8-7-2008

Analysis of Motivation and Demographic Factors that Influence Physical Therapists' Decisions to Attain the Doctorate of Physical Therapy

Craig E. Ruby
Indiana University of Pennsylvania

ANALYSIS OF MOTIVATION AND DEMOGRAPHIC FACTORS THAT INFLUENCE PHYSICAL THERAPISTS' DECISIONS TO ATTAIN THE DOCTORATE OF PHYSICAL THERAPY

A Dissertation Submitted to the School of Graduate Studies and Research in Partial Fulfillment of the Requirements for the Degree Doctor of Education

Craig E. Ruby

Indiana University of Pennsylvania

August 2008

Indiana University of Pennsylvania
The School of Graduate Studies and Research
Department of Education

We hereby approve the dissertation of

Craig Ethan Ruby

Candidate for the degree of Doctor of Education

_____ _____

Wenfan Yan, Ph.D.
Professor, Advisor
Department of Professional Studies in Education

_____ _____

Robert Millward D.Ed.
Professor
Department of Professional Studies in Education

_____ _____

George Bieger, Ph D.
Professor
Department of Professional Studies in Education

ACCEPTED

_____ _____

Michele S. Schwietz, Ph.D.
Assistant Dean for Research
The School of Graduate Studies and Research

Title: Analysis of Motivation and Demographic Factors that Influence Physical Therapists' Decisions to Attain the Doctorate of Physical Therapy

Author: Craig Ruby

Dissertation Chair: Dr Wenfan Yan
Dissertation Committee Members: Dr. Robert Millward
Dr. George Bieger

Education for physical therapists has evolved to the doctorate of physical therapy degree and it is the vision of the American Physical Therapy Association that all physical therapists will be doctoral prepared by the year 2020. Most physical therapists do not have the DPT and prior studies have revealed that interest in the DPT is low for practicing physical therapists. This study examined the motivation of physical therapists to attain the DPT, by examining three areas of interest. What effect do extrinsic and intrinsic motivating factors have on physical therapists decision to return to school for the doctorate in physical therapy? What factors and demographic trends influence physical therapists' decision to return to school for the transitional doctorate of physical therapy? And how does motivation differ for therapists who return for the DPT compared with the therapists who do not return for the DPT?

A survey was constructed using the achievement goal theory as a paradigm to examine motivation. The surveys were mailed to a random sample of physical therapists in Pennsylvania and to a targeted group of transitional DPT students and graduates to augment this small population. A total of 528 surveys were analyzed utilizing analysis of variance, chi square and discriminate analysis. Three distinct groups were identified through data analysis. Those that have already completed the DPT, those not interested

in the DPT and those that are interested, but have not yet made the commitment to go back to school. The means for intrinsic and extrinsic motivation were significantly different for the three DPT interest groups. Several demographic variables were also factors for interest in the DPT degree. Age, years experience, APTA membership status, administrative status, clinical instructor status, primary practice setting, entry-level degree, gender and employment status were all significantly different for the three DPT interest groups. This study also concluded that therapists that are interested in the DPT and those that have already completed the DPT scored higher for both intrinsic and extrinsic motivation on the achievement goal questionnaire than therapists who report no interest in the DPT.

ACKNOWLEDGMENTS

This book is dedicated to my wife Chrissy and my daughters, Cassandra and Chloe. Their love and support have been the driving force for me to complete this milestone. I also would like to thank my parents, Daryle and Nancy, for instilling in me the work ethic that makes me feel as though I can accomplish anything.

Thanks also to Dr. Yan, Dr. Millward and Dr. Bieger for your guidance in navigating the dissertation process.

TABLE OF CONTENTS

Chapter

LIST OF TABLES

CHAPTER 1

INTRODUCTION

Twenty years ago, the majority of physical therapy schools awarded the Baccalaureate degree as the entry level degree for physical therapy. Ten years ago, the most common entry level degree was the Master of Physical Therapy (MPT). Now, the majority of physical therapy programs offer the Doctorate of Physical Therapy (DPT) as the entry level degree. 166 of the 209 physical therapy schools in the United States offer the DPT (American Physical, 2006). Since the DPT has been in existence for a relatively short period of time, physical therapists have different degrees.

The change to the DPT was guided by the Guide to Physical Therapist Practice and is being encouraged by the APTA for several reasons. The Guide to Physical Therapist Practice, which was first published in 1995, requires a patient/model education that is not easily acquired in the time constraints of the typical MPT program. Society expects that an autonomous healthcare practitioner be a clinical Doctor. The American Physical Therapy Association's (APTA) goals for the coming decade, including direct access, physician status for reimbursement purposes and practice based on evidence-based outcomes, require that clinicians possess the clinical Doctorate. Finally, many of the MPT programs already meet the criteria for the clinical Doctorate and should be awarding degrees appropriate to the program of study. For these reasons, the APTA's Board of Directors has adopted Vision 2020; a vision that all physical therapists will be Doctoral prepared by the year 2020 (APTA BOD, 2000).

Because the transition to the doctorate of physical therapy has been rapid, most of the practicing physical therapists do not have a doctoral degree. Only eight percent of

practicing physical therapists have the DPT degree. Therefore, the transitional doctorate of physical therapy was developed to bridge this gap and bring practicing physical therapists up to current entry-level standards. Physical therapists who are considering the transitional DPT degree have many options as seventy institutions offer transitional DPT programs and one more is in development. Many physical therapists have made the transition to the doctorate, but many more have not. The motivation for this phenomenon was examined in this study.

Background

Extrinsic motivation and intrinsic motivation are two entirely different concepts that psychologists have used to examine behavior. Extrinsic motivation is typically defined as performance for some type of tangible payoff such as grades, money, or recognition. Rewards are said to be extrinsic if they are unrelated to the action (Covington, 2000). In contrast, intrinsic motivation occurs when individuals engage in activity for their own sake. Intrinsic motivation is the pursuit of an interesting task without receiving or expecting tangible payoff (Covington & Wiedenhaupt, 1997). Examples of intrinsic rewards are the satisfaction of overcoming a personal challenge, learning something new, or discovering things of personal interest.

The extrinsic factors that motivate physical therapists to return to school are predictable. Improved employment opportunities, higher pay and increased prestige that comes with the doctoral degree have all been identified as factors. A study completed at Creighton University focused on transitional DPT students and reported mainly positive outcomes with respect to career advancement, salary, employment choices and respect from other healthcare practitioners (Creighton University, 1998). Extrinsic factors

identified by Threkheld include increased salary, promotion, better employment opportunities, the prestige that comes with the title of doctor, and an improved public perception of the profession, (Threkheld, et. al., 1999). Many studies have focused on motivation for doctoral students to complete their degrees (Bair, 1999, Dorn, 1995, Morton, 2001). The consensus of these studies is that factors such as financial situation, interaction with faculty and peers, and time to degree are all factors that contribute to persistence and therefore motivation to matriculate. The term motivation is used in these studies to describe reason for persistence.

Intrinsic and extrinsic motivation would appear to be at opposite ends of a spectrum, with people's motives being described as leaning toward one or the other. But intrinsic values do not exist in a reward vacuum. Human beings expect some type of payoff for their work. Covington states that "any realistic study of intrinsic motivation must take into account not only it's unique presence, not merely the absence of material incentives, but the inevitable and simultaneous presence of other motives that may have little or nothing to do with the love of learning" (Convington & Mueller, 2001). Perhaps a better explanation of extrinsic versus intrinsic motivation would be that they are two independent concepts rather than a point on a single continuum (Pintrich, 1999, Pintrich & Garcia, 1991). Using this explanation, both the extrinsic and intrinsic factors can coexist and are not measured as opposite ends of the spectrum.

Research has shown that college students rate achieving high grades as the main reason for learning with such reasons as increasing knowledge or undertaking work for personal challenge rated as less important (Covington & Wiedenhaupt, 1997). But transitional DPT students would not be classified as traditional college students. The

transitional students would be adult learners and as adult learners, the motivation would be intrinsic, with the pursuit of the task not related to external rewards. Transitional DPT students return to school to improve professional competence, or for the personal satisfaction that comes with learning or mastering a new task. Other intrinsic factors are the pride in a job well done or surpassing one's prior performance.

Table 1 *Intrinsic vs. Extrinsic Motivation*

Extrinsic Motivators	Intrinsic Motivators
Improved job opportunities	Personal satisfaction
Higher pay	Pride
Prestige	Achievement
Promotion	Improved clinical skills

An interesting application of intrinsic motivation is achievement motivation. Elliot and Harackiewicz (1996, p. 451) state that "achievement motivation theorists focus their attention on a particular class of behavior, those involving competence. Individuals may aspire to attain competence, or may strive to avoid incompetence." Achievement Goal Theory is the most recent conceptualization of achievement motivation. The framework of Achievement Goal Theory contains mastery goals (intrinsic) versus performance goals (extrinsic). Elliot and Harackiewicz (2001) have proposed the 2 x 2 construct to examine motivation. This construct has two goals, mastery versus performance, and two valances, approach versus avoidance. This leads to four distinct groups that are useful in describing intrinsic and extrinsic motivation.

Statement of the Problem

According to the most recent demographic data available from the American Physical Therapy Association (2007), 48.8% of practicing physical therapists are prepared at the baccalaureate level, 36% have master's degrees and 8% have doctoral degrees. Ninety-two percent of practicing physical therapists do not have the DPT degree, but they are experienced clinicians who may not feel the need for further education in their field. Those who have maintained a level of clinical competency by attending seminars and continuing education courses may believe that they are more competent than a new graduate with the DPT degree and this may be true. But the problem remains that practicing physical therapists have different levels of training.

The American Physical Therapy Associations' Board of directors would like to see this problem remedied as evidenced in it's Vision 2020: All physical therapists will be doctoral prepared by the year 2020 (APTA BOD, 2000). Physical therapists have started this transition as evidenced by a recent survey by the American Physical Therapy Association, which indicated that since the inception of transitional Doctorate of Physical Therapy programs, Eleven-thousand, seven hundred and seventy-three physical therapists have enrolled (APTA, 2006). The survey also reported that three thousand, five hundred and fifty six have graduated. This survey only included data from forty-seven of the existing seventy programs so the actual numbers may be close to double these numbers.

The prestige of the doctoral degree, increased salary, opportunity for professional growth, a desire for lifelong learning and other factors could be considered motivating factors for the transitional doctorate of physical therapy (Creighton study, 1998). If it is true that adults return to school for intrinsic or self-motivating factors rather than for

extrinsic rewards, then physical therapists seeking the DPT should have similar attitudes. Current research has shown that college students rate achieving high grades as the main reason for learning with such reasons as increasing one's knowledge or undertaking work for personal challenge rated as less important (Covington & Wiedenhaupt, 1997). According to this research, college students are placing the extrinsic rewards of grades above the intrinsic value of increasing their knowledge.

Applying these theories to the physical therapist that returns to school, the question becomes; what are the reasons that physical therapists return to schools for the transitional doctorate in physical therapy degree? Is the motivation extrinsic or intrinsic? Extrinsic factors identified by Threkheld would include an increased salary, promotion, better employment opportunities, the prestige that comes with the title of doctor, and an improved public perception of the profession, (Threkheld, et. al., 1999). Intrinsic factors would include an improved professional attitude, improved professional competence, and to fulfill the need for ongoing professional education (Threkheld, et. al., 1999).

If extrinsic and intrinsic motivation are not at opposite ends of the spectrum, but rather are independent concepts, physical therapists likely are motivated both intrinsically and extrinsically to pursue advanced degrees. To what degree though are physical therapists motivated, and which predominates. Are physical therapist more inclined to be intrinsically or extrinsically motivated to return to school for the transitional doctorate in physical therapy? By studying this concept, educators in physical therapy programs will be able to tailor their programs to meet the needs of their students and perhaps make the schools' programs more attractive to therapists who may be considering a return to school.

Research Questions

1. What effect do extrinsic and intrinsic motivating factors have on physical therapists' decision to return to school for the doctorate in physical therapy?
2. What factors and demographic trends influence physical therapists' decision to return to school for the transitional doctorate of physical therapy?
3. How does motivation differ for therapists who return for the DPT compared with the therapists who do not return for the DPT?

Significance of the Study

The American Physical Therapy Association has adopted Vision 2020 in an effort to have all physical therapists educationally prepared at the doctoral level. In accordance with this, many schools have created transitional DPT programs to meet the needs of physical therapists that want to return to school. The APTA is supporting the creation of transitional programs by assisting colleges with the implementation. The plan has four phases with the first phase being consensus-based competencies. This represents the preferred outcomes for graduates of transitional DPT programs. Phase II is the preferred curricular guide which is a foundation for designing a transitional program. Phase III is a valid evaluation tool for assessment of knowledge, skills and behavior. Phase IV is to develop a pool of qualified adjunct faculty to assist programs in finding necessary instructors. The APTA BOD has developed this plan based on competencies it deems necessary for physical therapy professionals.

In addition to characteristics that the APTA has deemed necessary for the DPT, it is also important to consider what motivates physical therapists to pursue this degree.

Although vision statements are important factors in the evolution of the DPT, it is important to study the motivation and factors which influence physical therapists to fully comprehend the decision making process. Many studies have focused on motivation for students to complete graduate studies (Morton, 2001, Dorn, 1995, Bair, 1999). These studies have used the term motivation to describe student retention and student persistence. This study examined why students make the decision to return to school for the doctorate in physical therapy. Motivation was the term used to describe this behavior. Intrinsic and extrinsic factors were examined.

Other studies have focused on the outcomes of graduates with the doctorate of physical therapy degree (Creighton University, 1998). The positive outcomes from these studies and the desire of the American Physical Therapy Association for "all practicing physical therapists to be doctoral prepared by the year 2020", are driving an explosion of transitional doctoral programs. Seventy of the current one hundred and sixty-six physical therapy programs that offer the DPT degree also have a transitional DPT degree. As other physical therapy programs offer the DPT degree and the transitional DPT degree, administrators will want to tailor their programs to the students needs. An understanding of students' motivation can be used to attract physical therapists to transitional programs.

Studying physical therapists motivation regarding the decision to return for the DPT will enhance the development of transitional programs. The significance of this study is that it has implications for curriculum planning, recruitment and scholarship efforts, and policy formation in physical therapy education. For example, if it appears that physical therapists are interested in the DPT for extrinsic reasons, program directors may want to consider coursework that would be attractive for extrinsic rewards. This

may include administrative courses, or courses on health policy and leadership that may help in career advancement.

However, if intrinsic reasons are the driving force for the DPT, therapists may be more interested in courses that enhance their clinical skill and program directors may want to consider courses such as an advanced orthopedic course, sports course, or aqua-therapy for example. Currently 92% of practicing physical therapists do not have the DPT. If the profession is to become a doctoring profession by 2020 as the APTA hopes, the majority of physical therapists will have to transition to the DPT. Determining what motivates physical therapists will augment the literature on this topic and provide information to advance practice.

Definition of Terms

For this study, the following terms are defined:

- Doctorate of physical therapy is an entry-level physical therapy degree that is meant to be a clinical degree similar to the MD or DO. It is not an academic degree like the PhD or EdD.
- Transitional doctorate of physical therapy or tDPT will be defined as the degree awarded to physical therapists that return to school and earn the post-professional doctorate award.
- Transitional DPT programs are physical therapy schools that offer doctorates of physical therapy degrees to physical therapists that already have physical therapy degrees, at the baccalaureate or masters level.

- Motivation is defined as an explanation of one's behavior. This study will examine the behavior of physical therapists that return to school for the tDPT.
- Intrinsic Motivation is motivation that is related to the value of the mastery of the activity itself to the participant.
- Extrinsic Motivation is motivation that is tied to outside rewards, and the rewards are not directly related to the activity.
- Achievement Goal Theory is striving to be competent and in educational psychology is the underlying reason for which a person makes academic decisions.

Theoretical Framework

The theoretical framework summarizes the review of the literature on achievement motivation theory. "Achievement motivation theorists focus their research attention on a particular class of behaviors, those involving competence. Individuals may aspire to attain competence, or may strive to avoid incompetence" (Elliot & Harackiewicz, 1996, p.461). Achievement theory has taken many forms over the years, but the concept of striving for competence has remained constant. Several related theories have attempted to explain behavior and are relevant to achievement motivation. Achievement theory, social cognitive theory, locus of control theory, and achievement goal theory have been proposed as explanations for behavior.

This study addressed physical therapists' motivation to return to school for the doctorate of physical therapy. Achievement goal theory, specifically the 2 X 2 construct was utilized to examine this behavior. The 2 X 2 construct is the prevailing current

framework for achievement goal theory. Its popularity is due to the simplicity of the two definition, two valence construct. The definition is mastery, representing intrinsic behavior, versus performance, representing extrinsic behavior. The valence is approach versus avoidance. Competence remains the centerpiece of the achievement goal theory. Elliot and McGregor (2001) view achievement goal theory as having a conceptual centerpiece of competence, measured by two goals with two valences. Competence can only be defined in a limited number of ways, and the 2 X 2 theory groups achievement goals into distinct combinations of the two goal-two valence model. The 2 X 2 framework as proposed by Elliot and McGregor (2001) contains mastery and performance goals with valences of approach and avoidance. The chart that Elliot and McGregor used to explain their concept is in Table 2.

Table 2, *Achievement Goal Theory, Elliot and McGregor, 2001*

	Absolute/Intrapersonal (Mastery)	Normative (Performance)
Approaching Success (Positive)	Mastery Approach	Performance Approach
Avoiding Failure (Negative)	Mastery Avoidance	Performance Avoidance

Limitations of the Study

Current statistics show that over eleven thousand physical therapists have enrolled in schools for the transitional DPT and that thirty-five hundred have graduated. A limitation of the study is the inability to focus on this sample only as this demographic

information is not available. Graduates from transitional programs are not tracked by the national or state organizations or by the state licensure agencies. In an effort to reach as many of these individuals as possible, the researcher surveyed physical therapists via mail survey to determine if physical therapists who return for the transitional degree have different motivation than those who don't.

Another limitation is the survey design of the study. Psychologists typically study and write about human behavior to attempt to explain why human beings behave as they do. The observer can explain the behaviors, or another way to find humans' motivation is to ask them. This study focused on the psychological theories of motivation, and assessed motivation by questioning the participants via questionnaire. Limitations are that the questions are usually closed ended and the responses are confined to the available choices. Therefore the researcher may not capture issues that are relevant to the sample. Also, respondents may answer in a socially appropriate way, instead of what they actually believe.

Summary

In order to maintain a level of competence in the profession, physical therapists are being urged by the APTA to pursue the DPT degree. The majority of physical therapy schools offer the doctorate as the entry-level degree, so there will be a shift toward a doctoring profession as the APTA envisions. What is unclear though, is if the ninety-two percent of practicing physical therapists will transition to the DPT and what would motivate their transition. Prior studies have identified extrinsic motivating factors as improved job opportunities, higher pay, prestige and promotion (Creighton University,

1998). Johnson found a lack of interest for physical therapists in the state of Pennsylvania to attain the DPT (Johnson, 2004). He concluded that the lack of interest was due to a lack of perceived extrinsic rewards. If Johnson's conclusions are correct, physical therapists who transition to the doctorate may have different motivation than those who don't. It may be that these therapists have a strong desire for competence and desire the doctorate to demonstrate that competence. The achievement goal theory is based on competence and what drives the desire for competence. This study utilized the achievement goal questionnaire to assess physical therapists' motivation to attain the doctorate of physical therapy. Achievement goal theory was the theoretical construct to for this study.

CHAPTER 2

REVIEW OF RELATED LITERATURE

The education that physical therapists receive has undergone many changes. The first formal training for physical therapists was developed in 1918 by the office of the surgeon general of the army. In 1928, the APTA established minimum course requirements and a certificate was awarded upon completion of the training. Training was provided at the certificate level until 1960, when the baccalaureate degree became required. In 1979 the American Physical Therapy Association's House of Delegates adopted a policy mandating that entry-level education for physical therapists result in the award of a post-baccalaureate degree rather than a certificate or baccalaureate degree by December 31, 1990. The entry-level post-baccalaureate degree was not a new concept to the profession as the first masters-level entry program was developed in 1959 at Western Reserve University and the first class of applicants was accepted into the program in 1960. By 1970, ten universities were listed by the American Physical Therapy Association as offering graduate level programs as the introduction to formal physical therapy training. The transition to masters-level entry physical therapy programs though was not as swift as the American Physical Therapy Association would have liked. Only forty-eight percent of physical therapy schools were offering masters-level entry programs by the end of 1993, three years after the American Physical Therapy Association's deadline. The American Physical Therapy Association then made a decision to discontinue accreditation of schools that were not offering entry-level graduate degrees by the end of 2002 and by the end of 2002 all schools had complied.

The Master of Physical therapy programs are two or three-year programs with the degree of MPT conferred.

Another transition in the education of physical therapists began in 1996 when Creighton University graduated the first class with the designation of DPT or doctorate of physical therapy. Shortly thereafter Slippery Rock University and the University of Southern California joined the ranks of schools offering this new degree. The transition to the doctorate in physical therapy has been more rapid than the transition to masters-level entry. Of the two hundred and nine physical therapy schools, one hundred and sixty-six offer the doctorate of physical therapy as the entry level degree and as of the writing of this document, one more is in transition. Many of the arguments given for the transition to the doctorate of physical therapy degree are similar to those used to support the transition to master of physical therapy thirty years ago. In 1974 Daniels wrote "The Physical therapist of the future as truly professional: a person who will assume increasing responsibility in patient management, be highly skilled in physical therapy evaluations, be proficient in supervision, and communicate easily with health professionals at all levels." (Daniels, 1974)

The Doctorate of Physical Therapy is a post baccalaureate degree awarded upon the successful completion of an entry-level program or a transitional program. The DPT is a clinical degree, meant to signify that the physical therapist is prepared to practice physical therapy in today's health care environment. The DPT is not an academic degree, and therefore not considered to be in the category of the PhD or Ed D. The rationale for the DPT degree is based on several factors. The DPT was developed as the result of the implementation of The Guide to Physical Therapist Practice and the American Physical

Therapy Association's drive toward "Hooked on Evidence". The APTA developed the Guide to Physical Therapist Practice "to encourage a uniform approach to physical therapy practice and to explain to the world the nature of that practice." (Rothstein, 1997/2001) The Guide is the result of state legislative bodies requests for health professionals to develop standard practice parameters. Doctorate of Physical Therapy programs utilize the Guide to Physical Therapist Practice to direct learning to these standard practices. Prior to the Guide to Physical Therapist Practice, physical therapy schools were only required to meet standards set by the Committee on Accreditation of Physical Therapy Education (CAPTE). The difference is that the Guide to Physical Therapist Practice is based on research and provides a model to guide the therapist in the therapist/client relationship. As such, the Guide is an evolving document and has been republished in 1997, 2001 and again in 2003. It is dependent on research, not just the norms of practice and it is intended to spur further research for the advancement of the physical therapy profession.

The APTA has also implemented a program called "Hooked on Evidence". This project was implemented to compile a database of research regarding the effectiveness of physical therapy interventions. Hooked on Evidence was motivated by a concern that clinicians lacked adequate knowledge from current research. This lack of access to knowledge limits the physical therapist's ability for evidence-based practice. Research based evidence concerning physical therapy interventions is compiled on APTA's web site under Hooked on Evidence.

Current physical therapy education programs incorporate The Guide to Physical Therapist Practice and evidence-based practice in their curriculum. Recent research has

shown that the majority of practicing physical therapists are having a difficult time integrating evidence-based practice into their clinics (Maher, 2004). One way to implement a change to evidence-based practice is for physical therapists to transition to the DPT degree. This is what the APTA's Board of Directors is advocating with its vision 2020.

Evidence is scarce for this topic because it is a relatively new phenomenon. The evidence thus far indicates that physical therapists who are returning for the DPT degree are doing so for intrinsic reasons. A survey in Pennsylvania revealed that nearly two thirds of contacted physical therapists were not interested in transitioning to the doctoral degree (Johnson, 2004). Sixty-five percent of the 533 respondents strongly disagreed or disagreed with the statement, "I am interested in obtaining the DPT degree." The conclusions from this study are that the majority of physical therapists in Pennsylvania do not perceive the transitional DPT as leading to career advancement, increased salary, improved job security, better preparation for managed care, and increased public recognition for physical therapists: "It appears that until physical therapists perceive more extrinsic benefits associated with obtaining the transitional DPT degree such as increased pay, they will not value its role in professional development" (Johnson 2004, p.156). Gender, years experience, type of academic degree, geographic location of the workplace, and annual income were not significant factors influencing the interest in pursuing the doctoral degree using Pearson chi-square analysis at the .05 level.

The purpose of Johnson's study was to determine factors that promote or deter physical therapists' participation in a DPT program. Johnson examined the DPT as a means for personal development versus professional enhancement. Six main themes

emerged as barriers to the DPT from the focus group sessions. They are lack of interest, lack of importance of earning the DPT to physical therapists as an independent adult learner, lack of colleague, family and employer support, lack of increased professional competency, lack of time to complete, and difficulty balancing job, family and other responsibilities. Interviews in Johnson's study provide insight into what is important to working physical therapists. "I do not feel there are enough requirements to earn a DPT degree. I feel there should be an additional amount of credits/coursework to earn the degree."(Johnson, 2004, p.121) Another interviewee of Johnson stated "I feel (the DPT) has (no value) until they develop a more in-depth curriculum." (2004, p.121) It would seem that some therapists do not feel that transitioning to the DPT would be a significant challenge.

Of the one-third of practicing physical therapists in the state of Pennsylvania who were interested in earning the transitional DPT, the identified motivating factors were knowledge improvement, personal satisfaction, and competency improvement. The identified factors for therapists interested in the DPT are intrinsic, whereas therapists not interested in the degree seem motivated by extrinsic rewards. Johnson's conclusion is that the lack of perceived external rewards is a barrier to the DPT. "To date, physical therapists have yet to embrace the intrinsic value of the t-DPT for their professional development" (Johnson, 2004, 162).

Similar conclusions were drawn by Thomas and colleagues regarding interest in the transitional doctorate (Thomas, 2003). In a survey of 333 physical therapists selected randomly from all fifty states, thirty-five percent of respondents stated an interest in obtaining the DPT degree. Intrinsic factors were identified as the strongest motivation

with eighty-one percent of respondents identifying a desire to learn as a motivating factor for the DPT. Respondents identified expansion of knowledge base (80%) and a sense of self improvement (79%) as the main benefits of obtaining a t-DPT. Fifty-one percent felt that the DPT degree would promote respect from other health care professionals and forty-nine percent felt the degree would improve the public's perception of the profession. Other important perceived benefits were improved client care (51%), improved clinical skills (58%), and gaining skills in evidence based practice (58%).

Extrinsic factors were deemed less important with only twenty-four percent responding that the DPT would advance their careers and thirty-six percent indicating it would raise their salary. The majority of respondents (48%) did not believe that the DPT would improve reimbursement from third party payers. Interestingly, only twenty-six percent of physical therapists supported APTA's vision 2020 that all physical therapists will be doctoral prepared by the year 2020 while twenty-four percent remained neutral and forty-six percent disagreed.

A survey of practicing physical therapists in Iowa and Nebraska produced a similar result with thirty percent of 396 subjects reporting interest in the post professional doctorate (Detweiler, 1999). Another twenty percent responded neutral to the idea of the DPT. Sixty-three percent responded that the DPT would improve their professional competence, while only forty percent believed it would help the get a higher salary. The results from this study also seem to indicate that physical therapists perceive the DPT to have intrinsic benefits of greater value than extrinsic rewards. The survey also identified areas of expected curricular emphasis for transitional programs. Non clinical areas were deemed important to respondents with ninety percent believing that a DPT program

should include courses on managed care or insurance regulations. Eighty-five percent would like the DPT to include course on business administration and management and seventy-two percent agreed that the DPT should involve a strong research component. The majority (60%) also agreed that the DPT should prepare graduates to teach in a physical therapy program.

The majority of therapists interested in the DPT (64%) had less than ten years of clinical experience and physical therapists with a bachelor's or master's degree expressed more interest in the DPT than did those with the certificate. This is likely due to the fact that the certificate is the oldest of the three degrees and therapists with this degree may feel that they have enough experience or are older and near retirement and unlikely to pursue an additional degree. The conclusions of Detweiler et al (1999) are that the responding therapists expect that the post professional DPT will help to increase their level of knowledge and professional skill. They do not believe however, that it will lead to increased pay or reimbursement for the profession.

The three studies cited above all surveyed practicing physical therapists for their opinions of the DPT. The conclusions of these studies are very similar with between 30-35% interested in the DPT. The respondents also replied in similar fashion that intrinsic factors such as improved knowledge base and sense of self improvement were more important than extrinsic factors such as promotion or increased pay. These surveys were completed when the DPT was in its infancy and it was not as well accepted as it is today. Over three-fourths of physical therapy schools currently offer the DPT as the entry-level degree. As the degree gains acceptance in the profession, it will be interesting to see if the attitudes toward attaining the post professional degree will improve.

Johanson (2003) surveyed entry-level physical therapy students in doctoral and masters programs. Her conclusions were that DPT students emphasized long term gains compared to master's students and that DPT students had a higher perception of the profession. The specific conclusions are that MPT students are more likely to be interested in the length, matriculation date and marketability of the degree, while DPT students are more interested in the degree conferred, reputation of the program and faculty, and the curriculum. Johanson concluded that DPT students exhibited a higher degree of professionalism with long term professional rewards more important than short term rewards. Based on the results of this study, the argument can also be made that these DPT students seem motivated by intrinsic factors.

It is speculated that older adults that return to school generally do so for intrinsic or self-motivating factors rather than for extrinsic rewards. Current research has shown that college students rate achieving high grades as the main reason for learning with such reasons as increasing one's knowledge or undertaking work for personal challenge rated as less important (Covington & Wiedenhaupt, 1997). According to this research, college students are placing the extrinsic rewards of grades above the intrinsic value of increasing their knowledge. Examples of intrinsic rewards are the satisfaction of overcoming a personal challenge, learning something new, or discovering things of personal interest. Intrinsic motivation is the pursuit of an interesting task without receiving or expecting tangible payoff (Covington and Wiedenhaupt, 1997). In an outcomes study of DPT graduates' perceptions at Creighton University, Threkheld identified intrinsic factors of an improved professional attitude, improved professional competence, and to fulfill the need for ongoing professional education as related to the DPT (Threkheld, et. al., 1999).

Extrinsic factors identified by Threkheld would include an increased salary, promotion, better employment opportunities, the prestige that comes with the title of doctor, and an improved public perception of the profession (Threkheld, et. al., 1999).

Four main theories exist to explain intrinsic motivation. They are competence, curiosity, autonomy and internalized motivation. Competence is described as an inherent need that human beings have to feel competent and this need drives humans to master a task. Evidence to support competence as a motive is presented by White as a means to describe behavior of humans during development (White, 1959). Piaget also espouses this theory that humans are innately compelled to practice the skills they are developing, even as infants (Piaget, 1952). Competence based motivation is a biologically based drive that compels individuals to practice skills to increase their own competency in their environment.

Curiosity theorists propose that humans derive pleasure from stimulus that is new or unknown to them (Kagan, 1972). This would explain why toddlers are amused for longer periods of time with new stimuli compared to stimuli that they are already familiar with. Curiosity theory proposes that people seek new situations as a challenge and that they try to master them.

Autonomy represents humans need to feel that they are in control of what occurs in their lives. Deci and others have described this as needing self-determination (Deci, 1975). Individuals are said to be intrinsically motivated when they feel that their actions are guided from within or that they are the cause of their own behavior. Conversely, when outside influences determine behavior, the individual is motivated by extrinsic factors.

The fourth perspective for intrinsic behavior is internalized motivation. Children learn from others that certain behaviors are valued in society. The ability to take these values and adopt them as their own is internalized motivation. Students with internalized motivation of schoolwork ethic will learn because they have internalized a value to work hard at the task at hand. These four perspectives are not independent of one another and are thought to overlap. The first three perspectives assume that the intrinsic motivation is innate, while the fourth is a developed behavior.

Theoretical Framework

The theoretical framework of this paper will begin with an overview of general motivational theories. Intrinsic and extrinsic motivation theories will be presented, with emphasis on the relationship between the two concepts. The development and evolution of achievement motivation will then be outlined, beginning with achievement motivation as proposed by Atkinson and Feather (1966). Self-efficacy theory, locus of control theory and achievement goal theory have all evolved from achievement motivation. An explanation of these theories will lead into the rationale for choosing the most recent conception, the achievement goal theory as the theoretical framework to examine the motivation for physical therapists to return to school for the doctorate of physical therapy (DPT).

Concepts in Motivation

Breen and Lindsay (1999) demonstrated that motivation is a hypothetical construct and is inferred from behavior. Therefore, researchers must use hypothetical constructs to measure attitudes, interests, perceived goals, and values through self-report. Investigators can observe behavior, or measure it through interviews or surveys.

Variables that have been investigated to explain the needs for professionals to participate in ongoing professional education and development are the public's demand for competence, regulatory boards, development of professional standards, pride in one's work and the need for a skilled professional work force (Cervero, 1990; Dede, 1990; Hunt, 1992; Schon, 1987; Smutz & Queeney, 1990; Stern & Queeney, 1992). It has also been proposed that research in the area of motivation involves studying the application of human energy, direction, persistence and intention (Ryan & Deci, 2000). Motivation is the reason that a behavior occurs. Extrinsic motivation and intrinsic motivation are two quite different concepts that psychologists have used to examine behavior.

It has long been understood that extrinsic rewards can control behavior. Skinner (1953) showed that extrinsic rewards given immediately following a behavior would likely cause that behavior to continue. This simplistic theory of motivation is based on stimulus-response behavior. Extrinsic motivation is typically defined as performance for some type of tangible payoff such as grades, money, or recognition. These rewards are said to be extrinsic because they are unrelated to the action (Covington, 2000). Extrinsic motivation however may be the process of satisfying a need which is related to the activity, but not satisfying the learning itself (Breen & Lindsay, 1999). Pintrich and Schunk (2002) refer to extrinsic motivation as a means to an end. Other explanations of extrinsic motivation focus on the individuals' accomplishments in relation to others. Extrinsically oriented individuals demonstrate their accomplishments by comparison with their peers (Ames, 1984; Covington, 1984). These individuals are driven to exceed normative standards or to surpass their peers.

In contrast, intrinsic motivation is the pursuit of an interesting task without receiving or expecting tangible payoff (Covington & Wiedenhaupt, 1997). Examples of intrinsic rewards are the satisfaction of overcoming a personal challenge, learning something new, or discovering things of personal interest. Intrinsic motivation results in engaging in activity for the activity's sake. Brophy (1983) proposes that this orientation results in better quality output than engaging in tasks for extrinsic reasons. Entwistle (1981) concluded "interest and intrinsic motivation are likely to foster a deep approach and an active search for personal meaning." In congruence, Deci (1975) defined intrinsic motivation as the desire to be self-competent and self-determined. Intrinsically oriented individuals are focused on developing new skills, trying to understand their work, improving their level of competence and/or achieving a level of mastery based on self-referenced standards (Ames, 1992).

Many studies have reported that extrinsic rewards negatively affect intrinsic interest in an activity (Deci, 1971; Deci & Ryan, 1987; Leeper, Greene, & Nisbett, 1973; Ross, 1975). The conclusion is that tangible extrinsic rewards undermine intrinsic motivation. These conclusions were based on results that showed behavior returning to baseline standards when the extrinsic rewards were removed. Intrinsic and extrinsic motivation would appear to be at opposite ends of a spectrum, with people's motives being described as leaning toward one or the other. But intrinsic values do not exist in a reward vacuum. Human beings expect some type of payoff for their work. Covington and Mueller (2001) state that "any realistic study of intrinsic motivation must take into account not only it's unique presence, not merely the absence of material incentives, but the inevitable and simultaneous presence of other motives that may have little or nothing

to do with the love of learning." Pintrich and Schunk (2002) concluded that extrinsic motivation refers to motivation to engage in an activity as a means to an end, however, all motivation derives from some intrinsic need.

Early studies that examined intrinsic versus extrinsic motivation were based on models having the two types at opposite ends of the same spectrum. In other words, if the level of intrinsic motivation increases, extrinsic motivation would have to decrease and visa versa. Several early studies indicated that an increase in extrinsic factors was detrimental to intrinsic learning (Kazdin & Bootzen, 1972; Leeper et al, 1973). Deci (1971) proposed that these two behaviors are separate, incompatible, and possibly antagonistic. It is feared that with extrinsic motivating factors predominating, the students' intrinsic will to learn will decrease when external motivation is removed. Other observers have noted that praising an already internally motivated behavior can have an effect labeled over-justification. Over-justification is a discouragement that occurs when an intrinsically motivated activity becomes devalued as the result of attempted praise or reward from extrinsic sources (Leeper et al 1973).

Perhaps a better explanation of extrinsic versus intrinsic motivation would be that they are two independent concepts rather than a point on a single continuum (Pintrich, 1999; Pintrich & Garcia, 1991). Using this explanation, extrinsic and intrinsic factors are independent of each other and therefore able to coexist and are not measured as opposite ends of a spectrum. More recent research focuses on the ability of intrinsic and extrinsic motivation to coexist, refuting the proposition that extrinsic rewards are detrimental to intrinsic motivation. In fact, it has been proposed that extrinsic rewards can complement

or enhance intrinsic motivation (Amabile, 1994; Deci & Ryan, 1985; Garrison, 1997; Harter, 1981).

Current models focus on the ability of extrinsic and intrinsic motivation to coexist. Covington and Mueller (2001) propose a paradigm where the promise or presence of external rewards is not necessarily detrimental to intrinsic motivation. In their model, intrinsic and extrinsic motivation are not considered to be at opposite ends of the same spectrum, but as individual concepts that may coexist. As a result, these concepts can and should be measured independently from each other.

Covington and Mueller examined three typical models of intrinsic versus extrinsic behavior and argue that the logic of extrinsic rewards being antagonistic to intrinsic behavior doesn't always apply in the real world. The first model is the experimental-based paradigm. Most researchers define intrinsic motivation as the absence of tangible payoff for ones actions. This definition implies that intrinsic motivation cannot exist in the presence of external rewards. There is almost always some type of extrinsic reward and human beings have come to expect being rewarded for their accomplishments. The second is the person-trait paradigm, which suggests that people are either driven by external factors or internal factors. Covington and Mueller argue that if motivation is assessed on a continuous scale that the mid-point in the scale would be a lack of motivation. Recent evidence suggests that intrinsic and extrinsic motivations are not on the same continuum, but are independent concepts that should be measured independently from one another (Pintrich, 1999; Pintrich and Garcia, 1991). The last argument is based on the reward paradigm. The reward paradigm argues that the rewards for intrinsic and extrinsic motivation are different, and that no crossover is possible.

Experience suggests the opposite as extrinsic rewards frequently increase intrinsic values in learning (Covington & Mueller, 2001).

Achievement Motivation

"Achievement motivation theorists focus their research attention on a particular class of behaviors, those involving competence. Individuals may aspire to attain competence, or may strive to avoid incompetence" (Elliot & Harackiewicz, 1996, 461). Achievement theory has taken many forms over the years, but the concept of striving for competence has remained constant. Several related theories have attempted to explain behavior and are relevant to achievement motivation. Achievement theory, social cognitive theory, locus of control theory, and achievement goal theory have been proposed as explanations for behavior.

Achievement Theory

Achievement theory was initially proposed by Atkinson and Feather in 1966. This theory shifted the study of motivation to a more cognitive framework involving intrinsic and extrinsic factors rather than the stimulus-response model proposed by Skinner. More importantly, achievement theory also accounted for human perception (Schunk, 2000). Atkinson (1957) postulated that motivation is dependant on the expectancy of success or failure at a given activity and the individual's value of the outcome. Atkinson proposed four items of need that motivate individual's behavior; achievement, affiliation, esteem needs, and self-actualization needs.

Covington and Mueller propose a model that is based on McClelland and Atkinson's Needs Achievement Theory (McClelland, Atkinson, Clark, & Lowell, 1957).

This theory proposes that individuals are either driven toward success and strive for excellence in the anticipation of rewards, or are driven to avoid failure. It is argued that this theory allows for external rewards to be present while still being able to appreciate the intrinsic motivation. This paradigm places intrinsic motivation at one end of a spectrum with avoidance at the other end. Extrinsic motivation is placed in the middle and can have an effect positively or negatively on intrinsic motivation. Extrinsic factors in this model can either enhance a love of learning or interfere with caring (Covington and Mueller, 2001).

The traditional dichotomous motivation paradigm with intrinsic and extrinsic motivation at opposite ends of a spectrum is being widened to allow for the coexistence of intrinsic and extrinsic motivation. Blackwell (2004) supported the position of others (Amabile, 1994; Harter, 1981) that the two are independent and may work additively leading to enhanced learning and performance. Intrinsically motivated individuals can do well in college while being highly motivated to achieve compensation for that work (Blackwell, 2004).

Self Efficacy Theory

The extrinsic factors that motivate physical therapists to return to school are predictable. Improved employment opportunities, higher pay and increased prestige that come with the doctoral degree have all been identified as factors. But what are the intrinsic factors. One of the most pertinent theories of human behavior and motivation is social cognitive theory and perceived self-efficacy. Among all of the theories explaining human behavior, none is more pervasive than beliefs in personal-efficacy. All other

factors of guides and motivation are rooted in the core belief that one has the power to produce desired effects (Bandura & Locke, 2003).

Bandura, the creator of Social Cognitive Theory, defines self-efficacy as people's beliefs in their capabilities to mobilize the motivation, cognitive resources and courses of action needed to exercise control over events in their lives (Wood & Bandura, 1989). Self-efficacy is the belief that one can accomplish a task successfully. There is evidence that people with high levels of self-efficacy have high levels of intrinsic motivation (Schunk, 2000; Schunk & Zimmerman, 1994). Students who believe themselves capable of accomplishing a goal will set more goals, use more strategies and persist longer (Pajeras, 2002).

People's beliefs about their self-efficacy can be instilled and strengthened in four principle ways. The most effective way is through mastery experience. Success strengthens self-beliefs of capability. Failure creates self-doubt. People with experience in overcoming obstacles through effort will be assured of their capabilities and will be better able to manage setbacks and failure without being negatively affected by them. Ability is thought to be an acquired skill that can be increased by gaining knowledge and competency. The more success experiences that a person has, the higher will be the self-efficacy appraisal. "Failures that are overcome by determined effort can instill robust precepts of self-efficacy through experience that one can eventually master even the most difficult obstacles" (Bandura, 1997, 399) such as completion of the DPT degree. Physical therapists who return for the transitional DPT degree might be doing so for the mastery that would be associated with having the highest degree available in their chosen profession.

The second way to strengthen self-beliefs is through modeling. A model that is proficient and conveys effective strategies to learners will affect the learner's self-efficacy beliefs. "People are most likely to adopt modeled strategies if the strategies produced valued outcomes, rather than unrewarding or punishing effects" (Wood & Bandura, 1989). According to social cognitive theory, the most successful way to increase feelings of self-efficacy is to observe someone else performing the behavior, and then master that desired behavior. Thus as physical therapists see that others in the field of physical therapy with the doctorate of physical therapy succeed, they will also desire this degree. Modeling may fuel their return to school for the transitional physical therapy degree for this reason.

A third way of increasing one's self-efficacy is through social persuasion. This involves the encouragement that people receive and how this affects their improvement in their abilities. Verbal persuasion can persuade people that they have the capability to master a particular task. It may be a mentor or another professional that persuades the physical therapist that they have the talent and abilities to pursue an advanced degree.

People also rely on their own assessment of their physiologic state as they assess their capabilities. Tension and nervousness may be signs leading to poor performance. Fatigue, aches and pains may be interpreted as the result of incapability. Another likely possibility is that physical therapists returning to school for the DPT degree secondary to undesired physiologic states or for the desire for better physiologic states. Either of these would increase the therapist's self-efficacy. Motivation is directly related to self-efficacy. Physical therapists' beliefs of what they can accomplish guide and shape their behavior.

The relationship of self-efficacy to achievement motivation is evident. People who believe they are capable of completing a task are more likely to undertake the task. Students who believe they are capable of accomplishing a goal will set more goals, use more strategies and persist longer (Pajeras, 2002). Self-efficacy determines whether or not the individual will initiate a coping behavior, the amount of effort that will be expended, and how long the individual will persist in the face of an obstacle (Bandura, 1997). Positive self efficacy correlates with intrinsic motivation (Schunk, 2000; Schunk & Zimmerman, 1994). "Bandura (1997) provides extensive evidence to suggest that precepts of self-efficacy are powerful determinants of achievement outcomes in varied fields." (Weiner, 2005, 93) High correlation of self-efficacy with student academic achievement related outcomes has been demonstrated in many research studies (Schunk, 1982; Schunk, 1984; Schunk & Swartz, 1993). Self-efficacy is the perception of competence and the attainment of goals is one way to enhance competence. Perceived competence has been shown to be a direct predictor of achievement goals (Elliot & Sheldon, 1997; Cury, Fonseca, Elliot, & Moller, 2006).

Locus of Control Theory

When applied to academics, Bandura's self-efficacy theory aligns with locus of control theory. If internal forces influence the task, a person is said to have an internal locus of control. Conversely, if an external force determines the achievement of goals, than a person has an external locus of control. Covington (1992) posits that individuals with an internal locus of control believe that their success or failures are due to their own efforts and abilities, while those with an external locus of control see success or failures as being out of their control. The locus of control theory is the way in which individuals

interpret the factors associated with achievement. Internal locus of control is associated with ability or effort while external locus of control is associated with the environment.

De Charms (1968) proposed that behavior is generated by man's struggle to have freedom from external forces. Individuals may have pride in the outcomes from behavior when the behavior is motivated by internal forces. The outcome of the same behavior motivated by external forces may not be a source of pride. Whereas self-efficacy theory focuses on beliefs in capabilities to complete a task, locus of control focuses on beliefs about outcomes or expectancies.

Achievement Goal Theory

A powerful contemporary theory is the achievement goal theory proposed by Dweck (1986), Nicholos (1984), and Ames (1984). The achievement goal theory studies individuals' affect, cognitions and behaviors as predictors of achievement related academic outcomes. The construct of achievement goal theory has contrasting goals of mastery versus performance, (Ames & Archer, 1988) task involvement versus ego involvement, (Maehr & Nichols, 1980) or learning goals versus performance goals (Dweck, 1986). Although these researchers used different terminology in describing goal theory, the concepts of intrinsic motivation (mastery, task involvement, and learning) versus extrinsic motivation (performance, ego) remain constant. For the purpose of this study and for consistency, the terminology that Ames and Archer (1988) proposed (mastery versus performance) is used.

Achievement goal motivation researchers believe that it is the reason or purpose that students perceive for achievement that impacts a person's motivation. Normative goal theory has two types of goals, mastery, or intrinsic, and performance, or extrinsic.

Achievement goal theory is striving to be competent and in educational psychology is the underlying reason for which a person makes academic decisions. Dweck (1986) proposed that mastery goals are learning goals and involve trying to increase one's competence. Mastery goals are associated with positive academic outcomes, adaptive self-efficacy beliefs, and self-regulatory strategies. (Ames, 1992; Pintrich & Schrauben, 1992) Student possessing mastery goals are more likely to choose challenging tasks and persevere in the face of obstacles (Dweck, 1986). Mastery oriented individuals also choose deeper processing strategies and report more interest in courses than students possessing performance focused goals (Harackiewicz, Tauer, Barron, & Elliot, 2002; Anderman, Austin, & Johnson, 2002).

In contrast, performance oriented individuals demonstrate success by appearing competent to others. These individuals strive for goals for favorable judgments of others (Dweck & Leggett, 1988). Elliot and Thrash (2001) concluded that achievement goals are a certain type of goal in which the desired end state is competence. Performance goals are identified as focused on extrinsic values.

Early models of achievement goal theory (normative goal theory) proposed an intrinsic component of increased competence at one end of a scale (mastery), and an extrinsic component of performance at the opposite end (Dweck & Leggett, 1988). Nearly all of the early research on achievement goal theory concluded that mastery goals led to positive processes and outcomes while performance goals led to negative processes and outcomes (Elliot, 2005 p.57). As the theory evolved, it became clear that a person may possess mastery and performance orientations and that performance goals are not always detrimental to mastery goals (Pintrich & Garcia, 1991).

Elliot and Harackiewicz (1996) noted that the achievement goal theory contained a gap in that it focused only on approach and did not consider avoidance as a motive for behavior. Mastery and performance were considered as approach orientations only. By eliminating this gap, the focus shifted to a model of intrinsic motivation with performance approach and performance avoidance opposing mastery goals. Research, though did not support that performance approach goals were detrimental to mastery goals. Elliot and Harackiewicz (1996, p. 464) concluded that performance goals did not have a negative effect on mastery goals unless the focus was on avoidance. Participants in the performance approach condition exhibited intrinsic motivation similar to the participants in the mastery condition. This study was supported by Elliot and Church (1997) who also found evidence for the new trichotomous model. Their conclusions were that high achievement motivation and competency expectancy participants were more likely to adopt mastery goals. Participants high in failure were more likely to adopt performance avoidance goals. Participants high in achievement motivation, fear of failure or competency expectancy were more likely to adopt performance goals. Elliot and McGregor (2001) demonstrated similar results finding mastery goals to be positive predictors of long-term knowledge retention. Performance approach goals did not influence long-term knowledge retention and performance avoidance goals were negative predictors of knowledge retention. This lends evidence to the three goal framework in that three separate goals are established. As such, the three goals need to be measured separately.

The conclusion of these studies led to the theory that performance approach and mastery goals interact to result in intrinsic motivation, while performance avoidance

results in less intrinsic motivation. Evidence for the trichotomous framework has lead to the approach performance goal no longer considered detrimental to mastery goals. Extensive research has examined the three goal framework. The overwhelming result of this research is that the mastery versus performance approach-performance avoidance framework contains three separate constructs (McGregor & Elliot, 2002; Elliot, McGregor, & Gable S, 1999; Elliot & Church, 1997; Rawsthorne & Elliot, 1997; Elliot & Thrash, 2001; Elliot & Harackiewicz, 1996; Harackeiwicz, Pintrich, Baron, Elliot, & Thrash, 2002). Mastery goals have been identified as: positive predictors for challenge behaviors, task absorption, predictors of challenge appraisal, and a sense of calmness at exam time by McGregor and Elliot (2002), positive predictors for deep processing, persistence and effort while unrelated to surface processing and disorganization by Elliot, McGregor and Gable (1999), and positive predictors for intrinsic measures of challenge appraisals, task absorption, self-determination and feelings of autonomy by Rawsthorne and Elliot (1999). All of these identified behaviors are related to intrinsic motivation.

Performance approach goals have been identified as: positive predictors for challenge appraisals, grade aspirations and calmness on exam day, positive and negative predictors for exam preparation challenge, negative predictors for desire to escape the exam two weeks prior by McGregor and Elliot (2002), positive predictors for surface processing, persistence, effort, exam preparation, and exam performance, by Elliot, McGregor and Gable (1999), positive for antithetical intrinsic behaviors of producing evaluative pressures, eliciting anxiety, and less free choice than mastery goals, and less reported self-interest than mastery learners. (Rawsthorne & Elliot, 1997) Elliot (1997) concluded “conceptually, we view performance approach goals as similar to mastery

goals in that they are grounded in the need for achievement and focused on a positive possibility, but different from mastery goals in that they are focused on an extrinsic achievement."

Performance avoidance behavior has been shown to be: a positive predictor for test anxiety, procrastination, desire to escape from examinations, low self-esteem, and lack of preparation, and a negative predictor for feeling calm and grade aspirations by McGregor and Elliot (2002), a positive predictor for negative behaviors of surface processing, disorganization, and a negative predictor for deep processing and exam performance by Elliot, McGregor and Gable (1999), and a negative predictor of performance and intrinsic motivation by Elliot and Church. (1997) Performance avoidance goals are indicators for decreased intrinsic motivation and performance.

It should be noted that not all experts agree that performance goals can adapt and positively influence intrinsic behavior. Midgley rejects this theory and maintains that performance approach goals have maladaptive outcomes, in line with normative goal theory (Midgley, Kaplan, & Middleton, 2001). However, if all performance goals are maladaptive as suggested by Midgley et al. (2000), there seems little scientific utility in continuing to distinguish between approach and avoidance forms of performance goals in future research (Pintrich, 2000). It has been demonstrated that performance approach goals can have positive outcomes (Harackiewicz, Barron, & Elliot, 1998) and can play a different role in achievement dynamics than performance avoidance goals (Elliot, 1999). Elliot and Church (1997, 218) concluded that "this unitary focus on approach motivation contrasts sharply with that of (original) achievement motivation constructs."

The trichotomous model of the achievement goal theory has division of goal orientation into mastery versus performance approach and performance avoidance. Further research defined performance approach as striving to attain favorable judgments of one's competence by others. Performance avoidance is characterized as avoiding unfavorable judgments to the point of engaging in helpless behaviors (Elliot & Harackiewicz, 1996; Elliot & Thrash, 2001; Elliot, 1999; Elliot & McGregor, 2001). Goal theory has progressed to involve multidimensional facets of goal orientation including approach and avoidance orientations (Elliot & Thrash, 2001; Harackiewicz, Tauer, Barron, & Elliot, 2002; Harackeiwicz, Pintrich, Baron, Elliot, & Thrash, 2002; Barron & Harackiewicz, 2001; Pintrich, 2002). The division into approach and avoidance is referred to as the valence of the goal. Performance goals have either an approach or avoidance valence, while mastery goals remained approach only in much of the early literature. Empirical research has produced strong support for the trichotomous construct. Factor analytical work has validated the independence of the three goal framework (Elliot & Church, 1997).

Mastery goals remained undivided and some experts doubt the existence of mastery avoidance goals (Pintrich, 2000). For this reason, mastery avoidance had not been extensively examined in the literature until the turn of the century. In Elliot's early writing on the subject, he wrote "we construe mastery goals as fundamentally approach forms of motivation that are grounded in the need for achievement and focused on the possibility of task mastery" (Elliot, 1997). Recent studies refute this view and provide evidence to support the division of mastery goals into approach and avoidance valences

(Barron & Harackiewicz, 2001; Elliot & Thrash, 2001; Harackeiwicz, Pintrich, Baron, Elliot, & Thrash, 2002; Harackiewicz, Tauer, Barron, & Elliot, 2002).

The division of mastery goals into approach-avoidance valances proposed by Elliot and McGregor (2001) created the 2 X 2 construct. The 2 X 2 construct is the prevailing current framework for achievement goal theory. Its popularity is due to the simplicity of the two definition, two valence construct. The definition is mastery, representing intrinsic behavior, versus performance, representing extrinsic behavior. The valence is approach versus avoidance. Competence remains the centerpiece of the achievement goal theory. Elliot and McGregor (2001) view achievement goal theory as having a conceptual centerpiece of competence, measured by two goals with two valences. Competence can only be defined in a limited number of ways, and the 2 X 2 theory groups achievement goals into distinct combinations of the two goal-two valence approach. The trichotomous framework has widespread theoretical and empirical support and evidence is also building for the 2 X 2 framework.

Elliot and McGregor (2001) concluded that the four goal 2 X 2 framework is supported. A four factor solution was found to account for eighty percent of the total variation in explanatory factor analysis with all items yielding factor pattern coefficients above .7 on the primary factor. Reliability in the form of Chronbach's alpha evidenced four distinct goals with mastery approach at .89, mastery avoidance at .88, performance approach at .94, and performance avoidance .83. The 2 X 2 framework as proposed by Elliot and McGregor (2001) contains mastery and performance goals with valences of approach and avoidance. The chart that Elliot and McGregor used to explain their concept is in Table 3.

Table 3, *Achievement Goal Theory, Elliot and McGregor, 2001*

	Absolute/Intrapersonal (Mastery)	Normative (Performance)
Approaching Success (Positive)	Mastery Approach	Performance Approach
Avoiding Failure (Negative)	Mastery Avoidance	Performance Avoidance

There is also evidence to support the 2 X 2 framework as superior to other paradigms. Conroy, Elliot and Hofer (2003) compared the psychometric properties of six achievement goal measures on 356 college students who identified themselves as recreational athletes. The 2 X 2 framework was tested against six other achievement goal frameworks and was found to be the best fit with reported NFI .92, NNFI .92 and CFI .94. None of the other models exceeded .9. The other models compared were the unidimesional model, (the desire for competence), two versions of the dichotomous model (mastery-performance), and three versions of the trichotomous model. The researchers concluded that the 2 X 2 framework was found to be the best fit and appears to be stable over time. Krabanick (2003) also backed up these results through the use of a different measure. By focusing on help seeking strategies in college students, Krabanick (2003) found that mastery avoidance negatively affected help seeking strategies. These results added support to the 2 X 2 framework and are in agreement with the work of Elliot and Mcgregor (2001) and Conroy, Elliot and Hofer (2003).

Elliot and McGregor (2001) also proposed the Achievement Goal Questionnaire (AGQ) as a device to measure achievement goals. The evidence from their study led to

the conclusion that the AGQ evidenced good reliability and internal consistency, effectively assessing the four measures. Recent research has validated the AGQ as an effective measure of goals in a more general setting. Elliot and McGregor's work focused on a specific course while using the AGQ. Finney, Pieper, and Barron (2004) were able to validate the AGQ in a more general academic setting. Their results of the modified AGQ were in congruence with the prior studies, finding the four goal framework to be a better fit than the trichotomous and dichotomous models. Finney et al. (2004) also found reliability coefficients of greater than .7 for all four categories. This evidence suggests that the AGQ can be used across domains and is not only limited to the classroom environment.

Another proposed model for achievement goal theory is the 3 X 2 model proposed by Elliot and Thrash (2001). In this proposed hierarchy, mastery goals are split into absolute competence and intrapersonal competence, while performance goals are referred to as normative competence. Absolute competence is acquiring understanding or fully mastering the task at hand. Intrapersonal mastery is improving one's performance or fully developing one's skills or knowledge. Normative competence is performing better or attaining greater skill than others. These goals are then subjected to the approach-avoidance valence as described in the trichotomous and 2 X 2 model. The result is six possible types of achievement goals: an absolute approach goal, an absolute avoidance goal, and intrapersonal approach goal, an intrapersonal avoidance goal, a normative approach goal and a normative avoidance goal.

The 3 X 2 model does not have empirical evidence to support the existence of mastery goals into absolute and intrapersonal sub-goals. Cramblet (2005) studied the 3 X

2 method and concluded that data did not support the 3 X 2 framework; while it did support the trichotomous framework. The most recent research in achievement goal theory focuses on the 2 X 2 paradigm.

The methodology for this study is presented in chapter three and utilized achievement goal theory and the 2 X 2 framework. The AGQ was modified to assess the motivations for physical therapists to return to school for the doctorate of physical therapy (DPT). There is evidence that the AGQ can be modified for general applications and maintain its reliability and validity. The 2 X 2 framework is the best fit for this study due to the empirical support that was outlined above and it is practicality suited for this study. Theoretically, mastery approach oriented physical therapists will be seeking the doctoral degree in an effort to improve their competence as professionals. Mastery avoidance oriented individuals pursuing the same goal may be motivated by fear of losing skills or becoming incompetent. Physical therapists in the performance approach category may desire to appear competent to others and have external motives. The performance avoidance group may be trying to avoid the appearance of incompetence. The external influence of the American Physical Therapy Association through Vision 2020 may be responsible for the avoidance goals. As the profession moves toward its vision of all practicing physical therapists being doctoral prepared by 2020, therapists who are not doctoral prepared may feel less competent, or desire to demonstrate that they are competent. This study will assess what motivates physical therapists to attain the DPT. Evidence for the achievement goal theory indicates that it is the appropriate construct. The AGQ was modified to fit this population and was administered via a

questionnaire to licensed physical therapists who may or may not be considering the DPT.

Summary

Prior studies examining physical therapist interest in the DPT have indicated that only one third are interested in transitioning to the doctorate. (Johnson, 2004, Thomas, 2003, Detweiler, 1999) The respondents in the previously mentioned studies replied in similar terms that the interest in the DPT was for mostly intrinsic reasons of improved knowledge base and self improvement rather than extrinsic factors such as promotion or increased pay. Johnson (2004) concluded that a lack of extrinsic rewards are the reason that the majority of physical therapists lack interest in the DPT. Respondents in the Detweiler (1999) study indicated an interest in courses in managed care and insurance regulations. This may be another indication that therapists are interested in courses that will improve clinical practice. Curiously, very few of the respondents in the Detweiler study favored including courses for advanced clinical practice even though a majority responded that their interest in the DPT was for their own professional development and for personal satisfaction.

It remains unclear what the motivation is for attaining the DPT and if those interested in the DPT have different motivation than those who do not desire the degree. Although prior studies made conclusions about motivation, it was not directly addressed in the instruments, but inferred based on responses to questions about factors influencing the decision to attain the DPT. These studies were also completed when the DPT was in its infancy and not as widely accepted as it is today.

This study directly examined the motivation for physical therapists to attain the DPT utilizing the Achievement Goal Theory and a modified version of the Achievement Goal Questionnaire. This tool was designed to classify a sample into one of four distinct groups, mastery approach, mastery avoidance, performance approach and performance avoidance. To be learned is whether there is differing motivation in three groups; those interested in the DPT, those not interested in the DPT and those who already have or have enrolled for the DPT. The methodology is described in chapter 3.

CHAPTER 3

METHOD

This study examined the intrinsic and extrinsic motivating factors that drive physical therapists to seek the DPT degree. Motivation is defined as the explanation of a person's behavior and this study focused on the behavior of physical therapists that return to school for the DPT. Intrinsic motivation is related to the value of the mastery of the activity itself to the participant. Extrinsic motivation is tied to outside rewards that are not directly related to the activity.

The phenomenon of physical therapists transitioning to the DPT is occurring as a result of changing education and the implementation of the Guide to Physical Therapist Practice. Twenty years ago, the majority of physical therapy schools awarded the Baccalaureate degree as the entry level degree for physical therapy. Ten years ago, the most common entry level degree was the Master of Physical Therapy. Now, the majority of physical therapy programs offer the Doctorate of Physical Therapy as the entry level degree. Since this change has happened in a relatively short period of time, the field of physical therapy consists of professionals with different academic preparation. According to the most recent demographic data available from the American Physical Therapy Association, 48.8% of practicing physical therapists have baccalaureate degrees, 35.6% have master's degrees, and 8.1% have doctoral degrees. (American Physical, 2007)

The change to the Doctorate of Physical Therapy degree was directed by the Guide to Physical Therapist Practice and is being encouraged by the American Physical

Therapy Association for several reasons. The Guide to Physical Therapist Practice, which was first published in 1995, contains a model for patient/client management that requires an education that is not easily acquired in the time constraints of the typical Master of Physical Therapy program. Society expects that an autonomous healthcare practitioner be a clinical Doctor. The American Physical Therapy Association's goals for the coming decade, including direct access, physician status for reimbursement purposes and practice based on evidence-based outcomes, require that clinicians possess the clinical Doctorate. Lastly, many of the current MPT programs already meet the criteria for the clinical Doctorate and should be awarding degrees appropriate to the program of study. For these reasons, the APTA's Board of Directors has adopted Vision 2020; a vision that all physical therapists will be Doctoral prepared by the year 2020 (APTA BOD 2000).

These changes have left physical therapists who are prepared at the masters or baccalaureate level looking to transition to the doctoral degree. Since the market exists, universities have developed transitional Doctoral of Physical Therapy programs. Physical therapists are enrolling in these programs to further their education.

The purpose of this study is to determine the motivation for physical therapists to return to school to attain the transitional Doctorate of Physical Therapy. Intrinsic and extrinsic motivation are examined using the Achievement Goal theory as a construct. Research questions to be answered in this study are:

1. What effect do extrinsic and intrinsic motivating factors have on physical therapists' decision to return to school for the doctorate in physical therapy?

2. What factors and demographic trends influence physical therapists' decision to return to school for the transitional doctorate of physical therapy?
3. How does motivation differ for therapists who return for the DPT compared with the therapists who do not return for the DPT?

Research Design

Surveys are used primarily to measure characteristics of a population. Fink describes survey design as "a system for collecting information from or about people to describe, compare or explain their knowledge, attitudes and behavior." (Fink, 2003) Four types of survey instruments are commonly used to collect data. The four instruments are questionnaires, interviews, structured record reviews and structured observation. Questionnaires and interviews are appropriate methods for the collection of data for this study. Interviews were not performed as the goal of this study was to reach a large representative sample. Questionnaires are the appropriate tool for gathering this information, and will be described here.

For this study a questionnaire was utilized for data collection. Questionnaires are written instruments that may be administered in person, by mail or electronically. Data are gathered from subject responses. Questionnaires are advantageous because data can be collected from a large sample size for a better representation of the population. The data can be analyzed quantitatively using statistical analysis to apply the results to a larger population. Respondents may be more likely to respond honestly on paper if they believe that confidentiality will be upheld. Large groups of people can be reached in a relatively short period of time and the researcher gains responses to the questions of

interest. Limitations are that the questions are usually closed ended and the responses are confined to the available choices. Therefore the researcher may not capture issues that are relevant to the sample. Also, respondents may answer in a socially appropriate way, instead of what they actually believe.

In order to collect data from a large sample so that the data can be analyzed statistically and applied to the population of physical therapists, a questionnaire was used for data collection. The questionnaire was constructed to specifically assess motivation for physical therapists that return for school for the DPT degree. The questionnaire was administered to students enrolled in transitional DPT programs on site and to licensed physical therapists in Pennsylvania and graduates of transitional DPT programs by mail.

The theoretical framework for this study is the achievement goal theory as described by Dweck (1986), Nicholos (1984), and Ames (1984). The construct of achievement goal theory has contrasting goals of mastery, or intrinsic values versus performance or extrinsic goals. Achievement goal theory describes reasons for academic achievement and is generally said to relate to a person's strive for competence. Initial forms of achievement goal theory contained mastery versus performance goals at opposite ends of a spectrum. Early research on intrinsic and extrinsic motivation indicated that extrinsic rewards were detrimental to intrinsic values in education (Deci,1971; Deci & Ryan, 1987;Leeper, Greene, & Nesbitt, 1973; Ross, 1975). As Achievement goal theory evolved, it became clear that a gap existed in that the theory focused only on approach and did not consider avoidance as a motive for behavior. It also became clear that not all performance goals were detrimental to mastery behavior. This led to the development of several new models of achievement goal theory that are

described in detail in the review of literature of this paper. A trichotomous model, which has mastery approach, mastery avoidance, and performance approach goals, has undergone extensive research and there is strong evidence to support these three categories as separate constructs (McGregor & Elliot, 2002; Elliot, McGregor, & Gable S, 1999; Elliot & Church, 1997; Rawsthorne & Elliot, 1997; Elliot & Thrash, 2001; Elliot & Harackiewicz, 1996; Harackeiwicz, Pintrich, Baron, Elliot, & Thrash, 2002). Conclusions from these studies led to the theory that performance approach and mastery goals interact to result in intrinsic motivation, while performance avoidance results in less intrinsic motivation.

Mastery goals remained undivided and some experts doubted the existence of mastery avoidance goals (Pintrich, 2000). For this reason, mastery goals were not examined until the turn of the century. Recent research refutes these early assumptions and provides evidence to support the division of mastery goals into approach and avoidance valances (Barron & Harackiewicz, 2001; Elliot & Thrash, 2001; Harackeiwicz, Pintrich, Baron, Elliot, & Thrash, 2002; Harackiewicz, Tauer, Barron, & Elliot, 2002). The prevailing construct for the achievement goal theory is the 2 x 2 construct. This framework has two goals, mastery versus performance, and two valances, approach versus avoidance. The appeal for the 2 X 2 framework is its simplicity with two goals and two valances. There is also research to support the use of the 2 X 2 construct. Elliot and McGregor (2001) concluded that the four goal 2 X 2 framework is supported. A four factor solution was found to account for eighty percent of the total variation in explanatory factor analysis with all items yielding factor pattern coefficients above .7 on the primary factor. Reliability in the form of Cronbach's alpha evidenced four distinct

goals with mastery approach at .89, mastery avoidance at .88, performance approach at .94, and performance avoidance .83. An alpha level below .7 would be considered to be an inconsistent measure. Above .8 is considered acceptable and .9 is desirable. The reliability of performance avoidance was acceptable while the other three categories were very near to or exceeded the threshold to be considered having good reliability.

There is also evidence to support the 2 X 2 framework as superior to other paradigms. Conroy, Elliot and Hofer (2003) compared the psychometric properties of six achievement goal measures on 356 college students who identified themselves as recreational athletes. The 2 X 2 framework was tested against six other achievement goal frameworks and was found to be the best fit with reported NFI .92, NNFI .92 and CFI .94. None of the other models exceeded .9. The other models compared were the unidimesional model, (the desire for competence), two versions of the dichotomous model (mastery-performance), and three versions of the trichotomous model. The researchers concluded that the 2 X 2 framework was found to be the best fit and appears to be stable over time. Krabanick (2003) also backed up these results through the use of a different measure. By focusing on help seeking strategies in college students, Krabanick (2003) found that mastery avoidance negatively affected help seeking strategies. These results added support to the 2 X 2 framework and are in agreement with the work of Elliot and McGregor (2001) and Conroy, Elliot and Hofer (2003). The evolution of achievement goal theory is described in detail in the review of literature.

This study examined motivation through the use of the 2 X 2 construct of the achievement goal theory. The survey for this study was a modified form of the Achievement Goal Questionnaire (AGQ). This tool, developed by Elliott and McGregor

(2001) to measure achievement goal theory utilizing the 2X2 framework, was designed for use in a specific classroom context to measure responses for an undergraduate psychology course. It has been modified and used for other populations (Finney, Pieper & Barron 2004) and has been modified for the population of physical therapists for this study. Elliot and McGregor tested the psychometric properties of the AGQ and found the 2 X 2 framework of achievement goal theory to be the best fit using comfirmatory factor analysis (CFA) when compared to four alternative models. The reported Comparative Fit Index (CFI) was .99 for the 2 X 2 framework, indicating good validity. The other four models ranged from .63 to .86 for the CFI, indicating that the 2 X 2 paradigm of the achievement goal theory was the best fit, indicating strong validity to this construct. Correlations among the four goal orientation using exploratory factor analysis were low to moderate providing discriminant validity for the questionnaire and the reliabilities of the scores for each orientation were all greater than .80. Elliot and McGregor concluded "clearly the four measures represent empirically separable and internally consistent achievement goal constructs" (2001, 504). Elliot and McGregor's AGQ is included in appendix A.

Thus, evidence exists for the 2 X 2 framework in the specific context of an undergraduate psychology course. Finney, Pieper and Barron (2004) examined the achievement goal questionnaire when applied to a more generalized context. Their goal was to find out if the AGQ could be applied with similar validity to a more general life domain such as academics, work or athletics. It is unclear whether a goal orientation instrument aimed at a specific domain can be applied to a more global domain. Dweck and Leggett (1988) suggest that an individual can hold a mastery orientation in an

academic domain and performance orientation in an athletic domain. Finney et al studied the properties of a measure of goal orientation (AGQ) specific to the academic domain. To do this, modifications were made to the wording of the AGQ so that the intent was not to measure the goals for a specific course, but to measure at a level of academic achievement. The AGQ as presented by Finney et al is included in appendix B.

The modified version of the AGQ was again compared with five other models using CFA. Finney et al concluded that the four-factor model was the best fit with a CFI of .95 and further concluded that this framework fit significantly better with higher validity than all of the other models. In addition, like Elliot and McGregor, this study found evidence to support the uniqueness of the four factors. This supports the earlier findings that the four orientations seem to be distinct constructs, again providing discriminant validity. Further testing using Cronbach's coefficient alphas were all greater than .70 indicating good internal reliability. "Importantly, this additional support of the 2 X 2 framework was found using a much larger and more representative sample than the initial study conducted by Elliot and McGregor (2001), and it was conducted in a domain specific context rather than the typical course specific context" (Finney & Barron, 2004, 379). Thus, the AGQ has evidence to indicate good validity and reliability when used in a specific academic setting and in a more general academic setting in its modified form.

Since the focus of this study was to address the achievement goals of physical therapists in the academic domain, a modified form of the AGQ was the construct. The author of the AGQ, Andrew Elliot, granted permission for the AGQ to be modified and used in this study. Changes to the wording were made to make it specific to the profession of physical therapy.

Survey Instrument Development

A questionnaire was developed by the researcher to assess the extent that intrinsic and extrinsic motivation affect the decision of physical therapists to transition to the doctoral degree. "Effective survey questions have three important attributes: focus, brevity and clarity" (Alrech, 2004, 89). Every question should focus only on one issue and ask precisely what the researcher wants to know. The questions should be brief and easy to read, as long cumbersome questions are difficult to interpret. Clarity means that the questions should be completely clear and interpreted the same way, by all respondents. Dillman states "The goal of writing a survey question for self-administration is to develop a query that every potential respondent will interpret in the same way, be able to respond accurately and be willing to answer." (2000) To develop questions for this survey, the researcher followed eight criteria recommended by Dillman as follows: (1) Does the question require an answer; (2) To what extent do survey recipients already have an accurate, ready-made answer for the question they are being asked to report; (3) Can people accurately recall and report past behaviors; (4) Is the respondent willing to reveal the requested material; (5) Will the respondent feel motivated to answer each question; (6) Is the respondent's understanding of response categories likely to be influenced by more than words; (7) Is survey information being collected by more than one mode; (8) Is changing a question acceptable to the survey sponsor? (Dillman, 2000, 32-40)

The above procedures were used to develop questions which were compared with the research questions in a matrix. This was done to be certain that all of the research

questions were addressed in the questionnaire and that the questions in the questionnaire ascertain information to answer the research questions.

Piloting established the validity of the instrument. Fink recommends that before the questionnaire is made final, it is given to at least ten people who are similar to the sample population. (Fink, 2003, 109) This questionnaire has been piloted using a group of experts to determine content validity. The pilot group included six faculty members of a transitional DPT program and twenty-two physical therapists, including four who had completed the transitional DPT. The pilot group was instructed to answer the following questions as recommended by Fink: (1) Are the instructions for completing the survey clearly written; (2) Are questions easy to understand; (3) Do respondents know how to indicate responses; (4) Are the response choices mutually exclusive; (5) Are the response choices exhaustive; (6) Can the respondents correctly use the commands of the web based survey; (7) In a computer assisted survey, do respondents know how to change their answers; (8) If there is incentive for the survey, do respondents know how to obtain it; (9) Is the privacy of the respondents respected and protected; (10) Do respondents have any suggestions regarding the addition or deletion of questions, clarification of instructions, or improvements in questionnaire format. (Fink, 2003, 109-110). Modifications to the wording of questions were made based on feedback from the pilot group.

Reliability was assessed at the conclusion of data collection using Cronbach's alpha. This method of computing reliability is useful when there are three or more responses for the items, as is the case with a Likert type scale. Cronbach's alpha is a powerful tool that provides a measure of internal consistency for groups of questions that

are correlated with each other. Intrinsic and extrinsic motivation questions were tested to determine an alpha value. An alpha value of .6 is considered acceptable. The thirty-four item questionnaire includes a modified version of the achievement goal questionnaire, and questions about motivation and factors identified by Thomas (2003) and Johnson (2004) as influential to physical therapists decisions regarding the DPT. Data analysis from twenty-eight pilot participants produced an alpha value of .981, indicating high internal reliability of the survey. Blaikie (2003 p.220) recommends factor analysis as a means of improving reliability. Examination of the correlation matrix revealed no items consistently low compared to the other items and conversely no items extremely high. The total variance of the data was then examined. Items one, two, three and four accounted for ninety percent of the total variance. Item one alone accounted for seventy percent of the total variance and consideration was given to omitting this item. Eigenvalues were calculated and a Scree plot was obtained. Omission of any of the first four items produced negligible gains in reliability with an increased alpha value of .982. The decision was made to include all of the items from the pilot study as Cronbach's alpha produced a sufficiently high value (.981) and all of the first four items in the scale are modified questions from the Achievement Goal Questionnaire and important to the outcomes of the study.

The high reliability of this study is likely due to the compilation of questions from prior studies. Psychometric testing has produced high reliability for prior forms of the Achievement Goal Questionnaire. Johnson (2004) and Thomas (2003) used questions similar to the factors that are contained in this study. Also contributing to the high reliability is the small sample size of the pilot group. The questionnaire that will be used

in this study has high reliability as evidenced by an alpha value of .981. Content validity was established using procedures outlined by Fink (2003 p109-110). Feedback from physical therapist educators, physical therapists and transitional DPT students was used to establish content validity of the instrument.

The questionnaire was categorized into two parts. The first part contained demographic questions to collect information about the respondents. The second section was designed to assess intrinsic and extrinsic motivation. The questionnaire contained a Likert scale to rank the responses. Likert scales help to determine a person's position and are useful to measure attitude or opinion. With a Likert scale the question is, how much do you agree with this statement? The questions then are statements that indicate opinions that the respondents agree or disagree with. Advantages of a Likert scale are flexibility, economy, and ease of composition. A major advantage of a Likert scale is the ability to place a quantitative value on the responses for data analysis.

Multiple sources describe the information gathered as being independent or dependent in nature. Independent variables are characteristics of the subjects providing the responses. Dependent variables are the behavior that is measured. (Huck, 2004) (Berg, 2004) (Blaikie, 2003) In this study, independent variables including gender, age, education, employment setting, annual income, years as a therapist and APTA membership status, were collected in the first part of the study. The dependent variables, motivation and factors that influence physical therapists decisions were measured using the questions with a Likert scale in the second part of the questionnaire.

Data Collection Procedure

Sample Size and Sampling Procedure

A major component of internal validity is adequate sample size. Sample size is directly related to statistical power with a large sample size increasing the statistical power of the study. Therefore, a large sample size reduces the risk of a type I error as a larger sample size is more likely to be similar to the population. Conversely, smaller sample sizes are more likely to be different from the population and increase the risk of type I error.

Various methods can be used to determine sample size. An estimate of appropriate sample size can be determined using a formula to achieve significance. $N=2SD(t^2)/D^2$ where SD= SD in other similar studies, t= t ratio that is significant at the .05 level of significance in other similar studies and D= difference in the 2 variables of practical significance (Borg, Gall, & Gall, 2003). The department of education has established guidelines for sample size in an effort to create rigorous evidence. The Coalition for Evidence-Based Policy (2003) recommends a sample size of 150 participants for an intervention that is modestly effective. Alrech and Settle recommend using a sample size of about ten percent of the population within limits (Alrech, 2004). One hundred participants is the recommended minimum for a confidence interval of seventeen percent and three hundred subjects is the recommended number for a confidence interval of less than 10 percent. The numbers expressed mean that there is a 95% probability that the population mean will be within ten percent of the sample mean for three hundred participants and within seventeen percent of the sample mean for one hundred participants. A table by Krejcie and Morgan (1970) estimates the sample size

required to be representative of the total population. The Commonwealth of Pennsylvania Department of State Bureau of Professional and Occupational Affairs lists 11,011 physical therapists licensed in Pennsylvania. Using this number, the required sample size to be representative in this population according to Krejcie and Morgan is 372 (Krejcie & Morgan, 1970, p.608). Like Alrech and Settle (2004), Krejccie and Morgan (1970) also noted the limits of increased sample size with large populations; " as the population increases, the sample size increases at a diminishing rate and remains constant at slightly more than 380" (p.610).

Similar surveys for physical therapist motivation have produced return rates from thirty-six to seventy-eight percent. A survey of physical therapists in the state of Pennsylvania concerning factors that promote or deter participation in a DPT program yielded a return rate of 36%. (Johnson, 2004) Thomas et al reported a response rate of fifty-six percent, with 333 respondents for motivation and barriers for the TDPT. (Thomas, 2003) Johanson reported a response rate of 78% for a cluster sample of physical therapy students (Johanson, 2003). However, Johanson's study (2003) was completed in person and not by mail. For this study, a total of 563 surveys were returned by mail for a response rate of 34%. An adjustment was made to the sample size by directly contacting physical therapists who had completed the DPT and those who had enrolled in transitional DPT programs.

Demographics for graduates of transitional DPT programs are not being tracked by either the APTA or state licensing agencies. The APTA estimates the number of transitional DPT graduates to be 1864 (American Physical, 2006) or 3.6 percent of the 50815 members of the APTA. Applying this estimate to the 11011 physical therapists

licensed to practice in Pennsylvania provides an estimated 330 physical therapists in Pennsylvania who have transitioned to the DPT. Lack of demographic information prevents direct contact of large numbers of therapists who have completed the DPT. Since the number of physical therapists who have earned the post-professional DPT in Pennsylvania is unknown, efforts were made to assure adequate representation of this population. Graduates and transitional students were targeted to determine their motivation to return to school for the DPT. This was accomplished by surveying the graduates and current students of transitional DPT programs that have granted the researcher permission to contact their students.

Two types of surveying were utilized in this study. A random sample of physical therapists in Pennsylvania were contacted by US mail for participation in the study. Purposive sampling targeted physical therapists who have transitioned to the DPT or those enrolled in DPT programs at the time of the survey. This was done because the demographics of physical therapists who have completed the DPT are not being tracked as described above. To ensure adequate representation of this group, transitional DPT students and graduates of transitional DPT programs were purposively contacted.

Random sampling was used for the other portion of the sample to enhance the representation in this study. With this type of sampling, all participants have an equal chance of inclusion in the study. Random sampling decreases the likelihood that the members of the sample will have a certain trait that is not consistent with population traits. Random samples can be chosen by drawing names from a hat, a computer generated list of numbers, or a table of random numbers. This survey was sent to a random sample of physical therapists who reside in Pennsylvania. A list of random

numbers was generated by a computer. The total population entered was the total number of physical therapists who hold a license to practice in Pennsylvania, or 11,011. A list of 1500 random numbers was generated for inclusion in the survey.

Physical therapists addresses were obtained from the State of Pennsylvania for a fee. Invitations to participate in the study were mailed to a random sample of 1500 physical therapists in Pennsylvania. A return rate of 36% as Johnson (2004) reported would yield a sample of 540. A return rate of 56% as achieved by Thomas (2003) would yield 840 participants. These numbers are above the 300 participants deemed necessary by Alrech and Settle (2004) to be within ten percent of the population mean at the 95% confidence level and also above the 372 deemed necessary by Krejcie and Morgan (1970). Ten percent of the population mean for graduates of transitional programs is estimated at 32. To target this group, 200 questionnaires were mailed to graduates and current transitional DPT students from two universities who agreed to participate. In addition, three universities with transitional DPT students allowed the researcher to administer the survey in person to their students. This was done to assure an adequate sample size of therapists who had completed the DPT or had enrolled in a program to complete the DPT.

Adequate sample size of each group allowed for comparison of motivation between the groups. One of the questions on the survey asked if a therapist was interested in the DPT. Another question asked if the therapist has already transitioned to the DPT. The survey instructed participants to skip questions and guide the respondents to the appropriate follow up questions. There were three groups identified; those interested in the DPT, those not interested in the DPT and those who already have

transitioned to the DPT or are currently completing their DPT. Since there are smaller numbers of therapists who have transitioned to the DPT, this sample was augmented by surveying graduates and current participants of schools who allowed participation as previously described.

Purposive sampling "involves the deliberate selection of individuals by the researcher based on certain predefined criteria" (DePoy & Gitlin, 1994, p. 173). In this case, the predefined criterion was the earned post professional doctorate of physical therapy. This technique is often used to assure adequate representation of a particular group. Purposive sampling was the most appropriate method for part of this study as there is currently no tracking of transitional graduates, and therefore no way to randomly contact a sample of this population. The parameters for inclusion of this study were physical therapists who have returned to school for the DPT degree and those who are eligible. Physical therapists were surveyed via mailed questionnaire to determine their motivation for returning to school. Purposive sampling was used to contact graduates and students of transitional DPT programs.

Data Collection

An email letter was sent to transitional Doctoral programs chairpersons in September of 2007 inviting student participation in the study. Four programs elected to participate. After receiving approval from the Institutional Review Board at Indiana University of Pennsylvania, the questionnaire was administered by the researcher on site at three of the four universities. The fourth institution has an online program and agreed to allow the researcher access to students by mail. Graduates of three of the four programs were invited to participate by mailing the survey. One of the schools has a new

program with no graduates to date. Mailing lists were provided by two of the four institutions who agreed to participate, and one institution forwarded the surveys to their graduates without releasing the names to the researcher. The random sample of 1500 physical therapists were also mailed invitations to participate in the study in October 2007. Participants were informed that their participation is voluntary and that their responses would be kept confidential. The letters directed the respondents to complete the questionnaire and return it in the provided postage paid envelope. Respondents and non-respondents were tracked and a follow up mailing was sent one month after the initial mailing. The follow up mailing included a second cover letter and another copy of the survey with a postage paid envelope.

Dillman recommends five necessary elements for achieving a high response rate. (Dillman, 2000) Respondent friendly questionnaires, multiple contacts, return envelopes with first class stamps, personalized correspondence, and token financial incentives are all methods that have been shown to improve response rate in mailed questionnaires. For a respondent friendly questionnaire, Dillman recommends that the survey begins with an easy to answer question which doesn't require the user to scroll down the page to get to the first question (Dillman, 2000). The questions should be clear and easy to comprehend. If possible, the questionnaire should be shortened to decrease the completion time.

Bourque and Fielder (2003) echo Dillman's recommendation of multiple contacts to increase response rate. "Follow-ups can take the form of postcards, letters, telephone calls, or complete remailings" (Bourque & Fielder, 2003 p. 159). The follow up may include instructions to contact the researchers if the survey has been misplaced. In this

case, the follow-up letter also reiterated the directions to return the completed questionnaire. The follow-up letters can be sent to the non respondents or to the entire sample. In either case, the follow-up letter should acknowledge possibility that the survey has already been completed and apologize for any nuisance the follow-up may cause (Bourque & Fielder, 2003). For this survey, there was one follow-up 30 days after the initial mailing. The follow up was sent only to those who had not yet responded. The respondents were tracked to avoid unnecessary second mailings. This was done by issuing a code for each mailed survey that was tracked to indicate whether a response had been received. The follow up included a cover letter, asking for participation and again asking the potential participant to the complete the survey, a copy of the survey and postage paid return envelope. This contact included wording asking the person to respond if a response had not yet been received. This was not merely a replica of the initial cover letter, but a personalized plea to participate. Dillman purports that the look and feel of each of the contacts should be unique (2000). A second follow up may be sent if necessary depending on response rate to improve sample size. The initial two mailings provided adequate sample size so that a second follow up was not necessary. Dillman's recommendation of return envelopes with first class stamps was utilized to improve response rate.

Personalized correspondence is the fourth element. The correspondence should have the look and feel of a letter crafted to that person directly and not the look of a computer generated mass mailing. Care must be taken not to try to over personalize the contact letters as they may appear to be trying too hard and could look disingenuous.

This was done by having the IUP letterhead on all correspondence, and by stressing the importance of this information to the profession of physical therapy.

Token financial prepaid incentives have been shown to dramatically improve response rates. However, it was decided that it would not be necessary for this sample. Prior samples of physical therapists have produced good return rates and an average response to this mailing yielded a sufficient sample. This study was implemented utilizing these principles that Dillman outlines. The survey was designed in a user friendly fashion that appeals to the user. Multiple personalized contacts with the participant occurred with one follow up to improve sample size.

Dillman discusses the use of mixed-mode surveys as justifiable to cut costs through the use of the least expensive method (2000, 219). This study did not use mixed modes for the collection of data, but did utilize different modes for contacting participants and for response. Dillman proposes in person contact, phone contact, US mail, and email as acceptable means for contacting participants for surveys. This study utilized US mail for contact of a random sample of physical therapists in the state of Pennsylvania, US mail for contacting physical therapists who are graduates of transitional DPT programs and in person surveys for students enrolled in transitional DPT programs.

Data Analysis

Data were entered into an Excel spreadsheet and analyzed using the Statistical Package for Social Sciences (SPSS). Warner (2008) recommends a checklist for data screening as follows: 1. Proofread the scores in the SPSS data worksheet against the original data sources. 2. Identify response inconsistencies across variables. 3. During univariate screening of scores on categorical variables, check for values that do not

correspond to valid response alternatives and note groups that have N's too small to be examined separately in later analyses. 4. During univariate scores on quantitative variables, look for normal distribution shape, outliers, scores that do not correspond to valid response alternatives or possible values and ceiling and floor effects, restricted range. 5. Consider dropping individual participants or variables that show high levels of incorrect responses or responses that are inconsistent. 6. Note the pattern of missing data. If not random, describe how they are patterned. 7. For bivariate analysis involving two categorical variables, examine the marginal distributions to see whether the N's in each row and column are sufficiently large and check whether expected values in all cells are greater than 5. 8. For bivariate analysis of two continuous variables, assess possible violations of bivariate normality, look for bivariate outliers or disproportionately influential scores, assess whether the relation between X and Y is linear. If it is not linear, consider whether to use a different approach to analysis or use nonlinear transformations such as log to make the relation more nearly linear. 9. For bivariate analysis with one categorical and one continuous variable, assess the distribution shapes for scores within each group, look for outliers within each group, test for possible violations of homogeneity of variance and make sure that group sizes are adequate. 10. Verify that any remedies that have been attempted were successful. For example, after removal of outliers, does the distribution of scores on a quantitative variable now appear approximately normal in shape? After taking a log of X, is the distribution, is the distribution of X more nearly normal, and is the relation of X with Y more nearly linear? 11. Based on data screening and the success or failures of remedies that were attempted, are assumptions for the intended parametric analysis sufficiently well met to go ahead

and use parametric methods and if there are problems with these assumptions, should a nonparametric method of data analysis be used? 12. In the report of results, include description of data-screening procedures and any remedies that were applied to the data prior to other analyses. The data were screened following these procedures as appropriate. Items one through seven and twelve were applied to the data. The data were proofread against the original data source, response inconsistencies were checked, N's that were too small were identified, scores that did not respond to valid response alternatives were corrected, questionnaire with missing data were excluded, and alterations were made so that data analysis could be completed for items with cell counts less than five. The remedies that were applied to the data for analysis are reported in the description of the statistical procedures. Items eight through eleven pertain to statistical procedures that were not used in this study and therefore not used.

Means were computed and the data were analyzed with a personal computer using the Statistical Package for the Social Sciences. (SPSS). Specifically, analysis of variance, chi-square analysis and discriminate analysis were used to analyze the effects and possible interactions of the independent variables on the dependent variable. Analysis of variance was used to assess the effects of intrinsic and extrinsic motivating factors on the dependent variable DPT interest. Total intrinsic score and total extrinsic score were computed and analyzed as well as individual item analysis. Post-hoc tests were completed if F was significant at the .05 level. The effects of gender, age, entry level education, employment setting, annual income, years as a therapist, administrative status, clinical instructor status, POPTS, highest earned degree, primary practice setting, employment status and APTA membership status were examined as they relate to the

dependent variable, physical therapists DPT interest, using chi-square analysis. Since there are numerous independent variables, the Bonferroni procedure was used to diminish the chance of type I error. Analysis of variance and discriminate analysis were used to examine questions from the achievement goal questionnaire. Total values for each of the four achievement goal categories were calculated and analyzed as well as individual items as they relate to DPT interest. Discriminant analysis was used to assess the usefulness of the modified version of the Achievement Goal Questionnaire for identifying DPT interest based on physical therapists responses to the achievement goal questions.

Summary

This study examined the affects of intrinsic and extrinsic motivation and factors that influence physical therapists decisions to return to school for the DPT degree. Survey design utilizing a questionnaire and random sampling of physical therapists and purposive sampling of transitional DPT students was performed to assess differences in motivation. Data were analyzed using descriptive statistics, specifically one-way ANOVA with post-hoc testing as necessary, chi-square analysis and discriminate analysis.

CHAPTER 4

RESULTS

Introduction

This section will describe the quantitative data collected through the use of the survey. The purpose of this study was to determine the motivation and demographic factors that influence physical therapists' decisions to attain the doctorate of physical therapy degree. This was accomplished using a survey that contained a modified version of the achievement goal questionnaire, questions about intrinsic and extrinsic factors which have been identified in prior studies of the DPT, and demographic information. The survey was designed by the researcher. Survey design is described in detail in chapter three. The theoretical framework for the study is the achievement goal theory. Achievement goal theorists believe that it is the reason for which people strive for achievement that effects motivation. It is also summarized as the reason that people strive for competence. This concept is described in detail in chapter two.

Demographics of the respondents were analyzed as they relate to the three research questions.

1. What effect do extrinsic and intrinsic motivating factors have on physical therapists' decision to return to school for the doctorate in physical therapy?
2. What factors and demographic trends influence physical therapists' decision to return to school for the transitional doctorate of physical therapy?
3. How does motivation differ for therapists who return for the DPT compared with the therapists who do not return for the DPT?

Descriptive statistics and influential statistics were used to assess all of the research questions. Analysis of research question one was accomplished utilizing analysis of variance. Research question two was analyzed with chi-square and crosstabulation analysis and research question three was analyzed with discriminate analysis and analysis of variance.

Description of Sample Data

A total of 1500 surveys were mailed to a random sample of physical therapists and 200 surveys were mailed to current transitional DPT students and graduates of transitional programs. In addition, 45 surveys were administered in person at three transitional doctorate of physical therapy programs with a 100 percent response rate. Of the mailed surveys, 61 were returned for incorrect addresses. A total of 563 surveys were returned by mail for a response rate of 34 percent. Forty-two surveys were omitted with large sections of incomplete data. Another 38 surveys were excluded as they were returned by therapists who have an entry-level DPT and this was a criterion for exclusion from the study. This resulted in a total of 528 useful surveys. These numbers are comparable to those reported by Johnson (2004) who reported a 36 percent return rate with 540 respondents. Preliminary data analysis was conducted to compare the sample with the demographics for the APTA (American Physical, 2007).

The sample was similar to the demographics of the APTA in several aspects. Table four indicates that the gender distribution was nearly identical to the APTA demographics.

Table 4 *Gender, Age, Entry Level PT Degree, and Years in the Profession*

Demographic Factor	Frequency	This study Percent	2007 APTA Demographics Percent
Gender	Male	31.1	34.7
	Female	68.9	65.3
Age	Under 30	7.2	16
	31-40	40.9	30.9
	41-50	32.8	25.5
	51-60	15.0	19.8
	Over 60	4.2	7.7
Entry Level PT Degree	Certificate	6.8	6.9
	Bachelors	45.8	48.8
	Masters	47.3	35.6
Years in the Profession	0-5	13.4	21.1
	6-10	16	18.7
	11-15	21.3	13.4
	16-20	28.6	11.4
	21+	21.7	35.5

Age was also very similar as indicated in table four. This study contained a smaller number of respondents in the under 30 age group than the APTA's demographics. This may be the due to the fact that most physical therapy schools are now offering the DPT as an entry-level degree. Many therapists under the age of 30 likely already have the DPT and may not have responded to this study asking for their thoughts on transitioning to a degree that they already have.

Table four also lists the entry-level degree compared with the demographics from the APTA. This study did not include numbers from physical therapists who have a DPT as their entry-level degree. The APTA list 7.2 percent of physical therapists as having an entry level degree in 2005 (American Physical, 2006). Otherwise, the numbers from this study are very similar compared to APTA demographics.

Examining the demographics for years as a physical therapist also revealed a small discrepancy with fewer therapists in this study who had been practicing for zero to five years. This can be explained by the fact that the majority of universities now offer the DPT as the entry-level degree and therapists who have been working for five years or less would be more likely to have the DPT as the entry-level degree and less likely to respond to this survey. Entry-level DPT respondents were also excluded from the study and this data was not analyzed. This may also have effected the distribution of the other categories. This study had a higher response for the 11-15 year group and the 16-20 year group compared with the APTA's numbers in part because of the omission of entry-level DPT data.

The breakdown for highest earned degree is listed in table five. The largest discrepancies are for the groups that reported having a master's degree. This study had a higher percentage of master's degrees than the national average and a fewer percentage of respondents who reported having an academic doctorate. Otherwise the numbers were similar to the APTA demographics.

Table 5 *Highest Earned Degree, Employment Status, Practice Setting*

Demographic Factor	Frequency	This Study Percent	2007 APTA Demographics Percent
Highest Earned Degree	Certificate	1.5	.4
	Bachelors	36.7	45.7
	Masters	58.7	48.8
	Doctorate	2.3	4.0
	Other	.8	1.1
Employment Status	Full time	67.6	66.0
	Part time	21.6	11.0
	Self Employed	8	17
	Retired	1.1	1.9
	Unemployed	1.7	4.0
Practice Setting	Acute Care Facility	8.5	13.1

	Sub-Acute Rehab Hospital	3.0	3.5
	Hospital based Outpatient Facility	16.5	14.5
	Private Outpatient Office	27.3	41.5
	SNF/ICF/ECF	13.4	5.6
	Patients Home	16.9	7.9
	School System/Primary/Secondary	6.4	4.1
	Academic Institution/Post Secondary	2.3	4.8
	Health and Wellness Facility	.6	.8
	Research Center	.2	.3
	Industry	.2	.5
	Other	4.7	3.4

Table five also lists employment status reported in this study compared to the APTA demographics. Slightly larger numbers of respondents to this study reported working full and part time, while slightly smaller numbers indicated self-employment.

The results for practice setting are listed in table five. The respondents for this study were similar to the association's demographics. There were a higher percentage of respondents in this study who indicated practice in SNF/ICF/ECF and patients homes. This is perhaps due to the aged population in Pennsylvania providing more opportunities for employment in these facilities. Table six lists the range of income for participants in this study compared with 2007 APTA data. The APTA data list only full time income levels, so this table compares individuals reporting full time employment in this study. While there is variance from the national average toward higher income levels for

respondents in this survey, there is also variance in income level throughout the nation. Typically, the Pennsylvania region has higher than average salaries for physical therapists due to economic factors.

Table 6 *Income*

Frequency	This Study Percent	APTA 2007 Percent
Under 40K	1.8	5.7
41-50K	3.8	19.9
51-60K	11.3	43.5
61-70K	27.1	19.5
71-80K	17.8	11.7
81-90K	11.8	10.4
Over 90K	17.5	19.1

Overall, the demographic data in this study was found to be similar to the demographics reported by the APTA according to their membership profile (American Physical, 2006) and the latest reported demographics for APTA membership (June 2007). The sample size (528) was also well above what was deemed necessary according to Alrech and Settle (300) (2004) and Krecjie and Morgan (372) (1970) for a representative sample of physical therapists. In addition, the response rate to the mailed survey was 34 percent. The sample was representative of the population and the decision was made that enough data existed to proceed to data analysis.

Other demographic data collected reveal the primary practice area of the respondents of this survey. Table seven lists the results of the reported practice areas.

Table 7 *Primary Practice*

	Frequency	Percent
Acute Care	3	.6
Cardiopulmonary	10	1.9
Clinical Electrophysiology	3	.6
Geriatrics	165	31.3
Hand Rehabilitation	4	.8
Lymphadema Management	1	.2

Neurology	16	3.0
Oncology	4	.8
Orthopedics	218	41.3
Pediatrics	58	11.0
Sports	5	.9
Women's Health	5	.9
Wound Management	4	.8
Other	32	6.1
Total	528	100.0

Physical therapists were also asked to reveal if they worked for a physician owned practice, if they are an administrator, a clinical instructor, and if they are APTA members. Table eight contains the responses to these questions.

Table 8 *Physician Owned Physical Therapist Practice, Administrative Status, Clinical Instructor Status and APTA Membership Status*

Variable	Demographic Factor	Frequency	Percent
Physician Owned Status	POPT's	17	3.2
	Non POPT's	511	96.8
Administrative Status	Administrator	114	21.6
	Not administrator	414	78.4
Clinical Instructor Status	CI	233	44.1
	Non CI	295	55.9
APTA Membership Status	Member	249	47.2
	Non-member	279	52.8

Analysis of the Effect of Motivation on the DPT Decision

The effect of intrinsic and extrinsic motivation on physical therapists' decisions to attain the DPT is the premise for research question one. Analysis of variance was used to analyze the effect of motivation on the DPT decision. Six questions in the survey measured extrinsic motivation and six measured intrinsic motivation. The questions were adapted from prior studies which identified factors that motivate physical therapists to further their education via the DPT. The extrinsic scores were summed and compared with the variable DPT interest. The intrinsic scores were also summed and compared

with DPT interest. Finally, each individual item was analyzed for the effect on DPT interest. Significance for the ANOVA was set at .05. Both intrinsic and extrinsic motivation were found to be significant factors for DPT interest. The Tukey test was utilized for post-hoc testing to determine where significant differences existed.

Analysis of Extrinsic Motivation

Group one consisted of 174 physical therapists that either had completed the DPT or were enrolled in DPT programs. These will be referred to as DPTC group. Group two are the physical therapists that reported not being interested in the DPT (DPTNI) and group three are the group that reported interest in the DPT (DPTI), but have not yet made the decision to return to school. Table nine lists the descriptive statistics for the summed extrinsic score by DPT interest.

Table 9 *Descriptive Statistics Total Extrinsic Score * DPT Interest*

DPT Interest	Mean	SD	N
DPTC	21.1149	4.63444	174
DPTNI	14.4667	4.61967	286
DPTI	19.4559	4.47692	68
Total	17.3055	5.55919	527

Total Summed Extrinsic Score

Therapists who have the DPT had a mean score of 21.1149 on the 6 extrinsic questions compared to 14.4667 for the group that was not interested in the DPT and 19.4559 for the group that expressed future interest in the DPT. Respondents indicated their level of agreement or disagreement with statements on a Likert scale with one rating

equal to strongly disagree and 5 equal to strongly agree. The six extrinsic questions, items 14, 17, 18, 21, 22, and 23, from the questionnaire, are listed below:

Earning the DPT degree will lead to an increase in salary.

The DPT degree will assist in career advancement.

The DPT will add prestige to my clinical practice

The DPT degree will improve my professional image.

Obtaining a DPT will assist practice utilizing direct access.

The DPT will improve reimbursement from third party payers.

The entire sample of physical therapists posted a mean score of 17.3055. Dividing these numbers by six provides an idea of how each group answered the motivation questions on the Likert scale. The entire sample scored an average of 2.88 on the Likert scale for the extrinsic questions. The averages for the sub groups were 3.52 for the DPTC group, 2.41 for the DPTNI group and 3.24 for the DPTI group. The DPTC and the DPTI groups were slightly above neutral approaching the agree category for extrinsic motivation on the Likert while the DPTNI group was below the neutral watermark for extrinsic motivation at 2.41. The ANOVA for extrinsic motivation is presented below in table ten.

Table 10 *ANOVA Total Extrinsic Score * DPT Interest*

Source	Type III Sum of Squares	DF	Means Square	F	Sig.	Partial Eta Squared
Corrected Model	5136.312	2	2568.156	121.023	.000	.316
Intercept	126414.873	1	126414873	5957.227	.000	.919
DPT Interest	5136.312	2	2568156	121.023	.000	.316
Error	11119.502	524	21.220			
Total	174082.000	527				
Corrected Total	16255.814	526				

Total extrinsic score was a significant factor for DPT interest with significance at the .05 level (F=121.02, p=.000). Post-hoc testing revealed significant differences between the three DPT interest groups. The results are presented in table 11.

Table 11 *Tukey Total Extrinsic Score * DPT Interest.*

DPT Interest(I)	DPT Interest(J)	Mean Difference I-J	Std Error	Sig.	95 % Confidence Level	
					Upper Bound	Lower Bound
DPTC	DPTNI	6.64828*	.44319	.000	5.6066	7.6899
	DPTI	1.65906*	.65880	.032	.1106	3.2075
DPTNI	DPTC	-6.64828*	.44319	.000	-7.6899	-5.6066
	DPTI	-4.98922*	.62171	.000	-6.4505	-3.5280
DPTI	DPTC	-1.65906*	.65880	.032	-3.2075	-.1106
	DPTNI	4.98922*	.62171	.000	3.5280	6.4505

*The mean significance is different at the .05 level.

Significance was achieved at the .05 level for all three comparisons. Specifically, the DPTC group was significantly different from the DPTNI group with significance of .000. The DPTC group was also significantly different from the DPTI group with significance at .032. The last comparison between the DPTI group and the DPTNI group was significantly different at the .000 level. Significance was set at .05, meaning that all three groups were significantly different, with the DPTC group significantly higher in extrinsic motivation than both of the other groups and the DPTI group significantly higher than the DPTNI group.

Individual Extrinsic Item Analysis

Individual item analysis for the extrinsic questions produced similar results. Table 12 lists the descriptive statistics for DPT interest and extrinsic motivation for each extrinsic factor.

Table 12 *Descriptive Statistics Extrinsic Motivation * DPT Interest*

		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
		Lower Bound	Upper Bound	Lower Bound	Lower Bound	Upper Bound
EXTRINSIC1	DPTC	174	2.58	1.097	2.42	2.74
	DPTNI	286	1.90	.853	1.80	2.00
	DPTI	68	2.56	1.056	2.30	2.81
	Total	528	2.21	1.021	2.12	2.30
EXTRINSIC2	DPTC	174	4.15	.944	4.01	4.29

		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
	DPTNI	286	2.81	1.065	2.69	2.94
	DPTI	68	3.76	.964	3.53	4.00
	Total	528	3.38	1.188	3.28	3.48
EXTRINSIC3	DPTC	174	3.68	1.102	3.51	3.84
	DPTNI	286	2.39	.977	2.27	2.50
	DPTI	68	3.25	.952	3.02	3.48
	Total	528	2.92	1.178	2.82	3.02
EXTRINSIC4	DPTC	174	3.80	1.026	3.65	3.95
	DPTNI	286	2.50	1.528	2.32	2.68
	DPTI	68	3.43	.982	3.19	3.66
	Total	528	3.05	1.449	2.92	3.17
EXTRINSIC5	DPTC	174	4.02	.850	3.89	4.14
	DPTNI	286	2.56	1.103	2.43	2.69
	DPTI	68	3.63	.845	3.43	3.84
	Total	528	3.18	1.205	3.08	3.28
EXTRINSIC6	DPTC	174	2.89	1.078	2.73	3.05
	DPTNI	285	2.30	.915	2.19	2.40
	DPTI	68	2.82	1.021	2.58	3.07
	Total	527	2.56	1.024	2.47	2.65

Increased Salary

Extrinsic question one refers to the statement "Earning the DPT will lead to an increase in Salary." Analysis of variance presented in table 14 revealed significant differences (F=31.75, sig. =.000) between the three DPT interest groups. Tukey post-hoc testing was utilized to determine which groups differed significantly. Post hoc results are presented in table 15. The DPTC group had a mean score on this question of 2.58 ± 1.017, compared to the DPTNI group at 1.90 ± 8.53 and the DPTI group at 2.56 ± 1.056. The DPTI group was significantly different from the DPTNI group at the .05 level. The DPTC group was also significantly different from the DPTNI group at the .05 level. There was not a significant difference between the DPTC and DPTI groups. The DPTC and DPTI groups scored similarly on the question of whether the DPT would lead to an increase in salary. The scores of these two groups were nearly identical at 2.5, between disagree and neutral on the Likert scale. The DPTNI group was significantly lower than the other two groups at 1.9, under the level of disagree, toward strongly disagree on the Likert scale. Even though there were significant differences between the groups, none of the three groups responded positively to the statement about the ability of the DPT degree to increase salary. The DPTC group and the DPTI group were more neutral while DPTNI responded disagree with this statement.

The questionnaire contained an open ended question which gave the respondents an opportunity to elaborate on their thoughts about the DPT degree. A quote from the DPTC group describes the attitudes of those with the DPT degree as follows; "I don't feel it affected my financial well being at this time although my company did pay for my DPT." Many of the respondents in the DPTNI group responded negatively to the idea

that the DPT would increase income levels. “I don’t see any advantage to pursuing a DPT as it would not change my income level at all.” Another respondent from the DPTI group states; “Getting a DPT will not increase my salary, my position or status in my current employment.” The quotes from each of the three DPT interest groups are representative of the findings for the first extrinsic question on the survey. None of the three groups felt that the DPT would increase physical therapists salaries.

Career Advancement

Extrinsic statement two is “The DPT degree will assist in career advancement.” Question two also produced significantly different (F=99.48, sig. .000) responses for the DPT interest groups. Post-hoc analysis reveals that significant differences exist between all three groups at the .05 level. The DPTC group had a mean score of 4.15 ± .944 compared to the DPTI group at 3.76 ± .964 and the DPTNI group at 2.81 ± 1.065. The DPTC group had an overall level of “agree” with this statement while the DPTI group rated slightly below “agree” and the DPTNI group was below neutral toward disagree responding to this statement. Unlike extrinsic question one, DPTC and DPTI responded positively to the statement about career advancement. The DPTNI group was near neutral.

While physical therapists do not expect that the DPT degree will increase salaries, the DPTC and DPTI groups feel that it will assist in career advancement. Many of the written responses from the DPTC group indicated that this group views the DPT as a vehicle to gain employment as an educator. The DPTNI group also sees the DPT as a vehicle to move into higher education, but in a more negative light. Many of the comments from the DPTNI group were similar to this quote; “the only value I perceive is

if I were interested in teaching or research." The opportunity to teach was stated as a positive by the DPTI group. The underlying sentiment with this group is expressed by this statement; "In order to remain competitive and marketable, I need to earn my DPT." (DPTI respondent)

Prestige

The next extrinsic statement on the survey was "The DPT will add prestige to my clinical practice." Analysis of variance revealed that there was a significant difference ($F=91.09$, $p=.000$) in the responses for the three DPT interest groups. Significant differences at the .05 level were also found for all three DPT groups with post-hoc testing. Means and standard deviations for the groups are as follows: DPTC, 3.68 ± 1.102, DPTI, $3.25 \pm .952$, and DPTNI $2.39 \pm .977$. Each group values the extrinsic factor of prestige of the degree differently. DPTC overall agreed with this statement. Statements such as, "the DPT is important in placing our profession on the same level as physicians and other health care providers" (DPTC respondent), lend support to the positive mean for this item. The DPTI group was on the positive side of neutral and expressed similar interest in the DPT for reasons of prestige. A DPTI respondent remarked that the DPT had value "to be seen as an expert in my area". The DPTNI group disagreed with the statement regarding prestige. The DPTNI group had more negative responses regarding prestige and the DPT than the other two groups with statements such as, "the only reason people want the DPT is so they can call themselves doctor". The written responses are in agreement with the quantitative analysis.

Professional Image

Extrinsic motivation question four also had differences (F=98.86, sig. = .000) for the three groups. Post-hoc testing revealed significant difference between DPTC and DPTNI at the .05 level. DPTI and DPTNI were also significantly different. However, DPTC and DPTI were not significantly different. The Likert statement reads "The DPT degree will improve my professional image." Means and SD's for the three groups were 3.8 ± 1.026 (DPTC), 3.43 ± .982 (DPTI) and 2.5 ± 1.528 (DPTNI). DPTC responded positively with a rating of agree on the Likert scale, while DPTI responded between neutral and agree for this statement. The DPTNI mean was nearer to disagree. DPTC and DPTI groups responded agree to this statement while DPTNI responded disagree. This is also reflected in statements by the respondents. The DPTC and DPTI groups frequently used words like, "respected", and "improved professional networking" to describe their interest in the DPT, while the DPTNI group expressed the opinion that they were "already respected professionals in the community and did not need the degree to improve professional image".

Direct Access

Analysis of the responses to extrinsic statement five produced significant differences (F=124.37, p = .000) for the three DPT groups. The means and standard deviations are 4.02 ± .85 for DPTC, 3.63 ± .845 for DPTI and 2.56 ± 1.103 for DPTNI. The DPTC group was in agreement with the statement "Obtaining a DPT will assist practice utilizing direct access." The DPTI group was near the agree level, but significantly lower, and DPTNI was below neutral, half way to the level of disagree. On the issue of direst access, DPTC and DPTI responded positively, while DPTNI responded

negatively on the Likert scale. The "ability to practice in a direct access environment" was the most frequently mentioned extrinsic factor for the DPTC group in the written narrative. Examination of the narrative from the DPTNI group revealed that some recognized that the DPT may help with those PT's who practice in a direct access environment, although they felt it was not for them.

Reimbursement Status

Extrinsic variable six is a statement about the DPT's effect on improving reimbursement from third party payers. The differences in the responses of the three groups were significantly different at F=22.3 (p =.000). DPTC group responded with a mean of 2.89 ± 1.078, compared to DPTI with a mean of 2.82 ± 1.012 and DPTNI at 2.3 ± .915. DPTC and DPTI were not significantly different in responding to this question, slightly below neutral. DPTNI was significantly lower than the other two groups at 2.3, corresponding to disagree on the Likert scale. The narrative section of the survey was consistent with the quantitative findings in that all three groups expressed doubts about the DPT improving reimbursement. A respondent from the DPTNI group wrote "It (the DPT) in no way will increase reimbursement." This opinion was shared by all three groups according to the quantitative data. The DPTC and DPTI groups were still interested in the DPT and mentioned other motivating factors to attain this degree. Table 13 presents the analysis of variance for the six extrinsic items discussed above. All six of the extrinsic questions had significant differences at the .05 level for the three DPT interest groups. In fact, the significance was .000 for all six comparisons.

Table 13 *ANOVA Extrinsic Factors * DPT Interest*

		Sum of Squares	df	Mean Square	F	Sig.
EXTRINSIC1	Between Groups	59.268	2	29.634	31.725	.000
	Within Groups	490.397	525	.934		
	Total	549.665	527			
EXTRINSIC2	Between Groups	204.470	2	102.235	99.482	.000
	Within Groups	539.529	525	1.028		
	Total	743.998	527			
EXTRINSIC3	Between Groups	188.323	2	94.162	91.099	.000
	Within Groups	542.647	525	1.034		
	Total	730.970	527			
EXTRINSIC4	Between Groups	193.724	2	96.862	55.754	.000
	Within Groups	912.092	525	1.737		
	Total	1105.816	527			
EXTRINSIC5	Between Groups	246.019	2	123.009	124.372	.000
	Within Groups	519.247	525	.989		
	Total	765.265	527			
EXTRINSIC6	Between Groups	43.289	2	21.644	22.306	.000
	Within Groups	508.457	524	.970		
	Total	551.746	526			

Post-hoc testing utilizing the Tukey test was performed to assess which groups were significantly different. The results of the post-hoc tests as discussed above are presented in table 14.

Table 14 *Tukey Post-hoc Extrinsic Motivation * DPT Interest*

Dependent Variable	(I) DPT INTEREST	(J) DPT INTEREST	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
			Lower Bound	Upper Bound	Lower Bound	Upper Bound	Lower Bound
EXTRINSIC1	DPTC	DPTNI	.678(*)	.093	.000	.46	.90
		DPTI	.022	.138	.987	-.30	.35
	DPTNI	DPTC	-.678(*)	.093	.000	-.90	-.46
		DPTI	-.657(*)	.130	.000	-.96	-.35
	DPTI	DPTC	-.022	.138	.987	-.35	.30
		DPTNI	.657(*)	.130	.000	.35	.96
EXTRINSIC2	DPTC	DPTNI	1.335(*)	.097	.000	1.11	1.56
		DPTI	.385(*)	.145	.022	.04	.73
	DPTNI	DPTC	-1.335(*)	.097	.000	-1.56	-1.11
		DPTI	-.950(*)	.137	.000	-1.27	-.63
	DPTI	DPTC	-.385(*)	.145	.022	-.73	-.04
		DPTNI	.950(*)	.137	.000	.63	1.27
EXTRINSIC3	DPTC	DPTNI	1.290(*)	.098	.000	1.06	1.52

Dependent Variable	(I) DPT INTEREST	(J) DPT INTEREST	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
		DPTI	.428(*)	.145	.009	.09	.77
	DPTNI	DPTC	-1.290(*)	.098	.000	-1.52	-1.06
		DPTI	-.862(*)	.137	.000	-1.18	-.54
	DPTI	DPTC	-.428(*)	.145	.009	-.77	-.09
		DPTNI	.862(*)	.137	.000	.54	1.18
EXTRINSIC4	DPTC	DPTNI	1.299(*)	.127	.000	1.00	1.60
		DPTI	.372	.189	.119	-.07	.82
	DPTNI	DPTC	-1.299(*)	.127	.000	-1.60	-1.00
		DPTI	-.926(*)	.178	.000	-1.34	-.51
	DPTI	DPTC	-.372	.189	.119	-.82	.07
		DPTNI	.926(*)	.178	.000	.51	1.34
EXTRINSIC5	DPTC	DPTNI	1.458(*)	.096	.000	1.23	1.68
		DPTI	.385(*)	.142	.019	.05	.72
	DPTNI	DPTC	-1.458(*)	.096	.000	-1.68	-1.23
		DPTI	-1.073(*)	.134	.000	-1.39	-.76
	DPTI	DPTC	-.385(*)	.142	.019	-.72	-.05
		DPTNI	1.073(*)	.134	.000	.76	1.39
EXTRINSIC6	DPTC	DPTNI	.593(*)	.095	.000	.37	.82
		DPTI	.067	.141	.882	-.26	.40

Dependent Variable	(I) DPT INTEREST	(J) DPT INTEREST	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
	DPTNI	DPT	-.593(*)	.095	.000	-.82	-.37
		DPTI	-.525(*)	.133	.000	-.84	-.21
	DPTI	DPTC	-.067	.141	.882	-.40	.26
		DPTNI	.525(*)	.133	.000	.21	.84

The mean difference is significant at the .05 level.

Summary of Extrinsic Motivating Factors

In summary, the six extrinsic motivating factors for the DPT are salary, career advancement, prestige, professional image, direct access and insurance reimbursement. There were significant differences between all three DPT groups for the statements about career advancement, prestige and direct access. In all three instances, DPTC and DPTI had a positive value on the Likert scale, while DPTNI produced a negative value. The other three extrinsic motivating factors had similar scores for DPTC and DPTI, and significantly lower values for DPTNI. These factors were salary, professional image, and insurance reimbursement. DPTC and DPTI mean scores for professional image were positive, while DPTNI scores were negative for this statement. The other two factors, salary and reimbursement from third party payers had a negative response from all three groups, although DPTC and DPTI were closer to neutral. Many in the DPTNI group responded that the lack of perceived extrinsic rewards was a barrier to pursuing the DPT. "There is no outside incentive beyond professional knowledge desire to invest time and money into a DPT at this time." (DPTNI respondent) The DPTI and DPTC groups often

acknowledged that there is a lack of extrinsic rewards, but chose to pursue the DPT anyway. "I pursued the DPT to enhance and improve my education, knowledge base and professional growth and reputation. It was an excellent year of clinical continuing education. I am glad I did it. Unfortunately, insurance companies don't care. Employers don't care as there is no salary increase. The medical community doesn't care." (DPTC respondent)

Analysis of Intrinsic Motivation

Intrinsic motivation was compared in the same manner to DPT interest. Descriptive statistics are presented in table 15 for intrinsic motivation questions compared to DPT interest.

Table 15 *Descriptive Statistics Total Intrinsic Score * DPT Interest*

DPT Interest	Mean	Std. Deviation	N
DPTC	24.7283	4.12468	174
DPTNI	15.5559	4.44956	286
DPTI	21.3088	3.83331	68
Total	19.3093	5.99978	528

Total Summed Intrinsic Score

The entire sample of physical therapists had a mean score of 19.3093 for the six intrinsic motivation questions. The mean score for each question in this group was 3.22, or just above neutral on the Likert scale. The DPT group was higher at 24.7283. The mean for the 6 questions in this group was 4.12, indicating slightly above the level of agree in the Likert scale when answering the intrinsic motivation questions. The DPTI

group scored a mean summed score of 21.3088. The six question mean would be 3.55 for this group, midway between neutral and agree for the intrinsic motivation questions. The DPTNI group had a summed mean of 15.5559 or 2.59 for the six intrinsic variables. This score fell between neutral and disagree on the Likert scale. The six intrinsic items from the questionnaire correspond to items 13, 15, 16, 19, 20 and 24 and are listed below:

The DPT is important for my professional development.

Earning the DPT degree will improve my clinical skills.

The DPT degree is important for autonomous physical therapy practice.

The DPT degree will help me to meet a personal goal.

The DPT degree will improve my knowledge base.

The DPT will improve my ability to perform research.

Table 16 *ANOVA Total Intrinsic Score * DPT Interest*

Source	Type III Sum Of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	9381.234	2	4690.617	257.280	.000	.495
Intercept	158185.014	1	158185.014	8676.427	.000	.943
DPT Interest	9381.234	2	4690.617	257.280	.000	.495
Error	9553.351	524	18.232			
Total	215426.000	527				
Corrected Total	18934.584	526				

The ANOVA yielded significance at the .05 level (F=257.28, p=.000) with a reported significance of .000. Table 16 above presents the results of the analysis of variance. Post–hoc testing was performed via the Tukey test to further examine differences among groups. The results of the Tukey test are presented in table 17.

Table 17 *Tukey Post-hoc Tests Total Intrinsic Score * DPT Interest*

(I)DPT Interest	(J) DPT Interest	Mean Difference I-J	Std. Error	Sig.	95% Confidence Level	
					Lower Bound	Upper Bound
DPTC	DPTNI	9.17238*	.41126	.000	8.2058	10.1390
	DPTI	3.41950*	.61114	.000	1.9831	4.8559
DPTNI	DPTC	-9.17238*	.41126	.000	-10.1390	-8.2059
	DPTI	-5.75288*	.57607	.000	-7.1069	-4.3989
DPTI	DPTC	-3.41950*	.61114	.000	-4.8559	-1.9831
	DPTNI	5.75288*	.57607	.000	4.3989	7.1069

* The Mean is significant at the .05 level

The three DPT interest groups were all significantly different with post-hoc analysis. Significance was set at .05 and attained at .000. Specifically, the DPTC group scored significantly higher for intrinsic motivation for the DPT than both the DPTI group and the DPTNI group. The DPTI group also scored significantly higher for intrinsic motivation for the DPT than the DPTNI group.

Individual Intrinsic Item Analysis

Individual item analysis of the intrinsic factors was also completed utilizing analysis of variance. Table 18 contains the descriptive statistics for the intrinsic items. Significance was achieved at the .05 level for all six extrinsic factors. F values and p values are presented in table 19. Post-hoc testing utilizing the Tukey post-hoc test (table 20) was completed to determine which groups were significantly different.

Table 18 *Descriptive Statistics Intrinsic Factors * DPT Interest*

		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
INTRINSIC1	DPTC	174	4.34	.808	4.22	4.46
	DPTNI	286	2.02	.839	1.93	2.12
	DPTI	68	3.41	.981	3.17	3.65
	Total	528	2.97	1.359	2.85	3.08
INTRINSIC2	DPTC	174	4.01	.982	3.86	4.15
	DPTNI	286	2.50	1.008	2.38	2.61
	DPTI	68	3.37	1.035	3.12	3.62
	Total	528	3.11	1.217	3.00	3.21
INTRINSIC3	DPTC	173	4.36	.908	4.22	4.49
	DPTNI	286	2.01	.898	1.91	2.12
	DPTI	68	3.74	.987	3.50	3.97
	Total	527	3.01	1.427	2.88	3.13
INTRINSIC4	DPTC	174	4.42	.715	4.31	4.53
	DPTNI	286	3.02	1.144	2.89	3.16
	DPTI	68	3.90	.900	3.68	4.11
	Total	528	3.60	1.179	3.50	3.70
INTRINSIC5	DPTC	174	4.02	.959	3.87	4.16
	DPTNI	286	3.01	1.122	2.88	3.14

		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
	DPTI	68	3.68	.921	3.45	3.90
	Total	528	3.43	1.144	3.33	3.53
INTRINSIC6	DPTC	174	3.56	1.077	3.40	3.72
	DPTNI	286	2.99	1.118	2.86	3.12
	DPTI	68	3.22	1.077	2.96	3.48
	Total	528	3.21	1.128	3.11	3.30

Professional Development

The results of intrinsic statement one were significantly different for DPT interest (F=412.93, sig. =.000). Post-hoc testing for Intrinsic factor one produced significant differences for all three DPT groups. The statement "The DPT is important for my professional development", received a positive response from the DPTC group with a mean of 4.34 ± .808. The DPTI group was significantly different from DPTC, but also viewed this statement positively with a mean score of 3.42 ± .981. DPTNI disagreed that professional development would be a motivating factor for the DPT with a mean score of 2.02 ± .839. The DPTC group respondents also wrote about their motivation for the DPT. "My goal is to be an effective and respected physical therapist." (DPTC respondent) This statement corresponds with the mean response for the DPTC group for this item. The DPTNI group does not view the DPT as a means for professional development and several respondents listed continuing education as a better way of developing professionally. "It is important for me to learn as much as possible in my

specialty which is why I just went to two amazing continuing education conferences pertaining to my daily practice skills. I find this education far more valuable than the DPT." (DPTNI respondent)

Clinical Skills

Intrinsic factor two also produced differences for DPT interest groups with p=.000, F= 125.09. The DPTC group mean was 4.01 ± .982 for the statement "Earning the DPT degree will improve my clinical skills". DPTI group was statistically significantly lower on the Likert scale, at 3.37 ± 1.035 and DPTNI group was significantly lower at 2.50 ± 1.008. The DPTC group views the DPT degree as a way to improve clinical skills, while the DPTI group was more neutral to this statement, but still toward the agree category. DPTNI does not view the DPT degree as a way to improve clinical skills. Many in the DPTC and DPTI groups responded in narrative form that they view the DPT as a way to improve clinical skills while the DPTNI group views the DPT as more of an academic degree, a means to perform research or to get into management. A respondent from the DPTNI group professed "I don't think it would make me a better clinician."

Table 19 *ANOVA Intrinsic Factors * DPT Interest*

		Sum of Squares	df	Mean Square	F	Sig.
INTRINSIC1	Between Groups	595.093	2	297.546	412.938	.000
	Within Groups	378.294	525	.721		
	Total	973.386	527			
INTRINSIC2	Between Groups	251.761	2	125.881	125.094	.000
	Within Groups	528.300	525	1.006		
	Total	780.061	527			
INTRINSIC3	Between Groups	634.023	2	317.012	380.159	.000
	Within Groups	436.960	524	.834		
	Total	1070.983	526			
INTRINSIC4	Between Groups	217.592	2	108.796	110.805	.000
	Within Groups	515.482	525	.982		
	Total	733.074	527			
INTRINSIC5	Between Groups	114.466	2	57.233	52.274	.000
	Within Groups	574.799	525	1.095		
	Total	689.265	527			
INTRINSIC6	Between Groups	36.058	2	18.029	14.919	.000
	Within Groups	634.440	525	1.208		
	Total	670.498	527			

Autonomous Practice

All three DPT groups were also compared with intrinsic statement three "the DPT degree is important for autonomous physical therapy practice". DPTC had a group mean of 4.36 ± .908. DPTI group was also positive with a score of 3.74 ± .987, while DPTNI responded negatively to this statement at 2.01 ± .898. DPT interest was significantly different in response to intrinsic statement three with F= 380.16, p = .000. Post-hoc testing (table 20) revealed significant differences among all three DPT interest groups. DPTC agrees and approaches strongly agree for the view that autonomous practice is a motivating factor for the DPT. DPTI also has a positive view while DPTNI holds a negative view of the DPT as a means for autonomous practice. Autonomous practice was frequently mentioned by the DPTC group as a reason for attaining the DPT. This was not mentioned by the DPTNI group. In fact, one respondent in the DPTNI group is of the opinion that the DPT creates a "pseudo-autonomous effect" due the necessity of a physicians' referral for insurance reimbursement.

Personal Goals

Intrinsic variable four asked respondents to rate their level of agreement or disagreement with the statement "The DPT degree will help me to meet a personal goal". Means for all three groups were DPTC, 4.42 ± .715, DPTI, 3.90 ± .900, DPTNI 3.02 ± 1.144. This statement was also found to be a significant factor for DPT interest with F= 110.81, p = .000. Similar to the other intrinsic questions, responses for this factor were different through post-hoc testing for all three groups. DPTC group responded very positively to this statement at agree to strongly agree while DPTI was solidly in the agree category. "The decision to pursue the DPT is purely personal. The challenge, the ability

to meet this goal, to return to school and succeed." (DPTI respondent) DPTNI was neutral to the statement of the DPT pertaining to a personal goal. A DPTNI respondent stated that the DPT degree would be useful to him "only as a personal achievement. I do not believe it would have any significant impact on my professional life."

Knowledge Base

Intrinsic statement five, "The DPT degree will improve my knowledge base" was also found to be a factor for DPT interest with F= 52.27, p =.000. Means and SD's for the three groups were DPTC 4.02 ± .959, DPTI 3.68 ± .921, and DPTNI at 3.01 ± .1.122. DPTC and DPTI had a similar positive, agree, response to this statement, while the DPTNI group was neutral to this statement. Post-hoc analysis of intrinsic factor five produced differences of the DPTC group and the DPTNI group, however, the DPTC and DPTI groups were not significantly different at the .05 level. DPTI was also significantly different from DPTNI. A DPTC respondent wrote that the DPT degree "provided me with an increased knowledge base as well as a desire to push the envelope and strive for more independence and education." Those who responded in the DPTNI group have the opposite view and expressed views similar to this quote; "I do not feel that PT's who have a DPT are more knowledgeable than those who don't." (DPTNI respondent)

Table 20 *Tukey Post-hoc Intrinsic Factors * DPT Interest*

Dependent Variable	(I) DPT INTEREST	(J) DPT INTEREST	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Upper Bound	Lower Bound
INTRINSIC1	DPTC	DPTNI	2.315(*)	.082	.000	2.12	2.51
		DPTI	.927(*)	.121	.000	.64	1.21
	DPTNI	DPTC	-2.315(*)	.082	.000	-2.51	-2.12
		DPTI	-1.387(*)	.115	.000	-1.66	-1.12
	DPTI	DPTC	-.927(*)	.121	.000	-1.21	-.64
		DPTNI	1.387(*)	.115	.000	1.12	1.66
INTRINSIC2	DPTC	DPTNI	1.509(*)	.096	.000	1.28	1.74
		DPTI	.638(*)	.143	.000	.30	.98
	DPTNI	DPTC	-1.509(*)	.096	.000	-1.74	-1.28
		DPTI	-.871(*)	.135	.000	-1.19	-.55
	DPTI	DPTC	-.638(*)	.143	.000	-.98	-.30
		DPTNI	.871(*)	.135	.000	.55	1.19
INTRINSIC3	DPTC	DPTNI	2.344(*)	.088	.000	2.14	2.55
		DPTI	.623(*)	.131	.000	.32	.93
	DPTNI	DPTC	-2.344(*)	.088	.000	-2.55	-2.14
		DPTI	-1.721(*)	.123	.000	-2.01	-1.43
	DPTI	DPTC	-.623(*)	.131	.000	-.93	-.32

Dependent Variable	(I) DPT INTEREST	(J) DPT INTEREST	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
		DPTNI	1.721(*)	.123	.000	1.43	2.01
INTRINSIC4	DPTC	DPTNI	1.395(*)	.095	.000	1.17	1.62
		DPTI	.522(*)	.142	.001	.19	.86
	DPTNI	DPTC	-1.395(*)	.095	.000	-1.62	-1.17
		DPTI	-.873(*)	.134	.000	-1.19	-.56
	DPTI	DPTC	-.522(*)	.142	.001	-.86	-.19
		DPTNI	.873(*)	.134	.000	.56	1.19
INTRINSIC5	DPTC	DPTNI	1.007(*)	.101	.000	.77	1.24
		DPTI	.341	.150	.060	-.01	.69
	DPTNI	DPTC	-1.007(*)	.101	.000	-1.24	-.77
		DPTI	-.666(*)	.141	.000	-1.00	-.33
	DPTI	DPTC	-.341	.150	.060	-.69	.01
		DPTNI	.666(*)	.141	.000	.33	1.00
INTRINSIC6	DPTC	DPTNI	.577(*)	.106	.000	.33	.83
		DPTI	.343	.157	.076	-.03	.71
	DPTNI	DPTC	-.577(*)	.106	.000	-.83	-.33
		DPTI	-.235	.148	.254	-.58	.11
	DPTI	DPTC	-.343	.157	.076	-.71	.03
		DPTNI	.235	.148	.254	-.11	.58

* The mean difference is significant at the .05 level.

Research

"The DPT will improve my ability to perform research" was the final intrinsic statement in the scale. Means and SD's for the three groups were DPTC 3.56 ± 1.077, DPTI 3.22 ± 1.077, and DPTNI 2.99 ± 1.118. Statement six was also a factor for DPT interest with F= 14.92, p=.000. The only significant difference with post-hoc testing within the three groups was DPTC and DPTNI. DPTI was not significantly different from DPTC or DPTNI. DPTC viewed the research component of the DPT as a motivating factor. DPTI was closer to neutral in response and DPTNI was at neutral responding to this question. Evidence based practice was mentioned as a reason to attain the DPT by the DPTC and DPTI groups. The DPTNI group frequently mentioned research in a negative connotation with the DPT. "I think the DPT is producing researchers and administrative types but actual patient care has declined." (DPTNI respondent) Another frequent theme in the DPTNI group was that physical therapists already have necessary research skills and don't need the DPT to perform or interpret research.

Summary of Intrinsic Motivating Factors

There were six intrinsic factors analyzed; professional development, improved clinical skills, autonomous practice, personal goals, improved knowledge base, and improved ability to perform research. The first four listed all showed significant differences between all three DPT groups, with the DPTC and DPTI group having positive responses to the statements and the DPTNI group generally responding negatively to the statements. DPTNI group did respond neutral to statement four about

personal goals. DPTNI group also responded neutral to the DPT as it relates to improving knowledge base and research, while the DPTC and DPTI groups responded positively to this statement. Significant differences were not noted for the DPTC and DPTI groups for the question regarding improve knowledge base. Also significant differences were not noted for the DPTI group for either of the other two groups on the response for the DPT as it pertains to research. Two quotes highlight and summarize the different opinions of the DPTC and DPTNI groups with regards to intrinsic goals. The DPTNI group expressed the opinion that the "there is no outside incentive beyond professional knowledge desire to invest time and money into a DPT at this time." The DPTC group responded with the thought that the DPT would help to "expand my overall knowledge base, to continue to find better treatment methods for better outcomes and find research to support the new techniques and methods of practice. Receiving my DPT allowed me to expand my knowledge base."

Analysis of Demographic Factors and DPT Interest

Research Question two examined the demographic factors and trends that influence physical therapists' decisions to return to school for the DPT. To answer this question, chi-square analysis was used with the alpha level set at .05. The thirteen independent variables, entry-level degree, highest earned degree, age, years experience as a PT, gender, APTA membership status, employment status, income, primary area of practice, practice setting, physician owned clinic, administrative status, and clinical instructor status were all compared to the dependent variable, DPT interest. Multiple comparisons of significance greatly increases the risk of type I error. A commonly used procedure to limit type I error is the Bonferoni correction. The advantage of the

Bonferoni correction is its simplicity. The per-comparison alpha level is calculated by dividing the experiment wide alpha level by the number of comparisons. PCα=EWα/K. For this comparison, the per-comparison alpha level would be .05/13 or .004. The disadvantage of the Bonfereoni correction is that when multiple comparisons are made, the per comparison alpha level becomes very small and therefore presents a very conservative alpha level which may lead to a type II error. Because of the large number of comparisons in this study, the decision was made to report significance at both the experiment wide alpha level of .05 and the per comparison alpha level of .004. Of the thirteen variables, four variables, highest earned degree, employment status, primary area of practice and practice setting all had expected cell frequencies lower than five greater than twenty percent of the time. This violates the assumption of minimum cell frequency with chi-square and it is recommended that these comparisons not be used. This is discussed in detail when these variables are presented.

Entry-Level PT Degree and DPT Interest

Entry-level PT degree was found to be a significant factor for DPT interest at the experiment wide alpha level but not the per comparison alpha level with a Pearson chi-square value of 11.09, p= .026. Table 21 contains the crosstabs distribution of respondents.

Table 21 *Entry Level PT Degree * DPT Interest Crosstabs*

			Entry Level PT DEGREE			Total
			Certificate	Bachelors	Masters	
DPT INTEREST	DPTC	Count	7	75	92	174
		Expected Count	11.9	79.8	82.4	174.0
		% within DPT	4.0%	43.1%	52.9%	100.0%
		% within EL PT	19.4%	31.0%	36.8%	33.0%
		% of Total	1.3%	14.2%	17.4%	33.0%
	DPTNI	Count	28	132	126	286
		Expected Count	19.5	131.1	135.4	286.0
		% within DPT	9.8%	46.2%	44.1%	100.0%
		% within EL PT	77.8%	54.5%	50.4%	54.2%
		% of Total	5.3%	25.0%	23.9%	54.2%
	DPTI	Count	1	35	32	68
		Expected Count	4.6	31.2	32.2	68.0
		% within DPT	1.5%	51.5%	47.1%	100.0%
		% within EL PT	2.8%	14.5%	12.8%	12.9%
		% of Total	.2%	6.6%	6.1%	12.9%
Total		Count	36	242	250	528
		Expected Count	36.0	242.0	250.0	528.0
		% within DPT	6.8%	45.8%	47.3%	100.0%
		% within EL PT	100.0%	100.0%	100.0%	100.0%
		% of Total	6.8%	45.8%	47.3%	100.0%

Examination of the crosstabs table reveals several interesting findings. Of the respondents who entered the field with a certificate in physical therapy, 19.4% have

already transitioned to the DPT or are enrolled in a DPT program. 77.8% report not being interested in the DPT and only 2.8 percent who have not yet made the commitment to the DPT report being interested in the DPT. Respondents who reported Bachelor's and Master's degrees for their entry level were very similar in their responses for DPT interest. 31% of those with Bachelor's degrees and 36.8% of those with Master's degrees had the DPT or were enrolled in a DPT program. A slight majority of both groups, 54.5% of Bachelor's respondents and 50.4% of Master's respondents, report no interest in the DPT degree. A similar small percentage of each group, 14.5% for Bachelor's and 12.8% for Master's, reports future interest in the DPT.

Within the DPTC group, 4% have a certificate in PT, 43.1% have a Bachelor's degree and 52.9% have the Master's degree as the entry level degree. The DPTNI group contained 9.8% therapists with a certificate in PT, 46.2% with Bachelor's degrees, and 44.1% with Master's degrees. DPTI reported only 1.5% or 1 respondent had a certificate as the entry-level degree, 51.5% were bachelor's prepared and 47.1% began their careers with a master's degree in PT.

Age and DPT Interest

Age and DPT interest were examined and the results are presented in table 22. All of the respondents over the age of 60 reported in the DPTNI group. Conversely, the majority (68.4%) of respondents under the age of thirty responded in the DPTC group. A small but steady decline is seen for interest in the DPT as the age groups increase. The 31-40 age group reported 35.6% DPTC, while the 41-50 age group reported 29.5% DPTC. The number with the DPT drops to 25.3% in the 51-60 age group and then falls off completely to zero in the over 60 age group.

The majority of respondents for all of the age groups except the under 30 group report no interest in the DPT. The breakdown by age group of those not interested in the DPT is as follows: 51.4% of the 31-40 age group, 53.8% for the 41-50 age group, 63.3% for the 51-60 age group and 100% for the over 60 age group. Also of interest is that only a small number (5.3%) of respondents under the age of 30 reported DPTI. Future interest in the DPT is more consistent among the other age groups with 13% of the 31-40 age group, 16.8% of the 41-50 age group and 11.4 percent of the 51-60 age group DPTI. Zero respondents over 60 indicated DPTI. Chi-square analysis for DPT interest compared to age yielded significance at both the experiment wide alpha level and at the per comparison alpha level (χ^2 =46.5, p=.000). These results indicate that age is a significant factor for DPT interest. All of the respondents over the age of 60 reported in the DPTNI group. The crosstabulation results are reported in table 22 .

Table 22 *Age * DPT Interest Crosstabs*

			AGE					
			Under 30	31-40	41-50	51-60	Over 60	Total
DPTINTE	DPTC	Count	26	77	51	20	0	174
		Expected Count	12.5	71.2	57.0	26.0	7.3	174.0
		% within DPT INT	14.9%	44.3%	29.3%	11.5%	.0%	100.0%
		% within AGE	68.4%	35.6%	29.5%	25.3%	.0%	33.0%
		% of Total	4.9%	14.6%	9.7%	3.8%	.0%	33.0%
	DPTNI	Count	10	111	93	50	22	286
		Expected Count	20.6	117.0	93.7	42.8	11.9	286.0

			AGE					
			Under 30	31-40	41-50	51-60	Over 60	Total
R		% within DPTINT	3.5%	38.8%	32.5%	17.5%	7.7%	100.0%
E		% within AGE	26.3%	51.4%	53.8%	63.3%	100.0%	54.2%
S		% of Total	1.9%	21.0%	17.6%	9.5%	4.2%	54.2%
T	DPTI	Count	2	28	29	9	0	68
		Expected Count	4.9	27.8	22.3	10.2	2.8	68.0
		% within DPTINT	2.9%	41.2%	42.6%	13.2%	.0%	100.0%
		% within AGE	5.3%	13.0%	16.8%	11.4%	.0%	12.9%
		% of Total	.4%	5.3%	5.5%	1.7%	.0%	12.9%
Total		Count	38	216	173	79	22	528
		Expected Count	38.0	216.0	173.0	79.0	22.0	528.0
		% within DPTINT	7.2%	40.9%	32.8%	15.0%	4.2%	100.0%
		% within AGE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	7.2%	40.9%	32.8%	15.0%	4.2%	100.0%

Years Experience and DPT Interest

Number of years experience was also compared to DPT Interest. Analysis of the crosstabs, table 23 reveals that the vast majority of respondents with 0-5 and 6-10 years experience report DPTC with 82.1% and 60.6% respectively. These numbers indicate a gradual decline with more experienced therapists reporting a smaller percentage of DPTI with 29.8% of the 11-15 year group, 23.5% of the 16-20 year group, 17.2% of the 21-25 year group and 15.3% of the over 25 year group having the transitional DPT.

Conversely, therapists with fewer years of experience were less likely to report no interest in the DPT degree with 10.7% responding no interest in the 0-5 age group. The 6-10 years experience group reported DPTNI 27.7% of the time. This percentage increases to 50.4% in the 11-15 group, 64.8% in the 16-20 group, 70.3% in the 21-25 years experience group and 78% in the over 25 years experience group. A more normal distribution was found for the therapists that reported interest in the DPT. 7.1% of the 0-5 year group, 11.7% of the 6-10 group, 19.8% of the 11-15 group, 11.7% of the 16-20 group, 12.5% of the 21-25 group, and 5.9% of the over 25 years group reported future interest in the DPT. Years experience was found to be a factor for DPT interest at both the experiment wide alpha level and the per comparison alpha level with a χ^2 value of 98.82, N=528, p =.000 .

Table 23 *Years Experience * DPT Interest Crosstabs*

			YEARS EXP						
			0-5	6-10	11-15	16-20	21-25	Over 25	Total
DPT INTEREST	DPTC	Count	23	57	36	38	11	9	174
		Expected Count	9.2	31.0	39.9	53.4	21.1	19.4	174.0
		% within DPTINT	13.2%	32.8%	20.7%	21.8%	6.3%	5.2%	100.0%
		% within YEARSEXP	82.1%	60.6%	29.8%	23.5%	17.2%	15.3%	33.0%
		% of Total	4.4%	10.8%	6.8%	7.2%	2.1%	1.7%	33.0%
	DPTNI	Count	3	26	61	105	45	46	286
		Expected Count	15.2	50.9	65.5	87.8	34.7	32.0	286.0
		% within DPTINT	1.0%	9.1%	21.3%	36.7%	15.7%	16.1%	100.0%

			YEARS EXP						
			0-5	6-10	11-15	16-20	21-25	Over 25	Total
		% within YEARSEXP	10.7%	27.7%	50.4%	64.8%	70.3%	78.0%	54.2%
		% of Total	.6%	4.9%	11.6%	19.9%	8.5%	8.7%	54.2%
	DPTI	Count	2	11	24	19	8	4	68
		Expected Count	3.6	12.1	15.6	20.9	8.2	7.6	68.0
		% within DPTINT	2.9%	16.2%	35.3%	27.9%	11.8%	5.9%	100.0%
		% within YEARSEXP	7.1%	11.7%	19.8%	11.7%	12.5%	6.8%	12.9%
		% of Total	.4%	2.1%	4.5%	3.6%	1.5%	.8%	12.9%
Total		Count	28	94	121	162	64	59	528
		Expected Count	28.0	94.0	121.0	162.0	64.0	59.0	528.0
		% within DPTINT	5.3%	17.8%	22.9%	30.7%	12.1%	11.2%	100.0%
		% within YEARSEXP	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	5.3%	17.8%	22.9%	30.7%	12.1%	11.2%	100.0%

APTA Membership Status and DPT Interest

APTA membership status was analyzed as a factor for DPT interest. APTA members were far more likely to have earned the DPT with 52.6% reporting having earned the degree compared to 15.4 percent of non members. Conversely, non members responded no interest in the DPT degree 70.6% of the time compared to members responding this answer 33.7%. Members and non members responded in similar numbers for DPTI. Pearson chi-square revealed significant difference at both the

experiment wide and per comparison alpha levels (χ^2=91.78, N=528, p= .000). The results of the crosstabs table are reported in table 24.

Table 24 *APTA Membership Status * DPT Interest Crosstabs*

			APTAMEMBER		Total
			Member	Non-member	
DPT INTEREST	DPTC	Count	131	43	174
		Expected Count	82.1	91.9	174.0
		% within DPTINTEREST	75.3%	24.7%	100.0%
		% within APTAMEMBER	52.6%	15.4%	33.0%
		% of Total	24.8%	8.1%	33.0%
	DPTNI	Count	84	202	286
		Expected Count	134.9	151.1	286.0
		% within DPTINTEREST	29.4%	70.6%	100.0%
		% within APTAMEMBER	33.7%	72.4%	54.2%
		% of Total	15.9%	38.3%	54.2%
	DPTI	Count	34	34	68
		Expected Count	32.1	35.9	68.0
		% within DPTINTEREST	50.0%	50.0%	100.0%
		% within APTAMEMBER	13.7%	12.2%	12.9%
		% of Total	6.4%	6.4%	12.9%
Total		Count	249	279	528
		Expected Count	249.0	279.0	528.0

	% within DPTINTEREST	47.2%	52.8%	100.0%
	% within APTAMEMBER	100.0%	100.0%	100.0%
	% of Total	47.2%	52.8%	100.0%

Administrative Status and DPT Interest

Administrative status was also examined through chi-square analysis. 45.6% of therapists who reported being an administrator have the transitional DPT. Another 19.3% report interest in the DPT, while only 35.1 % report no interest in the DPT. Conversely, the non administrator group reported 29.5% DPTC with 11.1% DPTI. The majority of the non administrator group (59.6%) was DPTNI. Pearson chi-square was significant at both the experiment wide and per comparison alpha levels (χ^2=21.49, N=528, p=.000). Table 25 contains the results of the crosstabulations..

Table 25 *Administrative Status * DPT Interest Crosstabs*

			ADMINISTRATOR		Total
			Administrator	Non Administrator	
DPT Interest	DPTC	Count	52	122	174
		Expected Count	37.6	136.4	174.0
		% within DPTINTEREST	29.9%	70.1%	100.0%
		% within ADMIN	45.6%	29.5%	33.0%
		% of Total	9.8%	23.1%	33.0%
	DPTNI	Count	40	246	286
		Expected Count	61.8	224.3	286.0
		% within DPTINTEREST	14.0%	86.0%	100.0%
		% within ADMIN	35.1%	59.4%	54.2%
		% of Total	7.6%	46.6%	54.2%

			ADMINISTRATOR		Total
			Administrator	Non Administrator	
	DPTI	Count	22	46	68
		Expected Count	14.7	53.3	68.0
		% within DPTINTEREST	32.4%	67.6%	100.0%
		% within ADMIN	19.3%	11.1%	12.9%
		% of Total		4.2%	8.7%
Total		Count	114	414	528
		Expected Count	114.0	414.0	528.0
		% within DPTINTEREST	21.6%	78.4%	100.0%
		% within ADMIN	100.0%	100.0%	100.0%
		% of Total	21.6%	78.4%	100.0%

Clinical Instructor Status and DPT Interest

Therapists who are clinical instructors reported 40.8% have the transitional degree and another 11.6% are interested in the degree. Clinical instructors responded no interest in the DPT at the rate of 47.6%. The non clinical instructor group was less likely to have the DPT with only 26.8% responding having earned the degree, while 59.3% were not interested in the DPT. Interest for the DPT was similar for both groups with the clinical instructor group reporting 11.6% interested in the DPT, and the non CI group reporting 13.9% interested in the transitional degree. Clinical instructor status was also a significant factor for DPT interest at the experiment wide and per comparison alpha levels with a χ^2 value of 11.55, N=528, p=.003. The results of the crosstabulations are listed in table 26.

Table 26 *Clinical Instructor Status * DPT Interest Crosstabs*

			CLINICALINSTRUCTOR		Total
			CI	Non CI	
DPT Interest	DPTC	Count	95	79	174
		Expected Count	76.8	97.2	174.0
		% within DPTINTEREST	54.6%	45.4%	100.0%
		% within CLINICALINSTRUCTOR	40.8%	26.8%	33.0%
		% of Total	18.0%	15.0%	33.0%
	DPTNI	Count	111	175	286
		Expected Count	126.2	159.8	286.0
		% within DPTINTEREST	38.8%	61.2%	100.0%
		% within CLINICALINSTRUCTOR	47.6%	59.3%	54.2%
		% of Total	21.0%	33.1%	54.2%
	DPTI	Count	27	41	68
		Expected Count	30.0	38.0	68.0
		% within DPTINTEREST	39.7%	60.3%	100.0%
		% within NICALINSTRUCTOR	11.6%	13.9%	12.9%
		% of Total		5.1%	7.8%
Total		Count	233	295	528
		Expected Count	233.0	295.0	528.0
		% within DPTINTEREST	44.1%	55.9%	100.0%
		% within CALINSTRUCTOR	100.0%	100.0%	100.0%
		% of Total	44.1%	55.9%	100.0%

Gender and DPT Interest

Gender was examined as a factor for DPT interest with the results presented in table 27. Males (45%) were more likely than females (29%) to have transitioned to the DPT. Interest in the DPT was similar with 12.2% of men interested and 13.2% of females interested. The majority of females (57.7%) reported no interest in the DPT. The number of males in this category was somewhat smaller at 46.3%. Gender was found to be a significant factor for DPT interest at the experiment wide alpha level, but not at the Bonferoni corrected alpha level. The chi-square results are $\chi 2 = 8.02$, N=528, p=.018.

Table 27 *Gender * DPT Interest Crosstabs*

			GENDER		Total
			Male	Female	
DPT INTEREST	DPTC	Count	68	106	174
		Expected Count	54.0	120.0	174.0
		% within DPTINTEREST	39.1%	60.9%	100.0%
		% within GENDER	41.5%	29.1%	33.0%
		% of Total	12.9%	20.1%	33.0%
	DPTNI	Count	76	210	286
		Expected Count	88.8	197.2	286.0
		% within DPTINTEREST	26.6%	73.4%	100.0%
		% within GENDER	46.3%	57.7%	54.2%
		% of Total	14.4%	39.8%	54.2%
		Count	20	48	68

			GENDER		Total
			Male	Female	
	DPTI	Expected Count	21.1	46.9	68.0
		within DPTINTEREST	29.4%	70.6%	100.0%
		% within GENDER	12.2%	13.2%	12.9%
		% Total	3.8%	9.1%	12.9%
Total		Count	164	364	528
		Expected Count	164.0	364.0	528.0
		% within DPTINTEREST	31.1%	68.9%	100.0%
		% within GENDER	100.0%	100.0%	100.0%
		% of Total	31.1%	68.9%	100.0%

Physician Owned Status and DPT Interest

Physician owned status and DPT interest were examined with the results presented in table 28. The total number of respondents for physician owned physical therapy clinics (POPTS) was only 17 or 3.2% of the therapists in the study. About half (47.1%) of the therapists who work in physician owned clinics report DPTC, while a smaller number of 32.5% of therapists not working in POPTS report DPTC. DPTNI for POPTS versus non POPTS yielded results of 35.3% compared to 54.8% respectively. DPTI was 17.4% for the POPTS groups and 12.7% for the non POPTS group. The small number of therapists who work for physician owned clinics in this study is similar to the national average and would make achieving statistical significance difficult due to the small n number. Chi-square analysis was not significant with χ^2= 2.53, N=528, p=.283.

Table 28 *Physician Owned Status * DPT Interest Crosstabs*

			Physcian Owned Physical Therapy		Total
			POPTS	Non POPT's	
DPT Interest	DPTC	Count	8	166	174
		Expected Count	5.6	168.4	174.0
		% withinDPTINT	4.6%	95.4%	100.0%
		% within POPTS	47.1%	32.5%	33.0%
		% of Total	1.5%	31.4%	33.0%
	DPTNI	Count	6	280	286
		Expected Count	9.2	276.8	286.0
		% within DPTINT	2.1%	97.9%	100.0%
		% within POPTS	35.3%	54.8%	54.2%
		% of Total	1.1%	53.0%	54.2%
	DPTI	Count	3	65	68
		Expected Count	2.2	65.8	68.0
		% within DPTINT	4.4%	95.6%	100.0%
		% within POPTS	17.6%	12.7%	12.9%
		% of Total	.6%	12.3%	12.9%
Total		Count	17	511	528
		Expected Count	17.0	511.0	528.0
		% within DPTINT	3.2%	96.8%	100.0%
		% within POPTS	100.0%	100.0%	100.0%
		% of Total	3.2%	96.8%	100.0%

Income and DPT Interest

Income was also analyzed as a factor for DPT interest. The lowest income level reported the least percentage (17.4%) of DPTC with a steady increase with increasing income levels. The percentage of DPTC steadily increases as salary increases. Similarly, disinterest in the DPT was the highest for the under $40,000 salary bracket with 68.1% reporting DPTNI. There was a steady decline with 41.4% disinterested in the over $90,000 salary range. DPTI was steady for all income levels. These differences were not statistically significant (χ^2=18.14, N=528, p=.112). Income was not found to be a factor for DPT interest. Table 29 presents crosstabs results for income and DPT interest.

Table 29 *Income * DPT Interest Crosstabs*

			INCOME							
			Under 40K	41-50K	51-60K	61-70K	71-80K	81-90K	Over 90K	Total
DPT Interest	DPTC	Count	12	11	20	47	35	18	31	174
		Expected	22.7	15.2	20.1	40.5	36.6	15.8	23.1	174.0
		% within DPT	6.9%	6.3%	11.5%	27.0%	20.1%	10.3%	17.8%	100.0 %
		% within INCOME	17.4%	23.9%	32.8%	38.2%	31.5%	37.5%	44.3%	33.0%
		% of Total	2.3%	2.1%	3.8%	8.9%	6.6%	3.4%	5.9%	33.0%
	DPTNI	Count	47	30	32	61	64	23	29	286
		Expected	37.4	24.9	33.0	66.6	60.1	26.0	37.9	286.0

			INCOME							
			Under 40K	41-50K	51-60K	61-70K	71-80K	81-90K	Over 90K	Total
		% within DPTINTERE	16.4%	10.5%	11.2%	21.3%	22.4%	8.0%	10.1%	100.0%
		% within INCOME	68.1%	65.2%	52.5%	49.6%	57.7%	47.9%	41.4%	54.2%
		% of Total	8.9%	5.7%	6.1%	11.6%	12.1%	4.4%	5.5%	54.2%
	DPTI	Count	10	5	9	15	12	7	10	68
		Expected	8.9	5.9	7.9	15.8	14.3	6.2	9.0	68.0
		% within DPTINTERE	14.7%	7.4%	13.2%	22.1%	17.6%	10.3%	14.7%	100.0%
		% within INCOME	14.5%	10.9%	14.8%	12.2%	10.8%	14.6%	14.3%	12.9%
		% of Total	1.9%	.9%	1.7%	2.8%	2.3%	1.3%	1.9%	12.9%
	Count		69	46	61	123	111	48	70	528
	Expected Count		69.0	46.0	61.0	123.0	111.0	48.0	70.0	528.0
	% within		13.1%	8.7%	11.6%	23.3%	21.0%	9.1%	13.3%	100.0
	% within INCOME		100.0%	100.0	100.0	100.0	100.0	100.0	100.0%	100.0
	% of Total		13.1%	8.7%	11.6%	23.3%	21.0%	9.1%	13.3%	100.0

Four demographic factors produced chi-square tests which had expected cell frequencies less than five greater than twenty percent of the time. Therefore, those

comparisons should not be used. A decision was made to exclude the low frequency cells to allow for chi-square analysis.

Employment Status and DPT Interest

Employment status had six cells (40%) with expected cell counts less than 5. Of the responses, only six respondents answered retired and nine responded unemployed. These categories were removed, and chi-square with crosstabs was calculated for the remaining categories, full-time, part-time and self-employed. 38.7% of PT's that practice full time already have the DPT or are enrolled, compared to 20.2% of part-time therapists and 31% of those that are self-employed. Full time PT's reported DPTNI 49.3% of the time compared to 65.8% for part-time and 54.8% for the self-employed. DPTI was similar for all three groups with 12%, 14% and 14.3% for the full time, part time and self employed respectively. The results are reported in table 30. Chi-square was significant at the experiment wide alpha level of .05 but not significant at the per comparison alpha level of .004 (χ^2= 12.60, N=513, p=.009).

Table 30 *Employment Status * DPT Interest Crosstabs (Retired and Unemployed Removed)*

			EMPLOYMENTSTATUS			Total
			Full time	Part time	Self Employed	
DPT INTEREST	DPTC	Count	138	23	13	174
		% within DPT INTEREST	79.3%	13.2%	7.5%	100.0%
		% within EMPLOYMENT STATUS	38.7%	20.2%	31.0%	33.9%
		% of Total	26.9%	4.5%	2.5%	33.9%
	DPTNI	Count	176	75	23	274
		% within DPT INTEREST	64.2%	27.4%	8.4%	100.0%
		% within EMPLOYMENT STATUS	49.3%	65.8%	54.8%	53.4%
		% of Total	34.3%	14.6%	4.5%	53.4%

			EMPLOYMENTSTATUS			Total
			Full time	Part time	Self Employed	
	DPTI	Count	43	16	6	65
		% within DPT INTEREST	66.2%	24.6%	9.2%	100.0%
		% within EMPLOYMENT STATUS	12.0%	14.0%	14.3%	12.7%
		% of Total	8.4%	3.1%	1.2%	12.7%
Total		Count	357	114	42	513
		% within DPT INTEREST	69.6%	22.2%	8.2%	100.0%
		% within EMPLOYMENT STATUS	100.0%	100.0%	100.0%	100.0%
		% of Total	69.6%	22.2%	8.2%	100.0%

Practice Setting and DPT Interest

The Chi-square results for practice setting and DPT interest also had expected cell frequencies less than five higher than 20% of the time, indicating that these comparisons should not be used. Fourteen cells were below the minimum expected cell frequency. Examination of the crosstabs table revealed low cell counts for the categories academic/post secondary institution, health and wellness facility, research facility and industry. The low cell count categories were eliminated so that chi-square analysis could be used for data analysis. Chi-square analysis was significant at both the experiment wide alpha level and also at the per comparison alpha level. The results are listed in table 31.

The highest percentage of physical therapists to have the DPT in this category are those that work in private practice settings (47.2%). Sub acute rehabilitation hospitals, hospital based outpatient facilities, skilled nursing facilities, school systems and other, all had similar numbers in the DPTC category with a range of 28% to 32.4%. The lowest

percentages reported for DPTC was acute care facility with 20% and patient's home with 21.3%.

Conversely, the highest levels of reported disinterest in the DPT were acute care facilities at 71.1%, patient's home at 67.4%, skilled care facilities at 60.6%, sub acute rehabilitation facilities with 56.3% and school system/primary care at 52.9%. Slightly below half (49.4%) of the hospital based outpatient based therapists reported DPTNI, the group that responded other was 48% and the lowest reported total for DPTNI was the private practice group with 41.7%.

DPTI by practice setting produced a wide distribution of results from a low of 7% in the skilled nursing group, to a high of 24% in the "other" group. Hospital based outpatient facility (18.4%) and school system/secondary education (17.6) were also higher than the mean score of 12.7% for DPTI. Sub acute hospital (12.5%), and private practice outpatient (11.1) were close to the mean score. Chi-square analysis was significant at both the experiment wide alpha level and also at the per comparison alpha level (χ^2= 33.74, N=511, p=.002).

Table 31 *Practice Setting * DPT Interest Crosstabs*

			PRACTICE SETTING								
			Acute Care Facility	Sub-Acute Rehab Hospital	Hospital based Outpt. Facility	Private Outpt. Office	SNF/ ICF/ ECF	Pts Home	School Sys /Prim. /Sec.	Other	Total
DPT INTEREST	DPTC	Count	9	5	28	68	23	19	10	7	169
		% within DPT INTEREST	5.3%	3.0%	16.6%	40.2%	13.6 %	11.2 %	5.9%	4.1%	100. 0%
		% within PRACTICE SETTING	20.0%	31.3%	32.2%	47.2%	32.4 %	21.3 %	29.4%	28.0%	33.1 %
		% of Total	1.8%	1.0%	5.5%	13.3%	4.5%	3.7%	2.0%	1.4%	33.1 %

			PRACTICE SETTING								
			Acute Care Facility	Sub-Acute Rehab Hospital	Hospital based Outpt. Facility	Private Outpt. Office	SNF/ ICF/ ECF	Pts Home	School Sys /Prim. /Sec.	Other	Total
	DPTNI	Count	32	9	43	60	43	60	18	12	277
		% within DPT INTEREST	11.6%	3.2%	15.5%	21.7%	15.5 %	21.7 %	6.5%	4.3%	100. 0%
		% within PRACTICE SETTING	71.1%	56.3%	49.4%	41.7%	60.6 %	67.4 %	52.9%	48.0%	54.2 %
		% of Total	6.3%	1.8%	8.4%	11.7%	8.4%	11.7 %	3.5%	2.3%	54.2 %
	DPTI	Count	4	2	16	16	5	10	6	6	65
		% within DPT INTEREST	6.2%	3.1%	24.6%	24.6%	7.7%	15.4 %	9.2%	9.2%	100. 0%
		% within PRACTICE SETTING	8.9%	12.5%	18.4%	11.1%	7.0%	11.2 %	17.6%	24.0%	12.7 %
		% of Total	.8%	.4%	3.1%	3.1%	1.0%	2.0%	1.2%	1.2%	12.7 %
Total		Count	45	16	87	144	71	89	34	25	511
		% within DPT INTEREST	8.8%	3.1%	17.0%	28.2%	13.9 %	17.4 %	6.7%	4.9%	100. 0%
		% within PRACTICE SETTING	100.0%	100.0%	100.0%	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100. 0%
		% of Total	8.8%	3.1%	17.0%	28.2%	13.9 %	17.4 %	6.7%	4.9%	100. 0%

Primary Area of Practice and DPT Interest

Chi-square analysis also produced a high number of expected cell counts less than five more than twenty percent of the time for primary area of practice. Few respondents indicated practicing primarily in acute care, cardiopulmonary, clinical electrophysiology, hand rehabilitation, lymphadema management, oncology, sports and women's health. Elimination of these categories provided a chi-square analysis with acceptable minimum cell frequencies less than five.

Elimination of the infrequently reported categories allowed for comparison of the most common areas of practice, geriatrics, neurology, orthopedics and pediatrics.

Among these groups, the orthopedics group reported the highest level of having the DPT at 41.3%. The other four groups were similar ranging from 25-28.1%. The majority of therapists that practice geriatrics (64.2%), neurology (62.5%), "other" (59.4%) and pediatrics (53.4%) indicate DPTNI. Interestingly, the highest number of therapists to report DPTI were pediatric therapists with 20.7%. Neurology, orthopedics and "other" were very similar between 12.5% and 12.8%. The lowest reported DPTI was in the geriatric primary practice setting at 9.1%.

Chi-square was significant at the experiment wide alpha level of .05, but not at the per comparison alpha level of .004 (χ^2=18.82. N=489, p=.016). Primary practice was a significant factor for PDT interest at the experiment wide alpha level, but not the per comparison alpha level. These results of the crostabulations are listed below in table 32.

Table 32 *Primary Area of Practice * DPT Interest Crosstabs*

			PRIMARYPRACTICE					
			Geriatrics	Neurology	Orthopedics	Pediatrics	Other	Total
DPTINTEREST	DPTC	Count	44	4	90	15	9	162
		% within DPT INTEREST	27.2%	2.5%	55.6%	9.3%	5.6%	100.0 %
		% within PRIMARY PRACTICE	26.7%	25.0%	41.3%	25.9%	28.1%	33.1%
		% of Total	9.0%	.8%	18.4%	3.1%	1.8%	33.1%
	DPTNI	Count	106	10	100	31	19	266
		% within DPT INTEREST	39.8%	3.8%	37.6%	11.7%	7.1%	100.0 %
		% within PRIMARY PRACTICE	64.2%	62.5%	45.9%	53.4%	59.4%	54.4%
		% of Total	21.7%	2.0%	20.4%	6.3%	3.9%	54.4%
	DPTI	Count	15	2	28	12	4	61
		% within DPT INTEREST	24.6%	3.3%	45.9%	19.7%	6.6%	100.0 %
		% within PRIMARY PRACTICE	9.1%	12.5%	12.8%	20.7%	12.5%	12.5%
		% of Total	3.1%	.4%	5.7%	2.5%	.8%	12.5%
Total		Count	165	16	218	58	32	489

	% within DPT INTEREST	33.7%	3.3%	44.6%	11.9%	6.5%	100.0 %
	% within PRIMARY PRACTICE	100.0%	100.0%	100.0%	100.0%	100.0 %	100.0 %
	% of Total	33.7%	3.3%	44.6%	11.9%	6.5%	100.0 %

Highest Earned Degree and DPT Interest

Highest earned degree was the last demographic variable to have a high percentage of cell counts less than expected. Significance was achieved in this comparison at both the experiment wide and per comparison alpha level (χ^2=2.41, N=528, p=.004). However, these comparisons should not be used due to the low expected cell counts. In order to avoid violation of the expected cell count frequency, the certificate, doctorate and "other" categories were eliminated so that the chi-square comparison could be used. This produced a comparison of bachelor's degree compared to master's degree which is presented in table 33. Both groups reported a majority are not interested in the DPT (51.9% Masters, 60.3% Bachelors). A higher percentage of masters therapists (34.5%) reported having DPTC compared to those with the bachelors (28.9%). DPTI was slightly higher in therapists with a master degree at 13.5% compared to bachelors at 10.8%. While it appears that there are differences in these groups with regard to DPT interest, the differences are not statistically significant (χ^2=3.4, N= 504, p= .182).

Table 33 *Highest Earned Degree * DPT Interest Crosstabs (Certificate, Doctorate, Other Removed)*

			HIGHESTDEGREE		Total
			Bachelors	Masters	
DPT INTEREST	DPTC	Count	56	107	163
		% within DPT INTEREST	34.4%	65.6%	100.0%
		% within HIGHEST DEGREE	28.9%	34.5%	32.3%
		% of Total	11.1%	21.2%	32.3%
	DPTNI	Count	117	161	278

			HIGHESTDEGREE		Total
			Bachelors	Masters	
		% within DPT INTEREST	42.1%	57.9%	100.0%
		% within HIGHEST DEGREE	60.3%	51.9%	55.2%
		% of Total	23.2%	31.9%	55.2%
	DPTI	Count	21	42	63
		% within DPT INTEREST	33.3%	66.7%	100.0%
		% within HIGHEST DEGREE	10.8%	13.5%	12.5%
		% of Total	4.2%	8.3%	12.5%
Total		Count	194	310	504
		% within DPT INTEREST	38.5%	61.5%	100.0%
		% within HIGHEST DEGREE	100.0%	100.0%	100.0%
		% of Total	38.5%	61.5%	100.0%

Factors Influencing Physical Therapists Decisions for the DPT

Six factors which were identified in prior studies as influencing physical therapists decisions for the DPT were included in this survey. Chi-square analysis was used to assess the effects of these factors compared to DPT interest. Significance was achieved for all six factors at both the experiment wide and the per comparison alpha level. The factors, time to completion, distance to travel, colleague support, family support, online coursework and evidence based practice all exhibited significant differences between groups.

Time to Completion and DPT Interest

The majority (73%) of therapists who reported DPTC either agree or strongly agree with the statement "Time to completion is/was an important factor in the decision to attain the DPT." The DPTI group reported a similar high number with 82.3% responding either agree or strongly agree with this statement. Conversely, the DPTNI group reported agree or strongly agree to this statement only 38.1% of the time, and were

far more likely than the other two groups to respond disagree or strongly disagree at 31.8%. This group also had a high percentage of neutral respondents with 30.1%. The calculated Pearson $\chi 2$ value, 89.63, N=528, p=.000 is significant both at the EWα and the PCα. Table 34 presents the crosstabs results.

Table 34 *Time to Completion * DPT Interest Crosstabs*

			TIME TO COMPLETTION					
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
DPT INTEREST	DPTC	Count	1	15	31	85	42	174
		% within DPT INTEREST	.6%	8.6%	17.8%	48.9%	24.1%	100.0%
		% within TIME TO COMPLETION	2.6%	20.5%	25.0%	41.7%	47.7%	33.0%
		% of Total	.2%	2.8%	5.9%	16.1%	8.0%	33.0%
	DPTNI	Count	38	53	86	83	26	286
		% within DPT INTEREST	13.3%	18.5%	30.1%	29.0%	9.1%	100.0%
		% within TIME TO COMPLETION	97.4%	72.6%	69.4%	40.7%	29.5%	54.2%

			TIME TO COMPLETTION					
		% of Total	7.2%	10.0%	16.3%	15.7%	4.9%	54.2%
	DPTI	Count	0	5	7	36	20	68
		% within DPT INTEREST	.0%	7.4%	10.3%	52.9%	29.4%	100.0%
		% within TIME TO COMPLETION	.0%	6.8%	5.6%	17.6%	22.7%	12.9%
		% of Total	.0%	.9%	1.3%	6.8%	3.8%	12.9%
Total		Count	39	73	124	204	88	528
		% within DPT INTEREST	7.4%	13.8%	23.5%	38.6%	16.7%	100.0%
		% within TIME TO COMPLETTION	100.%	100.%	100.%	100.%	100.%	100.%
		% of Total	7.4%	13.8%	23.5%	38.6%	16.7%	100.0%

Distance to Travel and DPT Interest

Analysis of distance to travel and DPT interest revealed that 73% of therapists with the DPT and 78.9% of the DPTI group responded agree or strongly agree with the statement “distance to travel is/would be an important factor in the decision to attain the DPT.” A much smaller percentage of the DPTNI group at 38.3% responded agree or

strongly agree with this statement, while 34.6% responded disagree or strongly disagree with 28.7% neutral. Distance to travel also produced significant differences between the DPT interest groups at the per comparison and the experiment wide alpha levels (χ^2=87.42, N=528, p=.000). The crosstabs are presented below in table 35.

Table 35 *Distance to Travel * DPT Interest Crosstabs*

			DISTANCE TO TRAVEL					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
DPT INTEREST	DPTC	Count	3	17	27	87	40	174
		% within DPT INTEREST	1.7%	9.8%	15.5%	50.0%	23.0%	100.0%
		% within DISTANCE TO TRAVEL	6.8%	20.7%	23.1%	44.6%	44.4%	33.0%
		% of Total	.6%	3.2%	5.1%	16.5%	7.6%	33.0%
	DPTNI	Count	40	59	82	78	27	286
		% within DPT INTEREST	14.0%	20.6%	28.7%	27.3%	9.4%	100.0%
		% within DISTANCE TO TRAVEL	90.9%	72.0%	70.1%	40.0%	30.0%	54.2%
		% of Total	7.6%	11.2%	15.5%	14.8%	5.1%	54.2%

			DISTANCE TO TRAVEL					Total
	DPTI	Count	1	6	8	30	23	68
		% within DPT INTEREST	1.5%	8.8%	11.8%	44.1%	33.8%	100.0%
		% within DISTANCE TO TRAVEL	2.3%	7.3%	6.8%	15.4%	25.6%	12.9%
		% of Total	.2%	1.1%	1.5%	5.7%	4.4%	12.9%
Total		Count	44	82	117	195	90	528
		% within DPT INTEREST	8.3%	15.5%	22.2%	36.9%	17.0%	100.0%
		% within DISTANCE TO TRAVEL	100.%	100.%	100.%	100.%	100.%	100.%
		% of Total	8.3%	15.5%	22.2%	36.9%	17.0%	100.0%

Colleague Support and DPT Interest

The crosstabs for colleague support are presented below in table 36. 43% of DPTC group and 51.5% of the DPTI group responded agree or strongly agree with the statement "Colleague support is/was an important factor in the decision to attain the DPT." Only 16.4% of the DPTNI group responded in kind to this question while 44.4%

responded disagree or strongly disagree with this statement. Colleague support was also found to be a significant factor for DPT interest with χ^2=71.42, N=528, p=.000.

Table 36 *Colleague Support * DPT Interest Crosstabs*

			COLLEAGUE SUPPORT					
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
DPT INTEREST	DPTC	Count	7	36	56	49	26	174
		% within DPT INTEREST	4.0%	20.7%	32.2%	28.2%	14.9%	100.0%
		% within COLLEAGUE SUPPORT	13.0%	27.1%	30.4%	43.4%	59.1%	33.0%
		% of Total	1.3%	6.8%	10.6%	9.3%	4.9%	33.0%
	DPTNI	Count	46	81	112	40	7	286
		% within DPT INTEREST	16.1%	28.3%	39.2%	14.0%	2.4%	100.0%
		% within COLLEAGUE SUPPORT	85.2%	60.9%	60.9%	35.4%	15.9%	54.2%
		% of Total	8.7%	15.3%	21.2%	7.6%	1.3%	54.2%
	DPTI	Count	1	16	16	24	11	68
		% within DPT	1.5%	23.5%	23.5%	35.3%	16.2%	100.0%

			COLLEAGUE SUPPORT					
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
		INTEREST						
		% within COLLEAGUE SUPPORT	1.9%	12.0%	8.7%	21.2%	25.0%	12.9%
		% of Total	.2%	3.0%	3.0%	4.5%	2.1%	12.9%
Total		Count	54	133	184	113	44	528
		% within DPT INTEREST	10.2%	25.2%	34.8%	21.4%	8.3%	100.0%
		% within COLLEAGUE SUPPORT	100.%	100.%	100.%	100.%	100.0%	100.%
		% of Total	10.2%	25.2%	34.8%	21.4%	8.3%	100.0%

Family Support and DPT Interest

The DPT group responded agree or strongly agree 67.8 percent of the time to the statement "Family support is/was an important factor in the decision to attain the DPT." The DPTI group also had a high number of positive responses to this question with 86% responding agree or strongly agree. DPTNI responded agree or strongly agree 34.3%,

29.7% neutral, and disagree and strongly disagree 36%. Family support had a reported p value of .000, χ^2=.99.47, N=528. The crosstabs analysis is presented in table 37.

Table 37 *Family Support * DPT Interest Crosstabs*

			FAMILY SUPPORT					
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
DPT INTEREST	DPTC	Count	4	19	33	60	58	174
		% within DPT INTEREST	2.3%	10.9%	19.0%	34.5%	33.3%	100.0%
		% within FAMILY SUPPORT	8.2%	23.2%	27.0%	39.2%	47.5%	33.0%
		% of Total	.8%	3.6%	6.3%	11.4%	11.0%	33.0%
	DPTNI	Count	43	60	85	65	33	286
		% within DPT INTEREST	15.0%	21.0%	29.7%	22.7%	11.5%	100.0%
		% within FAMILY SUPPORT	87.8%	73.2%	69.7%	42.5%	27.0%	54.2%
		% of Total	8.1%	11.4%	16.1%	12.3%	6.3%	54.2%
	DPTI	Count	2	3	4	28	31	68
		% within DPT	2.9%	4.4%	5.9%	41.2%	45.6%	100.0%

			FAMILY SUPPORT					
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
		INTEREST						
		% within FAMILY SUPPORT	4.1%	3.7%	3.3%	18.3%	25.4%	12.9%
		% of Total	.4%	.6%	.8%	5.3%	5.9%	12.9%
Total		Count	49	82	122	153	122	528
		% within DPT INTEREST	9.3%	15.5%	23.1%	29.0%	23.1%	100.0%
		% within FAMILY SUPPORT	100.%	100.%	100.%	100.%	100.%	100.%
		% of Total	9.3%	15.5%	23.1%	29.0%	23.1%	100.0%

Online Coursework and DPT Interest

The availability of online coursework was the next item assessed on the questionnaire. The majority of therapists in the DPTC group, 59%, and 91.1% of the DPTI group indicated agree or strongly agree with the statement "online coursework is desirable in choosing a DPT program." The DPTNI group had a much smaller value of

agree or strongly agree with this statement at 54.3%, but still the majority agreed overall with this statement. Similar to the other factors, significant differences existed between the DPT interest groups (χ^2=78.45, N=528, p=.000). Table 38 contains the crosstabs analysis.

Table 38 *Online Coursework * DPT Interest Crosstabs*

			ONLINE COURSEWORK					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
DPT INTEREST	DPTC	Count	20	22	28	51	53	174
		% within DPT INTEREST	11.5%	12.6%	16.1%	29.3%	30.5%	100.%
		% within ONLINE COURSEWORK	46.5%	45.8%	24.1%	25.2%	44.5%	33.0%
		% of Total	3.8%	4.2%	5.3%	9.7%	10.0%	33.0%
	DPTNI	Count	23	23	85	122	33	286
		% within DPT INTEREST	8.0%	8.0%	29.7%	42.7%	11.5%	100.%
		% within ONLINE COURSEWORK	53.5%	47.9%	73.3%	60.4%	27.7%	54.2%

			ONLINE COURSEWORK					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
		% of Total	4.4%	4.4%	16.1%	23.1%	6.3%	54.2%
	DPTI	Count	0	3	3	29	33	68
		% within DPT INTEREST	.0%	4.4%	4.4%	42.6%	48.5%	100.%
		% within ONLINE COURSEWORK	.0%	6.3%	2.6%	14.4%	27.7%	12.9%
		% of Total	.0%	.6%	.6%	5.5%	6.3%	12.9%
Total		Count	43	48	116	202	119	528
		% within DPT INTEREST	8.1%	9.1%	22.0%	38.3%	22.5%	100.%
		% within ONLINE COURSEWORK	100.0%	100.0%	100.0%	100.0%	100.0%	100.%
		% of Total	8.1%	9.1%	22.0%	38.3%	22.5%	100.%

Evidence Based Practice and DPT Interest

The final factor analyzed was the ability to improve evidence based practice. A large majority of the DPTC group at 94.4% and the DPTI group at 80.8% responded agree or strongly agree with the statement "the DPT will assist in gaining skills for evidence based practice." Only 38.1% of the DPTNI group responded agree or strongly agree with this statement, while 38.8% were neutral, and 23% disagreed or strongly disagreed that the DPT would better prepare them for evidence based practice. This factor also produced a significant chi-square result of χ^2=198.02, N=528, p=.000. Table 39 presents the crosstabs.

Table 39 *Evidence Based Practice * DPT Interest Crosstabs*

			EVIDENCE BASED PRACTICE					Total
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
DPT INTEREST	DPTC	Count	0	1	9	89	75	174
		% within DPT INTEREST	.0%	.6%	5.2%	51.1%	43.1%	100.0%
		% within EVIDENCE BASED PRACTICE	.0%	2.4%	7.0%	39.0%	75.0%	33.0%
		% of Total	.0%	.2%	1.7%	16.9%	14.2%	33.0%
	DP	Count	29	37	111	96	13	286

			EVIDENCE BASED PRACTICE					
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
		% within DPT INTEREST	10.1%	12.9%	38.8%	33.6%	4.5%	100.0%
		% within EVIDENCE BASED PRACTICE	93.5%	90.2%	86.7%	42.1%	13.0%	54.2%
		% of Total	5.5%	7.0%	21.0%	18.2%	2.5%	54.2%
	DPT1	Count	2	3	8	43	12	68
		% within DPT INTEREST	2.9%	4.4%	11.8%	63.2%	17.6%	100.0%
		% within EVIDENCE BASED PRACTICE	6.5%	7.3%	6.3%	18.9%	12.0%	12.9%
		% of Total	.4%	.6%	1.5%	8.1%	2.3%	12.9%
Total		Count	31	41	128	228	100	528
		% within DPT INTEREST	5.9%	7.8%	24.2%	43.2%	18.9%	100.0%
		% within	100.%	100.%	100.%	100.%	100.%	100.%

		EVIDENCE BASED PRACTICE					Total
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
	EVIDENCE BASED PRACTICE						
	% of Total	5.9%	7.8%	24.2%	43.2%	18.9%	100.0%

Summary of Demographic Factors and DPT Interest

Of the thirteen demographic factors analyzed for DPT interest, six (age, years experience, APTA membership status, administrative status, clinical instructor status, and practice setting) were significant factors for DPT interest at both the experiment wide and per comparison alpha levels. Gender, entry-level PT degree, employment status and primary area of practice were significant factors at the EWα however, not significant at the PCα. Three factors, physician owned practice status, highest earned degree and income were not significant factors for DPT interest. Six factors which had been identified in prior studies as influencing the DPT decision were also analyzed with chi-square. Time to completion, distance to travel, colleague support, family support, availability of online coursework, and ability to improve evidence based practice were all significant factors for DPT interest at both EWα and PCα.

Achievement Goal Theory and DPT Interest

Research question three asked; how does motivation differ for therapists who return for the DPT compared with the therapists who do not return for the DPT? The

theoretical framework to answer this question was the achievement goal theory and the tool was a modified version of the achievement goal questionnaire. The achievement goal questionnaire is a twelve question survey consisting of three questions each in four separate categories. The categories are mastery approach, mastery avoidance, performance approach and performance avoidance. Achievement goal theory is described in detail in the review of the literature, chapter two. Analysis of variance and discriminate analysis were performed to examine whether the three DPT interest groups differed in achievement goal orientation.

Mastery Approach and DPT Interest

Analysis of variance was completed for mastery approach by summing the three mastery approach questions, items 1, 3 and 7 on the survey (Appendix D):

My goal is to completely master the material required of a physical therapist.

I want to learn as much as possible.

It is important for me to understand the content of physical therapy as thoroughly as possible.

Descriptive statistics are presented in table 40. Significance was set at .05, the experiment wide alpha level. A Bonferoni correction was made for a per comparison alpha level. Because there are four comparisons being made, the calculated per comparison alpha level would be .05/4 or .013.

Table 40 *Mastery Approach * DPT Interest Descriptive Statistics*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
DPTC	174	13.5632	1.68435	.12769	13.3112	13.8152	3.00	15.00
DPTNI	286	12.0804	2.21569	.13102	11.8225	12.3383	3.00	15.00
DPTI	68	13.3824	1.46633	.17782	13.0274	13.7373	8.00	15.00
Total	528	12.7367	2.09110	.09100	12.5580	12.9155	3.00	15.00

The summed mean score of the DPTC group for the three mastery approach questions was 13.56, or 4.52 per question. The Likert category for this response would be half way between agree and strongly agree. The DPTI group also scored high for mastery approach with a summed mean score of 13.38. The mean for this per question would be 4.46, near the half-way point of agree and strongly agree. The DPTNI group scored somewhat lower with a summed score of 12.08. The three question average for this group is right at the Likert agree numerical value at 4.02. Table 41 presents the analysis of variance for the summed mastery approach questions for DPT interest.

Table 41 *ANOVA Mastery Approach * DPT Interest*

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	270.393	2	135.197	34.896	.000
Within Groups	2034.014	525	3.874		
Total	2304.407	527			

The results of the ANOVA indicate significant differences between the three DPT interest groups with an F value of 34.90, p .000. Post-hoc testing utilizing Tukey's test was performed to determine which groups had significant differences. Post-hoc results are presented below in table 42. Significant differences exist between the DPTC group and the DPTNI group and the DPTI group and the DPTNI group for the mastery approach total score. There was not a significant difference between the DPTC and the DPTI groups.

Table 42 *Tukey Post-hoc Test Mastery Approach Total* DPT Interest*

(I) DPT Interest	(J) DPT Interest	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Upper Bound	Lower Bound
DPTC	DPTNI	1.48280(*)	.18924	.000	1.0380	1.9276
	DPTI	.18087	.28150	.797	-.4808	.8425
DPTNI	DPTC	-1.48280(*)	.18924	.000	-1.9276	-1.0380
	DPTI	-1.30193(*)	.26556	.000	-1.9261	-.6778
DPTI	DPTC	-.18087	.28150	.797	-.8425	.4808
	DPTNI	1.30193(*)	.26556	.000	.6778	1.9261

* The mean difference is significant at the .05 level.

Individual item analysis was also performed for each of the three mastery approach questions. The mean score for mastery approach statement one, "my goal is to completely master the material required of a physical therapist", was 4.32 ± .81 for the DPTC group, 4.25 ± .63 for the DPTI group and 3.83 ± .97 for the DPTNI group. Analysis of variance revealed an F value of 18.97, p=.000. All three DPT interest groups scored positively for mastery approach goal one with DPTNI approaching agree on the Likert scale, and DPTC and DPTI above the value of agree.

Mastery approach statement two is "I want to learn as much as possible". The means for this question were similar to mastery approach statement one with DPTC at 4.69 ± .57, DPTI at 4.6 ± .58, and DPTNI at 4.17 ± .82. All three groups scored positively for mastery approach statement two with DPTC and DPTI near strongly agree

and DPTNI near agree for this statement. Table 43 presents the descriptive statistics for the mastery approach statements.

Table 43 *Mastery Approach Individual Descriptive Statistics*

		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
MASTERY APPROACH1	DPTC	174	4.32	.810	4.19	4.44
	DPTNI	286	3.83	.968	3.71	3.94
	DPTI	68	4.25	.632	4.10	4.40
	Total	528	4.04	.911	3.96	4.12
MASTERY APPROACH2	DPTC	174	4.69	.565	4.61	4.77
	DPTNI	286	4.17	.815	4.08	4.27
	DPTI	68	4.60	.577	4.46	4.74
	Total	528	4.40	.753	4.34	4.46
MASTERY APPROACH3	DPTC	174	4.56	.640	4.46	4.65
	DPTNI	286	4.08	.823	3.98	4.18
	DPTI	68	4.53	.657	4.37	4.69
	Total	528	4.30	.782	4.23	4.36

Mastery approach statement three, "It is important for me to understand the content of physical therapy as thoroughly as possible" produced nearly identical results for DPTC and DPTI groups (DPTC= 4.56 ± .64, DPTI= 4.53 ± 6.57). DPTNI was lower with a mean value of 4.08 ± .82. Again, all three groups scored positively for mastery approach statement three, with DPTC and DPTI closer to strongly agree and DPTNI at the level of agree.

Analysis of variance (table 44) revealed that significant differences exist for all three mastery approach statements. All three statements calculated to similar F values of 14.73, 15.95, and 14.45 for mastery approach one two and three respectively. The p value was calculated at .000 for all three comparisons.

Table 44 *Mastery Approach Individual Items * DPT Interest*

		Sum of Squares	Df	Mean Square	F	Sig.
MASTERY APPROACH1	Between Groups	29.460	2	14.730	18.971	.000
	Within Groups	407.624	525	.776		
	Total	437.083	527			
MASTERY APPROACH2	Between Groups	31.900	2	15.950	31.389	.000
	Within Groups	266.780	525	.508		
	Total	298.680	527			
MASTERY APPROACH3	Between Groups	28.892	2	14.446	25.883	.000
	Within Groups	293.017	525	.558		
	Total	321.909	527			

Tukey post hoc testing was performed to determine which groups were significantly different. Each mastery approach statement was similar to the summed total of mastery approach items with DPTC statistically equal to DPTI and DPTNI significantly lower. All three groups scored positively on the mastery approach questions, but DPTC and DPTI were significantly higher than DPTNI. The results of the Tukey post-hoc analysis are below in table 45.

Table 45 *Tukey Post-hoc Test Mastery Approach Individual Items * DPT Interest*

Dependent Variable	(I) DPTINTEREST	(J) DPTINTEREST	Mean Difference (I-J)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
MASTERY APPROACH1	DPTC	DPTNI	.491*	.000	.29	.69
		DPTI	.066	.859	-.23	.36
	DPTNI	DPTC	-.491*	.000	-.69	-.29
		DPTI	-.425*	.001	-.70	-.15
	DPTI	DPTC	-.066	.859	-.36	.23
		DPTNI	.425*	.001	.15	.70
MASTERY APPROACH2	DPTC	DPTNI	.515*	.000	.35	.68
		DPTI	.087	.672	-.15	.33
	DPTNI	DPT	-.515*	.000	-.68	-.35
		DPTI	-.428*	.000	-.65	-.20
	DPTI	DPTC	-.087	.672	-.33	.15
		DPTNI	.428*	.000	.20	.65
MASTERY APPROACH3	DPTC	DPTNI	.477*	.000	.31	.65
		DPTI	.028	.963	-.22	.28
	DPTNI	DPTC	-.477*	.000	-.65	-.31
		DPTI	-.449*	.000	-.69	-.21
	DPTI	DPTC	-.028	.963	-.28	.22
		DPTNI	.449*	.000	.21	.69

*. The mean difference is significant at the 0.05 level.

Mastery Avoidance and DPT Interest

The next category analyzed was mastery avoidance. The three mastery avoidance questions are items 5, 9 and 11 on the survey (Appendix D):

My goal is to avoid learning less than I possibly could.

I want to avoid learning less than it is possible to learn.

It is important for me to avoid an incomplete understanding of physical therapy material.

The responses for the mastery avoidance questions were summed and an ANOVA was computed for the three DPT interest categories. The descriptive statistics are presented in table 46. The mean summed score for the DPTC group was 11.13, or an average of 3.71 per question. The corresponding Likert category would be below the agree response, toward neutral. The DPTNI group responded with a mean summed score of 11.00 for the mastery avoidance questions. The mean per question response would be 3.67, similar to the DPTC group. The DPTI group mean summed score was 10.59, or 3.53 per question.

Table 46 *Descriptive Statistics Mastery Avoidance Total* DPT Interest*

	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
DPTC	174	11.1322	3.18773	10.6552	11.6092
DPTNI	286	11.0000	2.71707	10.6838	11.3162
DPTI	68	10.5882	3.04805	9.8505	11.3260
Total	528	10.9905	2.92180	10.7407	11.2403

Table 47 presents the analysis of variance which did not show a significant difference between the three groups with F=.85 and p=.428. There was not a difference in mastery avoidance motivation for the three DPT groups with all three groups scoring between neutral and agree on the Likert scale. Post-hoc testing was not necessary as significant differences were not found.

Table 47 *ANOVA Mastery Avoidance * DPT Interest*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	14.522	2	7.261	.850	.428
Within Groups	4484.430	525	8.542		
Total	4498.953	527			

The three mastery avoidance questions were also analyzed individually for DPT interest. Mastery avoidance question one, "My goal is to avoid learning less than I possibly could," had calculated means of 3.41 ± 1.45 for DPTC, 3.43 ± 1.27 for DPTNI and 3.25 ± 1.27 for DPTI. All three groups were near neutral with DPTI slightly lower on the Likert scale than DPTNI and DPTC. Descriptive statistics for the mastery avoidance questions are presented in table 48.

Table 48 *Mastery Avoidance Individual Descriptive Statistics*

		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
MASTERY AVOIDANCE1	DPTC	174	3.41	1.451	3.20	3.63
	DPTNI	286	3.43	1.271	3.29	3.58
	DPTI	68	3.25	1.274	2.94	3.56
	Total	528	3.40	1.332	3.29	3.52
PERFORMANCE AVOIDANCE1	DPTC	174	4.11	1.002	3.97	4.26
	DPTNI	286	3.91	1.030	3.79	4.03
	DPTI	68	3.96	1.057	3.70	4.21
	Total	528	3.98	1.027	3.89	4.07
MASTERY AVOIDANCE2	DPTC	174	3.60	1.267	3.41	3.79
	DPTNI	286	3.65	1.032	3.53	3.77
	DPTI	68	3.47	1.126	3.20	3.74
	Total	528	3.61	1.126	3.51	3.70
MASTERY AVOIDANCE3	DPTC	174	4.12	1.016	3.97	4.27
	DPTNI	286	3.92	.924	3.81	4.03
	DPTI	68	3.87	1.105	3.60	4.14
	Total	528	3.98	.983	3.90	4.06

Analysis of variance was computed for the three mastery avoidance questions. The calculated values, F=.53, p=.59, F=.68, p =.51, F=2.8, p =.062, revealed that significant differences did not exist for the three DPT interest groups for mastery avoidance. Mastery avoidance was not a factor for DPT interest. Table 49 presents the analysis of variance for the mastery avoidance items.

Table 49 *ANOVA Mastery Avoidance Items * DPT Interest*

		Sum of Squares	df	Mean Square	F	Sig.
MASTERY AVOIDANCE1	Between Groups	1.879	2	.940	.529	.590
	Within Groups	933.195	525	1.778		
	Total	935.074	527			
MASTERY AVOIDANCE2	Between Groups	1.734	2	.867	.683	.505
	Within Groups	666.112	525	1.269		
	Total	667.847	527			
MASTERY AVOIDANCE3	Between Groups	5.346	2	2.673	2.788	.062
	Within Groups	503.425	525	.959		
	Total	508.771	527			

Performance Approach and DPT Interest

Performance approach questions were analyzed following the same procedure listed above. The performance approach questions, items 2, 4 and 8 from the survey (Appendix D) were:

I want to do well compared to other physical therapists.

It is important for me to do better than other physical therapists.

My goal is to perform better than other physical therapists.

Descriptive statistics are presented in table 50. The mean summed score for the DPTC group was 12.10 for the three performance approach questions. The per question mean is 4.03, right at the agree mark for the Likert scale for these questions. The DPTNI group scored 10.49 for the summed mean and 3.50 for the individual question mean in this category, half way between neutral and agree. The DPTI group reported a mean summed

score of 11.31 or 3.77 per question. This response would correspond to below the response of agree in the performance approach category.

Table 50 *Descriptive Statistics Performance Approach Total * DPT Interest*

	N	Mean	Std. Deviation	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
DPTC	174	12.0977	2.36709	11.7435	12.4519
DPTNI	286	10.4860	2.33317	10.2145	10.7576
DPTI	68	11.3088	2.15972	10.7861	11.8316
Total	528	11.1231	2.43200	10.9152	11.3310

The F value was calculated at 26.28, p = .000 (table 51). Performance approach was a factor for DPT interest. Tukey post-hoc testing was performed to determine where significant differences existed. Table 52 presents the post-hoc testing.

Table 51 *ANOVA Performance Approach * DPT Interest*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	283.700	2	141.850	26.284	.000
Within Groups	2833.298	525	5.397		
Total	3116.998	527			

Significant difference was achieved for all three groups at the .05 level. This is the experiment wide alpha level. Applying a Bonferroni correction to reduce the risk of type I error would create a significance level of .013 as discussed earlier. At this per comparison alpha level, significant differences exist only for the DPTC group and the DPTNI group. The significance for the DPTNI group compared to the DPTI group calculates to .024, and the significance for the DPTC group compared to the DPTI group calculates to .047. The Bonferoni correction is considered a conservative method of reducing type I error, so the data was presented according to both the experiment wide and the per comparison alpha levels.

Table 52 *Tukey Post-hoc Test Performance Approach * DPT Interest*

(I) DPT Interest	(J) DPT Interest	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Upper Bound	Lower Bound
DPTC	DPTNI	1.61169(*)	.22335	.000	1.0867	2.1366
	DPTI	.78888(*)	.33223	.047	.0080	1.5698
DPTNI	DPTC	-1.61169(*)	.22335	.000	-2.1366	-1.0867
	DPTI	-.82281(*)	.31342	.024	-1.5595	-.0861
DPTI	DPTC	-.78888(*)	.33223	.047	-1.5698	-.0080
	DPTNI	.82281(*)	.31342	.024	.0861	1.5595

* The mean difference is significant at the .05 level.

Individual performance approach items were also compared to DPT interest. Descriptive statistics are presented in table 53. Performance approach statement one, "I want to do well compared to other physical therapists," revealed mean scores of 4.51 ± .703 for DPTC, 4.06 ± .777 for DPTNI and 4.28 ± .73 for DPTI. All three groups responded positively to this statement, with DPTC and DPTI higher than DPTNI which was right at the level of agree. Performance approach statement two, "It is important for me to do better than other physical therapists," produced mean scores of 3.79 ± .995 for DPTC, 3.18 ± .991 for DPTNI, and 3.43 ± .886 for DPTI. Performance approach statement two produced neutral responses from the DPTNI group and responses between neutral and agree for the other two groups. "My goal is to perform better than other physical therapists" was performance approach statement three. Mean responses for this

statement were 3.8 ± 1.04 for DPTC, 3.25 ± 1.00 for DPTNI and 3.60 ± .95 for DPTI. Responses to performance approach item three were close to neutral for DPTC and nearer to agree for DPTC and DPTI.

Table 53 *Performance Approach Items Descriptive Statistics*

		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
PERFORMANCEAPPROACH1	DPTC	174	4.51	.703	4.40	4.61
	DPTNI	286	4.06	.777	3.97	4.15
	DPTI	68	4.28	.730	4.10	4.46
	Total	528	4.23	.773	4.17	4.30
PERFORMANCEAPPROACH2	DPTC	174	3.79	.995	3.64	3.94
	DPTNI	286	3.18	.991	3.06	3.29
	DPTI	68	3.43	.886	3.21	3.64
	Total	528	3.41	1.016	3.32	3.50
PERFORMANCEAPPROACH3	DPTC	174	3.80	1.035	3.65	3.96
	DPTNI	286	3.25	1.001	3.13	3.36
	DPTI	68	3.60	.949	3.37	3.83
	Total	528	3.48	1.036	3.39	3.57

Analysis of variance is presented in table 54. Performance approach statement one was a factor for DPT interest with f=19.43, p=.000. Performance approach item two was also significant, with F=20.92 and p= .000. Item three was a significant factor for DPT interest (F=17.16, p=.000).

Table 54 *ANOVA Performance Approach Individual Items * DPT Interest*

		Sum of Squares	df	Mean Square	F	Sig.
PERFORMANCE APPROACH1	Between Groups	21.704	2	10.852	19.433	.000
	Within Groups	293.175	525	.558		
	Total	314.879	527			
PERFORMANCE APPROACH2	Between Groups	40.146	2	20.073	20.923	.000
	Within Groups	503.670	525	.959		
	Total	543.816	527			
PERFORMANCE APPROACH3	Between Groups	34.717	2	17.359	17.162	.000
	Within Groups	531.010	525	1.011		
	Total	565.727	527			

Post-hoc testing was performed to assess which DPT interest groups were different. Table 55 contains the post-hoc results. Performance approach statement one had significant difference for DPTC and DPTNI at the .000 level. DPTC was not significantly different from DPTI and DPTI was not significantly different from DPTNI. Statement two had significantly different groups for DPTC compared to DPTNI (p=.000) and DPTI (p=.028). DPTI was not significantly different from DPTC (p=.087) or DPTNI (p=.075). Performance approach item three had significant differences DPTNI compared to DPTC (p=.000) and DPTI (p=.025). However, DPTC was not different than DPTI.

Table 55 *Tukey Post-hoc Test Performance Approach Individual Items * DPT Interest*

Dependent Variable	(I) DPTINTEREST	(J) DPTINTEREST	Mean Difference (I-J)	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
PERFORMANCE APPROACH1	DPTC	DPTNI	.446*	.000	.28	.62
		DPTI	.226	.087	-.02	.48
	DPTNI	DPTC	-.446*	.000	-.62	-.28
		DPTI	-.220	.075	-.46	.02
	DPTI	DPTC	-.226	.087	-.48	.02
		DPTNI	.220	.075	-.02	.46
PERFORMANCE APPROACH2	DPTC	DPTNI	.609*	.000	.39	.83
		DPTI	.361*	.028	.03	.69
	DPTNI	DPTC	-.609*	.000	-.83	-.39
		DPTI	-.248	.146	-.56	.06
	DPTI	DPTC	-.361*	.028	-.69	-.03
		DPTNI	.248	.146	-.06	.56
	DPTI	DPTC	-.159	.523	-.50	.19
		DPTNI	.050	.930	-.27	.38
PERFORMANCE APPROACH3	DPTC	DPTNI	.556*	.000	.33	.78
		DPTI	.202	.341	-.14	.54
	DPTNI	DPTC	-.556*	.000	-.78	-.33
		DPTI	-.355*	.025	-.67	-.04
	DPTI	DPTC	-.202	.341	-.54	.14
		DPTNI	.355*	.025	.04	.67
*. The mean difference is significant at the 0.05 level.						

Performance Avoidance and DPT Interest

The final category for these comparisons was performance avoidance. Data from the three performance avoidance items were summed and descriptive statistics and analysis of variance were calculated. Descriptive statistics are presented in table 56. The performance avoidance questions, items 6, 10 and 12 from the survey (Appendix D) are listed below:

It is important for me to avoid doing poorly compared to other physical therapists.

My goal is to avoid performing worse than other physical therapists.

I want to avoid performing poorly compared to others.

The sums of the DPTC, DPTNI and the DPTI groups were all similar at 11.67, 11.51 and 11.33 respectively. The per question average for the three groups would be 3.89 for the DPTC group, 3.84 for the DPTNI group, and 3.78 for the DPTI group. The mean scores for the three groups would compute to the level of agree for the three performance avoidance questions.

Table 56 *Descriptive Statistics Performance Avoidance Total * DPT Interest*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
DPTC	174	11.6667	3.11129	.23587	11.2011	12.1322	3.00	15.00
DPTNI	286	11.5105	2.75647	.16299	11.1897	11.8313	3.00	15.00
DPTI	68	11.3382	3.12721	.37923	10.5813	12.0952	3.00	15.00
Total	528	11.5398	2.92252	.12719	11.2899	11.7896	3.00	15.00

Analysis of variance (table 57) was calculated with F= .339, p= .712, far above the threshold of both the experiment wide and per comparison alpha levels. Statistical differences do not exist for the three DPT groups for the Mastery Avoidance questions. Post–hoc testing was not indicated as no differences were found.

Table 57 *ANOVA Performance Avoidance Total * DPT Interest*

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	5.809	2	2.904	.339	.712
Within Groups	4495.356	525	8.563		
Total	4501.165	527			

Individual item analysis was also computed for the three performance avoidance questions. Descriptive statistics are presented in table 58. The means for performance avoidance item one, "It is important for me to avoid doing poorly compared to other physical therapists", were all near neutral at 3.41 ± 1.45 for DPTC, 3.43 ± 1.27 for DPTNI and 3.25 ± 1.27 for DPTI. Mean scores for item two, "My goal is to avoid performing worse than other physical therapists", were 3.60 ± 1.27 for DPTC, 3.65 ± 1.03 for DPTNI and 3.47 ± 1.13 for DPTI. All DPT interest groups scored between agree and neutral for this item. Performance avoidance item three, "I want to avoid performing poorly compared to others", had nearly identical responses among the three groups with means and SD's of 3.99 ± 1.07, 3.92 ± .94, and 3.9 ± 1.02 for the DPTC, DPTNI and DPTI groups respectively. All three groups were near the agree threshold for this item.

Table 58 *Descriptive Statistics Individual Performance Avoidance Items * DPT Interest*

		N	Mean	Std. Deviation	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
PERFORMANCE AVOIDANCE1	DPT	174	4.11	1.002	3.97	4.26
	Not Interested	286	3.91	1.030	3.79	4.03
	Interested	68	3.96	1.057	3.70	4.21
	Total	528	3.98	1.027	3.89	4.07
PERFORMANCE AVOIDANCE2	DPT	174	3.68	1.207	3.50	3.86
	Not Interested	286	3.68	1.093	3.55	3.81
	Interested	68	3.54	1.263	3.24	3.85
	Total	528	3.66	1.153	3.56	3.76
PERFORMANCE AVOIDANCE3	DPT	174	3.99	1.072	3.83	4.15
	Not Interested	286	3.92	.940	3.81	4.03
	Interested	68	3.90	1.024	3.65	4.14
	Total	528	3.94	.995	3.85	4.02

Analysis of variance for the individual performance approach items are presented in table 59. None of the three performance avoidance items had significant results with F=2.28, p=.103, F=.40, p=.67 and F= .40, p=.67 for performance avoidance items one, two and three.

Table 59 *ANOVA Performance Avoidance Individual Items * DPT Interest*

		Sum of Squares	df	Mean Square	F	Sig.
PERFORMANCE AVOIDANCE1	Between Groups	4.791	2	2.395	2.282	.103
	Within Groups	551.020	525	1.050		
	Total	555.811	527			
PERFORMANCE AVOIDANCE2	Between Groups	1.066	2	.533	.400	.670
	Within Groups	699.250	525	1.332		
	Total	700.316	527			
PERFORMANCE AVOIDANCE3	Between Groups	.801	2	.400	.403	.668
	Within Groups	521.260	525	.993		
	Total	522.061	527			

Summary of Achievement Goal Theory and DPT Interest

Both of the approach orientations (mastery and performance) were factors for DPT interest. The DPTC and DPTI groups scored statistically similar for the mastery approach total score and the individual mastery approach questions. DPTC and DPTI were significantly higher than DPTNI for mastery approach. Performance approach total score had three significantly different groups with DPTC higher than DPTI, and DPTI higher than DPTNI. The individual items for performance approach varied slightly with items one and three having similar responses for DPTC and DPTI, both greater than DPTNI. Analysis of item two revealed that DPTI and DPTNI were similar in response, significantly lower than DPTC. The avoidance orientations (mastery and approach) were not significantly different for the three DPT interest groups.

Discriminant Analysis of the Achievement Goal Questionnaire

Analysis of the modified achievement goal questionnaire was computed utilizing discriminate analysis. The twelve item questionnaire contains three questions in each of four categories; mastery approach, mastery avoidance, performance approach and performance avoidance. The totals were summed in each group and compared to the three DPT interest groups. The overall Wilk's lambda was significant, indicating that overall the modified version of the AGQ differentiated among the three DPT interest groups. However, the residual Wilk's lambda was not significant, indicating there was no significant difference in AGQ scores for the three DPT groups once the effects of the first discriminate function had been removed. The standardized coefficients and correlations of predictor variables are presented in table 60 to explain the discriminant functions. The strongest relationship for discriminant function one is for Mastery Approach total, followed by Performance Approach total. Mastery Avoidance and Performance Avoidance had very weak correlations with discriminate function 1. Moderate positive correlations existed for discriminate function two with Performance Approach total, Mastery Avoidance total and Performance Avoidance total, while Mastery Approach total produced a negative correlation with discriminate function two. Again, function one produced a significant Wilk's lambda result while function two did not. Since the correlations that existed for discriminant function one were both of the approach categories, discriminant function one was named Approach. Discriminant function two was named Avoidance because of the relatively stronger correlations that existed with the avoidance categories compared to function one.

Table 60 *Standardized Coefficients and Correlations of Predictor Variables with the Two Discriminant Functions*

	Correlation Coefficients with Discriminate Function		Standardized Coefficients for Discriminate Functions	
Predictors	Function 1	Function 2	Function 1	Function 2
Mastery Approach Total	.827	-.231	.678	-.742
Performance Approach Total	.705	.629	.661	.905
Mastery Avoidance Total	.010	.582	-.254	.697
Performance Avoidance Total	.086	.393	-.284	-.372

Examination of the means (table 61) provides insight into the differences between groups. Table 59 contains the group statistics. The DPTC group mean for mastery approach total was 13.56 compared to 13.38 for the DPTI group and 12.08 for the DPTNI group. Prior analysis of variance testing determined that the DPTNI group was significantly different from both of the other two groups, but the DPTC and DPTI groups were not significantly different. Means for performance approach were 12.10 for the DPTC group, 11.31 for the DPTI group and 10.49 for the DPTNI group. Again, the DPTNI group was significantly different from the other two groups while the DPTC and DPTI groups were similar through prior analysis of variance testing. The means for the mastery avoidance and performance avoidance groups were similar and not significantly different for the three DPT groups. The means on the discriminate functions are consistent with the correlations for the discriminate functions in that the two approach goals were better predictors of DPT interest than the two avoidance goals.

Table 61 *Discriminant Analysis Group Means*

DPT INTEREST		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
DPTC	Mastery Approach Total	13.5632	1.68435	174	174.000
	Mastery Avoidance Total	11.1322	3.18773	174	174.000
	Performance Approach Total	12.0977	2.36709	174	174.000
	Performance Avoidance total	11.7874	2.83978	174	174.000
DPTNI	Mastery Approach Total	12.0804	2.21569	286	286.000
	Mastery Avoidance Total	11.0000	2.71707	286	286.000
	Performance Approach Total	10.4860	2.33317	286	286.000
	Performance Avoidance Total	11.5000	2.65270	286	286.000
DPTI	Mastery Approach Total	13.3824	1.46633	68	68.000
	Mastery Avoidance Total	10.5882	3.04805	68	68.000
	Performance Approach Total	11.3088	2.15972	68	68.000
	Performance Avoidance Total	11.3971	2.97321	68	68.000
Total	Mastery Approach Total	12.7367	2.09110	528	528.000

DPT INTEREST		Mean	Std. Deviation	Valid N (listwise)	
	Mastery Avoidance Total	10.9905	2.92180	528	528.000
	Performance Approach Total	11.1231	2.43200	528	528.000
	Performance Avoidance Total	11.5814	2.75657	528	528.000

As a predictor for DPT interest, the modified AGQ was able to correctly classify 61.2% of the cases. The leave one out technique was used to compute how well this classification system would accurately predict a new sample. The estimated percentage of physical therapists that would be correctly grouped by the AGQ into DPT interest groups would be 61.2%.

Summary of Discriminant Analysis

The strongest predictors for DPT interest were the mastery approach questions followed by the performance approach items. Mastery avoidance and performance avoidance had weak correlations for discriminant functions. The modified version of the AGQ was able to correctly predict DPT interest 61.2% of the time for the three DPT interest groups identified. DPTC and DPTI were very similar in many of the responses. Combining DPTC and DPTI into one group improves the AGQ's ability to correctly predict group membership to 68%, making it a moderate predictor for group membership.

DPT Interest and Attitudes

There were also four items on the questionnaire that were not in Likert form. These questions were added to confirm interest and attitudes toward the DPT. Chi-square

analysis and crosstabulations were used to asses if differences existed between the three DPT groups. All four questions showed significant differences for the three DPT groups at the .000 level. Each of the four questions begins with the phrase, which of the following statements best describes your interest or attitudes toward the DPT. Each question was followed by a list of several responses that were also previously assessed with the Likert scale, as well as a statement that "none of the above describe my interest in the DPT" and "I am not interested in the DPT." These questions are items 31-35 on the questionnaire in appendix D.

For the first two questions regarding interest in the DPT, the DPTC group responded in high percentages for the intrinsic factors listed. Professional development (43%), increased knowledge (36%), and autonomous practice (27%) were identified as important factors by the DPTC group in the first two items. The DPTI group responded similarly to these items with scores of 38% for professional development, 32% for increased knowledge, and 24% for autonomous practice. Over 75% of the DPTNI group responded not interested for both questions about the DPT. Only 7% or less of the DPTNI group responded in any of the eight intrinsic or extrinsic categories presented.

The last two questions on the survey were termed attitudes for the DPT and listed several response options which had been identified as factoring into physical therapists' decisions regarding the DPT. A high percentage (39%) of the DPTC group identified family support as an important factor in the DPT decision. 32% identified the curriculum as a factor, 25% chose time to degree as the primary factor, and 20% chose proximity to home as the primary factor in choosing a DPT program. A relatively low score for the DPTC group was cost at 13%. This contrasts with the DPTI group which identified cost

as a factor 34% of the time. A high percentage of DPTI respondents also identified family support (43%), employer support (27%), choice of courses (27%), and time to degree (21%) as important factors when choosing a DPT degree. The DPTNI group responded "no interest" over 67% of the time for both questions. The only other categories over 10% were family support at 10% and cost at 13%. Both the DPTC and DPTNI group responded that cost would be a factor in the DPT decision 13% of the time.

Summary of Chapter 4

This chapter presented the results from data analysis. Specifically, analysis of variance was computed to examine the relationship of intrinsic and extrinsic items and DPT interest. The six extrinsic motivation factors were found to be significant factors for DPT interest with the DPTC group higher in extrinsic motivation than DPTNI for all factors. Three factors, career advancement, prestige and direct access, had DPTC scoring significantly higher than DPTI. Three other factors, increased salary, professional image, and insurance reimbursement, had similar values for DPTC and DPTI. Similar results were obtained for the intrinsic factors analyzed. Total intrinsic score was higher for DPTC than DPTI, and DPTI was higher than DPTNI. The individual items followed the same pattern for four of the six items, professional development, improved clinical skills, autonomous practice, and personal goals. DPTC and DPTI were similar in response and both significantly higher than DPTNI for the item "improve knowledge base. The final intrinsic item, ability to perform research showed only differences between DPTC and DPTNI. The other comparisons for intrinsic item six showed no difference.

Chi-square analysis was used to examine the relationships of demographic variables on DPT interest. Of the thirteen demographic variables, ten were identified as

factors for DPT interest. Entry level PT degree, age, years experience, APTA membership status, administrative status, clinical instructor status, gender, employment status, practice setting, primary area of practice, and highest earned degree were all significant factors for DPT interest, while income, highest earned degree and physician owned practice were not.

Achievement goal theory was analyzed for DPT interest using analysis of variance. Mastery approach and performance approach were found to be factors for DPT interest with DPTC and DPTI higher in the approach orientations than DPTNI. Mastery and performance avoidance were not significant factors for DPT interest. Discriminant analysis was used to assess the ability of the achievement goal questionnaire to classify DPT interest. The AGQ was able to correctly predict group membership 61.2%% for the three group model presented (DPTC, DPTI, DPTNI). DPTC and DPTI scored similarly for most of the achievement goal questions. Combining these groups and analyzing the AGQ again, it was found to be 68% accurate in predicting membership for the two groups (DPTC-DPTI, DPTNI)

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this study was to examine the motivation for physical therapists to return to school for the doctorate of physical therapy. A survey was constructed utilizing the Achievement Goal Theory as a paradigm to examine the motivation of physical therapists. In addition, questions were also asked about intrinsic and extrinsic factors that had been determined in prior studies to have an effect on this decision. The study included additional demographic variables such as age, gender, entry-level degree and years of practice.

Chapter one presented a statement of the problem and the theoretical framework that would be used to examine the motivation of physical therapists to attain the DPT. It was hypothesized that three separate groups would emerge; those who already have the DPT, those not interested in the DPT and those who are interested, but had not yet made the commitment to return to school for the DPT. It was also hypothesized that these three groups would be motivated by different things. Chapter two presented a literature review of motivational theory, including intrinsic and extrinsic motivation, achievement goal theory, self-efficacy theory, and locus of control theory. Chapter three described the development of the achievement goal questionnaire and its modification for use in this survey. The sampling procedures were also described in chapter three. Chapter four displayed the results of the data analysis collected from the survey. Analysis of variance, chi-square analysis and discriminate analysis were used to determine the intrinsic and extrinsic motivation that physical therapists have for attaining the DPT, what

demographic factors influence the DPT decision and how the three DPT interest groups differ in motivation. Chapter five summarized the research findings and connected the findings with current research regarding the DPT and motivation theories.

Summary of Research Findings

The theoretical framework in chapter one and the survey provided a solid paradigm for studying the motivation of physical therapists. Three distinct groups were identified; those who already have completed the DPT (DPTC), those who are not interested in the DPT (DPTNI), and those who are interested, but have not yet enrolled for the DPT (DPTI).

Intrinsic and Extrinsic Motivation

Of the random mailing to physical therapists in Pennsylvania, 38.4% reported an interest in the DPT or already having the DPT while 61.5% report not interested in the DPT. This is similar to studies by Johnson (2004), Thomas (2003), and Detwieler (1999) that reported between 30-35% of practicing physical therapists are interested in the DPT. This study had a slightly higher percentage of therapists interested in the DPT. This could be an indication that the DPT is gaining acceptance. Another conclusion from this study is that the majority of therapists that are interested in the DPT already have the degree as 21% of the respondents reported DPTC and only 12.9% reported DPTI. The 61.5% that are not interested in the DPT is similar to other studies.

Extrinsic Motivation

Rewards are said to be extrinsic if they are unrelated to the action (Covington, 2000). Analysis of total summed extrinsic motivation in this study resulted in three significantly different groups. DPTC had an overall score of agree with the extrinsic motivating factors, while DPTI was above neutral, and DPTNI was slightly below neutral in the opinion that the DPT would produce the extrinsic outcomes. Individual item analysis of the six extrinsic variables is in agreement with data from other studies. DPTC, DPTI and DPTNI all disagreed with the statement that the DPT would increase salaries of physical therapists. DPTNI was significantly stronger in disagreement than the other two groups who were similarly between neutral and strongly disagree. Johnson (2004) concluded that the physical therapists in Pennsylvania did not perceive the DPT as a means to increase salary. Only 24% of respondents in Thomas' (2003) and 40% in Detweiler's studies (1999) replied that the DPT would lead to an increase in salary. The conclusions of this study are that physical therapists are not interested in the DPT as a means to increase salary. Median salary information from the APTA contains conflicting information regarding the value of the DPT. The top of the salary scale are PT's with PhD's at a median income of $85,000. Therapists with bachelor's degrees are among the highest compensated ($78,000) because of their experience in the field as this is the older degree. The next highest salary group are those with the DPT at $75,000. Masters of physical therapy have a median salary of $72,000 and entry-level DPTs are at $60,000. Theses statistics could be interpreted to mean that the DPT does not have worth because bachelor's prepared therapists have a higher income that those with the DPT, or it could

be interpreted that the DPT increases salary as therapists with the transitional DPT have a higher median income than therapists with the master's degree.

The DPT degree was viewed as a positive step for career advancement by the DPTC and DPTI groups, but below neutral by the DPTNI group in this study. The total mean for the sample was 3.38, above neutral on the Likert scale. The above neutral Likert scale number is inflated by the DPTC and DPTI groups who had mean scores of 4.15 and 3.76 respectively. The majority of respondents were in the DPTNI group, and the mean response for this group was 2.81. This confirms the conclusions of Johnson (2004) who concluded that the majority of physical therapists in Pennsylvania do not perceive the DPT as leading to career advancement. However, this study concludes that therapists who have the DPT and are those interested in the DPT believe that the DPT will lead to career advancement. Many of the written responses from the DPTC and DPTI groups agreed with the conclusions of Threkheld (1999) that the DPT would be a vehicle to lead to a position in management or to gain employment as an educator.

Prestige was another extrinsic factor examined in this and prior studies. In this study, DPTC, DPTNI and DPTI scores were significantly different for this item with DPTC and DPTI above neutral and DPTNI below neutral. The sample mean for this item was 2.92 so it can be said the findings are in agreement with Johnson (2004) who concluded that the majority of Pennsylvania physical therapists do not perceive the DPT as leading to increased public recognition. While DPTC and DPTI respondents agreed with Threkheld (1999) that the DPT would help them to be perceived as experts in the field, the DPTNI groups felt that the DPT was a pseudo-doctorate and would not lead to increased prestige.

Results from the statement about professional image were similar with DPTC and DPTI scoring similarly near the level of agree on the Likert scale and DPTNI significantly lower between neutral and disagree. The total mean score for the sample was 3.05, just above neutral for the Likert. This also seems to disagree with Johnson's (2004) findings that the DPT would not lead to improved social interaction or network with colleagues. Although the results from this study are in agreement with those reported by Thomas (2003), that 51% reported the DPT would promote respect from other health care professionals and 49% felt that it would improve the public's perception of the profession. Prior studies on motivation for the DPT focused on factors that influence the DPT decision on PT's as a group. This study differed in that the different DPT interest groups were analyzed independently. The DPTC and DPTI groups felt that the DPT would improve professional networking and promote respect from other healthcare professionals while DPTNI believes that they are already respected professional and don't need the DPT to improve professional image.

The ability of the DPT to help physical therapists work in a direct access environment produced a positive response from the DPTC group, a significantly lower, but still positive response from the DPTI group and a slightly above neutral response from the DPTNI group. This correlates to Johnson's (2004) findings that 52% agree and 8% strongly agree with the statement that the DPT will assist with Medicare direct access. Pennsylvania requires that therapists with direct access certificates demonstrate competence with differential diagnosis. Practicing in a direct access environment is a newer component of physical therapist education and was not included in the education

of most bachelors and some masters programs. The results of this study are in agreement with Johnson in that therapists recognize the value of the DPT for direct access practice.

All three groups in this study disagreed that the DPT would be able to improve reimbursement from third party payers. DPTC and DPTI were statistically similar below neutral on the Likert, while DPTNI was significantly lower with a mean of 2.3. The overall group mean for this question was 2.56. Forty-five percent in Johnson's (2004) study disagreed or strongly disagreed that the DPT would improve reimbursement from third party payers while 55% agreed or strongly agreed with this statement. Thomas (2003) found similar numbers with 48% reporting that the DPT would not improve reimbursement from third party payers. Detweiler (1999) focused on curricular emphasis and reported 90% of physical therapists responded that transitional programs should include coursework on managed care or insurance regulations. Prior studies that examined DPT motivation had slightly higher opinions of the effect of the DPT on insurance reimbursement. As reimbursement for physical therapy has continued to decline, so have the opinions of physical therapists declined about the DPT's effect on insurance reimbursement.

Of the six extrinsic items assessed on this survey, career advancement, professional image, and utilizing direct access produced positive Likert responses from the entire sample, while improved reimbursement from third party payers, prestige and salary produced a negative Likert response. All three prior studies cited agree with the findings that the DPT would not increase salary (Johnson, 2004, Thomas, 2003, & Detweiler, 1999). The findings of this study that the DPT would not improve insurance reimbursement are in disagreement with findings by Johnson (2004) and Detweiler

(1999). This could be due to recent nature of this study and the current unfavorable climate for insurance reimbursement at present. Transitioning to the DPT did not show a positive relationship for prestige in either this study or findings by Johnson (2004). Respondents in this study rated the DPT positively for career advancement while Johnson's (2004) conclusions were in disagreement with this statement. Respondents in this study also rated the DPT as a vehicle to improve direct access which is in agreement with Johnson's (2004) findings. Participants in prior studies provided conflicting evidence with regard to the issue of prestige related to the DPT with Thomas (2003) reporting a positive relationship and Johnson (2004) reporting a negative relationship. Respondents in this study view the DPT as adding prestige to clinical practice.

Intrinsic Motivation

Intrinsic Motivation occurs when individuals engage in an activity for their own sake. Intrinsic motivation statements were also analyzed in a similar fashion to the extrinsic statements. The three separate DPT interest groups were significantly different for the summed total of the intrinsic questions. Similarly, each individual intrinsic item had statistically significant different scores for the three DPT interest groups. The statements about professional development, improving clinical skills, autonomous physical therapy practice, personal goals, improved knowledge base, and the ability to perform research were all compared to findings in prior studies and are presented here.

Professional development was viewed as a positive outcome of the DPT, by the DPTC (M=4.34) and DPTI (M=3.42) groups. DPTNI (M=2.02) does not view the DPT as a vehicle for professional development. The mean for the three groups combined is right at neutral on the Likert scale. Johnson (2004) concluded that a barrier to the DPT

was a lack of importance of earning the DPT to physical therapists as independent adult learners. Sixty-three percent in Detweiler's study reported that the DPT would improve professional competence. The findings in this study are that the DPTNI group agrees with studies by Johnson (2004) that the DPT degree is not important for professional development and the DPTI and DPTC groups agree with findings by Thomas (2003) that the DPT is important for professional development. DPTC views the DPT as leading to professional development and DPTNI expressed the view that continuing education courses are more valuable than the DPT for professional development.

The statement regarding improved clinical skills also produced a difference in scores by the three DPT interest groups. DPTC and DPTI were in agreement that the DPT would improve clinical skills while DPTNI disagreed. The overall sample mean was 3.1, slightly above neutral on the Likert. Johnson (2004) identified competency improvement as a perceived benefit of the DPT. Thomas (2003) reported 58% of respondents in his survey indicated that the DPT would improve clinical skills. Sixty-three percent in the Detweiler (1999) study indicated that the DPT would improve professional competence. DPTC and DPTI groups concurred with the literature regarding clinical skills while DPTNI disagreed. The DPT degree is considered by the APTA to be a clinical doctorate, meant to signify competence at today's entry-level standards. The DPTC group does not view the DPT as way to improve clinical skills and instead views the DPT as an academic degree, or a degree that will lead to management.

DPTC and DPTI groups also indicated agreement that the DPT is important for autonomous practice, while DPTNI disagreed. The overall mean score was 3.0, or neutral. This is substantially higher than Detweiler (1999) who reported only 30% of

respondents indicated that the DPT will enhance a physical therapist's ability to practice independently without a physician's referral. Thomas (2003) reported 44% of respondents in her study believe the DPT will lead to increased professional status, which could be interpreted as autonomy. This is more consistent with the findings in this study. There has also been a shift with more states having direct access laws and more physical therapists are participating in direct access environments. Pennsylvania enacted direct access to physical therapy in 2003, but physical therapists were not able to begin practicing under direct access until 2005. The recent nature of direct access legislation is likely the reason for the higher number of respondents in this study that believe that the DPT will assist with practice in a direct access environment. The conclusions of this study are that DPTC and DPTI view the DPT as a way to improve autonomy while DPTNI does not believe that the DPT will improve therapists' autonomy

Earning the DPT as a personal goal was mentioned in the literature as a motivating factor for the DPT. Findings from this study confirm prior studies as the entire sample produced a Likert scale value of 3.6. DPTC (4.42) and DPTI (3.90) were well above that value while DPTNI (3.02) was at the neutral level. Johnson (2004) identified personal satisfaction as a motivating factor for physical therapists interested in the DPT. Respondents in the Thomas study (2003) identified a sense of self improvement as a motivating factor for the DPT. Personal satisfaction was also identified as important to 79% of respondents in the Detweiler survey (1999). This study is in agreement with three prior studies that indicate that earning the DPT is related to personal goals. An important conclusion is that DPTC and DPTI are interested in the DPT for personal reasons, while DPTNI is neutral in response to this statement.

Improved knowledge base is another benefit of the DPT degree that is frequently mentioned in the literature. This study concluded that DPTC and DPTI groups perceive the DPT as a means to improve knowledge base while DPTNI was neutral to this statement. The overall sample mean was 3.6. Knowledge improvement was identified by Johnson (2004), Thomas (2003), and Detweiler (1999) as a benefit of the DPT. Respondents in Johnson's (2004) study indicated that a more in depth curriculum would be attractive for a more significant challenge. Findings from this study agree with the literature regarding improved knowledge base as a motivating factor for the DPT. DPTC and DPTI are interested in the DPT for improving knowledge base, while DPTNI is neutral as to the ability of the DPT to advance knowledge. The DPTNI group in this study also felt that the DPT was not a significant challenge and questioned the value of the coursework.

This study also identified the ability to perform research as a motivating factor for the DPT. DPTC and DPTI groups both had positive responses for the statement "the DPT will improve my ability to perform research", while DPTNI was neutral. The overall sample mean was 3.2. Evidence based practice was a motivating factor in the Thomas study with 58% reporting that the DPT would promote gaining these skills. The Detweiler study reported that 72% felt that a transitional program should contain a strong research component. This DPTC and DPTI groups are in agreement with the findings by Detweiler and Thomas, while the DPTNI group was neutral to the motivating factor of improving the ability to perform research. Many in the DPTC and DPTI groups revealed that research skills would be an important component for evidence based practice. DPTNI views the DPT as a degree that produces researchers, while patient care has

declined. This opinion conflicts with the definition of the degree as a clinical degree and not an academic degree.

Both the DPTC and DPTI groups view the DPT degree as having intrinsic motivating properties of professional development, improving clinical skills, improving autonomous physical therapy practice, helping to meet a personal goal, improving knowledge base, and improving the ability to perform research. DPTNI group does not view the DPT as having intrinsic value for professional development, improving clinical skills, or importance for autonomous physical therapy practice. DPTNI group was neutral in response to the motivating factors; personal goals, knowledge base and the ability to perform research. This is consistent with the current literature regarding the DPT. Table 62 presents a summary of responses of the three DPT interest groups for intrinsic and extrinsic factors.

Table 62 *Extrinsic and Intrinsic Factors Summary Mean Likert Scale Scores*

Extrinsic Factors	DPTC	DPTI	DPTNI
Salary	2.58	2.56	1.90*
Career Advancement	4.15*	3.76*	2.81*
Prestige	3.68*	3.25*	2.39*
Professional Image	3.8	3.43	2.50*
Direct Access	4.02*	3.63*	2.56*
Insurance Reimbursement	2.89	2.82	2.30*
Intrinsic Factors			

Professional Development	4.34*	3.41*	2.02*
Improved Clinical Skills	4.01*	3.37*	2.50*
Autonomous Practice	4.36*	3.74*	2.01*
Personal Goals	4.42*	3.90*	3.02*
Improved Knowledge Base	4.02	3.68	3.01*
Research	3.56	3.22	2.99*
* indicates significant difference from the other two groups			

Demographic Factors and Trends

Chi-square analysis was performed to examine the relationship of the thirteen demographic variables with DPT interest. Since multiple comparisons were made, a Bonferoni correction was used to limit the possibility of type I error. There is danger when using a Bonferoni correction with multiple comparisons as in this case that the adjusted per-comparison alpha level will be so small that the test becomes too conservative and increases the chances of a type II error. For this reason, the results are reported as achieving significance at the experiment wide (EW) alpha level of .05 and the per-comparison (PC) alpha level (Bonferoni correction) of .004. Age, years of experience, APTA membership status, administrative status, clinical instructor status, and primary practice setting were all significant at the EW and PC alpha levels for DPT

interest. Entry level degree, gender, employment setting, and primary area of practice were significantly different for DPT interest at the EW alpha level, but not the PC alpha level. Three demographic variables, "physician owned physical therapist status" (POPTS), income level and highest earned degree were not significantly different. Table 63 provides a summary of the findings for chi-square analysis of demographic factors compared to DPT interest.

Table 63 *Chi-Square Demographic Factors * DPT Interest*

Demographic Factor	Significance at EWα	Significance at PCα
Entry-Level Degree	Yes	No
Age	Yes	Yes
Years Experience	Yes	Yes
APTA Membership	Yes	Yes
Administrative Status	Yes	Yes
Clinical Instructor Status	Yes	Yes
Gender	Yes	No
POPTS	No	No
Income Level	No	No
Employment Status	Yes	No
Practice Setting	Yes	Yes
Primary Practice	Yes	No
Highest Earned Degree	No	No

Other studies that examined DPT interest found varying results when DPT interest was compared to demographic factors. Detweiler (1999) analyzed entry-level degree and years of experience as a physical therapist and found no significant differences for the group that indicated interest in the DPT and the group that was not interested in the DPT. Johnson (2004) concluded that only location of residence (urban vs. rural) and APTA membership status were significant factors for DPT interest, while gender, years experience, highest earned academic degree, geographic location of workplace and annual income were not significant factors.

Entry level degree was found to be a significant factor in this study, but was not a factor in Detweiler's (1999) study. Within the group of therapists who have the DPT, 53% have an entry-level master's degree, 43% have a bachelor's degree and only 4% have the certificate of physical therapy. This is likely related to the age of the respondents. Therapists who have a certificate in physical therapy are likely older and closer to retiring from the profession. Most schools of physical therapy transitioned to the bachelor's degree from the certificate in the 1960's and 1970's. The transition to the master's degree occurred in the late 1980's and 1990's. Younger therapists who will be in the field for a longer period would likely be more interested in the doctorate of physical therapy. Since the field of physical therapy transitioned to the master's degree in the 1990's and the DPT since 2000, Detweiler may have not encountered as diverse sample population as this study. This study would likely have had more therapists with master's degrees which would provide a better statistical comparison. The ratio of bachelor's to master's degree was higher in 1999 than it is today and this may explain why entry-level degree is a factor now, but was not in 1999.

Age was also a significant factor for DPT interest in this study. All of the respondents over the age of 60 reported not interested in the DPT, while 68.4% of respondents under 30 reported already having the DPT or being enrolled in a transitional program. There was a steady decline in DPT interest as age increases. As the field of physical therapy closes in on the association's vision 2020, that all physical therapists will be doctoral prepared by the year 2020, many of the over 60 age group will no longer be in practice and likely do not feel the need for an additional degree to practice in a profession that they have worked in for 40 years. All of the age groups except the under 30 group had a majority of therapist report not interested in the DPT. There was a steady decline in DPT interest with increasing age.

"Years of experience" was also significantly different among the groups for DPT interest. As mentioned earlier, this was not a factor in the Johnson (2004) study. The vast majority of physical therapists with 0-5 and 6-10 years experience have already transitioned to the DPT. The number declines dramatically with only 15% of therapists with 25 plus years experience having the DPT. The rationale for years experience is the same as entry-level degree and age in that as years experience increases, so does disinterest in the DPT. Detweiler (1999) did not find significance with the comparison of entry-level degree and years experience to DPT interest, although that study had a smaller sample size and the statistical power of the chi-square analysis would have been reduced. Age, entry-level degree and years experience all produced significant differences for DPT interest. The conclusions of this study are that the older, more experienced therapists who have been out of school for a longer time, have significantly less interest in the DPT than younger, less experienced, newer graduates.

APTA membership was a factor for DPT interest in this study and for Johnson's (2004) study. APTA members were far more likely to have earned the DPT with 53% reporting having earned the DPT compared to 15% of non members. Conversely, non members responded not interested in the DPT 71% of the time compared to members' response to this statement of 34%. Membership in a professional organization represents a commitment to that organizations goals and values. The DPT is a vision of the APTA and members likely feel a connection to the organizations goals and vision. Unfortunately, only one-third of practicing physical therapists belong to the APTA. The responses to the open ended question on the survey revealed that there is confusion as to what the DPT degree represents. Many in the DPTNI group reported that they were not interested in the DPT because it would not make them better clinicians. But the DPTC group reported interest in the DPT to make them better clinicians. Members of the APTA may have a better understanding that the DPT is a clinical degree.

Physical therapists who report having administrative positions were more likely to have the DPT and report more interest in the DPT than those who are not administrators. Detweiler (1999) found that 85% of respondents think that transitional DPT courses should include coursework for business and administration. It may be that the physical therapists in this study who are administrators sought the DPT to move into administration. 46% of physical therapists that reported being administrators have the DPT compared to 29.5% of the non administrator group. This statement corresponds to the results of extrinsic item two, "the DPT degree will lead to job advancement." DPTC and DPTI reported agreement with this statement while DPTNI was just below neutral.

Clinical instructors were also more likely than non clinical instructors to report having the DPT in this study. 52% report either having the degree or being interested in the degree compared to 37% of the non clinical instructor group. More telling is that 41% of clinical instructors already have the DPT compared to 27% of the non clinical instructor group. Clinical instructors work with students and most physical therapy students are DPT students as 75% of schools now offer this degree. Working closely with students may be influencing therapists to attain the DPT. It is possible that these therapists recognize the value of this degree because they see how today's students are being prepared as therapists. Modeling may also be responsible for clinical instructors increased interest in the DPT. Wood and Bandura (1989) report that observing someone else performing the behavior strengthens the desire to master the behavior. A model that is proficient and conveys effective strategies will affect the observers desire to master the behavior. It is also possible that clinical instructors like to teach and they see the DPT degree as a vehicle to further their ability to teach. Detweiler (1999) found that a majority of therapists who responded to his survey felt that the DPT should prepare physical therapists to teach in a DPT program. He further reported that 49% of physical therapists interested in the DPT had experienced a working relationship with an entry-level DPT. Exposure to DPT students could have a positive effect on DPT interest that is evident in this study.

Males were more likely than females to report having the DPT in this study with 45% having the DPT compared to 29% of females. This factor was not significant in Johnson's (2004) study. The written narrative offers some explanation of this with many females responding that they have been out of the profession to raise a family. Many

females responded in writing that they put their family before their profession. No other explanation is evident as to this discrepancy. It should also be mentioned that this factor was significant at the experiment wide alpha level, but not the per comparison alpha level. Prior research on DPT interest did not reveal gender as a significant factor.

Employment status was also significant at the experiment wide alpha level, but not the per-comparison alpha level. A higher percentage (38%) of full time physical therapists have the DPT compared to part time (20%) and self-employed (31%). Future interest for the DPT was similar from 12-14% for all three groups while the level of disinterest in the DPT ranged from a low of 49% for full time therapists and a high of 66% for part time therapists. Self employed and full time physical therapists may be more committed to their careers and their profession and this may explain the discrepancy in DPT interest. Prior studies have not addressed employment status as a factor for DPT interest.

Practice setting was also a significant factor for DPT interest in this study at both the EWα and the PCα. This is a factor that had not been analyzed in prior studies. The highest percentage of therapists with the DPT degree was the private practice/outpatient setting with 47% reporting having the DPT. Sub acute hospitals, hospital based outpatient facilities, skilled nursing facilities, school system and "other" had similar numbers of reported DPT degrees from 28-34%. The lowest percentage reported DPT degrees were patient's home with 21% and acute care facility with 20%. Private practice settings are usually considered to be higher profile jobs than acute care or skilled nursing facilities. Many of the written responses indicated that their employer paid for the DPT degree. It is likely that therapists with a DPT degree would be attractive to a private

practice owner for the prestige and recognition that come with having a clinical doctor in the practice.

The last demographic comparison to have significant differences among groups was the primary practice setting. Orthopedic physical therapists reported 41% had the DPT compared to geriatric, pediatric, neurology and "other" who all reported between 25-28% having the DPT. As with practice setting, orthopedic physical therapists may have a greater incentive to attain the DPT due to the prestige that comes with this degree. Orthopedic physical therapists rely heavily on their relationships with medical doctors for physical therapy referrals and the prestige of the title of doctor may be influencing physical therapists decisions for the DPT. This would explain the discrepancy in DPT interest of orthopedic physical therapists compared to other specialists.

Only seventeen therapists in this survey responded that they worked for a physician owned physical therapist practice. Nearly 50% reported DPTC and another 17% reported DPTI, compared to non POPTS therapists at 32% and 13% for DPTC and DPTI respectively. However, due to the small sample size of the POPTS group, significance was not achieved. POPTS has not been assessed as a factor for DPT interest in prior studies.

Income was not identified as a significant factor for DPT interest in this study. The lowest income level reported the least DPT interest and there was a steady increase in DPT interest as income increased, however the difference was not significant. Prior studies for DPT interest did not report income as a variable. Cost was identified in Johnson's (2004) study as a barrier to participation in the DPT and this may be the reason for the lower income levels in this study reporting decreased DPT interest.

Six factors which had been identified in prior studies as influencing physical therapists decisions for the DPT also were significantly different when compared to the variable DPT interest. The factors time to completion, distance to travel, colleague support, family support, online coursework, and evidence based practice all exhibited significant differences between groups. The majority of the DPTC and DPTI groups responded that time to completion was an important factor in the DPT decision, while the majority of the DPTNI group disagreed or strongly disagreed with this statement. 88% of physical therapists in Johnson's (2004) study identified time as an obstacle for the DPT. This study confirmed that the DPTC and DPTI groups feels that time is an obstacle. DPTNI answered that time is not an important factor, possibly because of lack of interest.

Distance to travel was also a strong factor for DPT interest for both the DPTC and DPTI groups, while less than 40% of the DPTNI group agreed or strongly agreed. This factor was not as strongly identified in Johnson's (2004) study with 52% stating that distance to travel was a factor for DPT interest. The results of this study concur with Johnson (2004) with 54% agreeing or strongly agreeing with the distance to travel statement. This study concluded that the majority of physical therapists feel that distance to travel is a factor in the DPT decision.

Colleague support was not as strong of a factor for DPT interest, even though there was a significant difference between the three DPT interest groups. Only 30% of the respondents felt that colleague support was a factor in the DPT decision. 15% of respondents to Johnson's (2004) survey believed colleague support would be an important factor. Family support produced similar results with 52% of therapists in this study and only 16% of therapists in Johnson's (2004) study indicating family support was

a factor in the DPT decision. Both colleague and family support were identified as more important factors in this study compared to the results of Johnson. Colleague support may be different in this study due to declining insurance reimbursement since employers may not have funding to support their employees by paying tuition. One method of increasing achievement motivation is through social persuasion as described by Bandura (1997). This involves encouragement that people receive and how it affects their improvements in their abilities. Therapists in this study identified that support of colleagues and family are important in the DPT decision. The DPT degree also may be gaining acceptance as more therapists have the DPT and therefore more therapists have had exposure to the DPT.

The majority of physical therapists in this study also agreed that availability of online coursework would be a factor in the DPT decision. DPTC at 59%, DPTI at 91% and DPTNI at 54% all showed majority agreement that online coursework would be a factor for the DPT decision. It is interesting that even the DPTNI group would rate online coursework as a factor for a degree for which they report having no interest. Also interesting is the high percentage (91%) of the DPTI group that reports online coursework is a factor in the DPT decision. This is information that is important to educators trying to reach transitional DPT students.

The last factor analyzed was the ability to practice utilizing evidence based practice. Predictably, the DPTC and DPTI groups had a strong majority agree that the DPT would help with evidence based practice, while less than 40% of the DPTNI group agreed. The findings from this study are in agreement with those of Thomas (2004) who reported that 83% of physical therapists responded that DPT programs should contain

coursework aimed at improving evidence based practice. Prior research has shown that physical therapists are having a difficult time integrating evidence based practice into the clinic (Maher 2004). Therapists in this study that are interested in the DPT may recognize that they need help incorporating evidence based practice into their practice settings.

Conclusions for research question two are that several demographic factors are significantly different for the three DPT interest groups. Of the demographic variables studied, age, years experience, APTA membership status, administrative status, clinical instructor status, and primary practice setting had significant differences for DPTC, DPTI and DPTNI groups at both the EWα and the PCα. Four other factors, entry-level degree, gender, employment status, and primary area of practice were significantly different at EWα but not PCα. Three variables, highest earned degree, physician owned practice status and income were not factors for DPT interest.

Achievement Goal Theory

The three DPT interest groups were then analyzed for differences in motivation utilizing the achievement goal questionnaire and achievement goal theory. Achievement goal theory focuses on individuals' desire to attain competence or to avoid incompetence. Analysis of variance determined that the DPTC group scored significantly higher for both the mastery approach and the performance approach categories than the DPTNI group. The DPTI group was also statistically higher than DPTNI for mastery approach at both the EWα and the PCα, but only higher in performance approach at the EWα and not the PCα. There were not significant differences for the two avoidance categories between the three DPT interest groups. Discriminate analysis confirmed the findings for the

ANOVA by determining that the strongest predictor for DPT interest was mastery approach, followed by performance approach. Discriminate function two, containing the avoidance valance categories did not produce a significant Wilk's lambda and therefore was not a good predictor of DPT interest. As a predictor for DPT interest, the Achievement Goal Questionnaire was able to correctly classify 61.2% of the cases for DPT interest. The tool was not able to discriminate between the DPTC and DPTI groups as a predictor according to discriminate analysis as canonical discriminate function testing produced overlap for these two groups. Classification results for predicted group membership predicted only DPTC and DPTNI interest because of this overlap. The AGQ was a moderate to strong predictor of DPT interest at 61.2% and this value increased to 68% when the three DPT interest groups were reduced to two and presented as DPTI and DPTNI. The AGQ was a useful tool for discriminating DPT interest using differences in mastery approach and performance approach. If there were differences between the groups in mastery avoidance and performance avoidance, the AGQ was unable to detect them. Analysis of variance confirmed that differences did not exist for mastery avoidance and performance avoidance.

Mastery goals have been linked with learning goals and involve trying to increase one's competence (Dweck, 1986). Mastery goals were also associated with positive academic outcomes, adaptive self efficacy beliefs and self-regulatory strategies (Ames, 1992; Pintrich & Schrauben, 1992). Mastery oriented individuals were believed to choose deeper processing strategies, and report more interest in courses than students possessing performance goals. In contrast, performance oriented individuals demonstrate competence by appearing competent to others (Dweck and Legget, 1988). Mastery goals

have been identified as: positive predictors for challenge behaviors, task absorption, predictors of challenge appraisal, and a sense of calmness at exam time by McGregor and Elliot (2002), positive predictors for deep processing, persistence and effort while unrelated to surface processing and disorganization by Elliot, McGregor and Gable (1999), and positive predictors for intrinsic measures of challenge appraisals, task absorption, self-determination and feelings of autonomy by Rawsthorne and Elliot (1999). All of these identified behaviors are related to intrinsic motivation.

Performance approach goals have been identified as: positive predictors for challenge appraisals, grade aspirations and calmness on exam day, positive and negative predictors for exam preparation challenge, negative predictors for desire to escape the exam two weeks prior by McGregor and Elliot (2002), positive predictors for surface processing, persistence, effort, exam preparation, and exam performance, by Elliot, McGregor and Gable (1999), positive for antithetical intrinsic behaviors of producing evaluative pressures, eliciting anxiety, and less free choice than mastery goals, and less reported self-interest than mastery learners. (Rawsthorne & Elliot, 1997) Elliot (1997) concluded "conceptually, we view performance approach goals as similar to mastery goals in that they are grounded in the need for achievement and focused on a positive possibility, but different from mastery goals in that they are focused on an extrinsic achievement." Performance goals have been identified as focused on extrinsic values. As the theory evolved, it became clear that many individuals possessed mastery and performance goals which were not necessarily detrimental to each other (Pintrich and Garcia, 1991).

Since the DPTC and DPTI groups scored significantly higher than DPTNI for both performance approach and mastery approach goals, the conclusion can be made that DPTC and DPTI have higher intrinsic and extrinsic motivation than the DPTNI group. This lends evidence to Covington and Mueller's (2001) paradigm that proposes that intrinsic and extrinsic motivation may coexist and are two independent concepts that should be measure individually. Blackwell also supports this conclusion that intrinsic and extrinsic motivation are two independent concepts and may work additively leading to enhanced learning and performance. Achievement goal theory is based on competence. Competence based motivation is described as a drive that compels individuals to practice skills to increase their own competency in their environment. The highest correlation for discriminate function one with discriminate analysis was for mastery approach. The DPTC and DPTI groups are therefore more likely to assume challenging behaviors, absorb tasks, be better at challenge appraisal, utilize deep processing skills, and have more persistence and effort. Mastery goals have also been shown to be unrelated to surface processing and disorganization.

The next highest correlation with discriminate function one was performance approach. DPTC and DPTI groups would therefore have higher levels of the attributes associated with performance approach than DPTNI. Many of these attributes are similar to the mastery approach category such as challenge appraisal, persistence and effort. Some differences exist with performance approach linked with higher surface processing, eliciting anxiety and less free choice.

The avoidance orientations were not correlated with DPT interest. Avoidance behavior has been associated low self-esteem, lack of preparation and a negative

predictor for feeling calm by McGregor and Elliot (2002), a positive predictor for surface processing and a negative predictor for deep processing and exam performance by Elliot, McGregor and Gable (1999), and a negative predictor for performance and intrinsic motivation by Elliot and Church (1997). None of the three DPT interest groups were associated with mastery or performance avoidance.

Summarizing the results for research question three, this study concluded that there is a difference in motivation between physical therapists that have the DPT or are interested in the DPT versus those that indicated not interested in the DPT. DPTI and DPTC were significantly higher in both performance approach and mastery approach category scores than DPTNI. Mastery approach was the first discriminate function with discriminant analysis and therefore the best predictor for DPT interest. Thus, intrinsic motivation which has been correlated with mastery approach orientation is higher in DPTC and DPTI than DPTNI. This would seem to conflict with research by Covington and Widenhaupt (1997) that concluded that college students rate achieving high grades as the main reason for learning. Performance approach has also been correlated with intrinsic motivation and it is believed that mastery approach and performance approach interact to create intrinsic motivation. Since performance approach was the second discriminate function with discriminate analysis, it is also correlated with DPTC and DPTI groups, lending further evidence that DPTI and DPTC have higher intrinsic motivation than DPTNI. Performance approach has also been liked to extrinsic behavior which would lead to the conclusion that DPTC and DPTI also have higher extrinsic motivation than DPTNI. This would be a secondary conclusion as performance approach was the second correlative factor for discriminate function one and had a smaller

correlation than mastery approach. This conflicts with Johnson's conclusion that a lack of interest in the DPT was due to perceived lack of extrinsic rewards. DPTC and DPTI both scored higher than DPTNI for performance approach which has been linked to extrinsic motivation

Implications of the Study

It is apparent from the results of this study that there is still a chasm regarding the views of the DPT in the physical therapy profession. This study confirmed findings by Detweiler (1999), Thomas (2003), and Johnson (2004) that concluded one-third of physical therapists are interested in the DPT while two-thirds are not interested. This difference of opinion was also evident in the responses for the intrinsic and extrinsic factors with significant differences for all of the twelve intrinsic and extrinsic factors. For most of the factors, DPTI and DPTC groups agreed that the DPT is important to achieving these goals, while DPTNI group disagreed. Since the majority of respondents indicated not interested in the DPT, most physical therapists in Pennsylvania do not believe the DPT will advance their careers, improve their professional image, assist them with direct access physical therapy practice or assist with other extrinsic goals. Most physical therapists also do not view the DPT as a means to improve intrinsic factors of professional development, clinical skills or autonomous practice.

Educators may want to examine their transitional DPT programs to see if they are attractive to their potential students. By definition, the extrinsic factors are unrelated to the activity itself, so educators would have little control of influencing how the degree is perceived extrinsically. Further study on the outcomes of transitional DPT graduates may reveal extrinsic benefits. Intrinsic benefits of the DPT could be modified though

adjustments in the coursework. The DPTNI group scored a level of disagree for the three intrinsic statements that the DPT will increase professional development, increase clinical skills, and improve autonomous physical therapy practice. The DPT is defined by the APTA as a clinical degree that is meant to signify that a physical therapist is competent to practice at today's entry-level practice. Most of the therapists surveyed do not think the DPT will improve their clinical skills. Many of the DPTNI group commented that they believe that the DPT is an "academic doctorate" as opposed to the clinical doctorate that the APTA envisioned. Perhaps if transitional DPT programs offered coursework that physical therapists perceived as being clinically oriented or leading to professional development, more physical therapists would pursue this degree. The APTA has preferred outcomes, including a preferred curricular guide, for transitional programs. Transitional DPT programs do not have a separate accreditation by the Commission on Accreditation in Physical Therapy Educators (CAPTE). An interesting follow up to this study would be to compare curricula from transitional programs to the preferred curricular guide.

The problem may also lay with the perceptions of practicing physical therapists. As the profession of physical therapy strives toward evidence based practice, physical therapists should consider the evidence of how a DPT could be beneficial. Research has shown that the majority of practicing physical therapists are having a difficult time incorporating evidence based practice into their clinics (Maher 2004). The decision not to pursue the DPT may be one that was made without some or all or the necessary evidence. The APTA also should make the current research and facts about the DPT readily available to all physical therapists as only one-third of physical therapists belong

to the APTA. While there is interest about motivation for the DPT and interest for the DPT, there is little information documenting benefits of the DPT

Many of the demographic factors that affected the DPT decision in this study may also be of use to educators. Age, entry-level degree and years experience are all linked and the idea that older therapists that are near retirement responding not interested in the DPT is not surprising. Therapists that will retire soon are not likely to be interested in the DPT and this study confirms that assumption. It is surprising that practice setting, clinical instructor status and administrative status are all significant factors for DPT interest. Orthopedic physical therapists were more likely than other clinical specialties to have interest in the DPT degree. This may be related to a number of transitional programs that offer advanced orthopedic courses as part of the DPT coursework. Advanced coursework in other clinical specialties may attract more transitional DPT students from other specialty tracks. Some transitional programs include coursework that focuses on administration. The DPT does appear to have a positive effect on PT's that desire administrative positions as a higher number of administrators have the DPT than non administrators. Since clinical instructors are more likely to attain the DPT, perhaps coursework regarding how to be a more effective clinical instructor may entice even greater enrollment.

Finally, it is evident from this study that physical therapists who are interested in the DPT have more intrinsic and extrinsic motivation than those who are not interested. The DPTNI group scored highest on the intrinsic questions of the DPT being important to; meet personal goals, improve knowledge base, and perform research. If educators want to reach these potential students, it is necessary for them to convince physical

therapists that they are producing coursework that will lead to these goals. The most likely vehicle to help therapists meet their goals of improved knowledge base would be to follow the APTA's curricular guide for transitional DPT programs. The APTA has studied this issue and formulated a list of curricular areas and topics that were likely not included in master's and bachelor's programs. Following this guide should attract therapists interested in improving knowledge base and those looking to meet personal goals. Many programs include coursework on how to incorporate evidence based practice, but do not incorporate performing research into DPT programs.

Recommendations for Further Study

It is difficult to understand why the DPTC and DPTI groups believe the DPT will improve clinical skills while the DPTNI group does not. Determining what extent of this disparity that is based on fact versus opinion should be studied. If it is true, as research suggests, that physical therapists are having a difficult time integrating evidence based research into practice, all of the DPT interest groups may not have the facts they need to make this decision.

Other useful information would be to compare the APTA's preferred curricular model for transitional DPT programs to the curricula of transitional DPT programs. The plan of the APTA for the development of transitional programs has four phases with the first being consensus based outcomes. This represents the preferred outcomes for graduates of transitional DPT programs. Phase II is the preferred curricular guide which is a foundation for designing a transitional program. Phase III is a valid evaluation tool for assessment of knowledge, skills and behavior. Phase IV is to develop a pool of qualified adjunct faculty to assist programs in finding necessary instructors. The APTA

BOD has developed this plan based on competencies it deems necessary for physical therapy professionals. Currently it is unclear if these phases and established guidelines are being implemented and to what extent.

It also would be useful to examine outcomes data (both intrinsic and extrinsic) for students who transition to the DPT. The opinions of respondents in this study and prior studies are that the DPT will not produce extrinsic rewards such as improved salary or career advancement. There is very little data regarding the outcomes of the DPT for practicing physical therapists. A survey for graduates of transitional programs would provide evidence for therapists to make this decision. The data that exists is inadequate for this decision. According to APTA demographic data, entry-level DPT therapists have lower salaries than master's level-entry and bachelor's level-entry therapists. Transitional DPT therapists have income levels between the bachelor's therapists and master's therapists. This data is difficult to interpret as the therapists with the bachelor's degrees have the highest salaries because they have been in the field for the longest and have the most experience. Further studies could help determine if the DPT is beneficial, both extrinsically and intrinsically. An example of this is that administrative status was identified as a factor for DPT interest. It should be determined whether the DPT degree led to the administrative position or do therapists in administrative positions seek this degree.

The achievement goal questionnaire was also a useful tool for researching motivation in this domain. Future research on the AGQ in this domain and others could further validate this tool. The two approach goals, mastery and performance had strong correlations as predictors for DPT interest, but the two avoidance categories had very

weak correlations. Further research may determine whether the avoidance categories apply outside of the educational domains for which these were developed. Prior studies regarding the DPT made conclusions about motivation, however it was not directly measured as it was in this study.

Conclusions

The American Physical Therapy Association has adopted Vision 2020 in an effort to have all physical therapists prepared educationally at the doctoral level by the year 2020. Currently 8.1% of physical therapists have the DPT. Most physical therapy schools now offer the DPT as the entry-level degree and the rest will transition soon. Eventually, attrition will lead to all physical therapists having the DPT, but this will not occur by 2020. The conclusions from this study are that 62% of physical therapists in Pennsylvania are not interested in the DPT. This is a slight decrease from prior studies (Detweiler, 1999; Thomas, 2003; Johnson, 2004), and it may be an indication that the DPT is gaining acceptance.

Analysis of the survey data revealed three distinct groups emerged for DPT interest to compare with intrinsic and extrinsic variables related to the DPT. The highest scores for extrinsic factors were career advancement, professional image, and improved ability to practice in a direct access environment. The highest scores for intrinsic factors were the importance for professional development, to improve clinical skills, to meet a personal goal and for the ability to perform research. Of concern for proponents of the DPT is that the DPTNI group does not view the DPT as having intrinsic value for professional development, improving clinical skills or important for autonomous physical therapy practice or for having extrinsic value for increased salary, prestige, or improved

insurance reimbursement. Johnson (2004) concluded that physical therapists will not be interested in the DPT until greater extrinsic rewards are perceived. The conclusions of this study are that physical therapists who are not interested in the DPT do not view the DPT as having intrinsic or extrinsic benefits, while those interested in the DPT perceive intrinsic and extrinsic benefits.

Several demographic variables were also factors for interest in the DPT degree. Age, years experience, APTA membership status, administrative status, clinical instructor status, primary practice setting, entry–level degree, gender, primary area of practice and employment status were all significant factors. This conclusion is different from prior studies. Detweiler (1999) and Thomas found no significant demographic differences and Johnson's (2004) study produce significant differences only for location of residence (urban or rural), and APTA membership status. The prior studies did not include physical therapists that already had the transitional DPT as it was still in it's infancy when those studies were completed. As greater numbers of physical therapists choose the DPT, the demographic variables are becoming more of a factor.

The achievement goal questionnaire also proved to be an effective tool to measure motivation in a population of physical therapists. There was moderate to high correlation for the ability of the AGQ to classify the three DPT interest groups and this correlation became even stronger with consolidation of DPTC and DPTI into one group versus DPTNI. Thus the AGQ was an even stronger predictor for DPT interest when the three groups were consolidated into two. The study also concluded that the DPTC and DPTI groups scored significantly higher than DPTNI for the mastery approach and performance approach questions. Thus, intrinsic motivation which has been correlated

with mastery approach orientation is higher in DPTC and DPTI than DPTNI. Performance approach has also been correlated with intrinsic motivation and it is believed that mastery approach and performance approach interact to create intrinsic motivation. Performance approach has also been liked to extrinsic behavior which would lead to the conclusion that DPTC and DPTI also have higher extrinsic motivation than DPTNI. The Achievement Goal questions were not phrased in the context of the DPT and were phrased as questions related to the field of physical therapy. An example of one of the questions was; "it is important for me to understand the content of physical therapy as thoroughly as possible." Since the questions were unrelated to the value of the DPT, the conclusion is that the DPTC and DPTI groups have significantly higher intrinsic and extrinsic motivation that the DPTNI group.

References

Alrech, P. (2004). *The survey research handbook*. New York: McGraw Hill.

Amabile, T. M. (1994). The work preference inventory: Assessing intrinsic and extrinsic motivation orientations. *Journal of Personality and Social Psychology, 66*(6), 950-967.

American Physical Therapy Association. (2006). *Physical Therapist Member Demographic Profile* (APTA). Arlington, VA: APTA.

American Physical Therapy Association. (2006). *Report on transition DPT programs*. Arlington, VA: Author.

American Physical Therapy Association. (2007). *APTA Demographic Report* (2007 Demographics). Arlington, VA: American Physical Therapy Association.

Ames, C. (1984). Achievement attributions and self-instructions under competitive and individualistic goal structures. *Journal of Educational Psychology, 76,* 478-487.

Ames, C. (1992). Classrooms: Goals, structures and student motivation. *Journal of Educational Psychology, 84,* 261-271.

Ames, C., & Archer, J. (1988). Mother's beliefs about the role of ability and effort in school learning. *Journal of Educational Psychology, 79,* 409-414.

Anderman, E. M., Austin, C. C., & Johnson, D. M. (2002). The development of goal orientation. In *Development of achievement motivation* (pp. 197-220). San Diego: Academic Press.

APTA BOD. (2000). *Vision 2020* (Vision 2020). Arlimgton, VA.

Atkinson, J. W. (1957). Motivational determinants of risk taking behavior. *Psychological Review, 64,* 359-372.

Atknison, J. W., & Feather N. T. (1966). *A theory of achievement motivation*. New York: Wiley.

Bair, C. (1999, November). *Doctoral student attrition and persistence. A meta synthesis of research*. Paper presented at the Annual Meeting of the Association for the Study of Higher Education, San Antonio, Texas.

Bandura, A., & Locke, E. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology, 88*(1), 87-99.

Bandura, Albert. (1997). *Self efficacy* [The exercise of control]. New York: W. H. Freeman and Company.

Barron, K. E., & Harackiewicz, J. M. (2001). Achievement goals and optimal motivation: Testing multiple goal models. *Journal of Personality and Social Psychology, 80*, 706-722.

Berg, K. (2004). *Essentials of research methods in health, physical education, exercise science and recreation* (Second ed.). Philadelphia: Lippencott Williams and Wilkins.

Blackwell, C. (2004). *Academic orientation: The effects of attributional styles and motivation on achievement in college students.* Unpublished dissertation, University of Virginia, Charlottesville.

Blaikie, N. (2003). *Analyzing quantitative data*. Thousand Oaks, California: Sage Publications.

Blaikie. (2003). *Analyzing Quantitative Data*. Thousand Oaks, CA: Sage Publications.

Borg, W., Gall, & Gall. (2003). *Educational research*. Boston: Pearson.

Bourque, L., & Fielder, E. (2003). *How to conduct self-administered and mail surveys*. Thousand Oaks, CA: Sage Publications.

Breen, R., & Lindsay, R. (1999). Academic research and student motivation. *Studies in Higher Education, 24*(1), 75-94.

Brophy. (1983). Conceptualizing student motivation. *Educational Psychologist, 28,* 200-215.

Cervero, R. M. (1990). A model of professionals as learners. In R. M. Cervero & & Associates. Azzaretto (Eds.), *Visions for the future of continuing professional education* (pp. 161-170). Athens, GA: Georgia Center for Continuing Education.

Coalition for evidence based policy. *Identifying and implementing educational practices supported by rigorous evidence*. Retrieved April 9, 2006, from http://www.ed.gov/rschstat/research/pubs/rigorousevid/index/html.

Conroy, D. E., Elliot, A. J., & Hofer, S. M. (2003). 2 X 2 achievement goals questionnaire for sport: Evidence for factorial invariance, temporal stability and external validity. *Journal of Sport and Exercise Physiology, 25,* 456-476.

Covington, M. (2000). Intrinsic Versus Extrinsic Motivation in Schools: A Reconciliation. *Current Directions in Psychological Science, 9*(1), 22-25.

Covington, M. V. (1984). The self-worth theory of achievement motivation: findings and implications. *Elementary School Journal, 85,* 5-20.

Covington, M. V. (1992). *Making the grade: A self-worth perspective on school reform*. Cambridge, NY: Cambridge University Press.

Covington, M., & Mueller, K. (2001). Intrinsic versus extrinsic motivation: an approach/avoidance reformulation. *Educational Psychology Review, 13*(2), 157-176.

Covington, M., & Wiedenhaupt, S. (1997). Turning work into play, the nature and nurturing of intrinsic task engagement. *Effective Teaching in Higher Education: Research and Practice, Special Edition,* 101-114.

Cramblet, L. (2005). *Development of the goal orientations in adaptive learning (GOAL) scale.* Unpublished doctoral dissertation, Northern Arizona University, Flagstaff.

Creighton University Department of Physical Therapy. (1998). *Physical therapy department survey of 1996 and 1997 Creighton physical therapy alumni* (Creighton University PT Department). Omaha, NE: Author.

Cury, F., Fonseca, D. F., Elliot, A. J., & Moller, A. C. (2006). The social cognitive model of achievement motivation and the 2 X 2 achievement goal framework. *Journal of Personality and Social Psychology, 90*(4), 666-679.

Daniels, L. (1974). Tomorrow now: The masters degree for physical therapy education. *Physical Therapy, 54*(5), 463-473.

De Charms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York: Academic Press Incorporated.

Deci, E. (1975). *Intrinsic Motivation*. New York: Plenum.

Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology, 18*, 105-115.

Deci, E. L., & Ryan, R. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Deci, E. L., & Ryan. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology, 53*, 1024-1037.

Dede, C. J. (1990). Information overload, the knowledge-added economy, and continuing professional education. In R. M. Cervero, Azzaretto, & Associates (Eds.), *Visions for the future of continuing professional education* (pp. 161-170). Athens, GA: Georgia Center for Continuing Education.

DePoy, E., & Gitlin, L. (1994). *Introduction to research*. St. Louis, MO: Mosby.

Detweiler, B. (1999). The post-professional doctorate of physical therapy: A survey of practicing physical therapists. *Journal of Physical Therapy Education, 13*(1), 44-53.

Dillman. (2000). *Mail and internet survey's* (Second ed.) [The tailored design method]. New York: John Wiley and Sons, Inc.

Dorn, S. M. (1995). Educator earning their doctorates: Doctoral students perceptions regarding cohesiveness and persistence. *Education, 116*(2), 305-314.

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist, 41*, 1040-1048.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*, 256-273.

Elliot, A. J. (1997). Integrating the "classic" and "contemporary" approaches to achievement motivation. In M. Maehr & P. Pintrich (Eds.), *Advances in motivation and achievement* (pp. 243-279). Greenwich, CT: JAI Press.

Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational Psychologist, 34*, 169-190.

Elliot, A. J. (2005). A conceptual history of the achievement goal construct. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 52-72). New York: Guilford Press.

Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology, 72*, 218-232.

Elliot, A. J., & Harackiewicz, J. M. (1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology, 70*, 461-475.

Elliot, A. J., & McGregor, H. A. (2001). A 2 X 2 achievement goal framework. *Journal of Personality and Social Psychology, 80*, 501-519.

Elliot, A. J., & Sheldon, K. M. (1997). Avoidance achievement motivation: A personal goal analysis. *Journal of Personality and Social Psychology, 73*(1), 1711-185.

Elliot, A. J., & Thrash, T. M. (2001). Achievement goals and the hierarchical model of achievement motivation. *Educational Psychology Review, 13*, 139-156.

Elliot, A. J., McGregor, H. A., & Gable S. (1999). Achievement goals, study strategies, and exam performance: A mediational analysis. *Journal of Educational Psychology, 91*(3), 549-563.

Entwistle, N. (1981). *Styles of learning and teaching*. Toronto: John Wiley.

Fink, A. (2003). *The survey handbook*. Thousand Oaks, CA: Sage Publications.

Finney, S. J., Pieper, S. L., & Barron, K. E. (2004). Examining the psychometric properties of the achievement goal questionnaire in a general academic context. *Educational and Psychological Measurement, 64*(2), 365-382.

Garrison, D. R. (1997). Self-Directed learning: Toward a comprehensive model. *Adult Education Quarterly, 48*(1), 18-34.

Harackeiwicz, J. M., Pintrich, P. R., Baron, K. E., Elliot, A. J., & Thrash, T. M. (2002). Revision of achievement goal theory: Necessary and illuminating. *Journal of Educational Psychology, 94*(3), 638-645.

Harackiewicz, J. M., Barron, K. E., & Elliot, A. J. (1998). Rethinking achievement goals: When are they adaptive for college students and why? *Educational Psychologist, 33*, 1-21.

Harackiewicz, J. M., Tauer, J. M., Barron, K. E., & Elliot, A. J. (2002). Predicating success in college: A longitudinal study of achievement goals and ability measures as predictors of interest and performance from freshman year through graduation. *Journal of Educational Psychology, 94*(3), 562-575.

Harter, S. (1981). A model of intrinsic mastery motivation in children: Individual differences and developmental change. In A. Collins (Ed.), *Minnesota symposia on child psychology* (p. 14). Hillsdale, NJ: Lawrence Earlbaum & Associates.

Huck, S. (2004). *Reading statistics and research*. New Yirk, New York: Pearson.

Hunt, E. S. (1992). *Professional workers as learners: The scope, problems and accountability of continuing professional education in the 1990's*. Washington, DC: Office of Educational Research and Improvement.

Johanson. (2003). Factors influencing program selection and professional expectations of physical therapy students. *Dissertation Abstracts*.

Johnson, N. (2004). Factors that promote or deter physical therapists' participation in a transitional dotorate of physical therapy education program. *Unpublished Dissertation, Pennsylvania State University,* State College, PA.

Kagan, J. (1972). Motives and Development. *Journal of Personality and Personal Psychology, 22*, 51-66.

Kazdin, A. E., & Bootzen, R. R. (1972). The token economy: An evaluative review. *Journal of Applied Behavioral Analysis, 5*, 343-372.

Krabanick, S. A. (2003). Seeking help in large college classes: A person centered approach. *Contemporary Educational Psychology, 28*, 38-57.

Krejcie, R., & Morgan, D. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(3), 607-610.

Leeper, M. R., Greene, D., & Nisbett, R. E. (1973). Undermining children's intrinsic interest with extrinsic rewards: A test of the "over justification" hypothesis. *Journal of Personality and Social Psychology, 28*, 129-137.

Maehr, M. L., & Nichols, J. G. (1980). Culture and achievement motivation: A second look. In N. Warren (Ed.), *Studies in cross cultural psychology* San Diego: Academic Press.

McClelland, D. C., Atkinson, J. W., Clark, R. A., & Lowell, E. L. (1957). *The achievement motive*. New York: Appleton-Century-Crofts.

McGregor, H. A., & Elliot, A. J. (2002). Achievement goals as predictors of achievement-relevant processes prior to task engagement. *Journal of Educational Psychology, 94*(2), 381-395.

Midgley, C., Kaplan, A., & Middleton, M. (2001). performance-approach goals: Good for what, for whom, and under what circumstances, and at what cost? *Journal of Educational Psychology, 93*, 77-86.

Morton, M., & Thornley, G., (2001). Experiences of doctoral students in mathematics in New Zealand. *Assessment and Evaluation in Higher Education, 26*(2), 113-126.

Nicholos, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task, choice and performance. *Psychological Review, 91*, 328-346.

Pajeras, F. (2002). Gender and perceived self-efficacy in self-regulated learning. *Theory into Practice, 41*, 116-125.

Piaget, J. (1952). *The Origins of Intelligence in Children*. New York: W. W. Norton.

Pintrich, P. R. (1999). The role of motivation in promoting and sustaining self regulated learning. *International Journal of Education, 31*, 459-470.

Pintrich, P. R. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology, 92*, 544-555.

Pintrich, P. R. (2002). The role of goal orientation in self-regulated learning. In *Handbook of self-regulation* (pp. 451-502). San Diego: Academic Press.

Pintrich, P. R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. *Advances in Motivation and Achievement: a Research Annual, 7*, 371-402.

Pintrich, p. R., & Schrauben, B. (1992). Student's motivational beliefs and their cognitive engagement in classroom academic tasks. In D. H. Schunk & J. L. Meece (Eds.), *Student perceptions in the classroom* (pp. 149-183). Hillsdale, NJ: Earlbaum.

Pintrich, P. R., & Schunk, D. (2002). *Motivation in education: Theory, research, and applications*. Upper Saddle, NJ: Prentice-Hall.

Rawsthorne, L. J., & Elliot, A. J. (1997). Achievement goals and intrinsic motivation: A meta-analytic review. *Personality and Social Psychology Review, 3*(4), 326-344.

Ross, M. (1975). Salience of reward and intrinsic motivation. *Journal of Personality and Psychology, 39*, 368-376.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist, 55*, 68-78.

Schon. (1987). *Educating the reflective practitioner*. San Francisco: Josey-Bass.

Schunk, D. H. (1982). Effects of effort attributional feedback on children's perceived self-efficacy and achievement. *Journal of Educational Psychology, 74*, 548-556.

Schunk, D. H. (1984). Enhancing self-efficacy and achievement through rewards and goals: Motivation and informational effects. *Journal of Educational Research, 78*, 29-34.

Schunk, D. H. (2000). *Learning theories: An educational perspective* (3rd ed.). Upper Saddle River, New Jersey: Prentice-Hall.

Schunk, D. H., & Swartz, C. W. (1993). Goals and progress feedback: Effects of self-efficacy and writing achievement. *Contemporary Educational Psychology, 18*, 337-354.

Schunk, D. H., & Zimmerman, B. J. (1994). *Self regulation of learning and performance: Issues and educational applications*. Hillsdale, NJ: Earlbaum.

Skinner, B. (1953). *Science and human behavior*. New York: Macmillan.

Smutz, W. D., & Queeney, D. S. (1990). Professional as learners: A strategy for maximizing professional growth. In R. M. Cervero, Azzaretto, & Associates (Eds.), *Visions for the future of continuing professional education* (pp. 183-208). Athens, GA: Georgia Center for Continuing Professional Education.

Stern, M. R., & Queeney, D. S. (1992). The scope of continuing professional education: Providers, consumers, issues. In E. S. Hunt (Ed.), *Professional workers as learners: The scope, problems, and accountability of continuing professional education in the 1990's* Washington, DC: Office of Educational Research and Improvement.

Thomas, S. (2003). Physical therapists perceptions of motivation and barriers to pursuing a transitional DPT degree. *Journal of Physical Therapy Education, 17*(2), 38-44.

Threkheld, J., Jensen, G., & Royeen, C. (1999). The clinical doctorate: a framework for analysis in physical therapy education. *Physical Therapy, 79*(6), 567-581.

Warner, R. (2008). *Applied Statistics* [From bivairiate through multi-variate techniques]. Thousand Oaks, CA: Sage Publications.

Weiner, B. (2005). Motivation from an attribution perspective and the social psychology of perceived competence. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 73-93). New York: Guilford Press.

White, R. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66,* 297-333.

Wood, A., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of Management Review, 14*(3), 361-384.

Appendix A

The following statements are about your goals for this class. Please indicate your level of agreement or disagreement with each item by choosing a number.

1	2	3	4	5
Strongly disagree				Strongly agree

1._____ My goal is to completely master the material presented in this class.

2._____ I want to do well compared to other students.

3._____ I want to learn as much as possible.

4._____ It is important for me to do better than other students.

5._____ My goal is to avoid learning less than I possibly could.

6._____ It is important for me to avoid doing poorly compared to other students.

7._____ It is important for me to understand the content of this course as thoroughly as possible.

8._____ My goal is to perform better than the other students.

9._____ I want to avoid learning less than it is possible to learn.

10._____ My goal is to avoid performing worse than other students.

11._____ It is important for me to avoid an incomplete understanding of the course material.

12._____ I want to avoid performing poorly compared to others.

Mastery-approach = 1+3+7.

Performance-approach = 2+4+8.

Mastery-avoidance = 5+9+11.

Performance-avoidance = 6+10+12.

Used in Cury et al., JPSP, 2006

Appendix B

The following statements are about your goals for this class. Please indicate your level of agreement or disagreement with each item by choosing a number.

1	2	3	4	5
Strongly disagree				Strongly agree

1._____ My goal this semester is to get better grades than most of the other students
2._____ It is important for me to do well compared to other students this semester
3._____ I want to do better than other students this semester
4._____ I just want to avoid doing poorly compared to other students this semester
5._____ The fear of doing poorly is what motivates me
6._____ My goal this semester is to avoid doing poorly compared to other students
7._____ I am afraid that I may not understand the content of my courses as thoroughly as I'd like
8._____ I worry that I may not learn all that I possibly could this semester
9._____ I am definitely concerned that I may not learn all that I can this semester
10._____Completely mastering the material in my courses is important to me this semester
11._____ I want to learn as much as possible this semester
12._____ The most important thing for me this semester is to understand the content in my courses as thoroughly as possible

Used in Finney, et al., (2004)

Appendix C

Pilot Study Instructions

Motivation and Demographic Factors that Influence
Physical Therapists to Attain the Transitional DPT Degree:

A Survey of Licensed Physical Therapists in Pennsylvania
Pilot Letter
Greetings,

Attached is a survey to examine the motivation and factors that influence physical therapists' decisions to attain the doctorate of physical therapy. I am requesting your assistance, as an expert in this field, to help pilot this study. Please complete the survey and consider the following recommendations for piloting a study. Fink recommends that the pilot group be asked the following questions; (1) Are the instructions for completing the survey clearly written; (2) Are questions easy to understand; (3) Do respondents know how to indicate responses; (4) Are the response choices mutually exclusive; (5) Are the response choices exhaustive; (6) Can the respondents correctly use the commands of the web based survey; (7) In a computer assisted survey, do respondents know how to change their answers; (8) If there is incentive for the survey, do respondents know how to obtain it; (9) Is the privacy of the respondents respected and protected; (10) Do respondents have any suggestion regarding the addition or deletion of questions, clarification of instructions, or improvements in questionnaire format. (Fink, 2003, 109-110).

This will be a mailed survey, and it is not yet in its final polished form. It will be professionally presented by a graphic designer. At this time, I am requesting your assistance to help to finalize the content so that I can move forward with IRB approval and publication of the survey in its final form.

Thank you in advance for your help.

Craig Ruby

Appendix D
Survey Cover Letter

Motivation and Demographic Factors that Influence Physical Therapists' Decisions to Attain the Doctorate of Physical Therapy

November, 2007

As a physical therapist, I am sure that you recognize the value of evidence based practice. You are receiving this invitation to participate in a survey to help determine physical therapists' attitudes about the DPT. The success of any survey depends upon the respondents. Your opinions are very important to the success of this study and the field of physical therapy as we transition to a doctoring profession. The questionnaire attached to this letter will take only 5-10 minutes of your time and your response will help determine what motivates therapists to transition to the DPT.

You are invited to participate in this study. Your participation in this project is voluntary. If you elect to participate, complete the questionnaire and return it to the investigator in the provided postage paid envelope. If you choose not to participate, simply discard the questionnaire. *By completing the questionnaire, you are agreeing to participate in this study.*

Your answers will be kept confidential. There is a number on the return envelope to track respondents and non-respondents for follow up contact. Data analysis will not be linked to individual respondents and data collected will be kept in a locked file cabinet. There are no known risks for participation in this study.

This is a doctoral study being conducted at Indiana University of Pennsylvania. For more information regarding this project, please contact the primary investigator, Craig Ruby at the phone number below.

This study is being done in partial fulfillment for a Doctorate of Education at Indiana University of Pennsylvania. Thank you in advance for your help.

Sincerely,

Craig Ruby
Primary Investigator
Administration and Leadership Studies
Leadership Studies
85 Sichi Hill Road
Eighty Four, PA 15330
Phone 724-344-7244

Wenfan Yan
Faculty Sponsor
Administration and

113 Davis Hall
Indiana, PA 15705-1087
Phone 724-357-7931

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

Survey Cover Letter

Motivation and Demographic Factors that Influence Physical Therapists' Decisions to Attain the Doctorate of Physical Therapy

December, 2007

One month ago, you received an invitation to participate in a survey to determine what motivates physical therapists to attain the Doctorate of Physical Therapy. If you have already completed and returned this survey, thank you. If you have not yet responded, please take this opportunity to complete this very brief survey and return it in the provided postage paid envelop. Your opinions are very important to the success of this study and to the future of physical therapist education. The success of any survey depends upon the respondents. Traditionally, physical therapists have responded in high numbers for prior studies. Please share your views regarding the DPT so that this survey will provide a representative sample of physical therapists' opinions.
By completing the questionnaire, you are agreeing to participate in this study.
Your answers will be kept confidential. Data analysis will not be linked to individual respondents and data collected will be kept in a locked file cabinet. There are no known risks for participation in this study.
For more information regarding this project, please contact the primary investigator, Craig Ruby at the phone number below.
This study is being done in partial fulfillment for a Doctorate of Education at Indiana University of Pennsylvania. Thank you in advance for your help. The survey begins on the back of this letter.

Sincerely,

Craig Ruby
Primary Investigator
Administration and Leadership Studies
85 Sichi Hill Road
Eighty Four, PA 15330
Phone 724-344-7244

Wenfan Yan
Faculty Sponsor
Administration and Leadership Studies
113 Davis Hall
Indiana, PA 15705-1087
Phone 724-357-7931

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

Motivation and Demographic Factors That Influence Physical Therapists' Decisions to Attain the Transitional Doctorate of Physical Therapy

Demographics

Please answer each item by placing an *X* or √ in the appropriate box. Mark one response for each item unless otherwise noted.

Entry Level PT Degree:	☐ Certificate	☐ Bachelor's	☐ Master's	☐ Doctorate	☐ Other
Highest Earned Academic Degree:	☐ Certificate	☐ Bachelor's	☐ Master's	☐ Doctorate (Not DPT)	☐ Other
Age:	☐ Under 30	☐ 31-40	☐ 41-50	☐ 51-60	☐ Over 60
Years Experience:	☐ 0-5	☐ 6-10	☐ 11-15	☐ 16-20	☐ 21-25 ☐ Over 25
Gender: (Circle One) Male Female		APTA Member: (Circle One) Yes No			
Do you currently have a transitional DPT?		☐ Yes		☐ No	
If no, do you intend to transition to the DPT?		☐ Yes		☐ No	
Are you currently enrolled in a transitional DPT program?		☐ Yes		☐ No	
Current Employment Status:	☐ Full Time	☐ Part Time	☐ Self Employed	☐ Retired	☐ Unemployed
Current Annual Income at your primary position:	☐ Under 40,000	☐ 40,001-50,000	☐ 50,001-60,000	☐ 60,001-70,000	☐ 70,001 80,000 ☐ 80,001-90,000 ☐ Over 90,000

Primary clinical focus in which you practice most often: (Choose One)						
☐ Aquatic Physical Therapy	☐ Cardio-vascular Pulmonary	☐ Clinical Electro-Physiology	☐ Geriatrics	☐ Hand Rehabilitation	☐ Lymphedema Management	☐ Neurology
☐ Oncology	☐ Orthopedics	☐ Pediatrics	☐ Sports	☐ Women's Health	☐ Wound Management	☐ Other

Type of facility in which you practice most often: (Choose One)					
☐ Acute Care Facility	☐ Sub-Acute Rehab Hospital	☐ Hospital Based Outpatient Facility	☐ Private Outpatient Office	☐ SNF/ICF/ECF	☐ Patient's Home/ Home Care
☐ School System/ Primary/ Secondary	☐ Academic Institution/ Post Secondary	☐ Health and Wellness Facility	☐ Research Center	☐ Industry	☐ Other

Are you employed by a physician owned practice?	☐ Yes	☐ No
Are you an administrator?	☐ Yes	☐ No
Are you a clinical instructor?	☐ Yes	☐ No

Directions: The following statements are about your goals as a physical therapist. Please answer each item by placing an ***X*** or a √ in the appropriate box	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. My goal is to completely master the material required of a physical therapist.					
2 I want to do well compared to other physical therapists.					
3. I want to learn as much as possible.					
4. It is important for me to do better than other physical therapists.					
5. My goal is to avoid learning less than I possibly could.					
6. It is important for me to avoid doing poorly compared to other physical therapists.					
7. It is important for me to understand the content of physical therapy as thoroughly as possible.					
8. My goal is to perform better than other physical therapists.					
9. I want to avoid learning less than it is possible to learn.					
10. My goal is to avoid performing worse than other physical therapists.					
11. It is important for me to avoid an incomplete understanding of physical therapy material.					
12. I want to avoid performing poorly compared to others.					

Directions: The following statements are about your goals as a physical therapist. Please answer each item by placing an ***X*** or a √ in the appropriate box	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
13. The DPT is important for my professional development.					
14. Earning the DPT degree will lead to an increase in salary.					
15. Earning the DPT degree will improve my clinical skills.					
16. The DPT degree is important for autonomous physical therapy practice.					
17. The DPT degree will assist in career advancement.					
18. The DPT will add prestige to my clinical practice.					
19. The DPT degree will help me to meet a personal goal.					
20. The DPT degree will improve my knowledge base.					
21. The DPT degree will improve my professional image.					
22. Obtaining a DPT will assist practice utilizing direct access.					
23. The DPT will improve reimbursement from third party payers.					

24. The DPT will improve my ability to perform research.					
25. Time to completion is/was an important factor in the decision to attain the DPT.					
26. Distance to travel is/was an important factor in the decision to attain the DPT.					
27. Colleague support is/was an important factor in the decision to attain the DPT.					
28. Family support is/was an important factor in the decision to attain the DPT.					
29. Online coursework is desirable in choosing a DPT program.					
30. The DPT will assist in gaining skills for evidence based practice.					

31. Of the following statements, which most closely corresponds to your attitude about the DPT? (Choose One)

_____I am interested in the DPT for professional development.

_____I am interested in the DPT to advance my career.

_____I am interested in the DPT to improve my knowledge base.

_____I am interested in the DPT for personal reasons.

_____None of the above describe my attitude toward the DPT.

_____I am not interested in the DPT.

32. Of the following statements, which most closely corresponds to you attitudes about the DPT? (Choose one)

_____I am interested in the DPT to increase my salary

_____I am interested in the DPT to improve my professional image.

_____I am interested in the DPT to improve employment opportunities.

_____I am interested in the DPT for autonomous practice.

_____None of the above describe my attitude toward the DPT.

_____I am not interested in the DPT

33. Of the following statements, which most closely corresponds to you attitudes about the DPT? (Choose one)

_____I would choose/chose a DPT program because it is close to my home.

_____Time to completion was/would be the most important factor in choosing a DPT program.

_____Cost is/would be an important factor in choosing a DPT program.

_____Course offerings were/would be an important consideration in choosing a DPT program.

_____None of the above describe my attitude toward the DPT.

_____I am not interested in the DPT

34. Of the following statements, which most closely corresponds to you attitudes about the DPT? (Choose one)

_____Colleague support was/would be an important factor in choosing a DPT program.

_____Family support is/would be an important factor in choosing a DPT program.

_____Employer support would be an important factor in choosing a DPT program.

_____None of the above describe my attitude toward the DPT.

_____I am not interested in the DPT.

35. What are your career goals and how does the DPT fit into those goals? (Use this space to elaborate.)