain at a particular institution until degree completion, while *student persistence* is a student's desire and action to progress and graduate within the system of higher education. Understanding retention is a complicated endeavor because of the multiple viewpoints that exist on the topic, the various terminologies typically used interchangeably, as well as how an institution may be defining the student population. Retention literature often categorizes non-returning students into one population (Hoyt & Winn, 2004). Authors have challenged this single-minded approach and have suggested the singular population should be treated as various subgroups to more clearly and accurately represent the retention issue.

Not all students leaving should be viewed in negative terms. For example, some students who attend college do so to complete or take only selected classes and once that goal has been reached, they discontinue their education at the institution (opt-outs), while

other students may transfer from one institution to another but remain in the system of higher education. For the purpose of this study, student persistence was defined as a student's intent to be retained by a particular athletic training education program (ATEP) and was demonstrated by the student's action of applying to the program (Berger & Braxton, 1998).

Retaining students is also a concern for specific professional majors of study, particularly in the allied health professions. With an expanding job market, especially in athletic training, there has been an increased focus in meeting the demands of providing quality healthcare to patients in a variety of settings (e.g., high schools, performing arts, athletics). This demand places pressure on allied healthcare majors to graduate competent entry-level practitioners (Bowman & Dodge, 2011). Therefore, admitting and retaining quality students in such programs is essential.

It may be argued by those in healthcare and allied healthcare fields that a process to weed out students is necessary and must occur, and that most programs only want students who will succeed both academically and clinically. However, in the process of weeding out students, as practiced in athletic training by use of a secondary admissions process or pre-application process, actions or behaviors by those associated with the process may facilitate non-persistence of those exact individuals sought after. There is no common practice among ATEPs in relationship to how the admission and selection process is structured. Even though the intent of the selection process is a competitive one, and should be, good students may be alienated from programs because of program attributes or ineffective pre-application structure during the student's first-year. Current admission and selection practices may undermine the effort by programs to graduate practitioners who can provide the healthcare needed for various patient populations.



## **Background/Justification**

Research conducted in professional and allied healthcare fields has studied the causes of dropout or reasons for student persistence. For example, Blume and Krefetz (1997) found that students were leaving a Clinical Laboratory Technician program because of academic issues, dislike of the field, financial problems, and substance abuse problems. Additionally, Spouse (2000) and Harvey and McMurray (1997) found that students in nursing programs tended to persist and have increased levels of commitment if their perceptions meet reality. Spouse (2000) found that when the images nursing majors developed and created in their minds matched the actual role of practicing nurses, they were more likely to persist. Harvey and McMurray (1997) found that students' perceptions prior to entry into the course (nurse education program) of what was involved in obtaining a nursing degree varied from reality, suggesting that those who continued in nursing education programs were less likely to find a discrepancy between what they expected nursing education to be and what was actually experienced in their nursing curriculum.

Taylor (2005) indicated students were leaving nursing programs for the same reasons as *general students*, but also because of issues with/during clinical experiences. Additional studies in nursing education, related to student persistence, demonstrated the importance of providing appropriate clinical education for students and that not doing so was a potential cause for student departure from education programs (Lofmark, Thorkildsen, Raholm, & Natvig 2012; Mamchur & Myrick, 2003; McCarthy & Murphy, 2010).

There is abundant research on the topics of retention and student persistence in other allied healthcare major programs, but limited studies in the field of athletic training

(Bowman & Dodge, 2011; Dodge, Mitchell, & Mensch, 2009). However, interest in studying these two concepts has increased in the last several years (Bowman & Dodge, 2011; Dodge et al., 2009; Herzog, 2004; Herzog, Anderson, & Starkey, 2008). Studies specific to athletic training have used one of the most commonly cited retention theories, Tinto's (1975) Interactionalist Model, with modifications relevant to athletic training education. Studies have also borrowed certain aspects of Bean's (1980) Student Attrition Model to study student persistence. Tinto suggested that student persistence is dependent upon institutional fit demonstrated by how well students perceived they were integrated into the academic and social systems of the institution. Bean suggested that student withdrawal is analogous to workplace turnover, where the employee finds little satisfaction within the organization where they work.

The limited number of studies conducted in athletic training has supported the findings in overall retention literature that social and academic integration were factors that generally affected student persistence and retention rates. Additionally, outcomes of the research suggested that student satisfaction and motivation also affect student persistence. Dodge et al. (2009) compared and examined the differences that led senior athletic training students to continue with athletic training as a major, and what led others to leave athletic training programs (major changers). Mensch and Mitchell (2008) examined perceptions prospective athletic training students had about athletic training as a profession prior to entry into ATEP. Understanding such perceptions could potentially lead to better recruiting strategies by ATEP Directors. Bowman and Dodge's (2011) research targeted graduates from an ATEP to determine why students persisted and graduated with a degree in athletic training. Herzog (2004) and Herzog et al. (2008) conducted research on student satisfaction with certain components of the first-year

experience prior to admissions to the ATEPs and how that satisfaction related to and affected secondary application rates. A more detailed discussion of both Tinto's theory and organizational theories will be addressed in the review of literature in the subsequent section.

Retention research has also focused on how the first-year experience correlated with student retention. Research suggested that the experiences students have during their first year were defining factors of student departure from an institution, especially during and after the first year (Lau, 2003; Tinto, 2006; Pascarella, Terenzini, & Wolfle, 1986). Through years of study, research has revealed that interactions and experiences affect the level of integration into the academic and social systems of a particular institution, thus altering the student's level of commitment. As a result, a trend of institutions looking inward and devoting time and allocating monies to campaigns that support the students who are already committed to the specific institution increased. Institutions have also directed their focus on design and structure of the first year to maximize retention of students (Seidman, 2005; Upcraft, Gardner, Barefoot, & Associates, 2005). For example, many colleges and universities have employed first-year programs such as orientations and first-year seminar courses to help ensure that students are able to make the transition from high school to college (Seidman, 2005; Upcraft et al., 2005). Prior to focusing on internal fixes to retention, colleges and universities invested time and money into recruitment campaigns; but recruitment campaigns only get students to institutions, they do not keep them there (Seidman, 2005; Tinto, 1993).

Athletic training has only recently been recognized as an allied healthcare profession (Weidner & Henning, 2002b). It is an academic major of choice for many students, with an increase in interest in recent years as demonstrated by the number of

Commission on Accreditation of Athletic Training Education (CAATE) accredited ATEPs that exist across the United States (341), and by a steadily increasing membership (3,444 in 1974-35,542 in 2011) within the National Athletic Trainers' Association (NATA) (CAATE, 2008; NATA, 2012). The CAATE is responsible for oversight of ATEPs, which includes making sure that ATEPs meet and maintain certain standards designed to ensure the delivery of quality education for athletic training students (ATs).

The CAATE gives autonomy to the individuals who oversee the ATEPs on how best to satisfy the standards; therefore, programs vary in structure both prior to entry into the ATEP and after entry into the ATEP (Turocy, 2002). For instance, many ATEPs practice a secondary admissions process, where admission into the ATEP is a separate process from the institution's admissions process, and being admitted into an institution does not automatically equate to entry into ATEPs (Herzog et al., 2008). As a part of this process, students may be required to complete introductory classes, complete observation experiences with preceptors, participate in interviews, and/or meet a predetermined grade point average, among other variations. CAATE standards only require that ATEPs publish the requirements for admissions where individuals may access them easily and that all publications are consistent (CAATE, 2012). Because AT is still a fairly young profession and there is such autonomy from ATEP to ATEP, understanding the components of student persistence could ideally lead to more effective program structuring and effective retention efforts. Results of this research will enhance existing knowledge about overall retention by using previous research as a framework and focusing specifically on factors that affect student persistence. The more knowledge that is available to ATEP Directors about positive or negative influences on persistence and/or retention allows for those persons to make appropriate adjustments to the ATEPs during

the first year and to facilitate persistence of students who meet the necessary criteria and limit the alienation of qualified students because of program structure or behaviors.

### **Purpose of the Study**

Since ATEP Directors have autonomy and can structure the application process and program in any manner seen fit, as long as CAATE standards are met, there is very little consistency in structuring of the first-year experience or admissions process from program to program. Graduating entry-level athletic trainers (ATs) begins with recruiting quality students to college campuses who will apply and ultimately major in athletic training. Since a secondary admissions process is practiced by a large number of ATEPs and usually occurs sometime during the first year, it would be logical that ATEPs would concentrate on students' first-year experiences and try to increase program enrollment through student persistence (Herzog et al., 2008).

Therefore, the purpose of this study is to continue the exploration of the factors that affect students' decisions to persist (i.e., apply or not apply) to ATEPs by using specific components of Tinto's (1975) Interactionalist Model combined with the concept of organizational attributes/characteristics.

### **Overview of Methodology**

Participants included both students and ATEP Directors/Clinical Education Coordinators (CECs) from four CAATE accredited programs. The following parameters were met for students to be considered: students expressed interest in pursuing athletic training as their program of study, and students were enrolled in the ATEP's fall introductory course/s. Contact persons were sent an email that included an introduction letter explaining the purpose of the study, an additional introduction letter with consent for first-year students, as well as the survey link. For the purpose of this study, the

Athletic Training Student Persistent Survey-Revised (ATSPS-R) was used (Appendix A). Responses from participants from both closed- and open-ended survey items for each construct area were grouped and analyzed together by institution and holistically. Phone interviews with designated contact person (ATEP Directors or CECs) were conducted. Interview responses obtained provided information about institutional and program demographics, program admission requirements, as well as program attributes. Information collected from the interviews served as a reference and was compared to certain student participant responses.

Descriptive statistics were used to complete an initial analysis of the data. A mean for each construct area was calculated (e.g., all scores for program attributes from the individual surveys were calculated and a mean determined). A Spearman Rho correlation analysis was used to determine if a relationship existed between each independent variable and the dependent variable. Program attributes, academic, social, clinical integration, and program commitment served as the independent variables while student persistence was the dependent variable. A regression analysis was conducted to verify any predictor variables. This helped the researcher identify variables that may predict whether a student will persist and apply to the program. Finally, a Mann Whitney U test was used for each independent variable to determine if there were differences that existed between the two groups of participants (those who persist and those who do not persist) and whether or not those differences were significant. The significance level for this study was  $p < .05$ . An inductive process was used to identify themes from participant responses to the open-ended items on the ATSPS-R. The inductive process allowed the researcher to achieve theme saturation through interacting with the data by reading and rereading responses. Themes were identified for each group (persisters and non-

persisters). Identified themes were then compared across the two groups to determine commonalities and differences existing between the groups.

### **Definition of Terms**

Within the context of this study, the following operational definitions are used.

**Academic integration.** Perceived performance in athletic training courses and perceived degree of intellectual development as measured by a specific item on the ATSPS-R.

**Approved clinical instructor (ACI) or clinical instructor (CI) also referenced as preceptor.** An appropriately credentialed professional identified and trained by the athletic training program's clinical instructor educator (CIE). The term ACI/CI will be used as it was for original studies but for this study clinical supervisors will be referenced as preceptors.

**Athletic training student.** A student who has been formally accepted into an athletic training education program and is currently completing course sequencing and clinical education.

**CAATE accredited.** A program that is in good standing by meeting the required standards set by CAATE. A student must graduate from a CAATE accredited program to be eligible to take the Board of Certification (BOC) Exam to become credentialed as an AT.

**Clinical education.** The portion of the ATS's professional preparation that involves the formal acquisition, practice, and evaluation of clinical proficiencies through classroom, laboratory, and clinical experiences in medical care environments (CAATE, 2008).

**Clinical integration.** Quantity and quality of the interactions students have with

peers and ACIs/CIs (preceptors) during clinical observation experiences, as well as how engaged the student felt during clinical observation as measured by specific items on the ATSPS-R.

**Clinical observation experience.** The period of time (frequently recorded as observation hours) students spend observing preceptors prior to applying for official admittance into the ATEP.

**Observation student.** Prospective ATS completing clinical observation experience.

**Prospective athletic training student.** A student in his/her first-year (freshmen) who has not been formally admitted into an ATEP, but is completing the observation or pre-professional phase prior to application.

**Pre-application period.** The time students spend prior to applying and being accepted into an ATEP. For this study, this includes the observation period, hours required, and introductory courses required for admittance.

**Program director.** The full-time faculty member of the host institution and a BOC-certified AT responsible for the administration and implementation of the ATEP (CAATE, 2008).

**Program attributes.** Categorized by communication, perceived fairness in administration of policies and rules, and participation in organization decision making.

**Program commitment.** A student's desire to graduate with an athletic training degree and the student's commitment to that particular ATEP as measured by specific items on the ATSPS-R.

**Retention.** The institution's ability to keep a student until degree completion (Seidman, 2005).



**Social integration.** The quality and quantity of interactions with peers as well as faculty outside of clinical observations and classroom experiences as measured by specific items on the ATSPS-R.

**Student persistence.** A student's intent to be retained by a particular ATEP demonstrated by their action of applying to the program.

### **Research Questions**

Questions guiding this research are:

1. What is the relationship between perceived program attributes during the ATEP's first-year experience and student persistence into an ATEP?
2. What is the relationship between perceived level of social integration and student persistence into an ATEP?
3. What is the relationship between perceived level of academic integration and student persistence into an ATEP?
4. What is the relationship between perceived level of clinical integration and student persistence into an ATEP?

## **Chapter 2: Literature Review**

The purpose of this study was to explore the factors that may affect students' decisions to persist (i.e., apply or not apply) in ATEPs. The first section of the literature review provides an overview of major retention theories, specifically Tinto's (1975) Interactionist Theory and Berger and Braxton's (1998) Organizational Theory. The second part of the literature review explores studies that have attempted to identify factors that contribute to persistence at the institutional level. Since the targeted population of this particular study was first-year students, the third section includes a review of studies that have explored causes of student persistence during the first year of higher education. The fourth section of the literature review discusses persistence in healthcare education. Professions such as nursing, athletic training, and physical therapy have similar characteristics in that they are comprised of both didactic and clinical components to education. This particular literature can serve as a guide while conducting research related to athletic training. The fifth portion discusses the attributes or characteristics that define athletic training education. In an attempt to further guide this study, the final portion of the literature review presents studies that have explored persistence as it relates specifically to ATEPs.

There are multiple terms used throughout the research to discuss retention. These terms include stayers, attrition, leavers, dropouts, retained, wastage, and persistence. Within the body of this literature review, the terminology of the original authors will be used when discussing or citing their research.

### **Retention Theories**

Authors have written extensively on the determinants of student persistence or departure from a particular institution. Student persistence is a topic that has been

studied for several decades and, as a result, the literature provides insight into why students persist and/or depart from colleges and universities (Berger & Braxton, 1998; Berger & Milem, 1999; Lau, 2003; Pascarella et al., 1986; Tinto, 1975, 1993). In addition, the decades of research have produced multiple theories that are used to try to predict and explain the phenomenon of student persistence. For instance, theories stemming from the economic perspective assess costs to benefits of persistence. The student weighs the cost of attending college to benefits gained (Seidman, 2005). If benefits do not outweigh the costs then a student may choose to withdraw from that particular institution.

Psychological theories target characteristics of the student and how a certain student characteristic profile influences student persistence. The organizational perspective explains how organizational structures, behaviors, attributes, and characteristics interplay with student persistence (Bean, 1980, 1983; Berger & Braxton, 1998; Braxton & Brier, 1989). Finally, the sociological perspective delves into how the social structures and forces influence student persistence (Seidman, 2005). Authors such as Berger and Braxton (1998) and Pascarella and Terenzini (1980) have studied student persistence from a sociological standpoint. However, their research uses concepts derived most commonly from Tinto's (1975, 1993) Interactionalist Theory.

Early retention theorists argued that student departure was a result of students' inabilities to succeed in higher education. Tinto (1993) referenced this notion with the following quote: "For instance, dropouts have been frequently portrayed as having a distinct personality profile or as lacking in a particularly important attribute needed for college completion" (p. 3). Tinto did not negate that student characteristics or attributes do have some effect on persistence; however, he argued that the student's ability to be

integrated properly has a greater effect on persistence. “The higher the degree of integration of the individual into the college system, the greater will be his commitment to the specific institution and to the goal of college completion” (Tinto, 1975, p. 96). Integration into an institution is driven by what the student experiences once on campus and is shaped by the interactions students have with those in the institution, including peers, professors, and administration.

Tinto (1975) adapted his model from Spady’s (1970, 1971) early work based on Durkheim’s (1951) Suicide Theory. Durkheim suggested that those persons who were not integrated into society were at higher risk for committing suicide. Tinto viewed colleges and universities as societies and used Durkheim’s Suicide Theory as a framework (especially as it related to integration) to shape his model.

Tinto (1975, 1993) suggested that college campuses are divided into academic and social societies or systems. His early model had 13 different predictors or constructs to student persistence (Tinto, 1975, 1993). Tinto’s (1975, 1993) model suggested a student’s initial commitment to an institution and to graduating is prejudiced by anticipatory factors: precollege experiences such as academic achievement in high school indicated through high school GPAs or class rankings, family background, and personal attributes. However, once they were enrolled in the institution, persistence greatly depended on how well a student was integrated into the academic and social systems.

Tinto (1975, 1993) defined academic integration in terms of structural and normative dimensions. The structural dimension includes the student’s ability to meet the expected criteria set forth by the institution where the normative dimension focuses on the student’s perception of fitting into the normative structure of the institution (Seidman, 2005; Tinto, 1975, 1993). Social integration relates to the interactions that a

student has with peer groups, informal interactions with faculty beyond the classroom walls, as well as involvement in extracurricular activities (Pascarella et al., 1986; Seidman, 2005; Tinto 1975, 1993).

Tinto's (1975) Interactionalist Theory has been tested for its validity in predicting student persistence, used to predict persistence, and has been adapted and refined by many authors (Berger & Braxton 1998; Christie & Dinham, 1991; Pascarella & Terenzini, 1980). Even though it is one of the most extensively referenced models, being cited in the literature over 700 times, there are those who criticize Tinto's model as it is used to predict those who may persist, but it does not reflect the reasons for this persistence (Seidman, 2005). Tinto (1982) also acknowledged the shortcomings of his model and explained "the model was developed to explain certain, not all, modes or facets of dropout behavior that may occur in particular institutions" (p. 688).

Organizational theory is another prominent framework used to guide research of student retention, attrition, and persistence. Organization theorists may view organizations through a variety of terms such as characteristics, behaviors, or specific attributes (Braxton & Brier, 1989). Organizational characteristics are often used to describe certain structural demographics (size, type of institution, control) of an institution and have been found to influence student persistence (Berger & Braxton, 1998). Organizational behaviors as described by Berger (2000, 2001) are the actions of the organizational agents, those who work within the institution. Berger (2000, 2001) identified five core dimensions (bureaucratic, collegial, political, symbolic, and systemic) and discussed the effect of each dimension on student persistence. Organizational behavior at colleges and universities tends to be multidimensional, where the institution functions with a combination of behaviors. However, it has been suggested that one

organizational behavior may be more predominant than another, and that predominant behavior may either positively or negatively influence student persistence.

Bean (1980, 1983), one of the originators of the organizational perspective, posited that student attrition is analogous to turnover in work organizations. This implies that students leave for reasons similar to those reasons that cause employees to leave a place of employment. Bean (1980) derived his model of student attrition from Price's (1977) model of employee turnover, but specifically focused on how workplace determinants affect satisfaction, which may influence leaving. Examples of Bean's (1980) classifications of work place determinants include routinization, communication, distributive justice, participation (the degree of power an individual has in classroom decisions), and opportunity. Later, Bean (1983) revised his student attrition model, taking into consideration the changes Price and Muller (1981) made to their model of employment turnover. From Bean's (1980, 1983) work, another perspective in the study of student attrition emerged. The organizational concept as conceptualized by Price and Muller (1981) could be used as a framework to view and predict student persistence in higher education.

Researchers such as Braxton and Brier (1989) and Berger and Braxton (1998) have argued that blending two well-supported theories may fill voids that exist within those theories and, by doing so, would greatly enhance our understanding of student persistence. Braxton and Brier were the first to integrate the two theories. The researchers' model included constructs of Tinto's (1975) Interactionalist Model and adapted Bean's (1980, 1983) concept of organizational determinants and labeled them as organizational attributes. This model only tested select organizational attributes; and they were reframed as communication, participation in organizational decision making, and

fairness of administration in policies and rules. Berger and Braxton continued the study of student retention by using the concept of theory integration and built from the work of Braxton and Brier.

Additional research proposed a student's opinion about an institution is formed early in the academic career, such as during the freshman year (Pascarella & Terenzini, 1980; Pascarella et al., 1986; Tinto, 2006; Upcraft et al., 2005). Research by Pascarella et al. (1986) suggested that the process of integration begins as early as orientation and that when orientation activities were focused toward providing a true understanding of the institution's expectations and not just containing social activities, they led to an increase in the correct formulation of anticipatory factors about the academic and social environment/systems. By this formulation, a student's commitment to the institution was increased and therefore students were more likely to persist.

Through the discussion and application of retention theories, multiple factors that influence student persistence have been identified. The following section will include an elaboration on some of these factors, such as intention, commitment, involvement, and integration (specifically social and academic), as well as organizational behavior and attributes.

### **Factors Affecting Persistence**

**Intention and commitment.** Tinto (1975, 1993) argued that colleges are made up of both academic and social systems; therefore, integration into both of these systems is important and warranted. A student may be properly integrated into one system, yet still not persist because of lack of integration into the other system. Tinto stated that upon arrival, students have both initial intentions and commitments. Intentions are defined as educational or occupational goals, and are important to degree completion. It

is vital to understand that students enter into higher education with the intent to stay; however, some may choose to only enroll and complete certain classes, others may elect to transfer, and still others may be uncertain about their educational goals (Tinto, 1993).

Commitment, on the other hand, is determined by the students' "willingness to commit themselves to invest time, money, and energy to meet academic and social demands" (Tinto, 1993, p. 42). Individual commitment is further divided by Tinto (1993) into two major forms: goal and institutional. Goal commitment is the individual's commitment to personal and occupational goals, while institutional commitment is the individual's commitment to attain his or her goals at a particular institution.

Commitment to a particular institution may be related to family tradition, perception of graduating from the institution, or because the institution offers a specific major that is an integral part of the student's future occupation, such as nursing or athletic training. Both intentions and commitments can change over time and can be shaped (either increased or decreased) by interactions with members of the institution and the degree to which those experiences meet the individual student's needs and interests.

Tinto (1993) asserted that if a student has a strong initial commitment to both the institution and to degree attainment, the chances the individual will persist increases. However, if there is little identification with the particular institution, the student may not seek out opportunities to invest and become a part of the culture. Furthermore, if integration is lacking from a social perspective, then even a high degree of academic integration may not be enough for student persistence (Tinto).

**Major commitment.** The concept of institutional commitment as defined by Tinto (1975) can be adapted to the commitment a student has to a particular degree of study. In theory, if a student initially has a high level of commitment to that particular



program of study, this would translate to higher student persistence. Student persistence, depending on how it is defined and studied, may be reflected by a student declaring a certain program of study, completing required secondary admissions requirements, and/or graduating with a degree in that major (Herzog et al., 2008; Hoyt & Winn, 2004).

According to Leppel (2001), those students who were undecided about their major had lower academic achievement and lower persistence rates, while those students who chose a major in education, arts and science, business, engineering, and health were more likely to persist. This was true for both men and women.

Willcoxson and Wynder (2010) confirmed the notion of commitment in their study comparing students who were in their first semester and pursuing majors in accounting, marketing, or completing a generic bachelor of business degree. Overall, they found that those students who did choose a career-specific major were more likely to persist to degree completion, and that they also had clearer reasons for attending a university. This line of research suggests that students who have come to a university with a commitment to a predetermined major will most likely persist.

**Involvement/integration.** According to Tinto (1993), academic preparation for college is important; however, dismissal from a lack of preparation is still only a small portion of the total leaving equation; most still leave voluntarily. Tinto posited that most departures are a result of lack of integration into the social and academic systems, and that the experience is not satisfying; therefore, departure occurs. Tinto identified the lack of integration occurring from two sources—incongruence and isolation. Incongruence is the lack of fit and can arise from academic and social abilities, skills, and interests, as well as demands placed on the student by the academic institution. In this case, demands may be seen as either too hard or too easy. Isolation is the “absence of sufficient

interactions where integration would be achieved” (Tinto, p. 56).

**Academic integration.** Academic integration is conceptualized by a student’s grade performance and the degree of intellectual development. Tinto (1975, 1993) identified it in terms of structural and normative. Structural integration is meeting the standards set forth by the college/university, while normative integration focuses on how the individual identifies with the academic norms of the academic structure (Tinto 1975, 1993; Seidman, 2005). Even though academic integration is in part identified through the use of GPA, GPA alone has not been identified as a strong predictor of persistence (Tinto, 1993, 1997).

Later, Tinto (1997) made the case that academic integration also included the interactions that occur between the faculty and students within the classroom. The concept of faculty and student interactions is supported by Thomas’s (2002) work, where the researcher notes that interactions between students and faculty seem to shape the attitude of learning and coping with difficulties academically. He described the classroom as being central to “educational activity” (Tinto, p. 599), and often it is the only place where social and academic integration merge. Academic integration “is associated with student grades, relationships with teachers, and overall performance within the classroom” (Dodge et al., 2009). Tinto noted that much of the research within the classroom has been focused on the “role of pedagogy” as opposed to faculty behaviors (p. 596).

Mensch and Ennis (2002) identified that educational experiences are important in a student’s educational process. The overarching purpose of the study was to look at students’ educational experiences in accredited ATEPs. By focusing on instructors’ perceptions of their teaching, students’ perceptions of pedagogic strategies used in their

education, and viewing course syllabi, the researchers were able to examine how students learned in ATEPs. The following pedagogic strategies were identified as essential: use of scenarios and case studies, authentic athletic training experiences, and creating a positive environment. Although pedagogical strategies have demonstrated predictive value in student learning, Tinto (1997) indicated that the research has yet to link the interaction with faculty within the classroom and its effect on persistence.

Tinto (1997) attempted to fill the void in the research by examining a coordinated studies program. Students were enrolled in several classes that shared a common theme instead of being enrolled in separate standalone classes. The intention of the program was to use learning communities and collaborative learning strategies to change the classroom experience for students. His findings indicated that students who participated in the coordinated studies program were able to build a network of support, engage in shared learning, gain a voice, and experience a richer academic environment. Additionally, students' perceptions of intellectual gain and academic performance increased. The idea was that the classroom can merge academic and social integration to affect learning.

The more students are involved, academically and socially, in shared learning experiences that link them as learners with their peers, the more likely they are to become more involved in their own learning and invest the time needed to learn (as cited in Tinto, 1997, p. 608).

**Social integration.** How students are socially integrated bears weight as to whether they persist in higher education (Christie & Dinham, 1991; Pascarella & Terenzini, 1979, 1980). Social integration is a function of interactions with peers as well as faculty and is “associated with peer networks, social outlets, and basic support from

friends” (Dodge et al., 2009, p. 198).

Faculty interactions are seemingly one of the most important factors associated with integration into a college or university and can occur formally and informally. Within the context of Pascarella and Terenzini’s (1980) work, the formal settings were defined as the classroom and the informal settings as outside the classroom. The authors do not expand further on these definitions of settings. Pascarella and Terenzini supported previous research that suggested there was a “significant association with frequency of student-faculty informal contact and college persistence” (p. 72). In addition, their research showed that the quality and degree of student-faculty interactions may bear weight in student persistence, and that sufficient contact, or lack thereof, may be one of the single most contributing factors to student persistence. Furthermore, the specific type of informal contact may be linked to student persistence.

Pascarella and Terenzini (1979) found informal contact with faculty in regards to “intellectual or course-related matters had the single most significant partial correlation to freshmen persistence” (p. 216). Tinto (2006) restated his belief that faculty, more than any other group, represent the primary intellectual values and expectations of the institution, and their interactions outside of the classroom provide standards by which individuals come to judge the intellectual climate of the institution. Furthermore, as Goodman and Pascarella’s (2006) summary of research of first-year seminars demonstrated, through use of such seminars, persistence increased from first to second year. The summary also noted that seminars often had a positive result of students generally having much more frequent and meaningful contact with faculty and peers.

**Organizational behaviors/attributes.** Organizational behavior/s is/are another important variable to bear in mind when considering the student persistence conundrum.

Berger (2000, 2001) attempted to shed some light on how organizations' (or those individuals within the organization) behaviors affect student persistence. He identified and defined "five core dimensions of organizational behavior-bureaucratic, collegial, political, symbolic, and systemic" (Berger, 2001, p. 4). Overall, while the effects of bureaucratic behaviors are not as clear as the other four behaviors, the literature does tend to support that those institutions that are more bureaucratic in nature tend to have higher attrition rates. According to Berger (2001), the bureaucratic dimension "emphasizes rationality in organizational decision making through emphasis on the use of formal structure manifested in rules, regulations, hierarchy, and goals" (p. 5), thus creating a more impersonal environment. Bureaucratic behavior seems to prevent students from interacting with faculty and administrators potentially inhibiting the academic and social integration of the student (Berger, 2001). Recommendations for institutions based from the synthesized literature include having clear lines of communication about policies and procedures, allowing students to be formally and informally involved in decision-making processes, creating an environment that is fair, having balance between structure and responsiveness, having advocates for the students, understanding the organizational environment that exists on campus, and creating an idea of shared meaning (Berger, 2001).

Braxton and Brier (1989) were the first to attempt the merging of two well-supported retention theories. The purpose of the researchers' study was to determine the effects of certain organizational attributes on student withdrawal by integrating constructs of Tinto's (1975) Model with specific organization attributes from Bean's (1980, 1983) work. The specific organizational attributes derived from Price's (1977), Price and Muller's (1981), and Bean's (1980, 1983) research included participation in

organizational decision making, fairness in the administration policies and rules, and communication. Participation in organizational decision making was measured by how much a respondent felt s/he was able to participate in the decision-making process. Fairness in the administration of policies and rules was measured by the extent the respondent felt certain things were done fairly at the university. Lastly, communication was measured by how well the respondent felt s/he was informed on specific matters at the institution. Six total variables were used, five drawn from Tinto's Model and one drawn from Bean (1980, 1983). Results indicated that each of the organizational attributes positively affected academic and social integration. Fairness of enforcing policies and rules had a direct effect on academic integration, whereas communication directly and positively affected social integration. Academic integration had a direct effect on commitment and, thus, had a direct effect on student persistence. Social integration did not yield the same results. The results of the study provided support for the *melding* of two theories; however, the results were mixed. None of the organizational attributes tested had an indirect effect on student persistence (Braxton & Brier, 1989).

Berger and Braxton (1998), through theory elaboration, considered how organizational attributes specifically affected social integration and withdraw rates of freshmen students. The researchers replicated previous work completed by Braxton and Brier (1989) where the authors revised Tinto's (1975) Interactionalist Model by adding a variable of organizational attributes (i.e., institution communication, fairness in policies, participating in decision making). The dependent variable was measured as the student's intent to return. Berger and Braxton omitted academic integration and initial goal and subsequent goal commitment and focused on social integration. Social integration was divided into two subscales, peer group relations and faculty relations. Researchers found

that each of the organizational attributes directly affected social integration, but in different ways. For example, institutional communication had a direct positive effect on peer relations, whereas participation in decision making had a positive effect on faculty relations. Additionally, results indicated that all three of the organizational attributes tested were found to have “significant indirect effects on students’ intent to persist” (Berger & Braxton, p. 110).

Participants of the current study are students in their first year at a particular institution. The next section discussed studies that explored student persistence concerns related specifically to the first-year experiences.

### **The First-Year Experience**

Ample research has been directed at the first-year student in an effort to learn how to provide the appropriate amount of challenge and support for this particular population. While students can drop out at any given point in their academic career, mounting research supports that the majority typically drop out at the end of the freshman year (Lau, 2003; Pascarella et al., 1986; Tinto, 2006). “The research on student persistence reveals that the largest proportion of institutional leaving occurs during the first year” (Upcraft, 2005, p. 28). These findings imply that the first-year experience is important and plays a vital role in student persistence, and that institutions should focus efforts on creating a first-year experience that fits the first-year student (Tinto, 2006).

Lau (2003) identified that freshmen students who leave institutions may do so for reasons outside of the institution’s control such as finances, personal circumstances, or changing career goals. Lau also asserted that there were other reasons for dropping out, including the institution’s inability to create an environment that was conducive to the student’s learning needs, students lacking the ability to manage course work or load, and

freshmen lacking the motivation to do well in school and not seeing the importance of attending college. Lau also demonstrated that institutional factors may play some part in student persistence. Lau categorized these institutional factors into three primary categories: (a) institutional administrators, (b) faculty, and (c) students. Each category is further broken down into subcategories such as funding, facilities, and programs offered; honors and first year. Based on this assumption, the lack of persistence cannot be solely placed on students' shoulders.

Christie and Dinham (1991), expanding on Tinto's (1975) theory, elaborated on how external experiences can negatively affect a student's social integration during the freshman year. The researchers found two predominant types of institutional experiences affect social integration, namely, living on campus and extracurricular activities. Students who lived on campus met other students more easily, developed student relationships, had access to information about events occurring on campus, and were able to separate themselves from high school friends. The researchers also pointed out that another important influence to consider was the student's interaction with high school friends. Students who lived off campus and had access to their old high school friends had the toughest time with socially integrating into the university, while students who lived on campus and had prior high school friends attending the same college/university with them were more likely to become integrated socially; it was perceived by the students that they already had a support group. Christie and Dinham's research also indicated that social integration was enhanced by participation in extracurricular activities. Extracurricular activities allowed the students to meet and develop friendships with those having like interests.

As stated earlier, Pascarella et al. (1986) examined the effect that the student



orientation process had on student persistence during the freshman year. Using first-year orientation programs may be one way to have a positive effect on the anticipatory socialization. It was found that students who attended the orientation sessions did, in fact, have higher levels of social integration. Additional analysis showed that students who attended the orientation session had an increased involvement in extracurricular activities and higher levels of informal interactions with faculty members, which supported Christie and Dinham's (1991) work as it related to extracurricular activities and student persistence. Pascarella et al.'s study supported the notion that student orientation programs had an effect of anticipatory socialization. The orientation had a small indirect influence on persistence as a whole; however, it did strongly affect social integration and subsequent commitment to the institution.

Berger and Milem (1999) built upon earlier work in theory integration to explain the "relationship between behavioral involvement and perceptual integration in the college persistence" (p. 642). Involvement refers to "the amount of physical and psychological energy that the student devotes to the academic experience" (as cited in Berger & Milem, p. 641). Berger and Milem operationalized involvement by measuring the frequency of contact with faculty and peers, and by measuring how often students reported noninvolvement. The study was longitudinal with data collection occurring at three different points during the first year. Results indicated that those students who were involved with faculty in the fall semester had subsequent involvement with faculty in the spring semester. In addition, involvement appears to have an indirect effect on academic and social integration. Moreover, academic and social integration were shown to predict an increase in institutional commitment with social integration having a direct effect on persistence. In general, involvement with peers and faculty appeared to have positive

benefits for first-year students; however, it must be noted that different types of involvement may have negative effects. Overall, the study supported that early involvement in the fall corresponded with persistence into the spring semester and into the second year. The following section provides an overview of research directed at persistence in healthcare education, such as nursing.

### **Persistence in Healthcare Academic Programs**

Much of the information in the literature about retention in healthcare professions has been produced by nursing research (Blume & Krefetz, 1997; Kotecha, 2002; Spouse, 2000; Williams, 2010). Within this body of literature, multiple reasons for student departure from course of study have been identified. Prior research indicated that 15-20% of student nurses would not even complete the course (nurse training programs) (Nursing standard as cited in Lindop, 1987). Lindop (1987) sought to determine if reasons cited in the earlier literature about student departure still held true by analyzing student nurse training and pupil nurse training records between the years of 1981-1986. From this analysis, the following reasons were identified for withdrawal: not suited to nursing, stress, unsatisfactory performance, domestic and family problems, marriage or pregnancy, personality disorder, and undisclosed; stress was highlighted for both groups of students.

Lindop's (1987) study served as a confirmation that little had changed over the years and that students were still, for the most part, leaving for the same reasons as found in earlier research. According to Lindop, the study highlighted "the need for a deeper understanding of personal reactions of nurses to training, as well as stressors and how these affect student and pupil during training" (p. 755). Outside of the nursing literature, Blume and Krefetz (1997) found that 80% of those individuals they studied left a Clinical

Laboratory Technician Associate Degree Program because of academic difficulties and dislike for the field, which supported Lindop's findings.

Kotecha (2002) used Tinto's (1975) student integration model as a way to view wastage (nurse learners who fail to complete nursing education) or persistence of the nurse learner. It was found that among those at the institution, nursing education was viewed via two different major discourses, an "apprentice discourse" and an "autonomous discourse" (Kotecha, 2002, p. 213). Kotecha (2002) defined apprentice discourse as "nurse education in terms of training. This notion emphasized the transmission of practical knowledge and skills within a clinical-based environment and subordinated the learning needs of trainees to the needs of the hospital" (p. 213). Autonomous discourse was defined as "equal emphasis on academic knowledge within a broader range of educational settings" (Kotecha, 2002, p. 213). This type of discourse allowed for integration through encouragement of students taking responsibility for their own learning, and the needs of the learner were placed above the needs of service. Interestingly enough, it was not a matter of which discourse was predominant on campus that had an effect on student persistence; it was how the discourses were *read*, or perceived by the *nurse learners*. The nurse learners who persisted were able to manage either discourse and use the discourse to their advantage. Kotecha (2002) noted, "It was the stayers who excelled at also using the discourses to positive ends" (p. 214).

In two additional studies, researchers established that students' perceptions of the nursing field had an effect on persistence. Spouse (2000) found that when students clearly defined their own images and beliefs about nursing, and when those definitions aligned with reality, nursing students were more likely to persist in nursing programs. Oftentimes, when students enter a profession, they do so because they can identify with it

and have a strong affinity to that profession, or the idea of it. Harvey and McMurray (1997) found that students' perceptions prior to entry in regards to what is involved in reaching professional nurse status was frequently different from the reality of what actually needed to be learned. The researchers found that 81.3% of leavers considered the content of their course to be different from what they originally thought a nursing student would learn, compared to 59.9% of stayers.

William's (2010) research provided additional insight into common behaviors displayed by students who persist in nursing education programs (four major themes were identified). The first three themes spoke to the individual student's mindset, while the last theme spoke to how students used the resources at their disposal. The first theme, *keeping up*, described students who viewed their course work in terms of keeping up instead of falling behind, and this mindset was a positive way to deal with a large workload. The second theme, *not giving up*, explained those who persisted often viewed their education in terms of not giving up. For example, even when faced with a bad grade or clinical experience, the thought was "I have wanted this all my life; therefore, I am not going to give up." The third theme, *doing it*, related to the concept of completing the task regardless of the obstacle/s presented. Students who really wanted to become nurses just did what it took to complete the nursing education program. Finally, the fourth theme was *connecting*, which was displayed through connections that students made with various individuals. Students in the study made connections with peers, faculty, and family members that correlated to the concept of social integration (Williams). Because students were able to make such connections with others, they did not feel isolated, which translated into increased student persistence. One student described this purposeful connection in the following way: "That first week, I would

always find someone, even if I didn't know them, and ask them their phone number and email" (Williams, p. 365).

A vital component to most healthcare professions is the clinical learning environment (Laurent & Weidner, 2001; Lofmark et al., 2012; Mamchur & Myrick, 2003). Ideally, this environment is where "theory and practice complement each other" (Lofmark et al., 2012, p. 164), and students are able to integrate and apply the theoretical knowledge learned in the classroom setting within the practice setting (Mamchur & Myrick, 2003). The clinical learning experience, sometimes referred to as a *preceptorship*, is a model of education that allows students to learn while working side-by-side with a professional who is employed in the practice or clinical setting (Mamchur & Myrick, 2003). This environment should help students develop their critical thinking skills and problem-solving skills and formulate their attitudes and behaviors about the profession (Mamchur & Myrick, 2003; Tang, Chou, & Chiang, 2004). However, frequently this experience for the students is plagued with struggles and frustrations and is riddled with conflict that, if left unresolved, can be detrimental to the student's learning and self-concept (Mamchur & Myrick, 2003; Tang et al., 2004).

Nursing clinical experiences are most often overseen by a preceptor, an individual, typically a clinical staff member, who is responsible for the direct teaching and learning relationship and is the "dominant role in supporting the students' learning in clinical practice" (Lofmark et al., 2012, p. 165). Preceptors take on this responsibility in addition to their direct workload with patients and are often not compensated (McCarthy & Murphy, 2010). Criteria and preparation for this role varies internationally, ranging from a minimum of 1 year of experience and 2 hours of preparation courses, to 2 years of experience and 10 hours of preparation courses (McCarthy & Murphy, 2010). McCarthy

and Murphy (2010) found preceptors do not feel adequately prepared for the role, do not feel supported by various entities (undervalued and underappreciated), and the time and energy required to engage students in this clinical environment is sometimes considered a burden.

Support for preceptors could come in the form of more structured time to engage students, a reallocation of patient loads, and some advanced warning system to allow preceptors time to properly prepare for assigned students. McCarthy and Murphy (2010) identified time and workload by preceptors as predominant factors that prevented them from effectively fulfilling their roles. While it may be thought that any practicing nurse can assume the role as preceptor, it is often overlooked that the individual filling this role should have “an array of clinical, personal, and academic qualities” that may take time to develop and refine (McCarthy & Murphy, p. 234).

Multiple recommendations have been suggested to increase the effectiveness of the clinical environment. For instance, more time should be invested in educating and preparing preceptors for their role, and preceptors should be instructed in the art of providing proper feedback to their students (Mamchur & Myrick, 2003). Administrators should monitor preceptors for signs of stress and burnout and, if noted, provide the support needed. In addition, preceptors should also receive timely feedback on how they are doing in their role (McCarthy & Murphy, 2010). It is imperative that the complex relationship that exists between student and preceptor be nurtured because it directly affects student learning, positively or negatively (Tang et al., 2004). In addition, conflict may hinder proper integration of the student and change the perception the student has about nursing. “A poor clinical experience can result in student disillusionment about nursing and an inability to integrate and learn” (as cited in Mamchur & Myrick, 2003, p.

189). Athletic training mirrors the nursing education schema but also has its own unique characteristics. The following section provides an overview of athletic training education.

### **Athletic Training Education**

Athletic training is considered a relatively young profession in the allied health field. It was officially established in 1950 and recognized as an allied healthcare profession in 1990 (Weidner & Henning, 2002b). Those who are certified as ATs upon degree completion must sit and pass the BOC exam. The certification deems an individual a competent entry-level athletic trainer who can practice and provide healthcare to patients.

Similar to other healthcare majors, athletic training education is a unique blend of academic course work (didactic) and clinical education provided by clinical experiences. These two components have to work in concert in order to create the most effective and complete education for students. Students are expected to develop and integrate both cognitive skills as well as psychomotor skills. Programs across the country vary in terms of structure, sequence of classes and clinical experiences, number of courses, etc. (Turocy, 2002). However, specific competencies to be learned by students are articulated through the following content areas: (1) Evidence-Based Practice, (2) Prevention and Health Promotion, (3) Clinical Examination and Diagnosis, (4) Acute Care of Injuries and Illnesses, (5) Therapeutic Interventions, (6) Psychosocial Strategies and Referral, (7) Healthcare Administrations, and (8) Professional Development and Responsibility as published by the National Athletic Trainers' Association Executive Committee for Education (2012).

The quantity and depth of knowledge required for each ATS contributes to the

rigor of the major. As a safeguard and to ensure the integrity of the athletic training education, ATEPs are governed by the CAATE and must uphold and be compliant with standards in order to remain accredited.

In addition to the academic rigor an ATS is challenged with, CAATE (2008, 2012) requires the completion of at least 2 years of clinical education (CE). As defined by the National Athletic Trainers' Association Executive Committee for Education in the CAATE (2008) Standards, CE is "The application of knowledge and skills, learned in classroom and laboratory settings, to actual practice on patients under the supervision of an ACI/CI" (p. 16). CE, which mirrors the preceptorship in nursing education, is a major and important component of an AT student's overall education and accounts for a large portion of the student's professional preparation (Weidner & Henning, 2002b).

Before accreditation standards, students were often required to spend up to 1,800 hours in clinical experience (Weidner & Henning, 2002b). It has been suggested that the number of hours may affect student persistence. In recent years, with continual reform, athletic training CE has moved away from focusing on sheer quantity, but rather on the variety and quality of CE. This is indicative of the importance of providing students with a diverse education so they can function in multiple athletic training settings (Weidner & Henning, 2002b). Even with the change in perception of obtaining large number of hours in clinical education, Mensch and Mitchell (2008) identified two major barriers by perspective students as reasons for not continuing with athletic training: time commitment and different career choices.

The clinical experience is a component of clinical education and is overseen by ATs or other healthcare professionals who serve as preceptors. Preceptors are those individuals who are appropriately credentialed professionals identified and trained by the



ATEPs CIE. The training for preceptors varies from program to program; however, it must occur on a planned and continuous basis. The preceptor's role is to help students integrate the theoretical knowledge learned in course work by providing instruction and evaluation of the athletic training educational competencies and clinical proficiencies as well as provide students with authentic experiences (CAATE, 2008). Frequently, quality clinical education is judged effective by the number of hours spent at clinical experience with little value placed on what actions are actually taking place. However, quality of education through ACI/CI (preceptors as they are referenced currently) behaviors has been shown to have a direct effect on student satisfaction and clinical integration, thus, an effect on student persistence (Bowman & Dodge, 2011; Dodge et al., 2009, Herzog et al., 2008).

While prior discussion related to student persistence at the institutional level, it is also a concern for academic majors housed within the institution. With administrative concerns about economical sustainability, academic majors bear some of the responsibility to both recruit and retain students. Small academic programs, such as athletic training, may run the risk of being removed from college campuses if recruitment and retention rates are low. Therefore, to understand persistence at the major level, the following section is an overview of studies exploring persistence specific to athletic training.

### **Persistence in Athletic Training**

Research on student persistence or retention in ATEPs is limited; however, interest in studying retention in athletic training has increased as evidenced by studies conducted over the last several years (Dodge et al., 2009). Just as with other healthcare professions, developing competent professionals is a key goal for educational programs.

With accreditation guidelines and standards, institutions are channeling many resources into attaining and maintaining accredited ATEPs. Resources are not limited to just monetary support, but include support staff, specific instructional aides, reduction of course loads, and the creation of new positions being mandated by the CAATE (CAATE, 2008, 2012). In addition, the sheer amount of time spent with individual students who are not truly interested in athletic training is lost when they decide to pursue another major besides AT (Bennett, 2003), which can be viewed as a waste of limited resources by those making the decision to continue support for ATEPs (Harvey & McMurray, 1997).

As demonstrated in previous research, student perceptions of the major or profession play a role in persistence (Harvey & McMurray, 1997; Spouse, 2000). Mensch and Mitchell (2008) studied the perceptions of potential recruits for the athletic training major/profession. The study was descriptive in nature and used the grounded theory approach. Data were collected by utilizing in-depth, semi-structured interviews that were then transcribed and coded. Results indicated that major attractors that influenced students in the direction of pursuing athletic training as a major or career included an affinity to sports, the strong desire to help people, and the idea of being and feeling part of a team. Relationships with high school ATs, being injured as an athlete, and participating in high school athletic training courses were also identified as facilitators that launched students into pursuing athletic training as a major.

Dodge et al. (2009), utilizing a descriptive mixed-methods design, studied student retention in ATEPs. The overall purpose was to gain a better understanding of student persistence in ATEPs. The subject population consisted of senior-level ATs and major changers, or students who decided to change their major from AT. The researchers

developed and used the Athletic Training Education Program Student Retention Questionnaire (ATEPSRQ); the content areas and questions echoed previous research by Tinto (1975, 1993) with one addition, clinical integration.

According to Dodge et al. (2009), clinical integration is “the assimilation of the athletic training student into the clinical portion of athletic training education” (p. 203). The questionnaire utilized five scales, each with specific questions relating to the content areas. Scale one delved into anticipatory factors, the second scale was academic integration, the third scale was clinical integration, the fourth scale was social integration, and the fifth scale was devoted to motivation. The questionnaire also consisted of open-ended questions at the end of each section to allow for students to expand on their responses.

Key themes were identified which differentiated between those who persisted with AT as a major and those who did not (major changers). Motivation was found to be a key factor for student persistence. “Motivation is linked to passion for the field of athletic training, self-efficacy, and a dedication to complete the athletic training degree” (Dodge et al., 2009, p. 201). In addition, as consistent with other higher education retention research, high levels of social and academic integration were demonstrated to be important in persistence. Furthermore, the study introduced the idea of clinical integration as a means for understanding ATS persistence. It was found that providing the students with sound clinical experiences was important to persistence (Dodge et al., 2009).

**Exploration of the clinical experience aspect to athletic training.** The concept of clinical education and clinical experiences in athletic training has been studied extensively. While the following research studies do not directly focus on student

persistence as a research topic, the information gleaned from the literature regarding concepts such as the stress placed on preceptors by filling multiple roles, the perceived helping and hindering characteristics displayed by preceptors, and what is occurring during clinical experiences may be valuable and provide insight as to what effective clinical education should encompass. This knowledge may ultimately contribute to the facilitation of student persistence (Dodge et al., 2009; Herzog et al., 2008).

As with the preceptors in nursing education, it must also be recognized that in athletic training, clinical ATs are asked to fulfill multiple roles, of which serving as an ACI/preceptor is only one (Henning & Weidner, 2008). CAATE (2008, 2012) standards require that ACIs/preceptors provide direct supervision, but the degree of instruction is program, or even preceptor driven.

A basic understanding of *key operational terms* is necessary for the reader to appreciate the role strain experienced by ATs (Henning & Weidner, 2008). Role occupation is defined as “an individual taking on a particular role;” role set is defined as “a group of relationships associated with occupying a particular role;” while role obligations are defined as “those expectations associated with occupying a particular role and are defined by the members of the role set” (Henning & Weidner, 2008, p. 275). ATs have expectations from each individual in the role set, and role strain is then a result of the individual having difficulty fulfilling the obligations of the various roles. The concept of role strain is not new or unique to ATs and has been studied across other medical disciplines. Henning and Weidner (2008) examined the degree of role strain experienced by ATs who serve as ACIs using the Athletic Training ACI Role Strain Inventory. Results indicated that some role strain is unavoidable, with 49% of those surveyed reporting moderate to high levels of role strain. In addition, respondents

indicated role strain increased at institutions where training was not effective or lacking, which was supported by the nursing literature recommendations that effective training was needed (Mamchur & Myrick, 2003; McCarthy & Murphy, 2010). ATs spend much of their education with ACIs (preceptors). If ACIs (preceptors) are overwhelmed or experience increased strain when trying to balance multiple responsibilities and are unable to effectively manage this strain, it affects the student learning process and clinical education experience. Again, this concept was supported by the nursing literature (Harvey & McMurray, 1997; Lofmark et al., 2012; McCarthy & Murphy, 2010).

Clinical instruction is an important part of CE because preceptors serve to help ATs make the necessary connections between knowledge gained and skills performed (Laurent & Weidner, 2001). Curtis, Helion, and Domsohn (1998) utilized a critical incident report study to generate perceptions of helpful and hindering behaviors that may be demonstrated by clinical instructors. The researchers elicited data from junior- and senior-level students from four different NATA-approved or Commission on Accreditation of Allied Health Education-accredited (accrediting body used by ATEPs prior to the formation of the CAATE) ATEPs. Students were asked to report on helping and hindering incidents as they occurred. The students (N = 189) were asked to fully describe the incident on the critical incident report form.

Four major categories of effective behaviors emerged. Students identified mentoring, professional acceptance, nurturing, and modeling as effective behaviors. Each major category was further divided into subcategories where specific behaviors were identified as either helpful or hindering. For example, under the mentoring category, a helpful behavior identified was “demonstrates,” while a hindering behavior was “poor communication” (Curtis et al., 1998, p. 251).

Laurent and Weidner's (2001) approach compared clinical instructor's perceptions to ATS perceptions of helpful characteristics. The authors developed a 49-item, 8-subgroup questionnaire that contained helpful clinical instructor characteristics. Participants were asked to rate each characteristic on a 1-10 Likert scale as well as identify the top 10 most helpful and top 10 most hindering characteristics. Three effective characteristics emerged as most helpful: "confidence, demonstrates respect for the student, and manages clinical emergencies well" (Laurent & Weidner, p. 59).

Not only were the actions of those directly supervising a student important, engagement in academic experiences was vital to student learning (Mensch & Ennis, 2002; Miller & Berry, 2002; Tinto, 1997). Every year ATSs are asked to spend many hours with athletic teams to obtain clinical experience (Miller & Berry, 2002). The idea behind clinical experience is for students to bridge the gap and merge didactic education with that of practical clinical education. However, this is not accomplished if students are not being properly engaged during their time at clinical experience. Miller and Berry (2002) found that students spent 7% of their time in instructional activities and 23% of their time engaged in clinical activities, while 59% of their time at clinical experience was spent in unengaged activities. The researchers defined unengaged activities as "socialization, waiting, and moving between practice facilities" (Miller & Berry, p. 233).

Using clinical experience time effectively is important, but creating an authentic clinical experience for students is also important. Rich (2009) sought to define the concept of a teachable moment as well as explore if CI (prior terminology used by CAATE) and students shared the same experiences when *teachable moments* occurred using a Teachable Moments Questionnaire (TMQ) based on literature in medical education. Open-ended and closed-ended questions were included on the questionnaire.

The intent of the questionnaire was to guide those participating in the study in defining teachable moments and to identify barriers that may prevent teachable moments to exist.

Based on the results, a teachable moment was defined as “when a CI and ATS actively participate and interact with each other to enhance learning and foster intellectual curiosity in the clinical education environment” (Rich, 2009, p. 297). In addition, three themes emerged to support this definition: (1) professional discourse, defined as discussion or conversations that occur between the CI and ATS; (2) authentic experience, referring to the ATS’s ability to gain hands-on experience; and (3) skill development, referring to the CI providing skill instruction and skill practice through role play or injury simulation. These three themes translate into three ways CIs can continue to keep ATSs engaged in their clinical experience. “During the selective coding process, the integration of these themes led to an overarching theme of *engaged clinical experiences*” (Rich, 2009, p. 297).

**Additional studies in athletic training persistence.** Bowman and Dodge (2011) studied persistence by interviewing graduates from ATEPs. During analysis of the data, four major themes emerged as to why these graduates persisted, including personal interactions, ATEP environment, educational experiences, and career consideration. Within each theme, graduates related their persistence to specific factors. For instance, it was found that friendly and informal personal interactions occurring between students and both faculty members and clinical instructors improved the students’ willingness and enthusiasm to learn on their own. Thus, such interactions seemed to affect retention in a positive manner (Bowman & Dodge, 2011).

Moving from students who are actually enrolled in ATEPs, Herzog et al. (2008) examined persistence from the freshman point of view and explored factors that

influenced student applications into accredited ATEPs. The principle investigator developed the Athletic Training Student Persistence Survey (ATSPS) to measure freshman-level student satisfaction with different aspects of ATEPs (Herzog). The survey components included items related to commitment to the program, clinical observation experiences, intellectual integration (academic), academic advising, and social integration.

Results indicated that students were satisfied with the academic advising; however, they were not satisfied with their intellectual integration. In addition, students were also not satisfied with their clinical observation experiences, which were deemed unengaging and unchallenging. Herzog et al.'s (2008) recommendations were based on such findings that programs employ intervention strategies for variables that can be changed, such as social integration and clinical experiences. This research also supported the notion that ATEPs should pay close attention to the student's first-year experience as indicated by overall higher education retention research related directly to the freshman year (Berger & Milem, 1999; Christie & Dinham, 1991; Lau, 2003; Pascarella et al., 1986).

### **Theoretical Model**

According to the literature, students persist based on their commitment to a particular institution, their motivation to graduate, and whether they have been academically and socially integrated (Pascarella et al., 1986; Tinto, 1975, 1993). Research has also indicated that how an organization behaves, or what attributes it displays, may affect the integration process, thus effecting persistence (Bean 1980, 1983; Berger & Braxton, 1998; Braxton & Brier, 1989). Additionally, studies dealing specifically with healthcare education programs such as nursing and athletic training have



identified clinical experience and clinical integration to be important components of student persistence. As a result, multiple studies, both in athletic training and nursing, have examined clinical education and what makes clinical education effective (Dodge et al., 2009, 2011; Herzog et al., 2008).

The present study combined two prominent retention theories, interactionalist and organizational, to study student persistence, as defined by the current researcher, to aid in the understanding of what factors contributed to student persistence in ATEP. Braxton and Brier (1989) and Berger and Braxton (1998) have begun the work of merging these two theories together, with the explanation that doing so would provide a more comprehensive view of student attrition, retention, and persistence. Major constructs of Tinto's (1975) Interactionalist theory, combined with specific program attributes, were the basis and framework for the present study.

The dependent variable of the present study was student persistence, defined as a student's intent to be retained by the ATEP through the action of applying to the program (Berger & Braxton, 1998). Because application deadlines are often before the end of the semester, students may not know if they have received the grades required for acceptance into the ATEP. This study only explored the factors that influenced students' decisions to persist or not to persist, not if they actually had been accepted into the ATEP. The independent variables included program attributes, academic, social and clinical integration, and overall program commitment. Program attributes were represented by three subcategories and conceptualized as communication, participation in organizational decision making, and perceived fairness in the administration of policies and rules (Berger & Braxton, 1998; Braxton & Brier, 1989). Communication was representative of how well informed the participant was about admission requirements and the purpose of

the pre-application process. Participation was characterized by the degree to which the respondent felt he or she had input in program policies and procedures and how much input he or she had in the structure of clinical observations. Perceived fairness was conceptualized by the participants expressing the extent to which grades on assignments were given according to guidelines and how accurately the admission requirements represent the qualities needed to be an ATS. Academic integration was characterized by the student's perception of how engaging and stimulating the introductory athletic training course/s was/were, how satisfied he/she was with the introductory athletic training courses, and how well the student perceived he/she performed academically. Academic performance was determined by the anticipated grade the student felt had been earned. Social integration included non-classroom interactions with faculty and the perceived difficulty in making friends with both ATSS already admitted in the program and other observation students (prospective students were going through the same process of completing observation hours and the pre-application process). Clinical integration included interactions with preceptors and other observation students during observation times, the degree in which the student perceived the clinical experiences had been challenging and interesting, and how satisfied the student was with the overseeing preceptors. Program commitment included an individual's motivation to graduate with a degree in athletic training, their commitment to a particular athletic training major, and their commitment to the particular institution. Background and demographic information was also collected.

### **Summary**

The study of student persistence is a complex matter that has been a topic of research for decades. It is a concern not only for individual institutions, but also for

academic majors. Studies conducted in nursing education provided insight for reasons why students leave or persist in healthcare education programs. Athletic training education, which mirrors nursing both didactically and clinically, should take notice and learn from what the nursing education research indicates.

In addition, there is an abundance of research that supports how important the first-year experience is in terms of student persistence. While there has been an increase in research specific to athletic training regarding retention or student persistence, this research is still sparse. The present study attempts to extend the existing research through exploration of the factors that affect students' decisions to persist (i.e., apply or not apply) into ATEPs by using specific components of Tinto's (1975) Interactionalist Model, combined with the concept of organizational attributes/characteristics.

## **Chapter 3: Methodology**

### **Introduction**

The purpose of this study was to continue the exploration of the factors that affect students' decisions to persist (i.e., apply or not apply) into ATEPs by using specific components of Tinto's (1975) Interactionalist Model combined with the concept of organizational attributes/characteristics. To continue this exploration, the following research questions were asked:

1. What is the relationship between perceived program attributes during the ATEP's first-year experience and student persistence into an ATEP?
2. What is the relationship between perceived level of social integration and student persistence into an ATEP?
3. What is the relationship between perceived level of academic integration and student persistence into an ATEP?
4. What is the relationship between perceived level of clinical integration and student persistence into an ATEP?

### **Design Statement**

To answer these questions, a mixed-methods approach was utilized. The mixed-methods approach was defined as the "process of collecting, analyzing, and 'mixing' both quantitative and qualitative methods in a single study or series of studies to understand the research problem" (Creswell, 2012, p. 535). Specifically, an embedded design was used where the qualitative data played a supportive role to the quantitative data.

The use of quantitative data yields information as to frequency and magnitude of trends, while qualitative research can offer different perspectives on the topic studied. Creswell (2012) indicated that this approach is appropriate if using only one type of

research would not adequately address the research problem. Subjective items measure a person's knowledge and perceptions, their feelings, and their judgments (Fowler, 1995). This blending of two methods allows for triangulation of information and converges inquiries of different types of data. Qualitative data will add information and depth to the quantitative findings.

A cross-sectional survey design was used for data collection since data was collected at one point in time in an attempt to capture students' views at that particular moment. Multiple studies in athletic training persistence have utilized the cross-sectional survey design (Dodge et al., 2009; Herzog, 2004; Herzog et al., 2008). Capturing students' thoughts at this particular point is valuable because of the acute awareness the student has as to why s/he made the decision either to apply or not apply. Understanding students' thought processes may provide information for how programs can enhance program structure and attributes, thus increasing student persistence.

### **Participants**

Participants included both students and ATEP Directors/CECs from three CAATE accredited programs. The following parameters had to be met for students to be considered: students expressed interest in pursuing athletic training as their program of study and students were enrolled in the ATEP's fall introductory course/s. The principle investigator targeted both groups of students within the introductory course/s; students who were choosing to apply, and those who were choosing not to apply to the ATEPs.

The ATEP Directors/CECs were interviewed by the principle investigator to collect institution demographics, program demographics, as well as specific program characteristics.

## **Instrumentation**

The survey instrument was adapted from Herzog's (2004) ATSPS (Appendix B). Permission to use and adapt the survey was granted by the original author (Appendix C). The ATSPS encompassed 34 items from commonly occurring themes identified in the literature as factors effecting persistence, including academic integration, social integration, commitment, satisfaction, and clinical integration. The survey concluded with demographic items for participants to answer (Appendix B).

Adaptations to the survey specific for this study were the addition of items relating to program attributes, framing certain items in the negative for each construct area, rearranging the order of sections, as well as adding open-ended items for each construct area. The revised survey included a total of 38 items with 17 of the original survey items included. For the purpose of this study, the revised edition will be referred to as the ATRPS-R (Appendix A).

Program attributes was a composite of eight (12, 24-30) Likert items. These items were added to the survey to answer Research Question 1 and were drawn from research completed by Bean (1980, 1983), Berger and Braxton (1998) and Braxton and Brier (1989) that explored how organizational attributes affect student persistence. Three added survey items (7, 15, 17) were framed in the negative and related to academic, social, and clinical integration. Research suggested that social integration was not only a function of interactions between students and their peers but also the interactions students had with faculty outside of the physical classroom (Pascarella & Terenzini, 1979, 1980). Because of such research, survey items 11 and 23 were added to further investigate Research Question 2 (social integration) in an effort to increase understanding of how informal (interactions that occurred outside of the physical classroom) interactions with

faculty influenced persistence. Survey item 8 was added to appraise how interactions with fellow observation students affected clinical integration.

Information about the type of introductory course/s in which participants were enrolled was collected by the principle investigator through an interview with ATEP directors/CECs. Survey item 21 was added to gauge students' perceptions of how stimulating or engaging the introductory course/s was/were in an attempt to link academic integration and program attributes. Four open-ended survey items (31-34) were added for each construct area to add depth and understanding to each of the corresponding research questions. Additionally, survey item 38 was an open-ended item framed to ascertain any additional factors from the students that were not identified on this version of the survey. Survey item 35 was added to measure a student's understanding of program requirements. Responses for this survey item were compared to responses from ATEP Directors/CECs at each institution. Table 1 outlines which questions were retained from the original survey and which questions were added to the revised survey.

Table 1

*Original and Added Survey Items*

Section	Original Items	Added Items
I. Demographics	1,2,3,4	None
II. Likert Items (academic, social, and clinical integration)	5,6,9,10,13,14, 16,18,19,20,22	7,8,11,15,17,21,23
Likert Items (program attributes)		12,24,25,26,27,28,29,30
III. Open-Ended Items	None	31,32,33,34
IV. Summary Items	36,37	35, 38

*Note:* Table 1 is a reference of the original and added survey items.

The following section is a discussion of the specific information being collected from each section of the survey.

Section I of the survey consisted of four items related to demographics of the student including high school GPA, age, gender, and race.

Section II of the survey included five construct areas of closed-ended items relating to academic integration, social integration, clinical integration, program commitment, and program attributes. A 5-point Likert scale was used, consisting of the following range: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

**Academic integration.** This construct area was represented with items relating to student perceptions of how well they have performed in their athletic training class/es, if they found the athletic training courses to be stimulating, and their overall satisfaction with athletic training as a course of study. Five Likert scale items were devoted to this



construct area. See Table 2 for specific questions.

**Social integration.** This construct area was represented by student perceptions of the non-classroom experiences with ATEP faculty, the relationships developed with ATs or observation students beyond clinical experiences and classroom experiences, and how easy it was to meet and make friends. Five Likert scale items were devoted to this construct area. See Table 2 for specific questions.

**Clinical integration.** This construct area was represented by items relating to student perceptions of how challenging and interesting the clinical observation experience has been for them. In addition, items relating to interactions with peers and clinical instructors (preceptors) were rated by participants. Five Likert scale items were devoted to this construct area. See Table 2 for specific questions.

**Program commitment.** This construct area was represented by items related to student commitment to athletic training as a major and commitment to a particular ATEP. Tinto (1975) suggested that students, upon entry into an institution, have a certain level of commitment. Experiences at the institution can either increase or decrease the level of commitment. If a student has high levels of commitment, they typically persist. Therefore, determining the level of commitment a participant has to athletic training as a program of study and to the particular ATEP was important in understanding student persistence. Three Likert scale items were devoted to this construct area. See Table 2 for specific questions.

**Program attributes.** This construct area was included by the researcher and was not on the original survey. Retention research in higher education focusing on organizational attributes and behaviors indicated a relationship in increasing or decreasing student persistence (Berger, 2001; Berger & Braxton, 1998; Braxton & Brier,

1989). Other research in athletic training has yet to focus on organizational attributes and the influence on student persistence. This construct area was divided into three subcategories including communication, perceived fairness in administration of policies and rules, and student participation in organization decision making. Two items addressed each subcategory. Eight Likert scale items were devoted to this construct area. See Table 2 for specific questions.

Section III of the survey consisted of open-ended items related to each construct area. The open-ended items sought additional information from students as to any experiences (not identified through closed-ended items) that occurred during the pre-application period that have influenced their decision either to apply or not apply.

Section IV of the survey included two items from the original survey and assessed whether or not the student applied to the program and if they met the minimum requirements for application into the ATEP. Each item was asked in a “yes” or “no” format. One survey item addressed whether the participant understood the grade requirements needed in the required classes for admittance into the ATEP. The final question in section IV was an open-ended item that sought to elicit from participants any other factors that had not been addressed on the survey.

Table 2 outlines Research Questions 1 through 4 with the corresponding items on the survey.

Table 2

*Research Questions with Correlating Survey Items*

Research Question	Survey Items	Open-Ended Items
1. What is the relationship between perceived program attributes during the first-year experience in ATEP and student persistence into the ATEP?	12, 24, 25, 26, 27, 28, 29, 30	31
2. What is the relationship between level of social integration and student persistence into ATEPs?	11, 16, 17, 22, 23	33
3. What is the relationship between level of academic integration and student persistence into ATEPs?	5, 15, 18, 20, 21	34
4. What is the relationship between level of clinical integration and student persistence into ATEPs?	6, 7, 8, 13, 14	32
5. Commitment to ATEP.	9, 10, 19	

The Microsoft version of the survey was transferred to SurveyMonkey. The survey was piloted for content and clarity by a panel of content experts, as well as ATSS currently accepted into ATEPs. Additionally, comments related to amount of time, flow, and ease of use were solicited. Only minor revisions were made to the survey. The first revision included splitting question one, “My high school grade point average (GPA) was \_\_\_\_\_ out of \_\_\_\_\_,” into two questions so that participants could specify first their high school GPA and then identify the scale used by the high school. Questions 17 and 23 were revised to make clear that the introductory course/s referenced by the researcher were those specific to the ATEP, not courses such as Biology, etc.

Finally, question 33 was revised from “structure of the first semester” to “structure of the pre-application process,” to clarify the specific time frame the researcher was targeting.

Interview questions were designed to gather information from the ATEP’s contact person (ATEP Directors/CECs) regarding institution demographic information: program demographics such as the number of students who typically apply and how many are typically accepted, program characteristics such as admission requirements and type of introductory course/s, and program attributes such as how program requirements were typically communicated to the students and how observation experiences were determined and assigned (Appendix D).

## **Procedures**

A primary internet search was conducted to determine programs that had an application period occurring in the fall semester freshman year. ATEPs who accepted students at the end of the fall semester freshman year and prior to the spring semester were used in this study. Berger and Milem (1999) found that those students who were involved with faculty in the fall semester had subsequent involvement with faculty in the spring semester and, in general, involvement with peers and faculty appeared to have positive benefits for first-year students. Additionally, Herzog (2004) and Herzog et al. (2008) examined student satisfaction with the ATEP in which a student was interested in applying. The study used a combination of Tinto’s (1975) Interactionalist research and Bean’s (1980, 1983) research of satisfaction to expand knowledge about students’ decisions to either apply or not apply to ATEPs. Participants were from ATEPs that used a spring deadline for application completion. The fall time frame was chosen for the current study because of the perceived role that experiences during this particular time (fall) appear to have on student persistence as well as because this time frame has yet to

be examined for athletic training persistence or retention.

ATEP Directors of CAATE-accredited programs were contacted by phone prior to the study beginning to solicit participation. During initial conversations, the specific contact person was identified (ATEP Director or CEC), application procedures and application deadlines were ascertained, it was determined whether IRB approval was needed from participating institutions, and a follow-up interview with the contact person was secured.

Two weeks prior to the identified application deadlines (specific to each institution), an email communication was sent to the identified contact person, either the ATEP Director/CEC, from the selected four institutions. The body of the email included the purpose of the study, criteria for participation, an explanation of the importance of the study, and the intended use of the results. The email communication to the ATEP Directors/CEC also included a letter composed to the students explaining the study's purpose and importance, the intended use of the results, and a link to the student survey (see Appendices E and F). ATEP Directors/CECs were asked to forward the letter and the link to all first-year students enrolled in the introductory course/s for athletic training regardless of whether they were applying or not applying to the program. A follow-up email was sent to each ATEP Director or CEC 1 week after the identified application deadline. The follow-up email included the original letter outlining the study with a reminder statement asking that the student introductory letter and survey link be forwarded to those students enrolled in the introductory class. A second reminder email was sent 1 week after the first follow-up email. The survey link for each institution was closed 1 week after the second reminder email.

The first page of the survey included a letter of consent. Participants were

informed as part of this consent that they may exit the survey at any time. Once consent was secured, the survey was displayed to the participant. Once the survey was completed, a page was displayed with thanks for participation in the study. Survey responses were stored in a secure location accessible only by the principle investigator. Quantitative data were transferred from SurveyMonkey into SPSS for analysis.

Qualitative data were collected from five survey items. The researcher coded content from open-ended items for recurring themes among responses using an inductive process. The researcher discovered themes as they emerged through interacting with the data (Creswell, 2012; Esterberg, 2002; Falk & Blumenreich, 2005; Glesne, 2001). Each item (which served as the overarching theme during the coding process) and the associated group were coded separately. For example, persisters' responses to "please explain any particular experiences that had an influence on your decision to apply" were analyzed together, while the non-persisters and their answers to the same question were analyzed. The researcher initially read through each of the responses, noting any words or phrases that consistently appeared. After the initial reading was completed, the researcher then identified common subthemes that were relevant to open-ended items for each of the groups. Several rounds of coding were completed until saturation was reached. Responses were then grouped and placed into the subthemes. In the reporting process, each subtheme was compared across groups noting any commonalities among the two groups and also identifying any subthemes that were unique to each group.

The interviews were semi-structured and occurred between the researcher and the contact person from each institution (either the ATEP Director/CEC). Semi-structured interviewing was used to obtain specific information while also facilitating in-depth development of certain information. The researcher devised specific questions to ask, but

the technique allowed for deviation from those questions when necessary. Deviation afforded participants the opportunity to explain further their answers “depth-probing” and provided for the researcher a clearer understanding (Glesne, 2011). Information collected included institution demographics, program demographics, and program attributes. The questions corresponded specifically to program attributes and paralleled questions asked on the survey completed by participants. Information gathered through interviews served as a reference; and select information was compared to responses collected from the student population, information such as “What is the required grade for the athletic training introductory course/s.” Due to travel limitations associated with the location of each institution, the interviews were conducted by phone. Phone interviews were recorded by the researcher after permission was granted by each interviewee. This was done in an effort to maintain an accurate account of the interview. Each interview concluded with the researcher asking if there was any further information the interviewee would like to disclose. At this time, the researcher also answered any questions in regards to the distribution process of the surveys. Interviews were then transcribed and coded by the researcher. During the coding process of the interviews, the researcher looked for commonalities among the ATEPs as well as differences. Information was used to compare program structure, admission requirements, and program attributes of each ATEP.

Institutions were ascribed a letter from A to C. Information collected was disaggregated according to institution. The ATEPs were from institutions with varying size and classification. Institution A was a private division II institution with approximately 850 traditional undergraduate students, Institution B was a public division I institution with approximately 22,000 traditional undergraduate students, and Institution

C was a private division II institution with approximately 2,800 traditional undergraduate students. Certain responses from student participants from each institution were analyzed and compared to the ATEP directors/CECs' responses. Following disaggregation by institution, information was aggregated and analyzed.

### **Statistical Analysis**

Content validity for the construct areas of academic, social, and clinical integration was determined through previous studies and a comprehensive literature review. Content validity specifically as it related to program attributes was determined through the use of content specialists. The survey was distributed to ATEP Directors, CECs, and instructors not associated with ATEPs participating in the study. Each individual was asked to consider the following questions: (1) Do the identified questions represent program attributes clearly, and (2) If I give the survey, will it give me the answers for which I am looking? To test for internal consistency, a Cronbach's alpha numeric coefficient of reliability was calculated.

Closed-ended items for each construct area were grouped and analyzed together. For example, the eight items related to program attributes were grouped together. The responses were summed and the total was used as the independent variable. For example, the minimum possible score for the program attributes scale was eight while the maximum total score was 40. A high score within this construct indicated that participants generally had positively perceived the programs' abilities to communicate, they had sufficient opportunities to participate in the decision-making process, and that the policies and procedures were fair and administered consistently. Means and standard deviations were calculated for each construct area.

A Mann Whitney U test was used for each independent variable to determine if



there were differences that existed between the two groups of participants (those who persist and those who do not persist) and whether or not those differences were significant. The Mann Whitney U test is considered the nonparametric counterpart to the t test. Two assumptions are made with the Mann Whitney U test: (1) the two samples were random and independent of each other, and (2) the data was ordinal. The significance level for this study was  $p < .05$ .

To determine if a relationship existed between each of the independent variables and the dependent variable, a Spearman Rho Correlation Analysis was used. Spearman Rho is an appropriate statistical analysis for Likert scale ordinal data, as collected in this study. This step helped identify variables that predict whether a student will persist and apply to the program. A Binary Logistic Regression was conducted to test for predictive variables. This particular test was chosen because of the mixing of dichotomous data with ordinal data (Howell, 2002).

### **Null Hypotheses**

The null hypotheses related to each research question are as follows:

1. There will be no significant relationship between perceived program attributes during the first-year experience in an athletic training educational program and student persistence in an ATEP.
2. There will be no significant relationship between perceived level of social integration and student persistence into an ATEP.
3. There will be no significant relationship between perceived level of academic integration and student persistence into an ATEP.
4. There will be no significant relationship between perceived level of clinical integration and student persistence into an ATEP.

**Delimitations**

The scope of this study was delimited to:

1. This study used a convenience sample which included ATEPs from three institutions. A limited number of ATEPs were selected for this study because it is the first of its kind. The current study combined two retention theories to fill a gap in the research and increase the understanding of how program attributes influence students' decisions to apply or not apply to ATEPs. Information about ATEPs was collected through interviews with ATEP Directors/CECs.
2. The study only sought to obtain information from freshmen students in their first year. It did not seek information from students who have already been accepted into athletic training and who have chosen to leave.

**Summary**

The methods used in this study attempted to identify the relationship between various factors identified in the research and student persistence in an ATEP. Specifically, the study sought to determine the relationship, if any, that the construct areas had on the application rates through both quantitative and qualitative analysis.

## **Chapter 4: Results**

### **Introduction**

The purpose of this study was to extend the exploration of factors that affect students' decisions to persist (i.e., apply or not apply) into ATEPs. Student persistence was measured by those students who decided to apply to the ATEP and these students were referred to as "persisters," while students who did not persist were referred to as "non-persisters." The classification of groups served as the dependent variable. The constructs gleaned from the literature and evaluated in this study were program attributes, social integration, academic integration, clinical integration, and program commitment. The constructs served as the independent variables for this study.

A mixed-methods approach was used to conduct this study. Both a survey with closed- and open-ended items and semi-structured interviews with either ATEP Directors or CECs were conducted to gather data. The survey used, ATSPS-R (Appendix A), was adapted from its original version. The revised version retained the original construct areas related to academic integration, social integration, program commitment, and clinical integration, as well as demographic items. In addition, the construct related to program attributes was included after a comprehensive review of the literature. Additionally, open-ended items were added for each construct area.

This chapter presents the results of data analysis. The first section includes a description of the subject pool and how the subject pool was ascertained, along with survey return rates. After the presentation of return rates, demographic information about all participants, distribution among institutions, and program demographics obtained through interviews is reported. Prior to discussion of the statistical results, a comprehensive discussion of the statistical tool and the independent variables is provided.

Following reporting of the statistical tool, quantitative data per research question are presented. Analysis of qualitative data related to each open-ended item is presented with its relevant research question, followed by a summary of the results.

### **Subject Pool and Return Rate**

The subject population for this study included all freshmen prospective ATs who were enrolled in the Athletic Training Introductory course/s at the three participating institutions (N = 111). Originally four institutions were targeted; however, only three committed.

Representatives were contacted via email to set up an interview time prior to the surveys being distributed to each institution. Due to travel limitations associated with the location of each institution, phone interviews were conducted. The interviews were semi-structured and occurred between the researcher and either the ATEP Director/CEC. Information collected included institution demographics, program demographics, and program attributes. Phone interviews were recorded by the researcher after permission was granted by each interviewee. This was done in an effort to maintain an accurate account of the interview. Each interview concluded with the researcher asking if there was any further information the interviewee would like to disclose. At this time, the researcher also answered any questions in regards to the distribution process of the surveys. Each interview was then transcribed and coded by the researcher.

Fifty-nine participants (N = 59) of 111 participants (N = 111) completed the survey for a response rate of 53%. Descriptive statistics were conducted of demographic information from all surveys completed. Additional descriptive and statistical analyses were conducted of survey responses while controlling for the question “I am applying or I am going to apply to the ATEP.” Five participants did not answer this question;

therefore, information from those surveys was not used. Accordingly, a total of 54 (N = 54) of the surveys were usable for a response rate of 48.6%. According to Arnold, Gansneder, and Perrin (2005), a response rate of 50% is adequate and is progressively better from there. However, that number may be the goal but the reality is response rates are low and range from 20-80%.

### Demographic Information

The demographic information collected from each participant included (a) the institution which the participant attended, (b) high school GPA, (c) sex, (d) race, and (e) age. Frequencies and percentages were calculated on all returned surveys N = 59. Table 3 is a summary of participant responses regarding age, sex, and race. Of all 59 surveys completed, all participants were over the age of 18 years (M = 18.53, SD = .65).

Table 3

#### *Distribution of Age, Sex and Race for All Participants*

		Frequency	Percent
Age	18	33/59	55.9%
	19	21/59	35.6%
	20	5/59	8.5%
Sex	Male	22/59	37.3%
	Female	37/59	62.7%
Race	Caucasian	48/59	81.4%
	Hispanic	4/59	6.8%
	African American	6/59	10.2%
	Other	1/59	1.7%

Further descriptive statistics were tabulated while controlling for participant responses to the question “I have applied or I am going to apply the ATEP.” Table 4 is a comparison of the two groups (persisters and non-persisters) and the corresponding

responses to the survey items related to age, race, and sex.

Table 4

*Distribution of Age, Sex, and Race among Applying and Not Applying*

Applied	Age			Sex		Race			
	18	19	20	Male	Female	Caucasian	Hispanic	African American	Other
Yes(s)	23	16	2	13	28	33	3	4	1
No(s)	8	2	3	6	7	12	0	1	0
Total	31	18	5	19	35	45	3	5	1

Descriptive statistics were also conducted per institution participating in the study. For this research study each institution was given a designation of an alphabetic letter, either A, B, C, and will be referenced as such throughout the remainder of reporting. Of the total usable surveys, 14 (25.9%) surveys were completed by participants from Institution A, 14 (25.9%) from Institution B, and 26 (48.1%) from Institution C. Table 5 is a representation of the distribution of demographic information of surveys returned per institution.

Table 5

*Demographics All Institutions*

	Applied	Age			Sex		Race			
		18	19	20	Male	Female	Caucasian	Hispanic	African American	Other
Institution A	Yes	4	1	1	0	6	3	0	2	1
	No	5	0	3	6	2	7	0	1	0
	Total	9	1	4	6	8	10	0	3	1
Institution B	Yes	9	5	0	0	11	11	2	1	0
	No	0	0	0	3	0	0	0	0	0
	Total	9	5	0	3	11	11	2	1	0
Institution C	Yes	10	10	1	10	11	19	1	1	0
	No	3	2	0	0	5	5	0	0	0
	Total	13	12	1	10	16	24	1	1	0

*Note:* Distribution of age, sex, race for all institutions.

**Statistical Tool**

The ATSPS-R (Appendix A) was used to compare persisters and non-persisters. Before the survey was used for this study, it was distributed to a panel of content experts to establish content validity and readability. Readability was also determined by distribution of the survey to a group of students already admitted in ATEPs.

Each construct or independent variable addressed on the survey was done through a comprehensive review of the literature. The construct areas of academic and social integration as well as institutional commitment have been used extensively in retention literature and have been found to correlate with high levels of integration and student persistence (Berger & Milem, 1999; Christie & Dinham, 1991; Pascarella et al., 1986). Clinical integration and program attributes have also been used to gauge student

persistence, but not to the extent as the aforementioned constructs. Even so, with as little research done, those constructs have shown to have some correlation to student persistence (Berger & Braxton, 1998; Braxton & Brier, 1989; Dodge et al., 2009; Herzog, 2004; Herzog et al., 2008). For this study, comparisons between persisters and non-persisters were made with the use of five scales. The first scale was program attributes and consisted of eight items, and a 5-point Likert scale was used and coded as follows: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree (see Appendix G). The responses were summed and the total was used as the independent variable. The minimum possible score for the program attributes scale was 8, while the maximum total score was 40. A high score within this construct indicated that participants generally had positively perceived the programs' abilities to communicate; they had sufficient opportunities to participate in the decision-making process; and that the policies and procedures were fair and administered consistently. To test for internal reliability related to this scale, a reliability analysis was completed (Cronbach's alpha = .43), which was unacceptable (George & Mallery, 2003). A coefficient alpha was also conducted for each subcategory since the program attributes construct was a result of a combination of the subcategories. Refer to Table 6 for results of the Cronbach's alpha for each subcategory.

Table 6

*Results of Cronbach's Alpha per Program Attribute Subcategory*

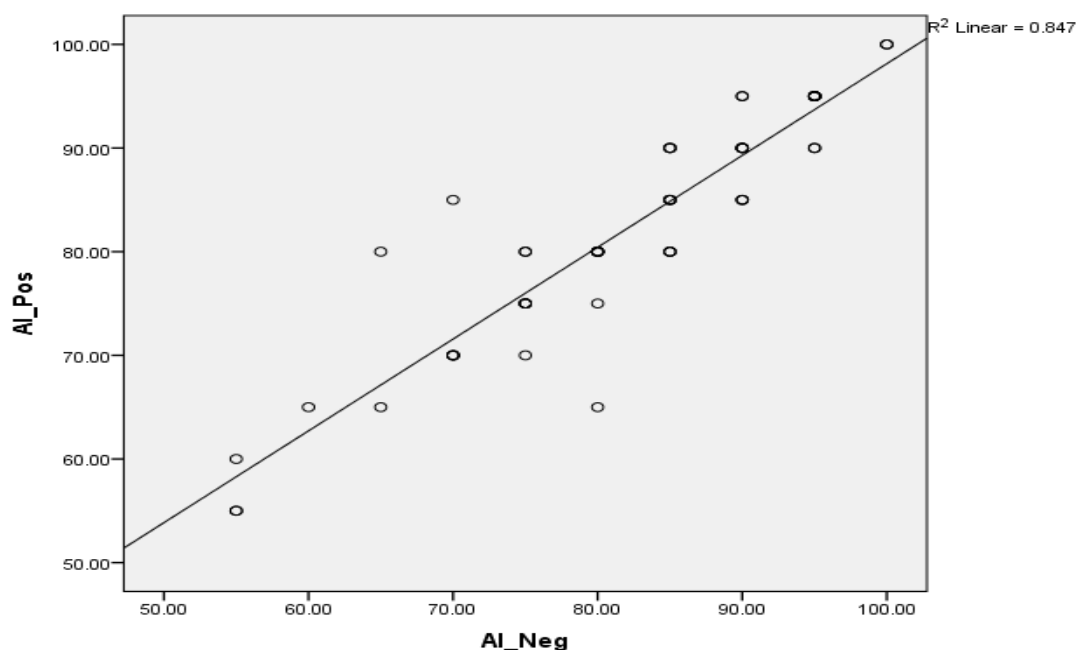
Subcategory	Cronbach's Alpha
a. participation in the decision-making process	.546
b. fairness and administration of the policies and procedures	.807
c. communication	.652



These results suggested that the policies and procedures subcategory was the only subcategory with strong internal consistency, whereas the other two categories resulted in questionable internal consistency.

The second scale, academic integration, consisted of five items, and a 5-point Likert scale was used and coded as follows: 1= Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree (see Appendix G). The construct area had two survey items that asked the same information; however, one item was framed more negatively. For example, the negatively framed item read as “I did not find the introductory course/s stimulating,” while the positively framed item read as “My introductory course/s were engaging and stimulating.” During the data coding process, the negative item was recoded to reflect its correlating positive item by flipping the Likert scale where 5 and 1, and 4 and 2 were equivalent for the two items. A correlation analysis was then performed between the positive and negative items, and results revealed a strong correlation existed between the two items ( $r = .920$ ). Figure 1 demonstrates the close relationship between the positive and recoded negative items through the distribution of compared participant responses. The strong correlation among the two items indicated a measure of the same concept. For this reason, the researcher recoded the construct area, academic integration, to academic integration positive, which reflected the survey item written in a positive tone. The potential responses for this newly created construct were summed, and the total was used as the independent variable. The minimum possible score for the academic integration scale was 5 while the maximum total score was 20. A high score within this construct corresponded to high levels of academic integration, indicative of participants having a generally positive perception of their own academic experiences. Additionally, a reliability analysis was

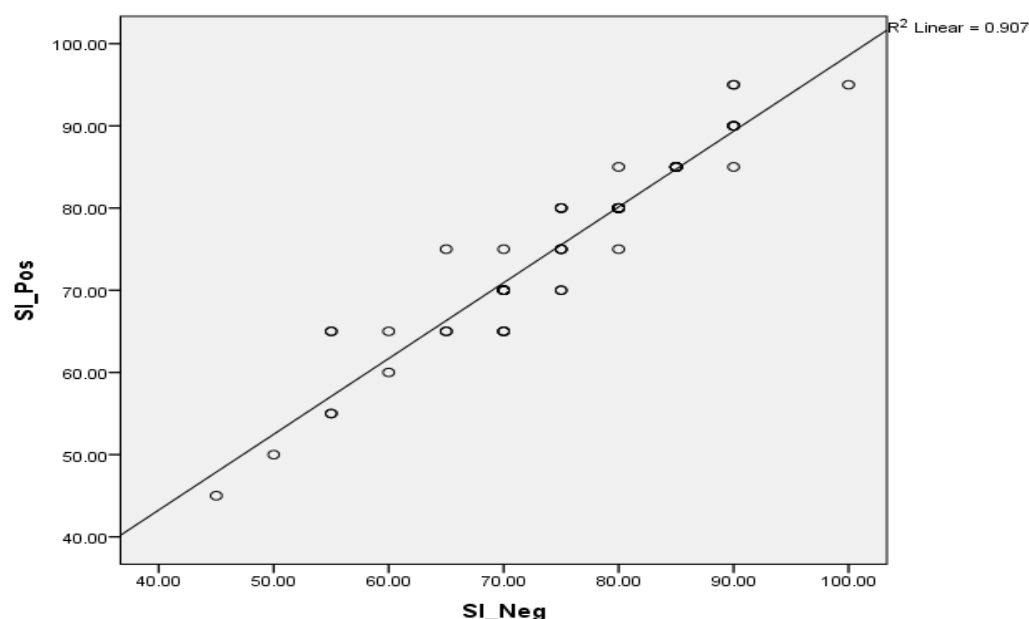
conducted for the newly created construct and an acceptable Cronbachs' alpha of .754 resulted (Field, 2005; George & Mallery, 2003).



*Figure 1.* AI Positive and AI Negative.

The third scale, social integration, consisted of five items and a 5-point Likert scale was used and coded as follows: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree (see Appendix G ). The potential responses were summed and the total was used as the independent variable. This construct area also consisted of a survey item framed in the negative. The steps outlined above, for scale two, were also applied to this scale in terms of minimizing response and acquiescent bias. Results showed a strong correlation between the two items for this scale ( $r = .952$ ), indicating that the two items were in an essence measuring the same concept. Figure 1 illustrates the close relationship between the positive and recoded negative items through the distribution of compared participant responses. Once again, the researcher recoded the construct area, social integration, to social integration positive, which reflected the survey

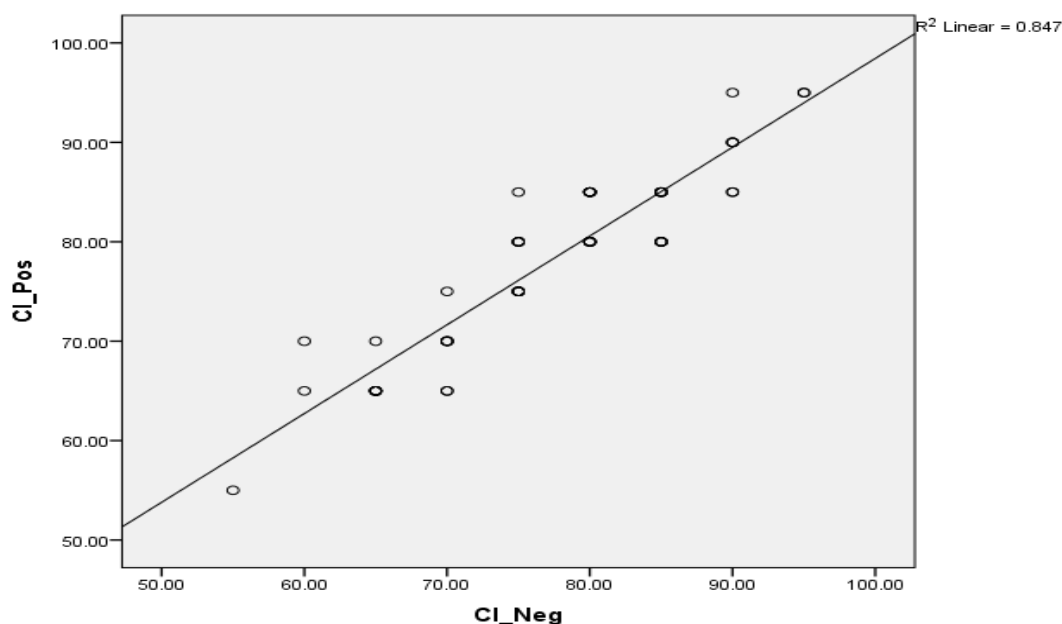
item that was written in a positive tone. The potential responses for this newly created construct were summed and the total was used as the independent variable. The minimum possible score for the social integration scale was 5 while the maximum total score was 20. A high score within this construct indicated high levels of social integration and that generally participants had a positive perception of their own social experiences and interactions with instructors and ATs. Once again, a reliability analysis was conducted and resulted in a questionable Cronbach's alpha of .615 (Field, 2005; George & Mallery, 2003).



*Figure 2.* SI Positive and SI Negative.

The fourth scale, clinical integration, consisted of five items and a 5-point Likert scale was used and coded as follows: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree (see Appendix G). The clinical integration construct was the final construct that consisted of a survey item framed in the negative. Once again, during the data coding process, the item was recoded to reflect its correlating positive

item. A correlation analysis was run between the two items and results showed a strong correlation between the two items ( $r = .920$ ). Figure 3 shows close relationship between the positive and recoded negative items through the distribution of compared participant responses. This correlation indicated that the items were closely related and measuring the same concept. For this reason, the researcher recoded the construct area, clinical integration, to clinical integration positive, which reflected the survey item that was written in a positive tone. The potential responses for this newly created construct were summed and the total was used as the independent variable. The minimum possible score for the clinical integration scale was 5 while the maximum total score was 20. A high score within this construct indicated high levels of clinical integration and that generally participants had a positive perception of their own experiences and interactions that occurred while participating in clinical observation hours. A reliability analysis was also conducted for this construct and resulted in a questionable Cronbach's alpha of .633 (Field, 2005; George & Mallery, 2003).



*Figure 3.* CI Positive and CI Negative.

The fifth scale, program commitment, consisted of three items and a 5-point Likert scale was used and coded as follows: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree (see Appendix G). The potential responses were summed and the total was used as the independent variable. The minimum possible score for the program commitment scale was 5 while the maximum total score was 15. A high score within this construct indicated high levels of commitment to a particular athletic training program and that generally participants perceived that their decision to apply to the ATEP was the right one. The result of the reliability analysis was an excellent Cronbach's alpha .951 (Field, 2005; George & Mallery, 2003).

Finally, a correlation analysis was run between each construct area to determine if any of the construct areas overlapped. Table 7 shows the correlations that existed between each of the construct areas. As the correlation table reflects, the questions within each construct measured that particular construct area, and each construct area was

an independent measure of its intended area.

Table 7

*Correlations among Construct Areas*

		PA	com	SI_Pos	AI_Pos	CI_Pos
PA	Correlation	1.000				
	Coefficient					
	Sig. (2-tailed)	.				
	N	55				
Com	Correlation	.528**	1.000			
	Coefficient					
	Sig. (2-tailed)	.000	.			
	N	55	58			
SI_Pos	Correlation	.483**	.505**	1.000		
	Coefficient					
	Sig. (2-tailed)	.000	.000	.		
	N	54	56	56		
AI_Pos	Correlation	.556**	.782**	.570**	1.000	
	Coefficient					
	Sig. (2-tailed)	.000	.000	.000	.	
	N	55	58	56	58	
CI_Pos	Correlation	.447**	.500**	.507**	.452**	1.000
	Coefficient					
	Sig. (2-tailed)	.001	.000	.000	.000	.
	N	55	58	56	58	58

*Note:* PA = program attributes, AI = Academic Integration, SI = Social Integration, CI = Clinical Integration, and com = commitment to the athletic training program. \*\* significance  $p < .01$ .

### Statistical Analysis

A Spearman Rho Correlation test was conducted to answer the four research questions. In addition, to determine if any predictive variable existed, a Binary Logistic

Regression analysis was performed. During statistical analysis, survey items for each construct area were grouped together (program attributes, program commitment, and social, academic, and clinical integration); therefore, analyses were run in regards to construct area not per question (see Appendix G). Results from the Spearman Rho test indicated significant negative relationships existed between the dependent variable, persistence, and the independent variables. However, the independent variables of program attributes and clinical integration were weakly correlated while program commitment demonstrated the strongest correlation. Table 8 illustrates the correlations that existed between each independent variable and student persistence.

Table 8

*Correlations Between Persistence and Construct Areas*

I have applied or I am going to apply to the ATEP	r	Sig. (2-tailed)
PA	-.359	.009
SI pos	-.405	.003
AI pos	-.580	.000
CI pos	-.320	.018
Com	-.762	.000

*Note:* PA = program attributes, AI = Academic Integration, SI = Social Integration, CI = Clinical Integration, and com = commitment to the athletic training program.

A Binary Logistic Regression was conducted to test for predictive variables. This particular test was chosen because of the mixing of dichotomous data with ordinal data (Advanced Statistical Analysis Using SPSS, 2006; Howell, 2002). Even though correlations were found among the dependent variable and independent variables, they were not strong enough to indicate predictive value. For this particular study, results

showed no predictive relationships among the independent variable and the dependent variables.

**Research Question 1: What is the relationship between the perceived program attributes during the ATEP's first-year experience and student persistence into an ATEP?** Analysis of program attributes yielded a slight negative correlation ( $r = -.36, p < .01$ ) (Creswell, 2012). Persisters were coded as a 1 and non-persisters were coded as a 2; therefore, as persisters answered items related to program attributes, these answers tended to be more positive, meaning that persisters were more likely to agree with the item. The  $r$  squared correlation was .128 which meant there was a 12.8% common variance between variable. Therefore, 87.2% of the variance was unexplained. Additionally, the results of the Mann Whitney U test showed a significant difference between the two groups ( $U=133.5, p<.01$ ), thus rejecting the Null Hypothesis. However, other results were not strong enough to suggest acceptance of an alternate hypothesis.

The following section discusses findings for program structure, admission requirements, and program attributes for each institution. Information for this section was a culmination of information obtained through interviews as well as specific items from the participant (student) survey.

The pre-application structure of each institution varied, but had some commonalities among institutions. Each institution required students to complete observation hours, but the requirements were not the same and ranged from 50-75. Prospective ATSS were required to be enrolled in at least one introductory course associated with the ATEP. Institutions A and B only had one required course and the content was both didactic and psychomotor in nature. Institution C had two courses for students to be enrolled. One course was a taping course and primarily psychomotor,



while the other course was predominantly didactic or lecture in nature. Institutions B and C had an average of 10-12 students graduating from the ATEP each year while Institution A had an average of two-three students graduating each year.

The design of observation hours also varied. While each ATEP required students to get observation hours, how each ATEP scheduled and assigned the hours was different. Institution A required 75 hours; 60 of the hours reflected direct observation of preceptors. Students were grouped together and rotated approximately every 2 weeks between preceptors. The additional 15 hours were a result of meetings and various activities. Institution B required 50 observation hours, 25 of which were expected to be obtained prior to application while the additional 25 were obtained after application. A graduate assistant collected the schedules from prospective ATs and collected practice times for all athletic teams, and then students were placed according to schedule availability. It was not stated by the interviewee if students rotated from preceptor to preceptor. Institution C required 60 hours. The ATEP Director assigned prospective ATs to a certain number of hours with each preceptor and then they rotated between each preceptor approximately every 2 weeks.

Admission requirements varied as well. All ATEPs considered a student's overall GPA and had a minimum GPA for admittance. Institution B's required overall GPA was 2.75, while Institutions A and C required an overall GPA of 2.5. Certain grades were also required in each introductory course. Institutions B and C required students to obtain a B- or better, whereas, Institution A mandated a C or better. Prospective ATs applying to each ATEP were also required to participate in an interview. The interview for Institutions A and C were conducted approximately a week after application deadlines, and results of the interviews were included in the decision-making process for

admittance. Institution C interviews were conducted at the end of the semester well after applications were reviewed and students had been preliminarily admitted. Table 9 reflects admission requirements per institution.

Table 9

*Summary of Admission Requirements*

	Observation Hours	GPA Requirement	Course Grade Required	Interview required
Institution A	75	2.5	C	Yes
Institution B	50	2.75	B-	Yes
Institution C	60	2.5	B-	Yes

Acceptance into each ATEP was also determined differently per institution. Grade point average, grades received in introductory course/s, and observation hours were common requirements among the institutions. Each required an interview; however, Institution B did not use the interview as part of the formula for acceptance. Institutions A and C scored the interviews and used the scores within the acceptance formula. An average of the evaluation scores completed by each preceptor was also a part of the acceptance formula. Institution C was the only institution that cited the inclusion of applicants' essay scores and scores from taping procedures as a part of the application formula. When asked if there had been any issues expressed by prospective ATs about the fairness of acceptance formulas and the pre-application period, each contact person responded "no, not to their knowledge." Table 10 is a summary of formal acceptance criteria for each institution.

Table 10

*Criteria for Formal Acceptance Summary*

	Observation Hours	Essay Scores	Taping Scores	GPA Requirement	Course Grade Required	Interview Scores
Institution A	75	No	No	2.5	C	Yes
Institution B	50	No	No	2.75	B-	No
Institution C	60	Yes	Yes	2.5	B-	Yes

There was some variation among institutions regarding the information obtained about the three subcategories of program attributes. The first subcategory, communication—how application requirements were communicated—was different from institution to institution. Institution A published requirements online, in a student manual, and a school catalog. Institution B published requirements online and in a student manual; however, the student manual was not necessarily available to prospective ATSS. Institution C also published requirements online. All three institutions used the introductory course/s as a vehicle to relay specific information and expectations to prospective ATSS. Additionally, the ATEP Directors from Institutions A and C met with prospective ATSS throughout the semester.

The goals and expectations of the pre-application period were communicated in the same manner as application requirements. However, each contact person spoke specifically to how important the preceptors were in the orientation of the students completing observation hours. For institutions A and C, the students learned about goals and expectations from evaluations completed on them by preceptors at the end of their 2-week rotations. The evaluations also served as part of the criteria used in the

determination of admission into the ATEP.

While the program attributes construct overall did not yield a strong correlation, evidence suggested that prospective ATs seemed to understand the requirements for admission into the ATEPs. This understanding is reflected in the high percentage of participants (persisters and non-persisters) responding “yes” to “To my knowledge, I have met the requirements for admissions into the athletic training education program,” reflected in Table 11 and their “yes” responses to “In my required classes for eligibility to apply, I must have a grade of \_\_\_\_\_ or better,” summarized in Table 12.

Table 11

*Summary of Response Rate of Understanding of Program Requirements*

	Yes	No	Not Sure
Institution A	71.4%	21.4%	14.8%
Institution B	64.3%	14.3%	21.4%
Institution C	88.5%	11.5%	0.0%

*Note:* The table reflects how participants responded to survey item 37.

Table 12

*Response Rate of Knowledge of Introductory Course/s Grade Requirements.*

Institution	Frequency	Percent	Grade Requirement
Institution A	8/14	57.1%	C
Institution B	2/14	14.1%	B-
Institution C	12/26	46.1%	B-

*Note:* The table reflects how participants responded to survey item 35.

The second subcategory was participation in the decision-making process.

According to contact persons, prospective ATs did not have input into the design of observation hours. Each ATEP had a predetermined design; however, students had flexibility as to when they obtained their hours. Prospective ATs also did not have input into the development of policies and procedures. Each ATEP did gather information informally at the end of each application period to gain some perspective about what worked and what areas may be improved upon with the pre-application period.

The final subcategory, and last formal question of the interview, related to students' perceived fairness in administration of the policies and procedures. In the introductory courses/s grades for students were determined in a variety of ways such as projects, assignments, quizzes, and tests. To the knowledge of each contact person, there had been no concerns expressed by prospective ATs about how grades were determined and distributed.

**Qualitative perspective.** Qualitative analysis also controlled for persisters and non-persisters. Only the 54 surveys were used during the coding process. Forty-one participants responded "yes" and 13 participants responded "no" to the survey item, "I have applied or am applying to the ATEP." The survey consisted of a total of five open-

ended items. Four of the questions corresponded with the independent variables. For each group, responses to each open-ended item were grouped together and an inductive method was used to code data.

A component of program attributes was structure of the pre-application process; therefore, the first open-ended survey item asked participants to identify anything about the structure of the pre-application period that could be changed. A total of six non-persisters responded to this question. A major subtheme for this group linked to length of the pre-application period. In all, three of the respondents spoke to the concept of length. One respondent made the following statement: "Choose students at mid-term of the first semester so they do not have to wait a whole semester to do what they wanna do for a living." Another participant supported this idea, stating, "I would make it simpler and within the first two class days." The other responses were not reported because they did not directly relate to the question. Four non-persisters responded that they would change nothing about the structure of the pre-application period. One participant indicated that the process was fair. Three of the respondents skipped the question.

A significantly higher number of persisters responded to the first open-ended survey item asking participants to identify anything about the structure of the pre-application period that could be changed. Twenty-six of this group responded to this survey item, while six skipped it entirely. Three subthemes were recognized during analysis. A subtheme that emerged and was common between the two groups related to the length of the pre-application period. However, instead of less time, persisters suggested that hours should be increased, or the pre-application period should be longer, while non-persisters suggested more time for the pre-application period would be welcomed. Five persisters answered in this fashion. One respondent supported this

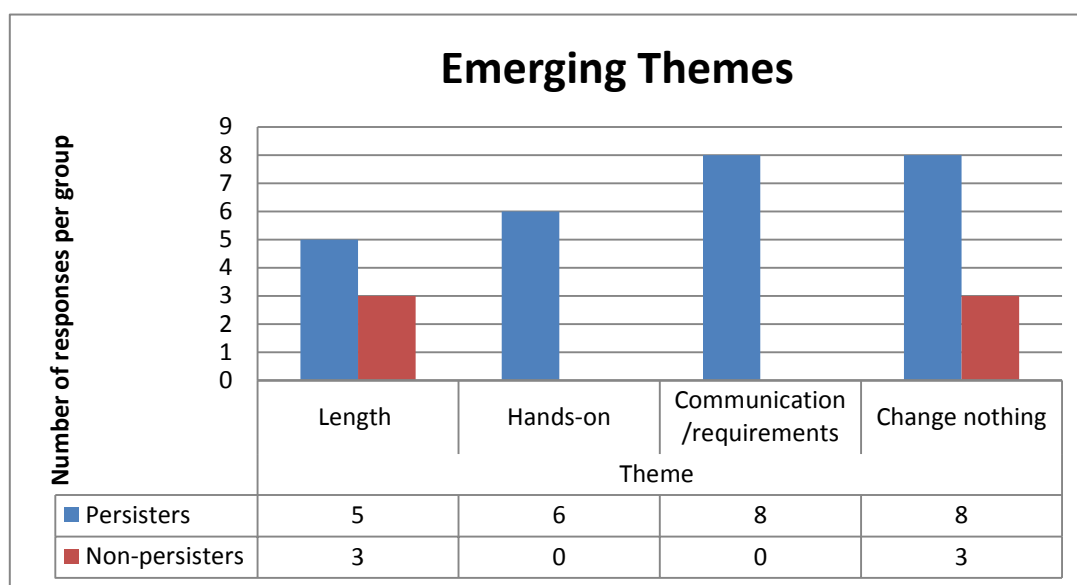
notion by responding with, “I would like to have time or more opportunity to meet my classmates who are also observing,” and another participant spoke to increasing the number of hours, “Maybe bump up the clinical experience hours.”

A second subtheme that emerged for this group was associated with the concept of hands-on experiences. A total of six participants spoke to wanting to have more opportunities to be hands-on outside of classes and having opportunities to use the skills learned in courses during observation hours. Participants’ responses suggested that observation hours during the pre-application period were not as hands-on as they would have liked. For example, one respondent stated, “I would change the fact that we aren’t allowed to do anything the first semester. It should be more hands-on outside of lab.” Another respondent corroborated this sentiment with, “I would change not being able to have more hand-on work. I feel that as applicants we should be able to do more little things such as wrap an ice bag.”

The third subtheme emerging from analysis was communication about the pre-application process. Participants also suggested that having the application materials (essay questions or prompts) ahead of time would aid in their preparation for the application process. Eight persisters suggested that explanation about expectations and rigor of the program should be more clearly conveyed. As one respondent stated, “Get our application a month prior so we can start to schedule writing tutor appointments for our papers and plan out how we are to organize our application.” Supporting the idea of communicating rigor of the program one respondent stated, “I would have the applicants told right at the beginning of the program how vigorous and competitive this field is. I had no idea coming into the program that I even had to apply.” Another spoke directly about the GPA requirement. “I would change the GPA requirement because I believe

that it is a hard transition into college for incoming students and they might not do as well as they will in their later years.”

Finally choice in assignment of clinical observation hours was referenced by both groups. This subtheme was not strongly supported by the groups. Participants from each group suggested allowing students to have some choice in what sports or time they observed. It must also be recognized that eight persisters responded directly that they would not change anything about the structure of the pre-application process. Figure 4 is a representation of the emerging themes and distribution of themes for the persister and non-persister groups.



*Figure 4.* Emerging and Distribution of Themes for Pre-Application Structure.

**Research Question 2: What is the relationship between perceived level of social integration and student persistence into an ATEP?** During analysis of social integration, a moderate negative correlation ( $r = -.40, p < .01$ ) was found (Creswell, 2012). As stated previously, persisters were coded as a 1 and non-persisters were coded as a 2, once again indicating that persisters were more likely to be agreeing with the items



within this construct. The  $r$  squared correlation was .16 which meant there was a 16.4% common variance between the variables. Therefore, 83.6% of the variance cannot be explained by this variable. Additionally, the results of the Mann Whitney U test showed there to be a difference between two groups ( $u = 110.00, p < .05$ ). The results indicated that the Null Hypothesis is rejected. However, other results are not strong enough to suggest acceptance of an alternate hypothesis.

**Qualitative perspective.** The second open-ended item related to social integration and asked participants to explain any experiences with either ATs or observational students that influenced their decision to persist. Overall, whether participants persisted or not, they were complimentary of the interactions experienced with other students. Nine non-persisters responded to this item while four skipped it. The major subtheme that emerged for non-persisters was a positive environment created by the students. There were a total of five who responded in this manner. “Well they are all easy to talk to, ask questions about the athletes that are injured. Making the whole observation part knowledgeable, and a fun experience.” Another respondent had the following comment: “The students were the reason that I was on the fence between staying and leaving. They were all so nice and made me feel welcome and I wanted to stay with them, but decided to change for other reasons.” Only one respondent identified negative interactions with students who were already in the program stating that they were “rude.” The other responses did not relate directly with the question, or they left it blank.

Twenty-nine persisters responded to the survey item asking them to explain any experiences with either ATs or observational students that influenced their decision to persist; nine skipped it and two answered with “none.” Persisters (8) also cited a positive

and welcoming environment as a major reason that influenced their decision to persist.

Two participants responded to this concept in the following manner: “Everyone has been really friendly, I feel like everyone really tries hard to make you feel welcome” and “I went to the athletic training club and just all of the students were so kind and helpful I really appreciated it.”

Additionally, for this group mentorship and the willingness of ATSs to help and encourage also emerged. This subtheme had the majority of responses from participants with 14 speaking to the concept of mentorship by the ATSs and the strong impact it had on their decision. Participants identified times where ATSs provided them with helpful hints on how to make it through the application process, explained what the expectations would be once in the program, and provided encouragement during the tough times.

Additionally, respondents were pleased with how helpful the ATSs were in assisting with studying for tests and practicing newly learned skills. “One of the upper class students offered to help me study for an anatomy test and helped me greatly. I got a 97%!”

Another participant commented, “They let me do some hands on practice on them. They also helped me out when I needed help.” One respondent commented:

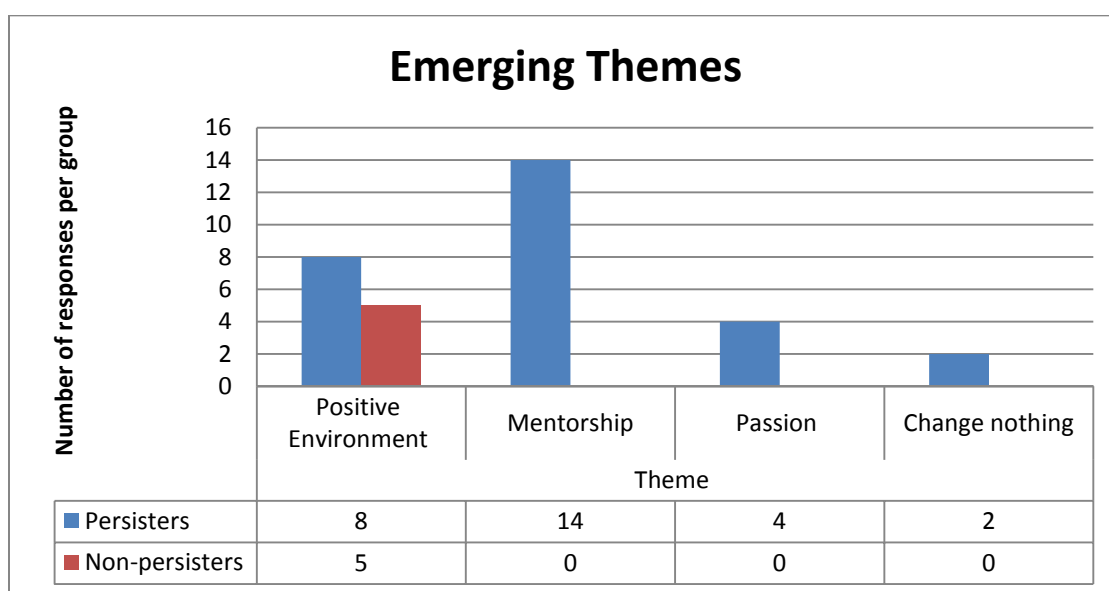
The athletic training students I have met have given me heads up on what is expected in some classes and also they gave me a lot of future help for applying to the program and also classes while in the program.

Another responded in the following way:

I was able to talk to a senior athletic training student and he gave me helpful tips on what to do and how to get noticed on filling out the application. He was easy to talk to about the whole process.

A final subtheme that emerged was the passion the ATSs exuded for the major

and profession. ATs demonstrated their passion through sharing their experiences with the observational students. Four respondents spoke to how this experience led to a stronger desire to persist. One respondent had the following to say: “I talked to one of the students in the program and hearing her explain her experiences traveling with the football team really interested me and made me even more excited to be allowed in the program.” Another responded, “The passion they had for it was the same as mine and was easy to discuss with them.” Figure 5 is a representation of the emerging themes and distribution of themes for the persister and non-persister groups.



*Figure 5.* Emerging and Distribution of Themes for Social Integration.

**Research Question 3: What is the relationship between perceived level of academic integration and student persistence into an ATEP?** A significant negative moderate correlation was found for the AI construct area ( $r = -.58, p < .01$ ). This construct area had the highest correlation of all construct areas relating specifically to the

research questions. As stated previously, persisters were coded as a 1 and non-persisters were coded as a 2, once again indicating that persisters were more likely to be agreeing with the items within this construct. The  $r$  squared correlation was .34 indicating that there is 33.6% common variance between variables. Therefore, 66.4% of the variance is unexplained. Additionally, the results of the Mann Whitney U test showed there to be a significant difference between the two groups ( $U = 60.50, p < .05$ ). The results indicated that the Null Hypothesis is rejected. However, other results are not strong enough to suggest acceptance of an alternate hypothesis.

**Qualitative perspective.** The third open-ended item related to academic integration and asked participants to explain any particular experience during the athletic training introductory courses that were strong influences on their desire to persist. Ten non-persisters responded to the question and two subthemes emerged. Challenge as referenced by three non-persisters and content as referenced by five non-persisters were the two identified subthemes. Non-persisters cited the amount of effort and commitment level that would be required to continue in athletic training did not really match interest level. For example, one respondent stated:

The amount of effort I put into the program did not reflect on how interested I really am. I am not going to apply due to my sport because they want people who give their all and I was not doing that.

Another participant responded with, “just all the time that I was not willing to put into the program.”

The second common subtheme related to content taught within the course/s. Non-persisters had positive reflections about the content and found it to be interesting and helpful in other career choices. The content also provided insight into what

responsibilities are held by ATs, and this insight contributed to solidifying non-persisters' decisions not to persist. The following two statements speak to content: "I just realized athletic training is not what I wanted to do. I was more interested in the psychological aspect of people than the physical" and "This course will aid me in my future for an Occupational Therapy degree." Three non-persisters skipped this question.

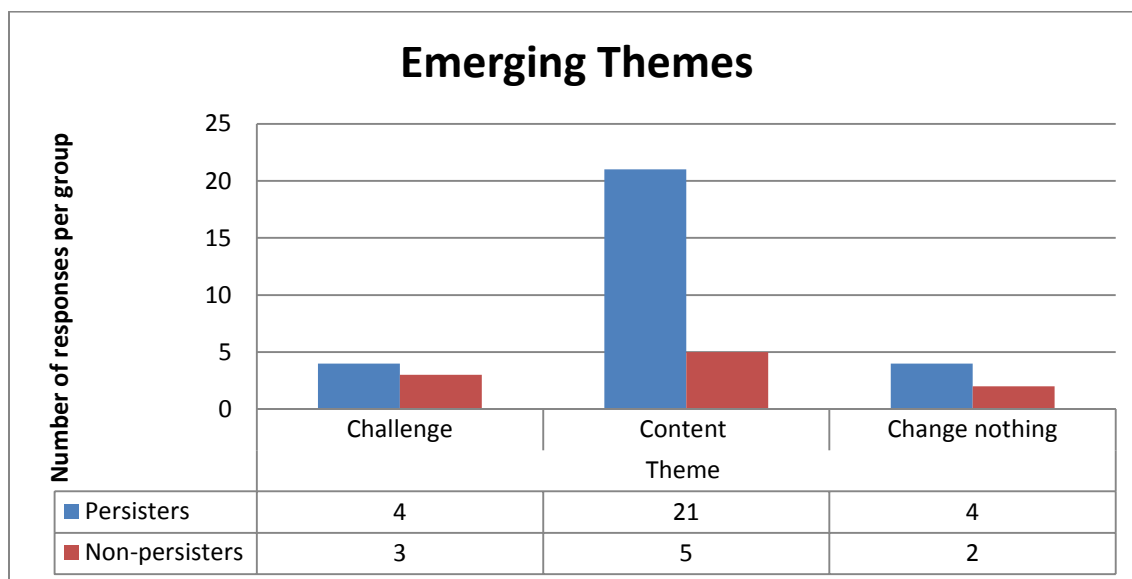
Data analysis revealed two subthemes for persisters. Twenty-seven responded to the question asking participants to identify experiences during the introductory course/s that contributed to persistence; nine skipped the survey item and four responded with "none." Challenge and content learned while in the introductory course/s was also referenced by persisters. However, three additional categories emerged under the content subtheme. Seven respondents cited learning about and being able to tape was a significant positive influence on their decision to persist. "I was intrigued to learn about the different tapings and injuries, and I can't wait to apply them to real life athletes." Eight others commented on the opportunities to learn about how the body worked and how to deal with certain injuries that may occur to an athlete.

My instructor was teaching about second impact syndrome and when he had shown the video about Preston Plevretes; at that moment I really felt like this is the major for me. I want to do everything in my power to prevent that from happening to our athletes.

Six enjoyed learning about the various settings where ATs could work. One respondent shared, "Just learning about the different work settings was a reassurance that I wanted to stay in the athletic training field."

Also emerging for this group of participants was having a strong affinity to the challenge this major offers and a strong affinity to the program to which they were

applying. Four total respondents cited the challenge provided during class contributed to persistence. One participant responded, “The positive environment and the demand of the program influenced my decision to apply to the program. I like to have a challenge and something to do every day, and I see that this program will give me both.” Figure 6 is a representation of the emerging themes and distribution of themes for the persister and non-persister groups.



*Figure 6.* Emerging and Distribution of Themes for Academic Integration.

**Research Question 4: What is the relationship between perceived level of clinical integration and student persistence into an ATEP?** Analysis of the clinical integration construct correlated the weakest ( $r = -.32, p < .01$ ), indicating a minimal relationship. As stated previously, persisters were coded as a 1 and non-persisters were coded as a 2 once again indicating that persisters were more likely to be agreeing with the items within this construct. The r squared correlation was .10 indicating that there is a 10.2% common variance between variables. Therefore, 89.8% of the variance is

unexplained. Additionally, the results of the Mann Whitney U test showed there to be a significant difference between two groups ( $U = 153.50, p < .05$ ). The results indicated that the Null Hypothesis is rejected. However, other results are not strong enough to suggest acceptance of an alternate hypothesis.

**Qualitative perspective.** The fourth open-ended item related to clinical integration and gave participants the opportunity to explain any particular experiences that occurred during clinical observation that were strong influences on their persistence. For non-persisters, three subthemes were acknowledged during analysis. Twelve answered this question while only one responded with “none.” Three non-persisters commented on the amount of time that must be invested and the commitment level necessary to make it in the ATEP. One participant stated, “I have chosen not to apply because of the time I would put in and also I am not good with blood or dislocations or any other nasty injury.” This notion was also supported by the following response: “I had too many schedule influences and I only wanted to take the major to help me become a physical therapist and if that didn’t work I would be able to take an athletic training job.”

Engagement or lack of engagement during clinical observation experience emerged as another subtheme for non-persisters. It seemed that three non-persisters were not enthralled with the amount of time that they were unengaged or not doing something. Some even suggested that scenarios be created just to have something to do. A participant had the following to say about engagement: “there was a lot of standing around doing nothing because there were not athletes in the training room. I think it made me realize that athletic training isn’t what I pictured it to be.” Lack of engagement, at least for this participant, led to a new image or perspective of athletic training which was

different from the original image held by the participant. An additional response addressed lack of engagement. “There was a lot of just standing around at clinical observations and I just did not find it interesting.”

Finally, the concept of career choice emerged as a subtheme. Participating in clinical observation experience allowed three non-persisters to see that this was not the career choice for them. One participant simply stated, “Just not the kind of work I want to be dealing with for my entire career.” Another participant indicated that clinical observation experience demonstrated that there was a clear difference between coaching and athletic training.

There was a difference among groups in how they responded to this survey item. Persisters seemed to have a more positive outlook on clinical observation experiences. Thirty-three of those who persisted responded to this question and seven did not. There were no references specific to too much time commitment or lack of engagement. During analysis of this question for this group, four subthemes emerged. Nine respondents remarked on the positive interactions and the positive environment created by the instructors and students. One respondent stated, “My interactions with athletic training students and the trainers themselves have had a big influence on my decision to apply into the program.” Positive feedback and confidence displayed by preceptors and a welcoming environment were also cited as reasons for persistence. As one respondent indicated, “After practicing an ankle taping on one of the certified athletic trainers, he told me that he would let an athlete play with that taping right then. This was very motivational to me.” Supporting the idea of modeling confidence, the following remark was made: “My clinical observation instructors are very confident and smart and they know what they are doing. They know all their terminology and what to do for all the



specific injuries that come up and are very good teachers.” A combination of the positive feedback and the positive environment led to an increased desire to be a part of the athletic training major.

Twelve persisters commented on the rapport and the positive relationships observed with athletes. Overall, of the four subthemes, this subtheme had the most comments associated with it. This subtheme was divided into additional categories: (a) those interactions witnessed between the preceptors and athletes, and (b) the interactions between the participants and athletes. These interactions reinforced the passion that already existed for sports, in turn, strengthening the participants’ desire to persist. One respondent remarked:

I loved the close relationships athletic trainers had with the athletes. They knew them on a name basis, and I think it is vital to have close bonds with your patients in the athletic training room. They are comfortable talking to you and you are comfortable explaining things to them. I want to be involved in that type of field.

Another participant expressed, “In my experiences I have realized that being around sports and being around athletes is definitely something I want to do. I would also enjoy helping them and improving their game.”

In addition to the rapport and interactions, a vision of helping others was commonly referenced by persisters. Five persisters reported that seeing how ATs helped athletes made an impression and was an experience that led to persistence. Persisters liked the idea of being able to help others, and could envision themselves as being the one in the position to help athletes with injuries and illnesses. Supporting this concept, one persister remarked, “I know that I want to be able to help the athletic population. I love being in the athletic training room and cannot imagine doing anything else.”

Another participant referenced the following: “When I was watching an athletic training student do rehab with a basketball player, made me realize I could see myself doing that job.” A final subtheme emerged and was directly related to gaining a real-life perspective of AT. Through observation experiences, six participants were able to see on a daily basis the roles and responsibilities of ATs. This provided a glimpse into what their roles and responsibilities may be in both the immediate and long-term future. The following statement was provided by a respondent:

Getting to be in an actual athletic training room and on the sidelines of a sports event, helped me to see what the atmosphere felt like. I was unsure if I would actually like the work an athletic trainer does, but watching what they do on a daily basis has helped me see and learn that I would very much enjoy doing the work that they do.

Supporting this concept, another responded with, “The clinical observation experiences give you a real life look at what you do in the program and what you would do with a degree. It helped me know it was for sure what I want to do.” Figure 7 is a representation of the emerging themes and distribution of themes for the persister and non-persister groups.

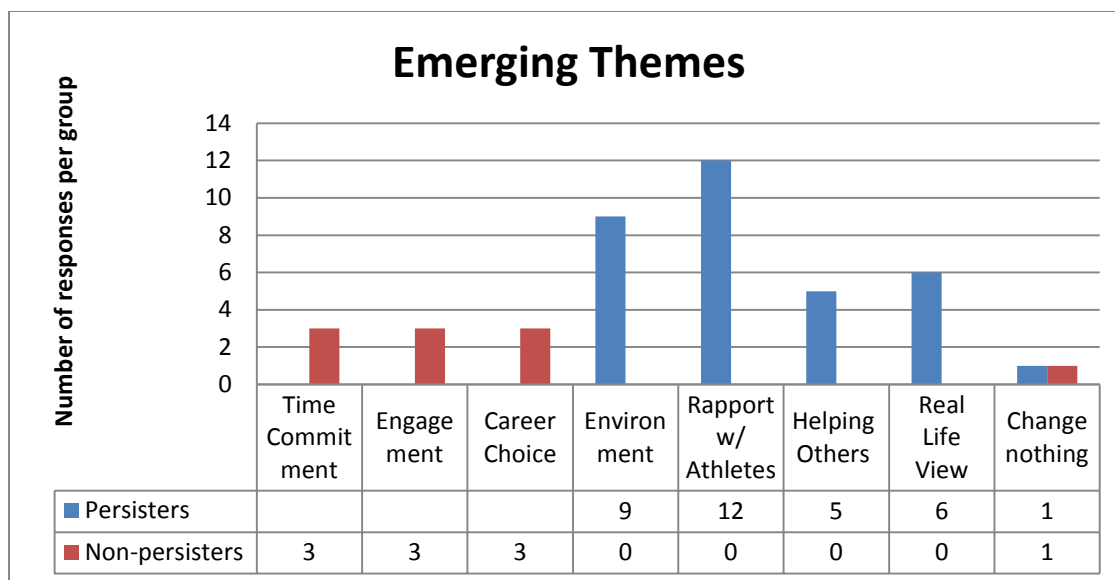


Figure 7. Emerging and Distribution of Themes for Clinical Integration.

Additional survey items measured a participant's level of commitment to the program to which he/she was applying. In this study, a specific research question did not directly address program commitment; however, in the higher education retention literature, high levels of commitment to a particular institution have demonstrated higher levels of retention (Tinto, 1975, 1993). This construct area was also analyzed using a Spearman Rho Correlation test. Of all construct areas, this particular construct correlated the strongest ( $r = -.762, p < .01$ ), indicating a strong relationship existed with persisters and non-persisters and high commitment level to the particular ATEP. The r squared correlation was .580, indicating a 58% common variance between variables; therefore, 42% of the variance is unexplained.

Additionally, a final all-encompassing open-ended item on the survey was designed to solicit information from participants in regards to any other major factor/s that contributed to their decision to persist or not to persist. The total number of non-persisters that responded to this question was eight, and five skipped it altogether. Of

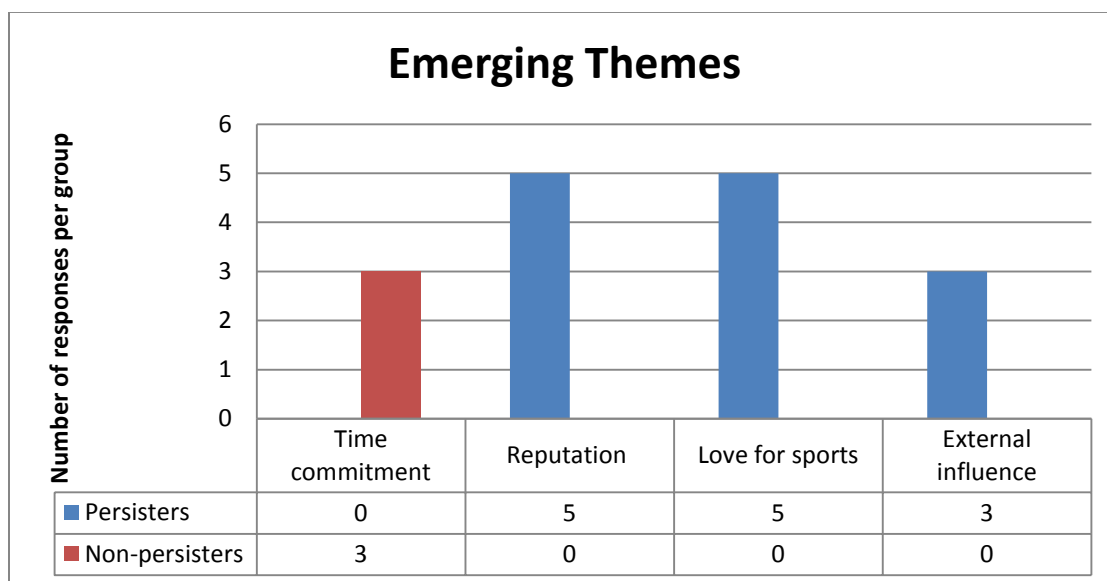
eight, six responded to the item with a response other than “none.” A subtheme previously identified once again became evident and was referenced by three non-persisters. Non-persisters spoke to the time commitment, the number of hours required, and how straining the process was on prospective ATs. Two other non-persisters identified that they were transferring from the school. The final non-persister responding to this item expressed the desire for better pay.

Persisters cited other factors that contributed to and influenced their decision to persist. Sixteen total persisters responded to this question. Analysis revealed three overall themes. The reputation of the ATEP was referenced by five persisters. Those who persisted were excited about the ATEP to which they were applying and felt that the ATEPs were some of the best. For example one persister stated, “I know that this program has one of the strongest athletic training programs in the state and it is the reason that I choose to come to this school. I love this school and can’t imagine going anywhere else.” Another persister had this to say, “The program has high passing rates on the BOC exam and the high placement rates after graduation.”

Persisters (5) once again referenced love for sports as well as interacting with athletes as factors that guided their decisions to apply. This particular subtheme previously emerged during analysis of the open-ended item related to clinical experiences. It appeared that persisters also had an affinity to working with and being around athletes and sports. It seemed as if they thrived on the relationships that were established and wanted to be a part of that type of setting. One respondent shared the following: “I am a big fan of sports. I love learning about the body, injuries, health, and exercise. I want to help athletes out in the athletic training room to keep them at their best potential for game time.” Another supported this concept with the following remark:

“Just the fact that I love sports and I love interacting with athletes is enough to sell me on this major. I have always wanted to do this.”

External influence was also a theme that emerged; however, this theme did not appear to be a strong contributor to persistence for other participants, only for these three. Only three participants remarked that an external influence played a role in their decisions to apply. For example, two persisters explained how his/her previous interactions with an AT inspired them to become an AT, while another simply stated that his/her parent was an influence. Figure 8 is a representation of the emerging themes and distribution of themes for the persister and non-persister groups.



*Figure 8.* Emerging and Distribution of Themes for Encompassing Question.

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## Summary

The purpose of this study was to continue the exploration of factors that affect prospective ATSS' decisions to apply to ATEPs. This was done with the utilization of five independent variables (program attributes, social, academic and clinical integration

and program commitment). The independent variables did not reveal any predictive value, meaning that no conclusions can be drawn at this time about whether or not groups will persist if they answer in a certain manner. However, what was determined was that a relationship did exist between the two groups and each independent variable. The inclusion of the independent variable program attributes was in an effort to add to the already existing literature about persistence in ATEPs and to determine to what degree, if any, those attributes affect persistence. It, along with clinical integration, had the weakest correlations ( $r = -.36$  and  $r = -.32$ , respectively). The two strongest correlated independent variables were academic integration and program commitment ( $r = -.58$  and  $r = -.76$ , respectively).

Qualitative analysis resulted in a defining line between the two groups. Results showed that the two groups had different perceptions about the pre-application process and AT. It was also evident that each group varied on how they managed or adjusted to the demand of the pre-application period, meaning that one group tended to meet the challenge head on and welcomed it, while the other group was unable or unwilling to handle the challenge. For instance, non-persisters spoke about the length of the pre-application period as too long, and the clinical observation hours demanded too much time and were not engaging, as well as how much effort was demanded of students during the introductory course/s. However, non-persisters made positive associations and interactions with ATs within the ATEPs, citing that those positive relationships formed were what made not to apply a difficult decision.

Persisters, on the other hand, met the challenge of the pre-application period with excitement, eagerness, and passion. They, too, spoke about the length of the pre-application period but in a manner where more time was suggested, more hands-on

opportunities were desired, as well as getting the application in advance would help to increase their preparedness. Persisters also did not reference lack of engagement or time commitment as a detractor; instead, they mentioned the interactions and relationships observed during clinical observation times as positive influences. Rapport established between the ATs and athletes and between the observation students and the athletes increased their desire to persist. Additionally, visions of helping others were important to this group. Content learned in class was viewed as challenging, not in a negative connotation, but rather assisting them in preparation for a job in athletic training. The friendly and welcoming environment created by the ATSs was also a positive influence. Both persisters and non-persisters spoke to this, but the persisters delved deeper and expressed how the mentorship provided and passion displayed by the ATSs added to their passion and excitement about athletic training, thus increasing their desire to be a part of the ATEP.

## **Chapter 5: Discussion and Recommendations**

### **Introduction**

Retaining students is a concern for specific professional majors of study, particularly in the allied health professions. With an expanding job market, especially in AT, there has been an increased focus in meeting the demands of providing quality healthcare to patients in a variety of settings (e.g., high schools, performing arts, and rodeo). This demand places pressure on healthcare and allied healthcare majors to graduate competent entry-level practitioners (Bowman & Dodge, 2011). Therefore, admitting and retaining quality students in such programs is essential.

The purpose of this study was to continue the exploration of factors that affect students' decisions to persist. Studies specific to AT have used one of the most commonly cited retention theories, Tinto's (1975) Interactionalist Model with modifications relevant to AT education. Studies have also borrowed certain aspects of Bean's (1980) Student Attrition Model to study student persistence.

Tinto (1975) suggested that student persistence was dependent upon institutional fit, demonstrated by how well students perceived they were integrated into the academic and social systems of the institution. Whereas, Bean (1980) suggested that student withdrawal was analogous to workplace turnover, where the employee finds little satisfaction within the organization they work.

The study of organizational attributes and their effects on persistence in higher education is sparse. The current study took the lead established by Braxton and Brier (1989) and Berger and Braxton (1998) to merge two theories together to continue exploration of retention issues. Specifically for this study, these two theories were applied to the exploration of the persistence issue that seems to affect AT secondary



application rates. Berger and Braxton and Braxton and Brier's borrowed select organizational attributes from Bean's (1980) work and merged those attributes with Tinto's (1975, 1993) work and applied it to higher education research. For this research study, the specific organizational attributes were adopted and reflected as program attributes.

Viewing the pre-application process or retention within AT from this lens has not occurred until this study. The study was guided by the following four research questions: (1) What is the relationship between perceived program attributes during the ATEP's first-year experience and student persistence into an ATEP?; (2) What is the relationship between perceived level of social integration and student persistence into an ATEP?; (3) What is the relationship between perceived level of academic integration and student persistence into an ATEP?; and (4) What is the relationship between perceived level of clinical integration and student persistence into an ATEP?

A mixed-methods approach was used. Both a survey with closed- and open-ended items and interviews with ATEP Directors or CECs were used to gather data. The ATSPS-R (Appendix A) was adapted from its original version. The revised version retained the original construct areas related to academic integration, social integration, program commitment, and clinical integration, as well as demographic items. However, the inclusion of the program attributes construct was done after a comprehensive review of the literature in an effort to provide additional information about persistence as it relates to AT education. Additionally, open-ended items were added and paralleled each construct area giving respondents opportunities to explain experiences that contributed to either persistence or non-persistence.

The subject population for this study included all freshmen prospective ATs (N

= 111) who were enrolled in the AT introductory course/s at the three participating institutions. Each of the three institutions had undergraduate CAATE-accredited ATEPs and practiced a secondary admissions process, where prospective students applied to the ATEP during or at the end of the fall semester. Fifty-nine prospective ATSS completed the surveys, of which 54 surveys were usable. This study targeted both students who applied to the ATEPs (persisters) and students who did not apply to ATEPs (non-persisters).

Initially, descriptive statistics were conducted on demographic information in an effort to gain a sense of the subject population. To determine if there were any differences among the two groups, a Mann Whitney U test was executed. Additionally, a Spearman Rho Correlation Analysis was performed to determine if any correlations existed between the two groups and the independent variables. Finally, a Binary Logistics Analysis was completed to determine if any predictive variables existed among the independent variables and the dependent variable. The remainder of this chapter is comprised of a discussion of the results, implications for practice, limitations, and implications for future research. The chapter concludes with a summary of the study.

## **Discussion**

To date, other studies in AT have not used program attributes as a determinant to examine student persistence, either through the secondary admissions process or through to graduation. The current study sought to determine if program attributes contributed to persistence. Along with program attributes, structure of the pre-application period was also considered. The pre-application period varied among the three institutions. To aid in answering the question of how program attributes affect persistence, participants were given the opportunity to offer suggestions on components they would change about the

structure of the pre-application period.

The two groups varied on how they regarded this period, mainly its length. The difference between the groups seemed to be that persisters wanted the pre-application period to consist of more time and hours, while non-persisters viewed the hours as an obstacle or a hoop to jump through. Persisters suggested that the pre-application period should be longer and include more hours. Increasing the length and hours would provide more opportunities for them to get to know their fellow observation students, ATs in the ATEP and preceptors. The persisters also desired to have more hands-on opportunities during clinical observation experiences to practice some of the skills learned in the introductory course/s. Interestingly, some even suggested that the ATEPs should provide them with the application materials ahead of time so that they could be better prepared for the application process.

Quantitative analysis of program attributes (communication, participation in the decision-making process, and fairness of administration of policies and procedures) did not yield a strong correlation between groups and persistence; however, a weak significant correlation was found, suggesting that program attributes may indeed have some effect on persistence. Of the three subcategories, only “participation in the decision-making process” had some support qualitatively. Three participants from the 54 total participants commented on their desire to have some choice in observation assignments.

Academic integration as defined by Tinto (1975, 1993) is the idea that students meet the expected criteria set forth by the institution they attend, and their perception of meeting and fitting into the normative structure of the institution. Prior research relating to academic integration used GPA and students’ perceptions of intellectual growth as

means to measure the level of academic integration. From these measures, academic integration has been shown to have some impact on the level of persistence and commitment to the institution (Tinto, 1975, 1993). The current study viewed academic integration from these measures, but it also borrowed from previous research the concepts of challenge and stimulation provided by the required introductory course/s.

Herzog (2004) and Herzog et al. (2008) demonstrated that prospective students who were satisfied with the level of academic challenge and stimulation were more likely to apply to ATEPs. Quantitative results of the current study also yielded similar conclusions, such that persisters ideally agreed more frequently to the survey items “satisfied with my academic athletic training experiences” and “introductory course/s were engaging and stimulating” than non-persisters.

The combination of both course work and clinical work in AT education must also be considered since ATs are expected to participate in both in order to complete their education (CAATE, 2012). This combination of course work and clinical work places a demand on students majoring in AT that may not be experienced by other students in different majors. During qualitative analysis, results revealed non-persisters had two different perspectives regarding the academic integration construct. Some spoke to the high level of challenge demanded, as well as how much time and effort was required during the pre-application period. It would seem that the challenge of and commitment level needed for just the pre-application period was already overwhelming and stressful for non-persisters, which may have led to the realization that once accepted into the ATEP expectations would only increase.

The other perspective for non-persisters, and common for both groups, was the positive reflections about the type of content taught within the introductory course/s. The

content within the course/s was exciting and interesting to learn. For non-persisters, the content learned permitted them to see what they would be doing as an AT, but it was more a means to assist them in their other career choices. These career choices ranged from coaching to working as a physical therapist.

Persisters also viewed the content as interesting and exciting, but exciting for use in the AT field. These prospective ATSs were eager about the opportunity to learn different taping techniques, injuries and illnesses, and career opportunities. All three of the institutions in this study had an infusion of didactic and psychomotor content within the required introductory course/s. At least for this study, persisters tended to gravitate toward this type of content. Ideally for persisters, the content would only enhance their ability to provide for the patient population for which one day they would be interacting.

The current study also sought to determine if there was a relationship between clinical integration and persistence. Clinical education serves as a platform for ATSs to integrate the knowledge that has been learned in the classroom with real world experiences (Lofmark et al., 2012; Weidner, Noble, & Pipkin, 2006). This is a time where the ATSs begin to use their knowledge and begin the process of problem solving and critical thinking, eventually refining and developing proficiency. Clinical integration as defined by Dodge et al. (2009) is “ the assimilation of the ATS into the clinical portion of athletic training” (p. 198).

Research in regards to the clinical experience for athletic training and the preceptorship for nursing has demonstrated how important the experience is to the development of the student’s skills and confidence level with those skills (Lofmark et al., 2012; Mamchur & Myrick, 2003; McCarthy & Murphy, 2010). Research also has demonstrated that the interactions that occur between and among the student and

preceptor can shape student's perception not only about the experience but also about the profession as a whole (Lofmark et al., 2012; Mamchur & Myrick, 2003).

While clinical education has been studied in regards to those who are already accepted in professional programs, actually studying the clinical observation experience that occurs during the pre-application process has had very little attention. Herzog (2004) and Herzog et al. (2008) were among the first to suggest that satisfaction with clinical observation time may affect persistence on some level. Clinical observation is practiced by many ATEPs as a means to give prospective students insight into what athletic training entails (roles and responsibilities), what their roles and responsibilities will be as an ATS, and what their roles and responsibilities will be as an AT.

The results of the quantitative analysis of the current study did not establish a high correlation between high levels of clinical integration during observation hours and persistence. In fact, the correlation was quite weak but information obtained through qualitative analysis did afford some useful information. For non-persisters, the high level of commitment and lack of engagement during observation hours were detractors and reasons they cited as contributing to their decisions not to apply.

Miller and Berry (2002) found that academic standing within an ATEP contributed to the amount of engagement during clinical placements. They found that only 22% of novice students were involved in active learning, while 41% of advanced students were involved in active learning. Prospective ATSs would be considered novice, and as a result may not be equipped with much knowledge or skills. The researchers also spoke to the behavior displayed by novice students who were more likely to withdrawal and be unsure of their role within the ATEP. Between statements made by non-persisters in combination with Miller and Berry's findings (2002), an argument could

be made that even prospective ATSs seek to have opportunities to be engaged during clinical observation experiences and that these students should not be viewed as *passive observers*. Those overseeing clinical observation experiences should be intentional about providing engaging learning opportunities, whether those opportunities are through creating scenarios or simply explaining to the prospective ATS what is happening during a particular procedure or event. Ideally, once students are engaged, the experience then becomes more authentic (Tinto, 1997).

It is interesting to note that persisters did not mention lack of engagement or commitment level; they, in fact, responded very differently to this open-ended item. The positive environment and interactions were primary reasons given by this group that persisted. Positive feedback experienced and confidence level displayed by those supervising the prospective ATSs greatly influenced the persisters. One could potentially categorize these behaviors as *modeling* and *mentoring*. Curtis et al. (1998) studied helpful and hindering characteristics established by students and found modeling and mentoring as effective behaviors for clinical supervisors to display, while negative feedback and poor decision-making skills were considered hindering characteristics. According to the researchers, by understanding what teaching characteristics were viewed by ATSs as either helpful or hindering, the clinical experience could ultimately be enhanced for the ATSs and, from the lens of this study, could translate into the enhancement of the clinical observation experience for prospective ATSs.

Moreover, persisters appreciated the observed rapport and relationships established between the ATs and those whom they were helping. Persisters made multiple references about the relationships that existed between the ATs and the athletes and how these were bonds they wished to establish some day in the future. Persistence

may ideally one day lead to these prospective ATSs having the opportunity to establish these same sort of relationships.

Persisters also expressed a desire to help others, and imagined themselves as the ones providing the care to the athletic population as they observed the other ATSs and ATs perform their daily tasks and responsibilities. Spouse (2000) suggested that when the images of a profession created in one's mind matched what was observed, then students were more likely to persist. Often, when students enter a profession, they do so because they can identify with it and have a strong affinity to that profession, or the idea of it, but if the reality does not match their original image, then students may not persist (Mensch & Mitchell, 2008; Spouse, 2000).

On multiple occasions, persisters provided statements in regards to their visions of providing care for the athletes and the excitement these visions brought them. During the qualitative portion of this study, there were very little negative perceptions of clinical observation experiences by either the non-persisters or persisters. Instead, what materialized was how important observed interactions, actions, and behaviors displayed by preceptors were in creating positive and authentic experiences for students, and when such experiences were created, students tended to persist.

Social integration or social interactions have also been shown to have a bearing on persistence or retention. Social integration includes those interactions that occur between students and their peers, as well as interactions that occur between the teacher and students (Pascarella & Terenzini, 1980; Tinto, 1975, 1993). The quantitative analysis conducted during the current study demonstrated some link between proper social integration and persisting. The correlation coefficient for this construct fell on the lower end of the moderate scale. Pasacrella and Terenzini (1980) found that faculty interactions



were strong determinants to student persistence. The authors' research also demonstrated the quality of those interactions to be important. Quantitatively, the current study did not examine how often interactions occurred, but rather attempted to examine the quality of those interactions. The groups did not comment much on their interactions with faculty (either instructors in the formal classroom or preceptors in clinical observation hours); however, they did speak to the quality of interactions that transpired with the ATSS within the ATEP.

Qualitative analysis revealed that the interactions between ATSS and the prospective ATSS were positive. For non-persisters, these positive interactions often made the decision not to apply that much more difficult. Many non-persisters mentioned how welcoming and nice the students were, which were cited as reasons they wanted to stay, but were unable to for other reasons. Beyond the welcoming and friendly environment created by the ATSS, the willingness of the ATSS to mentor and provide assistance to the prospective ATSS was another attractor for persisters. It seemed that prospective ATSS were grateful for this mentorship. Curtis et al. (1998) found that mentoring was a characteristic that students sought in clinical supervisors (preceptors). The authors did not study mentorship from the perspective of student mentoring, but the current study offered some insight into how ATSS within the ATEP could contribute to persistence of prospective ATSS through their ability and availability to mentor.

Additionally, the passion demonstrated by ATSS within the ATEPs also made an impression on persisters. The passion the ATSS had for the ATEP and profession led to an increase in passion that already existed in most of the persisters. It seemed that this increase in passion also led to an increase in commitment to athletic training and, thus, persistence into the ATEP.

Tinto's (1975, 1993) research included discussions about how commitment to a particular institution affected retention. He suggested that the increased commitment to a particular institution typically equated to higher retention rates. He explained that students held both commitment to a certain goal and to an institution. Commitment to an institution may be related directly to family tradition, or the perception of graduating with a degree from the institution or of being an integral part of an occupation (Tinto, 1993).

The current study was not concerned with commitment directly to an institution but rather to a particular ATEP; therefore, items related to commitment to ATEPs were included on the survey. Quantitative analysis of this construct showed the strongest correlation to persistence. These results supported Tinto's notion that students arriving to institutions with some anticipatory commitment to a particular institution, and in this case a particular ATEP, leads to persistence. Additional support was provided through qualitative analysis.

Multiple persisters cited that the reputation of the ATEP, as demonstrated by the ATEPs' high passing rates on the BOC Exam and high placement rates after graduation, was a reason they decided to attend the particular institution and to apply to the ATEP. Therefore, these students already came to the school with some commitment to the ATEP.

Research has also demonstrated that commitment can be altered by the interactions or experiences that take place once the student was at the institution, often a result of either incongruence or isolation (Tinto, 1993). Incongruence is considered to be where the academic and social demands do not match the student's perceptions, either too hard or not hard enough. Non-persisters may have experienced incongruence, since on multiple occasions the time commitment, effort level, and challenge were cited as reasons

for non-persistence. Incongruence may have prevented the non-persisters from being properly integrated into the social, academic and clinical systems. Persisters did not focus as much on the demand as a detractor, but rather focused more so on positive attributes of the athletic training major, such as the relationships and interactions observed and created, which potentially allowed for integration to occur socially, clinically and academically.

Finally, Kotecha's (2002) research into nurse wastage found that different discourses existed in how nursing education and nurse learners were to be viewed. Overall, results showed that it was not the discourse itself that lead to either persistence or wastage but, rather, how the learner *read* the discourse: individuals who persisted or dropped out did so from both types of discourses, but those who persisted were able to use either discourse to positive ends. It seems that the same is true for persisters and non-persisters of this study. Persisters often viewed the components of the admissions process more positively and focused on those components that could help them be successful and did not let other items detract or detour them from their desire to achieve their goals.

### **Implications for Practice**

There are several conclusions that can be drawn from this research study. The study confirmed existing retention research, as well as offered some new perspectives about persistence into ATEPs. This was evidenced more strongly through qualitative information attained by participants, rather than the quantitative perspective. It seems that a necessary component of athletic training education is to have prospective ATs participate in a pre-application process. If ATEPs are practicing a pre-application process, individuals overseeing the ATEPs may find information provided in this study as

beneficial and helpful in facilitating persistence of prospective ATs.

One of the components of this study was to examine how academic integration affected persistence. Though this was typically viewed through GPA and how a student perceived intellectual development, perhaps it would be beneficial to view it with a different lens. This study revealed that the type of content taught within the introductory course/s was significant. The three institutions offered course/s that combined didactic and psychomotor information. The content within the introductory course/s was important in developing engagement within the classroom and to create authentic interactions between peers, teachers, and the content itself. Tinto's (1997) findings indicated that students who participated in a coordinated studies program were able to build a network of support, engage in shared learning, gain a voice, and experience a richer academic environment. Additionally, students' perceptions of intellectual gain and academic performance increased with participation in such a program. Research supports that academic integration leads to persistence, and qualitative results of this study underscore such research (Tinto, 1975, 1993, 1997, 2006). Therefore, creating a shared and collaborative classroom environment by combining didactic and psychomotor strategies should be practiced by ATEPs during the pre-application process and not be reserved for ATs already admitted into the ATEP.

Clinical education is another area that has been studied in healthcare professions such as nursing. Research has shown that interactions during this time bear some weight as to whether students persisted with the major they chose (Dodge et al., 2009; Herzog 2004; Herzog et al., 2008). It would be irresponsible not take into account the research already conducted on clinical education and clinical integration and apply it to the clinical observation experience practiced as criteria for admittance into ATEPs. Studies

have primarily looked at the interactions that occur between student and preceptor. The influence that the preceptors had on students during clinical education and the importance of modeling positive behaviors was frequently underestimated and understated (Curtis et al., 1998; Weinder & Henning, 2002a). Those individuals who already practice are reflections of the profession and can change the image of the profession.

The current study supported existing literature pertaining to the importance of creating a positive environment within which students are immersed (Lofmark et al., 2012; Mamchur & Myrick, 2003; Rich, 2009). Evidence supporting the literature was through the reported interactions with preceptors, the positive feedback provided to prospective ATs, and the behaviors modeled by preceptors during the clinical observation experiences. However, this study presented an additional perspective on clinical observation experiences as evidenced by the importance of rapport and close relationships that existed between an AT and the patients they cared for. Many persisters in this study expressed a desire to have the opportunity to emulate those relationships. Having good rapport with patients often translates into good patient care. Images of helping others and establishing good rapport with patients seemed to increase persistence for this group of respondents. Participants also reported that having the opportunity to interact with and establish their own relationships with the athletes during observation experiences was key, and aided in creating a positive and stimulating environment. Clinical observation experiences may be the only occasion prospective ATs have to observe such interactions, once again supporting the role and importance the clinical observation experience plays in persistence.

Social interactions were identified as vital to an individual integrating into any system (Christie & Dinham, 1991; Tinto, 1975, 1993). Those interactions can either be

viewed as positive or negative. Positive interactions and experiences may lead to an increase in retention rates, while negative interactions or experiences may contribute to high attrition rates at colleges and universities (Christie & Dinham, 1991). Christie and Dinham (1991) demonstrated that different types of institutional experiences could contribute to social integration; however, the type of interactions between and among individuals was not considered.

The current study demonstrated two effects when it comes to social interactions: (1) the type of interactions matter, and (2) ATSs can be the driving force behind the type of environment that exists within the ATEPs. Persisters and non-persisters alike commented on how much the positive interactions meant to them and affected their decisions to apply or not apply. It would seem that mentorship provided and the passion displayed by the ATSs were two of the most profound findings of this study. Utilizing current ATSs may be a way for ATEPs to increase persistence and retention rates within programs.

Finally, it should be recognized that communicating goals, expectations, and requirements of the pre-application period to prospective ATSs was noteworthy. Each institution participating in this study communicated such information beyond the CAATE standard that requires ATEPs to publish requirements, expectations, etc. Each institution used the introductory course/s as a means to explain, teach, and relay information about the pre-application process and period. Two of the institutions used meetings outside of the course/s as another method to make available information needed to be successful. This is significant because both groups responded to the survey items related to communication favorably, as well as having an understanding of the admission requirements, goals, and expectations. Because both groups responded in relatively the

same fashion and 75.9% of the total participants persisted into their respective ATEP, it can be assumed that the ATEPs did communicate well to prospective ATSSs, and this was not necessarily a contributing factor to non-persistence for this study. However, institutions that may not communicate as effectively might experience decreased persistence.

### **Limitations**

One limitation of this study was sample size ( $N = 54$ ). This may be due to several reasons: (a) the limited number of ATEP participation, (b) dependence on contact person, and (c) participation in the study was optional. The researcher contacted several different ATEPs in an effort to increase the sample size; however, only three CAATE accredited ATEPs with a secondary admissions process in the fall committed to participating. Therefore, the sample size was limited to only those freshmen prospective ATSSs at these institutions. The survey was administered through email communication; consequently, the researcher depended heavily on the contact person at each institution to forward the email containing the student letter and survey link to students enrolled in the introductory course/s. The researcher did send a follow-up email 1 week after the initial email in an effort to increase participation. Participation in this study was optional; for that reason, prospective ATSSs may not have understood the importance of participation. The introductory letter to the prospective students included a statement reflecting the importance of their participation.

A second limitation to this study was the disproportionate number of persisters to non-persisters who completed the survey, potentially skewing the data. In total, 41 persisters and 13 non-persisters completed the survey. Since participation was optional, students who had decided not to apply to the ATEP may have felt there to be no benefit

in completing the survey. Once again, the researcher tried to convey the importance of such participation by including a statement within the introductory letter to the prospective students. Additionally, because the survey was distributed a week prior to the application deadline and not throughout the semester, students who were originally enrolled in the introductory course/s may have already withdrawn from the course/s, in turn limiting the number of prospective ATSs who did not persist to complete the survey. Even with this as a limitation, much was gained by examining closely persisters' responses both quantitatively and qualitatively.

Another limitation was the specific timing of surveying. The intent of the study was to target only ATEPs with a secondary admissions process during the fall semester freshman year, because a previous study had already targeted ATEPs with application deadlines during the spring semester (Herzog, 2004; Herzog et al., 2008). By limiting to only the first semester freshman year, this eliminated ATEPs who had secondary admissions processes at other times during the year (spring or summer). Therefore, the results of this study may not hold true for all prospective ATS populations.

The study used a self-reported survey that may not result in accurate reporting. There are a number of reasons why results of self-reported surveys may not be accurate. Participants completing the survey may not necessarily care about the content and reasoning behind the research. Additionally, participants do not always understand what the questions are asking and, consequently, either skip the questions or answer in a neutral voice. Particularly for this study, participants may have had difficulty differentiating between faculty and preceptor interactions. The ATSPS-R (Appendix A) was sent out to a panel of ATSs prior to being disseminated to the participants of this study. This step was taken to check for ATS understanding of the questions on the



survey. However, the panel of ATs were students already accepted into ATEPs and, as a result, their understanding of the survey items may have been different than prospective ATs. Also, participants may believe there to be a *right* or *wrong* answer; therefore, they may answer in a way that they perceive to be more favorable to the researcher (Fowler, 1995). To reduce bias, a web-based survey was employed instead of a paper survey. The participant could complete the survey in private and at his/her own pace without *pressure* from oversight of a paper survey.

The survey instrument itself may prove to be a limitation. It was tested for readability, validity, and clarity; however, it was adapted from its original form for the purpose of this study with the addition of the construct area of program attributes as well as open-ended survey items. Research is mixed on how much organizational attributes (in this study, program attributes) contribute to persistence in higher education. Braxton and Brier (1989) used the subcategories of communication, participation in the decision-making process, and perceived fairness of administering policies and procedures in their research. The results demonstrated the subcategories to have indirect effects on student persistence, but there was not definitive support of those attributes directly effecting student persistence. Berger and Braxton (1998) further explored using the same organizational attributes, but only focused on the effects they had on social integration. Their research did show that these specific organizational attributes affected social integration, but in different ways, depending on the population referenced or considered. Studying retention through the conceptual lens of organizational attributes is a newer concept; therefore, further study is warranted.

Moreover, the phrasing of the open-ended survey items may have led participants in a particular direction. For example, the open-ended item addressing social integration

read, “Please explain any particular experiences or interactions with other ATs or observation students that were a strong influence on your decision to apply to the athletic training education program.” Because social integration includes both interactions with faculty and students, perhaps the wording should have reflected all three groups (ATs, other observation students, and faculty) and the use of “interactions” should have been removed.

The qualitative methodology employed also may have been a limitation. The study included the use of open-ended items and interviews with contact persons from the ATEPs. The inductive process was used until theme saturation was obtained. The qualitative method does induce some researcher bias. It is a process where one reads for words, phrases, or themes that frequently emerge from data. The same information may produce different results from researcher to researcher. Since the literature indicated such variance in accepted coding procedures, the researcher of the current study elected to be the only individual viewing and coding the data.

Additionally, open-ended responses frequently had statements that were ambiguous and vague. This made it hard for the researcher to determine whether participants were positively or negatively responding. Having clearer responses from participants would increase the researcher’s ability to code themes, thus reflecting more accurately participant perceptions. Therefore, conducting a follow-up would be appropriate in future research. Follow-up interviews could potentially lead to more accurate information obtained.

Finally, the interviews conducted with contact persons from each ATEP were recorded and transcribed by the researcher. However, there was no follow-up with contact persons relating to reading and validating the transcription. While this may have

very little direct effect on overall outcomes of this study, if researchers in the future do view structure of the pre-application process and its direct effect on persistence, following up with contact persons would be a vital step in determining accurate information was obtained.

### **Implications for Future Research**

Future studies should consider including a variety of institutional representation. The current study represented both public and private institutions from differing states, but the sample population was limited. The small sample size may have contributed to the weak correlation between the specific program attributes selected for this study and persistence, as well as the weak and moderate correlations with the other construct areas. Therefore, by increasing the sample size, a more definitive conclusion may be drawn about the effects of program attributes specifically, as well as all constructs on persistence. Researchers could increase the sample size by either targeting all institutions that have a secondary admissions process in the fall, or by targeting all institutions that practice a secondary admissions process regardless of timing (i.e., fall, spring, summer). This would allow for a more varied sample size, potentially leading to increased generalizability to this population of students.

Additionally, future researchers may want to consider revising or refining the items related to each subcategory under program attributes. These items may need to be reworked so they better reflect pertinent characteristics, such as rewriting question 27, “I have input in program policies and procedures.” This question may be more appropriate when studying retention of ATSS who are already accepted into ATEPs, because they may have a more complete understanding of policies and procedures, and could better gauge this question more accurately. Researchers may also want to reconsider the

specific organizational attributes selected, and choose different ones from Bean's (1980, 1983) earlier work, such as routinization or professionalism. The current study utilized these specific organizational attributes because of prior selections and testing in earlier research (Berger & Braxton, 1998; Braxton & Brier, 1989). They also seemed to be the most appropriate, after an extensive literature review, and applied most directly to ATEPs.

In coordination with studying program attributes, future studies may also want to consider the structure of the pre-application period in general. This study briefly touched on structure, such as how many observation hours are required per institution, are athletic training introductory courses required, the length of the pre-application period, and timing of application, but only as a reference and not as contributors to persistence or non-persistence. It may prove beneficial to analyze structure so that knowledge is available regarding what structure/s work better than others. For example, should ATEPs even require observation hours and, if so, how many hours are appropriate and truly meet the desired intentions? Furthermore, researchers may want to consider limiting the independent variables to only program attributes and structure of the pre-application process. This may further refine and answer the question of whether or not the actions of individuals within the ATEPs and/or structure actually impede the process of obtaining viable candidates.

Researchers may also want to conduct a longitudinal study. To truly understand those factors that contribute to persistence, it may be beneficial to follow a subject population for their entire tenure through an ATEP. Studies thus far have viewed different populations at different points in time; this provides some information but is limited at best. By resurveying the subject population at different points within their

career, this may provide a more complete picture, as opposed to the fragmented view that currently exists. Tinto (1988) suggested that students must move through three different stages to complete their degrees: separate, transition, and incorporate. Often, the separation stage occurs during the freshman year and, with that in mind, organizational attributes may not have an effect on student persistence until later on in their career when students are more mature. The increased maturity level may also yield more accurate information.

Finally, initial findings of this study may warrant replication of the study. Though quantitative results were weak and did not show much correlation, three profound findings emerged from the qualitative piece. Future research may find it beneficial to focus on (a) the type of interactions occurring between ATs already admitted into the ATEPs and prospective ATs, (b) the relationships established between the AT and patients they care for, and (c) the relationships established between the prospective ATs and the patients.

The passion and mentorship displayed by the ATs were referenced frequently during the coding process. Both persisters and non-persisters viewed the interactions with ATs as positive and important in their decisions to persist or not persist as evidenced by the following comments: “The students were the reason that I was on the fence between staying and leaving. They were all so nice and made me feel welcome and I wanted to stay with them, but decided to change for other reasons”; “One of the upper class students offered to help me study for an anatomy test and helped me greatly. I got a 97%”; and “The passion they had for it was the same as mine and was easy to discuss with them.”

The rapport and close relationships between the AT and their patients seemed to

influence persisters. Support of this idea is demonstrated by the following statement:

I loved the close relationships athletic trainers had with the athletes. They knew them on a name basis, and I think it is vital to have close bonds with your patients in the athletic training room. They are comfortable talking to you and you are comfortable explaining things to them. I want to be involved in that type of field.

Finally, persisters could envision themselves helping others as they began to establish relationships with the patients themselves during the observation times as suggested by one persister's comment: "In my experiences I have realized that being around sports and being around athletes is definitely something I want to do. I would also enjoy helping them and improving their game."

### **Summary**

Overall, the pre-application process (introductory course/s and observation hours) gave participants the chance to experience what it would be like as an ATS within the ATEP and gave them a real world perspective as to their roles and responsibilities as ATs in the future. Each group managed this process differently and developed different perspectives, and this management should be considered by those overseeing ATEPs.

The findings of this study can help all stakeholders understand what contributes to persistence. The findings demonstrated that decisions to apply to an ATEP are the result of all parties and components associated with the ATEP, not just one. Communication between the ATEP Director and prospective ATs is vital so that expectations, goals, and requirements are clearly relayed; but the core of the study revealed that what transpires during observation hours, within the introductory course/s, between ATs/preceptors, and prospective ATs are of even greater importance. By understanding this, maintaining the requirements to differentiate between capable students can remain, but elimination of

those capable students because of the actions or behaviors of those associated with the ATEPs may be reduced, therefore retaining the prospective ATs who are both academically strong and who also have a strong desire and affinity for working as an AT can occur.

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## Appendix A

### Athletic Training Student Persistence Survey-Revised

**Section I****Please answer the following questions as accurately as possible.**

1. My high school grade point average (GPA) was \_\_\_\_\_ out of \_\_\_\_\_ (4.0, 4.5).
2. Age: \_\_\_\_\_
3. Sex:     Male \_\_\_\_\_                      Female \_\_\_\_\_
4. Race:    Caucasian \_\_\_\_\_                      Hispanic \_\_\_\_\_  
              African American \_\_\_\_\_                      Asian American \_\_\_\_\_  
              Native American \_\_\_\_\_                      Other (please specify) \_\_\_\_\_

**Section II****Please circle the most appropriate response.**

*5-Strongly Agree      4 Agree      3-Neutral      2-Disagree      1-Strongly Disagree*

5. I am satisfied with my athletic training academic experience.      5    4    3    2    1
6. My athletic training clinical observation experiences have been interesting.      5    4    3    2    1
7. My athletic training clinical observation experiences did not meet my expectations.      5    4    3    2    1
8. It has been easy for me to interact with other observation students while at my clinical observation experience.      5    4    3    2    1
9. I feel I belong in this athletic training program.      5    4    3    2    1
10. I am confident that I have made the right decision in choosing this athletic training program.      5    4    3    2    1
11. My non-classroom experiences with the athletic training faculty has had a positive influence on my academic growth and interests.      5    4    3    2    1
12. I have some choice in how my clinical observation experiences are structured.      5    4    3    2    1
13. My athletic training clinical observation experiences have been challenging.      5    4    3    2    1
14. I am satisfied with the quality of my athletic training clinical instructors/preceptors.      5    4    3    2    1

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 15. I did not find the introductory course/s stimulating.  | 5 | 4 | 3 | 2 | 1 |
| 16. Since coming to this school, I have developed close personal relationships with other athletic training students.                                  | 5 | 4 | 3 | 2 | 1 |
| 17. It has been difficult for me to meet and make friends with other observation and athletic training students.                                       | 5 | 4 | 3 | 2 | 1 |
| 18. Overall, I am satisfied with my athletic training course of study.   | 5 | 4 | 3 | 2 | 1 |
| 19. It is very important for me to graduate from this athletic training program as opposed to some other program or school.                            | 5 | 4 | 3 | 2 | 1 |
| 20. In my athletic training courses, I have performed academically as well as I anticipated I would.   | 5 | 4 | 3 | 2 | 1 |
| 21. My introductory course/s were engaging and stimulating.  | 5 | 4 | 3 | 2 | 1 |
| 22. It has been easy for me to meet and make friends with other observation students at my school.   | 5 | 4 | 3 | 2 | 1 |
| 23. My non-classroom experiences with the athletic training faculty have had an influence on my decision to apply or not apply to the program.         | 5 | 4 | 3 | 2 | 1 |
| 24. Program admission requirements have been communicated to me through multiple means (i.e., online materials, individual and/or group meetings).     | 5 | 4 | 3 | 2 | 1 |
| 25. Grades for assignments have been given according to published guidelines.  | 5 | 4 | 3 | 2 | 1 |
| 26. Goals and expectations of the pre-application period have been clearly communicated/explained to me.   | 5 | 4 | 3 | 2 | 1 |
| 27. I have input in program policies and procedures.   | 5 | 4 | 3 | 2 | 1 |
| 28. The published admissions requirements are fair and are an accurate representation of qualities needed to function as an athletic training student. | 5 | 4 | 3 | 2 | 1 |
| 29. I understand why the pre-application process is in place.  | 5 | 4 | 3 | 2 | 1 |
| 30. It was difficult for me to understand all of the requirements to be eligible to apply to the program.  | 5 | 4 | 3 | 2 | 1 |



### **Section III**

**Please answer the following questions as it relates to experiences you have had up until your application decision.**

31. If you were able to change anything about the structure of first semester, what would you change?

32. Please explain any particular experiences during your clinical observation experiences that were a strong influence on your decision to apply or not apply to the athletic training education program.

33. Please explain any particular experiences or interactions with other athletic training students or observation students that were a strong influence on your decision to apply or not apply to the athletic training education program.

34. Please explain any particular experiences during your athletic training introductory courses that were a strong influence on your decision to apply or not apply to the athletic training education program.

### **Section IV:**

35. In my required classes for eligibility to apply, I must have a grade of \_\_\_\_\_ or better.

36. I have applied to the athletic training education program.      Yes   or   No

37. To my knowledge, I met the minimum requirements to apply to the athletic training education program.      Yes   or   No   or   Not Sure

38. Where there any other major factors that influenced your decision to apply or not apply to the athletic training education program? If so, please explain.

## Appendix B

### Athletic Training Student Persistence Survey

**Please circle the most appropriate response.**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
1. In my athletic training courses, I have performed academically as well as I anticipated I would.	1	2	3	4	5
2. Overall, I am satisfied with my athletic training course of study.	1	2	3	4	5
3. I am satisfied with my athletic training academic experience.	1	2	3	4	5
4. My athletic training academic advisor is receptive to my needs and concerns.	1	2	3	4	5
5. My athletic training academic advisor is available to answer my questions.	1	2	3	4	5
6. My athletic training clinical observation experiences have been interesting.	1	2	3	4	5
7. My athletic training clinical observation experiences have been challenging.	1	2	3	4	5
8. I am satisfied with the quality of my athletic training clinical instructors.	1	2	3	4	5
9. Since coming to this school, I have developed close personal relationships with other athletic training students.	1	2	3	4	5
10. It has been easy for me to meet and make friends with other athletic training students at my school.	1	2	3	4	5
11. I am confident that I have made the right decision in choosing this athletic training program.	1	2	3	4	5
12. It is very important for me to graduate from this athletic training program as opposed to some other program or school.	1	2	3	4	5
13. I feel I belong in this athletic training program.	1	2	3	4	5
14. My education in this athletic training program will help me secure future employment and/or admission to graduate school.	1	2	3	4	5
15. My close friends rate this athletic training program as a quality program.	1	2	3	4	5
16. It is important for me to get a college degree in athletic training.	1	2	3	4	5
17. It is important for me to finish my athletic training program of study.	1	2	3	4	5
18. It is likely that I will continue in this athletic					

training program next fall.	1	2	3	4	5
19. Overall, my satisfaction with my academic experience influenced my decision to apply to the athletic training education program.	1	2	3	4	5
20. Overall, my satisfaction with the academic advising I received influenced my decision to apply to the athletic training program.	1	2	3	4	5
21. Overall, my satisfaction with my clinical education observation experience influenced my decision to apply to the athletic training program.	1	2	3	4	5
22. Overall, my satisfaction with my relationships with other athletic training students influenced my decision to apply to the athletic training program.	1	2	3	4	5
23. Other factors influenced my decision to apply to the athletic training program.	1	2	3	4	5

Please explain:

---

24. I have applied for formal admission into the athletic training education program. Yes or No

25. I met the minimum requirements to apply to the athletic training education program. Yes or No or Not Sure

**Please answer the following questions as accurately as possible.**

26. My cumulative grade point average (GPA) at this college is \_\_\_\_\_.

27. My high school cumulative GPA was \_\_\_\_\_ out of \_\_\_\_\_ (4.0, 4.5 etc).

28. The highest SAT score I received was \_\_\_\_\_. Did not take SAT \_\_\_\_\_

29. The highest ACT score I received was \_\_\_\_\_. Did not take ACT \_\_\_\_\_

30. In my athletic training and science courses, my grades are mostly: A's \_\_\_\_\_ B's \_\_\_\_\_ C's \_\_\_\_\_ D's \_\_\_\_\_ F's \_\_\_\_\_

31. Most sports teams at this school are: NCAA Div. I \_\_\_\_\_ NCAA Div. II \_\_\_\_\_ NCAA Div. III \_\_\_\_\_ NAIA \_\_\_\_\_

32. Age: \_\_\_\_\_

33. Sex: Male \_\_\_\_\_ Female \_\_\_\_\_

34. Race: Caucasian \_\_\_\_\_ Hispanic \_\_\_\_\_

African-American \_\_\_\_\_ Asian American \_\_\_\_\_

Native American \_\_\_\_\_ Other (please specify) \_\_\_\_\_

Thank you for taking the time to participate in this survey research!

## Appendix C

Approval for Adaptation of Athletic Training Student Persistence Survey

Yes, of course. Use it and edit it any way you like. Mine is really an adaptation of another one as well, but I cannot remember whose - Bass maybe? I don't need to approve your edits, but I'd love to see your version at some point as I'm sure you'll make some great improvements to it.

Valerie Herzog, EdD, LAT, ATC

Graduate Athletic Training Program Director

Weber State University

[ValerieHerzog@weber.edu](mailto:ValerieHerzog@weber.edu)

801-626-7656

On Jun 16, 2012, at 9:18 AM, "Heather Hartsell <[hhartsell@gardner-webb.edu](mailto:hhartsell@gardner-webb.edu)>" <[hhartsell@gardner-webb.edu](mailto:hhartsell@gardner-webb.edu)> wrote:

Good Morning Valerie,

I hope you are doing well. I am emailing to ask permission to utilize your survey with some revisions to fit my study. Such revisions will include adding questions specific to program structure, framing some negative questions for each construct area, and to add an open-ended question for each construct area.

If you give me permission to use it, would you like for me to send it back to you for approval with revisions or is approval by my Chair enough?

As always, thank you for your time and consideration.

Heather

## Appendix D

### Interview Questions for ATEP Directors/CECs

**Institution Demographics**

Type of institution (private or public)

Size of institution.

Number of students

**Program Demographics**

How many students are currently enrolled in the required introductory courses

Type of introductory class/es (didactic psychomotor)

How many students typically apply?

How many students are typically accepted?

What is the typical size of the graduating class?

**Admissions requirements**

What is the GPA required for acceptance? Overall or Major? What is the numeric number?

What is the number of required introductory class/es and what are they?

What are the required grade/s students must obtain in the introductory class/es to be eligible for acceptance?

How many observation hours required?

Are interviews required?

**Program Attributes***Communication*

How are requirements communicated to observation students?

How are the goals and expectations of the pre-application period communicated to the observation students?

*Participation in decision-making process*

How are observation experiences determined or assigned?

Do observation students have input in this design? If so, how much input?

Do observation students have input in development of policies and procedures?

*Perceived fairness in administration of policies and rules*

How do you determine acceptance into the program?

Are acceptance procedures published for students?

How are grades determined in the introductory class/es? Have there been reported student concerns about how grades are calculated and given?



## Appendix E

### Athletic Training Education Program Director Introductory Letter

Dear Athletic Training Education Program Director or Clinical Education Coordinator,

I am inviting your first-year students to participate in a web survey entitled **An Exploration of Factors That Affect Students' Decisions to Apply to an Athletic Training Education Program**. This project is a research investigation that will culminate in my doctoral dissertation. The purpose of this study is to investigate relationships that program attributes, social interactions, academic integration, and clinical integration have on student persistence to apply to athletic training education programs. I would also like to gauge the perceptions athletic training students have about experiences that contributed to their decision to apply or not apply to athletic training education programs.

To complete the survey, participants must be students who have expressed interest in athletic training as a major of study and enrolled in the athletic training introductory class/es from an accredited entry-level athletic training educational program.

To participate in interviews, participants must be ATEP Directors or CECs at the participating institution.

Your institution's participation is vital to the success of this study, and is entirely voluntary. Results from students' surveys will be disaggregated by institution and each participating institution will receive a summary report of results. If you do not wish for your institution to participate, simply discard this email. Your first-year (freshmen) students have a right to not respond to every question. They have the right to withdraw from this study at any time without penalty. All individual responses will be kept anonymous and confidential to the extent the law and institutional policy allows. Institutional identity will also be anonymous and confidential in published results. It should only take 10-15 minutes for participants to complete the survey. Completion of the interview should also only take 10-15 minutes.

I intend to submit the results of this study for publication. If you would like a copy of the project's results, please email me with the requested information. You may also contact me with any other questions or concerns at 704-406-3810. Questions may also be asked of my dissertation chair, Dr. Sydney Brown at 704-406-3019 or email at [skbrown@gardner-webb.edu](mailto:skbrown@gardner-webb.edu). If you have any questions about your rights as a research subject, you may contact Dr. Jeff Rogers, IRB Institutional Administrator, Gardner-Webb University Institutional Review Board Committee at 704-406-4422 or e-mail at [jrogers3@gardner-webb.edu](mailto:jrogers3@gardner-webb.edu). Thank you for your time and consideration.

Please forward the introductory letter and survey link to your first-year students.

Sincerely,

Heather Hartsell, MS, LAT, ATC  
Curriculum and Instruction Doctoral Candidate  
School of Education  
Gardner-Webb University  
[hhartsell@gardner-webb.edu](mailto:hhartsell@gardner-webb.edu)

## Appendix F

### First-year ATS Introductory Letter with Informed Consent

Dear Prospective Athletic Training Student,

I am inviting you to participate in a web survey entitled **An Exploration of Factors That Affect Students' Decisions to Apply to an Athletic Training Education Program**. This project is a research investigation that will culminate in my doctoral dissertation. The purpose of this study is to investigate relationships that program attributes, social interactions, academic integration and clinical integration have on student persistence to apply to athletic training education programs. I would also like to gauge the perceptions athletic training students have about experiences that contributed to their decision to apply or not apply to athletic training education programs. To complete the survey, participants must be students who have expressed interest in athletic training as a major of study and enrolled in the athletic training introductory class/es from an accredited entry-level athletic training educational program

Your participation is vital to the success of this study, and is entirely voluntary. At the completion of the study, your institution will receive a report summarizing results related to your college/university as compared to other programs. If you do not wish to participate, simply discard this email. The survey includes items related to each area outlined above. The total time commitment is approximately 10-15 minutes.

If you choose to participate in this study, you will need to click the "Yes" option below granting your consent to participate in the study, answer the survey as completely as possible, and submit the completed survey. You have the right to withdraw from this study at any time. The web survey is confidential. The responses cannot be traced and data will be encoded during submission. A minimal risk exists for data to be intercepted during submission. Filling out the survey confirms that you consent to participate in this study. The results of this study will be retained for three years in compliance with federal guidelines.

I intend to submit the results of this study for publication. If you would like a copy of the project's results, please email me with the requested information. You may also contact me with any other questions or concerns at 704-406-3810. Questions may also be asked of my dissertation chair, Dr. Sydney Brown at 704-406-3019 or email at [skbrown@gardner-webb.edu](mailto:skbrown@gardner-webb.edu). If you have any questions about your rights as a research subject, you may contact Dr. Jeff Rogers, IRB Institutional Administrator, Gardner-Webb University Institutional Review Board Committee at 704-406-4422 or e-mail at [jrogers3@gardner-webb.edu](mailto:jrogers3@gardner-webb.edu). Thank you for your time and consideration.

Sincerely,

Heather Hartsell, MS, LAT, ATC  
Curriculum and Instruction Doctoral Candidate  
School of Education  
Gardner-Webb University  
[hhartsell@gardner-webb.edu](mailto:hhartsell@gardner-webb.edu)

Title of Study: *Exploring Factors That Affect Students' Decisions to Apply to an Athletic Training Education*

## Appendix G

### Scales and Corresponding Survey Items

Scales	Survey Items
1. Program Attributes	<p>12. I have some choice in how my clinical observation experiences are structured.</p> <p>25. Grades for assignments have been given according to published guidelines.</p> <p>26. Goals and expectations of the pre-application period have been clearly communicated/explained to me.</p> <p>27. I have input in program policies and procedures.</p> <p>28. The published admissions requirements are fair and are an accurate representation of qualities needed to function as an athletic training student.</p> <p>29. I understand why the pre-application process is in place.</p> <p>30. It was difficult for me to understand all of the requirements to be eligible to apply to the program.</p> <p>31. If you were able to change anything about the structure of first semester, what would you change?</p>
2. Academic Integration	<p>5. I am satisfied with my athletic training academic experience.</p> <p>15. I did not find the introductory course/s stimulating.</p> <p>18. Overall, I am satisfied with my athletic training course of study.</p> <p>20. In my athletic training courses, I have performed academically as well as I anticipated I would.</p> <p>21. My introductory course/s were engaging and stimulating.</p> <p>34. Please explain any particular experiences during your athletic training introductory courses that were a strong influence on your decision to apply or not apply to the athletic training education program.</p>
3. Social Integration	<p>11. My non-classroom experiences with the athletic training faculty has had a positive influence on my academic growth and interests.</p> <p>16. Since coming to this school, I have developed close personal relationships with other athletic training students.</p> <p>17. It has been difficult for me to meet and make friends with other observation and athletic training</p>

- students.
22. It has been easy for me to meet and make friends with other observation students at my school.
23. My non-classroom experiences with the athletic training faculty have had an influence on my decision to apply or not apply to the program.
33. Please explain any particular experiences or interactions with other athletic training students or observation students that were a strong influence on your decision to apply or not apply to the athletic training education program.
4. Clinical Integration
6. My athletic training clinical observation experiences have been interesting.
7. My athletic training clinical observation experiences did not meet my expectations.
8. It has been easy for me to interact with other observation students while at my clinical observation experience.
13. My athletic training clinical observation experiences have been challenging.
14. I am satisfied with the quality of my athletic training clinical instructors/preceptors.
32. Please explain any particular experiences during your clinical observation experiences that were a strong influence on your decision to apply or not apply to the athletic training education program.
5. Program Commitment
9. I feel I belong in this athletic training program.
10. I am confident that I have made the right decision in choosing this athletic training program.
19. It is very important for me to graduate from this athletic training program as opposed to some other program or school.
-