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Application of the Interactional Model of Cultural Diversity to Identify Diversity Climate Factors Associated with Organizational Effectiveness in Accredited U.S. Physical Therapist Education Programs

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APPLICATION OF THE INTERACTIONAL MODEL OF CULTURAL DIVERSITY TO IDENTIFY DIVERSITY CLIMATE FACTORS ASSOCIATED WITH ORGANIZATIONAL EFFECTIVENESS IN ACCREDITED U.S. PHYSICAL THERAPIST EDUCATION PROGRAMS

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ABSTRACT

APPLICATION OF THE INTERACTIONAL MODEL OF CULTURAL DIVERSITY TO IDENTIFY DIVERSITY CLIMATE FACTORS ASSOCIATED WITH ORGANIZATIONAL EFFECTIVENESS IN ACCREDITED U.S. PHYSICAL THERAPIST EDUCATION PROGRAMS

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Accredited U.S. physical therapist education programs are responsible for the preparation of its graduates to provide culturally sensitive care to meet the physical therapy needs of an increasingly diverse population. While the importance of workforce diversity has been articulated, the effect of *diversity climate* on *organizational effectiveness* within accredited U.S. physical therapist education programs has not been described. The purpose of this study was to evaluate the effectiveness of the Interactional Model of Cultural Diversity (IMCD, Cox, 1993) as a theoretical framework to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs. A descriptive, cross-sectional design was used to examine two constructs of the theoretical framework. A total of 151 programs (RR=83.9%) participated in the study. Key informants were academic coordinators/directors of clinical education (N=151). Cronbach's alpha coefficients were .82 for the IAPCC-R (Campinha-Bacote, 2002) and .78 for the perception of diversity climate survey adapted from The Ethnicity Subscale of The Diversity Survey (Brinkman et al, 1992).

Some *diversity climate* factors were associated with *organizational effectiveness* in accredited U.S. physical therapist education programs in this analysis. *Identity structures* significantly predicted graduation rate, number of graduates, number of minority graduates and percent minority graduates. *Culture and acculturation process* significantly predicted licensure rate. *Structural integration* significantly predicted graduation rate, number of minority graduates and percent minority graduates. *Institutional bias in human resource systems* significantly predicted number of minority graduates and percent minority graduates. Favorable perceptions of *diversity climate* were associated with a higher number of minority graduates and higher percent minority graduates.

The current *diversity climate* in accredited U.S. physical therapist education programs is sub-optimal. Unfavorable perceptions of *diversity climate* were identified in all *institutional bias in human resource systems* subscales. Future policy directions should explore evidence-based strategies and the effectiveness of studies related to *diversity climate* to foster the profession's contributions to eliminating health disparities and improving workforce diversity.

This dissertation is dedicated by the grace of El-Shaddai in memory of my great-grandmother Mrs. Ella Broussard Breaux, my grandmother Mrs. Emma Breaux Francis and my cousin, Miss Cynthia Barb~

To my Mother and Father for your prayers and love, and

To my Daughter with all my love~

Your gentle spirit changed my life and inspired me to write this book.

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CHAPTER I

Introduction

The majority of accredited United States (U.S.) physical therapist education programs are not racially and ethnically diverse (American Physical Therapy Association [APTA], 2005). Fifty-six percent (n=110) of all accredited U.S. physical therapist education programs (n=195) had no minority core faculty in 2004-05 (APTA, 2005; Commission on the Accreditation of Physical Therapy Education [CAPTE], 2005). Lack of core faculty diversity in the majority of accredited U.S. physical therapist education programs is problematic. Enrollment, number of minority graduates and graduation rates are negatively affected when there is no program commitment to diversity (Haskins & Kirk-Sanchez, 2006; Gordon, 2005; Kachingwe, 2003, 2000; Dal Bello-Haas, 2002; Crump, 1999; Payne, Nowacki, Girotti, Townsel, Plagge & Beckham, 1986). When racial diversity exists at the program level, underserved populations may receive improved quality of care and health care disparities may be eliminated (Noonan & Evans, 2003; Smedley, Stith & Nelson, 2002; U.S. Department of Health and Human Services, 2003).

Ethnicity and cultural background are common to all people and are not limited to persons of color (Evans & Greenberg, 2006). The number of racially and ethnically diverse students entering health professions programs should reflect the diversity of the population that they will eventually serve (McQueen & Zimmerman, 2004). Program strategies to recruit and retain diverse students should address minority faculty shortages and known barriers to degree

completion unique to under-represented minorities in health professions programs (Acosta & Olsen, 2006; Eastmond-Robinson, 1999).

Fostering diversity may improve perceptions of *diversity climate* by academic faculty. A qualitative study using focus groups and interviews with 29 tenure track medical school faculty identified barriers to improving diversity in one urban academic setting (Price, Gozu, Kern, Powe, Wand, Golden & Cooper, 2005). A systematic review of an organization's racial and ethnic *diversity climate* may be part of the process of fostering diversity (Dreachslin, 1999).

Commitment to diversity in a supportive program climate benefits faculty and students (Browne & Greenberg, 2004). Increased minority student enrollment, number of clinical education sites that serve diverse populations, number of clinical education placements in Latino settings and increased community awareness of the profession were results of the Department of Health and Human Services (DHHS) Physician Assistant Training Grant project during 1999-2002. Community and program benefits included increased employment of physician assistants in rural communities and underserved areas and scholarships for enrolled students who exhibited a commitment to diversity (Legler & Stohs, 2003).

Chapter I will focus on the statement of problem, diversity, importance of provider diversity and cultural competence, and possible barriers to diversity in accredited U.S. physical therapist education programs. Limitations of previous research, purpose of the study, significance of the study, assumptions and

definition of terms is followed by the research questions for which this study is designed. Chapter I will conclude with study limitations.

Statement of the Problem

Accredited U.S. physical therapist education programs do not reflect the racial and ethnic diversity of the U.S. population (APTA, 2005; Wilcox, 2005; Noonan et al., 2003; Bender, 2002). Census projections indicate that a rapid increase in minority populations will continue through 2050 (U.S. Bureau of the Census, 2000). Population projections show that non-Hispanic Whites will represent less than 50% of the general population by 2060 (Smedley et al., 2002). A comparison of racial and ethnic diversity in accredited U.S. physical therapist education programs and the general population suggest a critical under-representation of minorities in these programs.

Analysis of graduate data in accredited physical therapist education programs show that the percentage of non-minority graduates declined each year from 5596 (88.5%) in 1997 to 3827 (77.9%) in 2004. The percentage of minority graduates shows a steady increase from 727 (11.5%) in 1997 to 1085 (22.1%) in 2004. As the percent of minority graduates has increased, the pass rate for first time takers on the National Physical Therapy Examination [NPTE] has decreased (APTA, 2005; Seago & Spetz, 2005).

Enrolled minority students are still under-represented despite increases in most minority student categories and all minority graduate categories (APTA, 2005). Enrollment data indicates that non-Hispanic White and Asian students are over-represented in accredited physical therapist education programs.

Ethnicity data in accredited physical therapist education programs indicates an over-representation of non-Hispanic White students (79.4%; n=12,543) and an under-representation of minority students (20.6%; n = 3,253). While Asian students are considered a minority group in this study, the percent representation in accredited U.S. physical therapist education programs exceeds the percent representation in the general population (APTA, 2005; U.S. Bureau of the Census, 2000).

Under-representation of minorities in health professions programs has been cited as a contributing factor to health care disparities (Evans & Greenberg, 2006; Nugent, Childs, Jones & Cook, 2004). As cultural diversity increases in the general population, programs cannot afford to remain culturally homogeneous (Simpson, 2004). Commitment to increasing diversity in physical therapist education programs will require specific goals and objectives that address longstanding under-representation (Kachingwe, 2003). Unless accredited U.S. physical therapist education programs significantly increase recruitment and retention of minority faculty and students, their contribution to the elimination of health care disparities will be limited (Cora-Bramble, 2006; Nugent et al., 2004).

The presence of minority faculty in health professions programs is crucial to the recruitment of underrepresented minorities to these programs. Barriers to recruitment of diverse students in U.S. medical schools included lack of underrepresented minority faculty and lack of underrepresented minority faculty role models (Agrawal, 2005). Survey responses indicated that these programs rated their recruitment efforts favorably. However, a plan to increase minority

representation in conjunction with a supportive infrastructure does not guarantee increased numbers of enrolled underrepresented minority students. When these programs do not have faculty role models, efforts to increase minority representation are unsuccessful (Callender, 2006). Lack of underrepresented minority faculty and lack of underrepresented minority faculty role models are barriers to achievement of a diverse provider workforce in accredited U.S. physical therapist education programs.

Increasing provider diversity and cultural competence education are two strategies that address elimination of health care disparities (BHSP, 2006; Kennedy, 2005; Smedley et al., 2002). The literature supports racial and ethnic diversity in health care providers that reflects this diversity in the general population (Cora-Bramble, 2006; Nugent et al., 2004; Smedley et al., 2002). Cultural competence in health professions education may help to increase awareness and knowledge of the impact of culture on health outcomes (Smedley et al., 2002).

Importance of provider diversity. A diverse work force is critical to the elimination of health care disparities and improvement of health care outcomes for all populations (Price et al, 2005; Bian et al, 2003; Noonan & Evans, 2003; Ibrahim et al, 2002; Dunlop et al, 2000; Gonzales et al, 2000; USDHHS, 2003). Minority representation in the U.S. population is greater than that in the health care workforce (Mitchell, 2005). Minority providers are needed because most non-Hispanic White providers do not provide care for minority or medically underserved groups (Noonan & Evans, 2003). According to the Minority Health

and Health Disparities Research and Education Act of 2000, the medically underserved U.S. population is primarily White, live in rural areas and have reduced access to care (BHSP, 2006). Minorities, indigent and low income patients are four times more likely to be cared for by minority physicians than non-Hispanic White physicians (Moy & Bartman, 1996). Shortages in minority providers reduce access to care for minority and underserved populations. While minority providers are more likely to serve minority or medically underserved populations, increasing classroom and diversity in the health care work force is a national initiative to eliminate health disparities (Mitchell, 2005).

Importance of cultural competence. Achieving cultural competence at the program level is crucial to eliminating health care disparities in the general population. Cultural competence training in health professions programs is critical to the preparation of graduates who can serve the public in culturally appropriate ways (Betancourt, 2006; Smedley et al, 2002; USDHHS, 2003). Academic and clinical education experiences within and external to physical therapy programs are necessary to prepare graduates for real-life practice in a diverse society (Kraemer, 2001; Jaffee Gropak, 2001). Cultural competence is a process requiring periodic cultural assessment (Camphina-Bacote, 1999). Faculty should assess their own cultural competence as a way of determining readiness to guide students through the process of becoming culturally competent (Sealey et al, 2006).

Impact on patient care outcomes. The interpersonal nature of the provider-patient relationship requires health care providers to communicate

effectively with diverse patients (Smedley et al, 2002). Communication occurs in the context of clinical encounters between health care providers and their patients. These clinical encounters may be affected when health care providers and patients have different cultural backgrounds (Campinha-Bacote, 2002). Ineffective communication during provider-patient interactions is problematic because it can contribute to inaccurate clinical decision making by providers that lead to poorer clinical outcomes for underrepresented minority patients (Smedley et al, 2002). These clinical decisions may be influenced by information processing strategies on the part of providers that lead to behaviors that reflect stereotypes, bias and discrimination (Smedley et al, 2002). Health professions programs link students' educational and clinical experiences to future health care practice through role modeling and classroom cultural content. As such, these programs are crucial to the elimination of health care disparities that result from provider-patient interactions. Educational strategies should address communication skills, knowledge on health care disparities and accurate beliefs about different cultural groups (Smedley, 2002; Campinha-Bacote, 2002). Health professions education programs control the numbers of underrepresented minorities that enter the health care workforce through admissions, recruitment and retention efforts. With relatively small numbers of underrepresented minorities in the workforce and lack of preparation of health professionals in cultural issues, diverse patients are less likely to be treated by providers who are able to effectively address their health care needs (Mitchell, 2005).

Barriers to Program Diversity

The literature suggests that increasing diversity through recruitment and retention of underrepresented minority groups in accredited U.S. physical therapist education programs will facilitate provider diversity and eliminate health care disparities in these groups (Betancourt, 2006; Evans & Greenberg, 2006; Price et al, 2005; Smedley et al, 2003; USDHHS, 2003). However, minority students face barriers in recruitment and retention that contribute to high attrition rates. Four major barriers to program student diversity are high school academic preparation, financial difficulty, social adjustment and perceived discrimination from faculty and students (Evans & Greenberg, 2006; Nugent et al, 2004; Haskins & Kirk-Sanchez, 2006).

Accredited physical therapist education programs are addressing the issue of minority under-representation through recruitment and retention strategies. A study exploring recruitment and retention of minority students in accredited physical therapist education programs (n=172; 41% RR) showed that the strategies currently used by physical therapist education programs with a recruitment and retention plan do not yield different results in graduation rates when compared to programs that reported having no plan to recruit and retain minorities. Information about number of minority students enrolled and number of minority graduates was not tracked by some programs which resulted in a low response rate. Low numbers of enrolled minority students may indicate a lower graduation rate for this group (Haskins & Kirk-Sanchez, 2006).

Physical therapy degree enhancements over the past 15 years may affect the recruitment and retention of future minority students. This may disproportionately affect African-American students more than any other minority (Haskins & Kirk-Sanchez, 2006). The number of doctoral (DPT) programs increased from 19 to 111 between 2000 and 2004. By 2008, 82% of all programs will confer entry-level DPT degrees (APTA, 2005). Doctor of physical therapy programs require more time to complete than the masters level programs they replace. Since financial difficulty has been identified as a barrier to program diversity, the three-year DPT program may result in even fewer minority student enrollments than is the present situation and may lead to a greater reduction in graduation rates (Haskins & Kirk-Sanchez, 2006). Unless minority student recruitment and retention barriers are removed, fewer underrepresented minority graduates from these programs will result in reduced provider diversity.

Purpose of the Study

The purpose of this study is to evaluate the effectiveness of the Interactional Model of Cultural Diversity as a theoretical framework to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs. Specifically, this study will use this theoretical framework to identify *diversity climate* factors, measures of *organizational effectiveness* and examine the impact of these factors on organizational outcomes in these programs.

Significance of the Study

This study is significant because it will test the Interactional Model of Cultural Diversity as a theoretical framework for describing the *diversity climate* factors that are associated with *organizational effectiveness* in accredited U.S. physical therapist education programs. No study has been published that uses this theoretical framework in identifying *diversity climate* factors associated with measures of *organizational effectiveness* using the accredited U.S. physical therapist education program as the unit of analysis.

Results of this study may be of interest to health services researchers, funding agencies, health care policymakers, specialized accreditation teams, accredited U.S. physical therapist education program administrators, core faculty, clinical educators and students in health professions programs. While this research involves accredited U.S. physical therapist education programs, an explanatory model may be beneficial to other health professions education programs to identify *diversity climate* factors that impact *organizational effectiveness* unique to these programs.

Study findings may increase awareness of *diversity climate* factors that are associated with *organizational effectiveness* in accredited U.S. physical therapist education programs. This information may be useful in supporting further research on the impact of diversity on outcomes in these programs. Findings will add to the research literature on diversity in health professions education.

Limitations of Previous Research

A review of the literature reveals shortcomings in four basic areas of diversity and organizational effectiveness research in accredited U.S. physical therapist education programs. These four basic areas are description of *diversity climate*, a reliable and valid measure of the construct, *diversity climate*, in these programs, explanatory power of a theoretical framework to describe the effects of diversity on the construct, *organizational effectiveness*, and the role of key informants in these programs.

There is no published research that describes *diversity climate* in accredited U.S. physical therapist education programs. The paucity of related literature addresses theory in diversity and theory in organizational effectiveness (Dreachslin, 1999; Payne, 1986). Further, there is no documentation on the explanatory power of a theoretical framework to describe the effects of *diversity climate* on accredited U.S. physical therapist education program outcomes. In the absence of a theoretical framework to describe the constructs, *diversity climate* and *organizational effectiveness*, policy recommendations cannot be substantiated.

A reliable and valid instrument that measures the construct, *diversity climate,* in accredited U.S. physical therapist education programs has not been published in the literature. Qualitative research methods have been used to assess the process of cultural competence in health professions programs. However, they have been done with very small sample sizes that employed either a one time survey administration or semi-structured interviews (Sealy,

Burnett & Johnson, 2006; Seago & Spetz, 2005; Camphina-Bacote, 1994, 1999, 2001, 2002, 2003).

A review of current literature suggests a lack of theoretical application of the constructs, *diversity climate* and *organizational effectiveness,* in accredited U.S. physical therapist education programs. There is currently no explanatory framework that addresses the impact of diversity on the organizational effectiveness in these programs. The absence of theoretical application and a framework for understanding the relationship between the model constructs, *diversity climate* and *organizational effectiveness,* in these programs requires further study to address this gap in the physical therapist education literature.

Strategies for increasing program diversity are under-utilized in physical therapist education programs. Descriptive articles outline the federal policies on which diversity strategies can be based (Board on Health Sciences Policy, 2006; Smedley et al., 2002; Gonzales, Gooden & Porter, 2000; Kennedy, 2005; U.S. Department of Health and Human Services, 2000). The significance of recruitment, retention and provider diversity in health professions education is articulated in several articles (Noonan & Evans , 2003; Moy & Bartman, 1996; Bender, 2002; Evans & Greenberg, 2006; Leonard, 2006; McQueen & Zimmerman, 2004; Simpson, 2004; Tanner, 1996; Crump, 1999; Gordon, 2005; Kachingwe, 2003; Price et al, 2005). A model for mentorship designed to recruit and retain minorities in accredited U.S. physical therapist education programs has been cited in two articles (Nugent et al, 2004; Haskins & Kirk-Sanchez, 2006). An understanding of the model construct, *diversity climate,* and its effect

on the model construct, *organizational effectiveness,* in accredited U.S. physical therapist education programs is necessary to address barriers that impact program diversity.

Assumptions

This study makes the following assumptions:

1. Accredited U.S. physical therapist education programs have a qualified faculty and currently enroll students in a full-time curriculum of study.
2. Each accredited U.S. physical therapist education program in this study has a *diversity climate.*
3. Each accredited U.S. physical therapist education program will report its own outcomes for the most recent academic year for which these outcomes are available.
4. Each key informant is a current faculty member at each accredited U.S. physical therapist education program that meets the study criteria.
5. All survey responses are true and accurately reflect the *diversity climate* and *organizational effectiveness* of each program when the survey is completed.
6. All survey data entered by the researcher for analysis is true and accurate.
7. A perception of *diversity climate* rating of ≥5.0 indicates a positive perception of *diversity climate* in an accredited U.S. physical therapist education program.

8. A perception of *diversity climate* rating of <5.0 indicates a negative perception of *diversity climate* in an accredited U.S. physical therapist education program.

Definition of Terms

Census description. This is "a complete enumeration of a population...in an area" (U.S. Bureau of the Census, www.census.gov accessed on May 7, 2007). In this study, census description is metropolitan or micropolitan. Metropolitan is "an area having at least one urbanized area with a population of at least 50,000." Micropolitan is "an area with a population of at least 10,000 but less than 50,000" (U.S.Bureau of the Census, 2000).

Cultural competence scale score. This is "the extent to which a healthcare professional is competent" (Campinha-Bacote, 2003). In this study, cultural competence scale score is expressed as an overall score on the IAPCC-R (Campinha-Bacote, 2003).

Culture and acculturation process. This is "the manner by which groups adapt while resolving cultural differences" (Cox, 1993). In this study, *culture and acculturation process* is cultural competence of the ACCE/DCE.

Degree awarded. This is "an individual-level factor within the *diversity climate*" (Cox, 1993; Appendix K). In this study, degree awarded is masters/entry level DPT.

Diversity climate. This is "a set of individual, group and organizational factors that interact to influence organizational outcomes." In this study, the construct, *diversity climate,* has two levels. Individual-level is "personal identity

structures, prejudice, stereotyping, and personality" (Cox, 1993). Organizational-level is "culture and acculturation process, structural integration, informal integration and institutional bias in human resource systems" (Cox, 1993). In this study, organizational-level is *culture and acculturation process*, *structural integration* and *institutional bias in human resource systems.*

Diversity climate subscale score. The diversity climate category "...captures employees' general perceptions about the organization's ability to manage diversity" (Brinkman, LaFasto & Larson, 1992).

Employment rate. This is "the percentage of graduates who sought employment that were employed as physical therapists within six months of passing the licensure exam." (CAPTE, 2006). In this study, employment rate is the number of graduates who sought employment that were employed as physical therapists within six months of passing licensure exam divided by number of graduates in the most recent graduating class.

Equity and fairness subscale score. The equity and fairness category is "...equality both in organizational policy and regard for different individuals. The general sense of fairness and respect with which the organization treats minorities and/or women is the focus. Judgments of performance, daily conduct and immersion in the communication network is specified" (Brinkman et al, 1992).

Faculty diversity. This refers to structural integration of faculty within accredited U.S. physical therapist education programs. In this study, *faculty*

diversity is defined as programs with 2 or more minority core faculty, programs with 1 minority core faculty and programs with no minority core faculty.

Graduation rate. This is "the percentage of students admitted to the program who complete the program within 150% normally expected time for completion." (CAPTE, 2006). In this study, graduation rate is defined as the number of recent graduates divided by the total cohort of admitted students.

Hiring practices subscale score. The hiring practices category is "the hiring practices of the organization and the attitudes which influence these practices are targeted here" (Brinkman et al, 1992).

Identity structures. These are "distinguishable membership categories to which the individual attaches value and importance" (Cox, 1993). In this study, identity structures refers to program characteristics defined as degree awarded, census description, minority population density, number of core faculty, number of students enrolled and population density.

Institutional bias in human resource systems. This "refers to the fact that preference patterns inherent in how we manage organizations often inadvertently create barriers to full participation by organization members from cultural backgrounds that differ from the traditional majority group" (Cox, 1993). In this study, *institutional bias in human resource systems* is perception of diversity climate scale score.

Licensure rate. This is "the percentage of graduates who take and successfully pass the National Physical Therapy Examination regardless of the

number of attempts" (CAPTE, 2006). In this study, licensure rate is expressed as pass rate for first time test takers.

Minorities in program leadership positions. This is "the extent to which minorities are represented in the authority structure of an organization" (Cox, 1993). In this study, minorities in program leadership positions is the presence of a minority core physical therapy faculty in the formal position of chair, program director or academic coordinator/director of clinical education.

Minority population density. Population density is "the population of an area divided by the number of square miles or square kilometers of land area" (U.S. Bureau of the Census, accessed on May 7, 2007). In this study, minority population density is the percentage minority population in the city where an accredited physical therapist education program is located (U.S. Census Bureau, 2000).

Number of core faculty. Core faculty is defined as "those individuals appointed to and employed primarily in the program, including the program administrator, Academic Coordinator/Director of Clinical Education (ACCE/DCE) and other faculty who report to the program administrator" (CAPTE, 2005). In this study, number of core faculty is total core physical therapy faculty in an accredited U.S. physical therapist education program.

Number of graduates. This is "the extent to which first level and second level outcomes produce desired organizational results" (Cox, 1993). In this study, number of graduates is all physical therapy students who hold a masters or DPT

degree from an accredited U.S. physical therapist education program in the most recent graduating class.

Number of minority core faculty. This refers to the quantitative value assigned to the structural integration of core faculty who are members of minority groups in an accredited U.S. physical therapist education program.

Number of minority graduates. This is "the extent to which first level and second level outcomes produce desired organizational results" (Cox, 1993). In this study, number of minority graduates is all physical therapy students who hold a masters or DPT degree from an accredited U.S. physical therapist education program in the most recent graduating class who are members of minority groups.

Number of minority students enrolled. This refers to the quantitative value assigned to the structural integration of minority students enrolled in an accredited physical therapist education program. It is the number of physical therapy students who are members of minority groups in accredited U.S. physical therapist education programs.

Number of students enrolled. In this study, number of students enrolled is the number of physical therapy students enrolled in an accredited U.S. physical therapist education program.

Organizational effectiveness. "The extent to which first level and second level outcomes produce desired organizational results" (Cox, 1993). In this study, *organizational effectiveness* is the extent to which accredited U.S. physical therapist education programs achieve formal program outcomes.

Percent minority core physical therapy faculty. This refers to the structural integration of minority core faculty in an accredited physical therapist education program. It is the number of minority core faculty divided by the total number of core faculty.

Percent minority graduates. This refers to "the extent to which first level and second level outcomes produce desired organizational results" (Cox, 1993). In this study, percent minority graduates is the number of minority graduates divided by the total number of graduates expressed for the most recent graduating class.

Percent minority students enrolled. This refers to the structural integration of enrolled minority students in an accredited physical therapist education program. It is the number of minority students enrolled divided by the total number of students enrolled in an accredited U.S. physical therapist education program.

Perception of diversity climate scale score. This refers to "the perception of the importance of program efforts toward promoting diversity and general attitude towards minorities" (Kossek & Zonia, 1993). In this study, perception of diversity climate scale score is key informant opinion about program atmosphere for minorities in accredited U.S. physical therapist education programs.

Politics in the work place subscale score. The politics in the work place "category deals specifically with the perceptions of whether or not acts, or

attitudes, of favoritism are operating within the organization" (Brinkman et al, 1992).

Population density. This refers to "the population of an area divided by the number of square miles or square kilometers of land area" (U.S. Bureau of the Census, accessed on May 7, 2007). In this study, population density is urban/rural. Urban is "a statistical area having at least one urbanized area with a population of at least 50,000 people". Rural is "any area not classified as urban" (U.S. Bureau of the Census, 2000).

Promotion practices subscale score. The promotion practices category is "...the organization's attitudes and practices about promotion. As with hiring, the attitudes behind the actions, as well as the actual practices, are targeted" (Brinkman et al, 1992).

Structural integration refers to "levels of heterogeneity in the formal structure of an organization" (Cox, 1993). One form of structural integration is overall employment profile. "Overall employment profile" is the "proportionate representation of various culture groups in the total work force of an organization" (Cox, 1993). In this study, *structural integration* is faculty diversity, number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty and minorities in program leadership positions.

Training and development subscale score. The training and development category is "the common theme for this category focuses on the amount and type of training and help offered to organizational employees. The

actual list of programs and opportunities are not the issue. Rather, it is the employees' perceptions of what is available that is of interest' (Brinkman et al, 1992).

Visible commitment subscale score. The visible commitment category "...is the most important category for diversity management. It stipulates that there should be visible and tangible signs (not merely verbal commitments) that the organization values minorities and/or women. Gender and minority/non-minority ratios are targeted, as well as recognition for achievements and opportunities to discuss concerns" (Brinkman et al, 1992).

Research Questions

Main research question. The main research question focuses on the theoretical framework's effectiveness in identifying *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs. The main research question is as follows: 'Is the Interactional Model of Cultural Diversity an effective theoretical framework to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs?'

Specific construct research questions based on the model. Five specific construct research questions are based on the model constructs. These questions are as follows:

1. Is there a statistically significant relationship between *identity structures* (degree awarded, census description, minority population density, number of core faculty, number of students enrolled,

population density) and *organizational effectiveness* (licensure rate, graduation rate, number of graduates, number of minority graduates and percent minority graduates) in accredited U.S. physical therapist education programs?

2. Is there a statistically significant relationship between *culture and acculturation process* (cultural competence scale score) and *organizational effectiveness* (licensure rate, graduation rate, number of graduates, number of minority graduates and percent minority graduates) in accredited U.S. physical therapist education programs?
3. Is there a statistically significant relationship between *structural integration* (faculty diversity, number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty, minorities in program leadership positions) and *organizational effectiveness* (licensure rate, graduation rate, number of graduates, number of minority graduates, percent minority graduates) in accredited U.S. physical therapist education programs?
4. Is there a statistically significant relationship between *institutional bias in human resource systems* (perception of diversity climate scale score) and *organizational effectiveness* (licensure rate, graduation rate, number of graduates, number of minority graduates, percent minority graduates) in accredited physical therapist education programs?

5. *Of identity structures, culture and acculturation process, structural integration* and *institutional bias in human resource systems,* which *diversity climate* factor is the most significant predictor of *organizational effectiveness* in accredited U.S. physical therapist education programs?

Chapter II presents the description and review of literature on the theoretical framework used in this study, the dependent variable *organizational effectiveness*, the independent variable *diversity climate*, modification of the theoretical framework and research hypotheses.

CHAPTER II

Review of Literature

Theoretical Framework

The theoretical framework used in this study is the Interactional Model of Cultural Diversity (Cox, 1993) [Appendix K]. The theory asserts that the presence of diversity has a direct effect on organizational effectiveness (Weech-Maldonado, Dreachslin, Dansky, De Souza & Gatto, 2002). Evidence of the impact of diversity on organizational outcomes can be measured by achievement of formal organizational goals (Weech-Maldonado et al., 2002; Cox, 1993). Three constructs of this theoretical framework are *diversity climate*, *individual career outcomes* and *organizational effectiveness*. In this study, the constructs, *diversity climate* and *organizational effectiveness*, are addressed. This study will assess how the *diversity climate* of accredited U.S. physical therapist education programs impact *organizational effectiveness*. Perception of diversity climate has been assessed using this theoretical framework incorporating survey research and qualitative assessment (Sharpe, 1997; Brinkman, 1992). An underlying assumption of the theoretical framework is that all organizations have a *diversity climate*.

The Interactional Model of Cultural Diversity postulates that diversity impacts organizational performance on two levels of the construct, *organizational effectiveness* (Cox, 1993). These levels are *first level* and *second level*. First level items are attendance, turnover, productivity, work quality, recruiting success, creativity/innovation, problem solving and workgroup cohesiveness and

communication. First level items are not addressed in this study because they are associated with individuals and groups and irrelevant to the accredited U.S. physical therapist education program as the unit of analysis. First level items are directly influenced by *affective outcomes* and *achievement outcomes* scales of the construct, *individual career outcomes.* The *affective outcomes* level has 3 items. These items are referred to in the model as job/career satisfaction, organizational identification and job involvement. The *achievement outcomes* level has 3 items. These items are referred to in the model as job performance ratings, compensation and promotion/horizontal mobility rates. *Individual career outcomes* directly affect first level *organizational effectiveness.* The first level of the construct, *organizational effectiveness*, influences second level market share and profitability. These two second level items apply to for-profit organizations and are not relevant to accredited U.S. physical therapist education programs in this study. The indirect effect of *individual career outcomes* on first level *organizational effectiveness* is not relevant to this study as these programs are non-profit educational organizations (Cox, 1993).

The *organizational effectiveness* level most relevant to accredited U.S. physical therapist education programs is *achievement of formal program goals.* The theoretical framework permits measurement of *organizational effectiveness* as *achievement of formal organizational goals.* In this study, *achievement of formal program goals* items is licensure rate, graduation rate, employment rate, number of graduates, number of minority graduates and percent minority graduates.

Organizational Effectiveness

Educational programs evaluate graduate outcomes to assess achievement of organizational goals and to facilitate program success (Kassebaum, 1990). In this study, the dependent variable is the construct, *organizational effectiveness.* This study examines six *achievement of formal program outcomes* items relevant to accredited U.S. physical therapist education programs. Six of these items are consistent with accreditation outcomes for physical therapist education programs. These items are licensure rate, graduation rate, employment rate, number of graduates, number of minority graduates and percent minority graduates (APTA, 2005).

Organizational goals are best achieved in a climate that is conducive to full participation of diverse groups within those organizations (Grantz, 2002). Research on *organizational effectiveness* supports use of the individual program as the unit of analysis in studies that measure program effectiveness. Surveys that measured perceptions at the workplace level were found to be the best way to gather information across a wide geographical range of programs. A survey of perceptions of organizational effectiveness using Canadian nursing home administrators as informants (n=498; RR=56.8%) showed that a supportive workplace climate is vital to achieving organizational outcomes. Differences in perceptions of organizational effectiveness may be heavily influenced by the workplace climate (Rondeau & Wagar, 2001).

Licensure rate. Pass rate on the National Physical Therapist Examination influences student selection of accredited U.S. physical therapist

education programs. First year students attending sixty-six (44%; N=150) masters (MPT) and doctoral (DPT) U.S. physical therapist education programs were surveyed using a 51-item questionnaire on a 5-point Likert scale (RR=70.4%). Programs in the study included both degree offered with and without 30% or higher enrolled minority students. Eleven of 51 most influential items selected by all students were degree offered, perception of program quality, status of program accreditation, atmosphere of the program, degree marketability, reputation of the university, pass rate on the NPTE, reputation of physical therapy faculty, student/faculty ratio, program length and class size. Response differences by degree offered showed MPT students rated cost, location of program and significant other influences higher than DPT students. Minority students rated cost, reputation of physical therapy faculty and cultural, ethnic and gender issues higher than non-minority students. The campus atmosphere, program characteristics and reputation of the university were more influential to traditional when compared to non-traditional students (Wilcox, 2003). Minority students are influenced by different program variables when compared to non-minority students. Program recruitment strategies for minority students should focus on cost, faculty characteristics and ethnic, gender and cultural issues to increase retention and enrollment diversity (Wilcox & Weber, 2005).

Program accreditation status, the number of PhD and/or EdD faculty and program length have been identified as significant predictors of pass rate on the National Physical Therapist Examination (NPTE). Physical therapist education

program directors (n=132) responded to a mail survey about program characteristics and responses were matched to each program's pass rate on the NPTE. Twenty-one variables were entered into a step-wise regression model. Accreditation status alone explained 18.2% of the variance. Number of PhD and/or EdD faculty and accreditation status explained 27% of the variance. Program length, accreditation status and number of PhD and/or EdD faculty explained 30.2% of the variance (Mohr, Ingram, Hayes & Du, 2005). A study of undergraduate nursing students (n=102) at two Pennsylvania universities showed an inverse relationship between performance on the National Council Licensure Examination for Registered Nurses (NCLEX-RN) and test anxiety (Poorman & Martin, 1991).

A thorough review of the literature revealed one published article using a regression model to predict NPTE scores based on non-cognitive factors for graduates (n=57) of one accredited physical therapist education program. While a model including four of eight domains of The Non-Cognitive Questionnaire – Revised (NCQ-R) predicted 21% of the variance in NPTE scores, the study results were limited due to selection bias, lack of a representative sample and lack of the NCQ-R to predict NPTE scores (Guffey, Farris, Aldridge & Thomas, 2002).

Graduation rate. Graduate data was cited as a measure of program effectiveness in U.S. medical schools (Kassebaum, 1990). Research on graduation rates between minority and non-minority medical students show differences in graduation rates between minority and non-minority medical school

students. Graduation rates for all U.S. medical schools declined between 1976 and 1988. Four year graduation rates were lower for minority medical students as compared to majority medical students and declined each year over this 12 year period. An association was found between longer matriculation periods of medical school students and the pursuit of other academic endeavors, academic remediation and learning skills (Kassebaum & Szenas, 1994).

Graduation rate for minority medical schools may be influenced by long term multi-institutional recruitment strategies. The impact of long term organizational commitment, multiple funding sources and continued involvement of health sciences faculty on graduation rates of underrepresented minority medical students was examined in Kentucky between 1981 and 1998. Effective recruitment and retention strategies involved collaboration between primary and secondary public school teachers and students with university and medical school faculty. These collaborative multi-organizational efforts resulted in increased minority medical student graduation rates from 76% in 1993 to 90% in 1998 (Crump et al., 1999).

Group differences exist in graduation rate and pass rate among conditional acceptance and standard admissions dental students. Standard admissions dental students had higher graduation rate (94%) and higher pass rate on the National Board Examination when compared to graduation rate (92%) of students who were accepted to dental school on a conditional acceptance during the first undergraduate year. When comparing performance on the National Board Examination, conditional acceptance students had significantly

lower mean examination scores on both parts of the test as compared to standard admission students (Hermesch, McEntire, Thomas & Berong, 2005).

Employment rate. The employment rate among U.S. licensed physical therapists is assessed via web-based survey every six months (APTA, 2005). The current unemployment rate is 0.2% and is the lowest since the *APTA Physical Therapist Employment Survey* was initiated in 1998 (APTA, 2006; Goldstein, 2001). Nearly all graduates of accredited physical therapist education programs have jobs in physical therapy within six months after graduation. Mean employment rate for graduates was 94.8% in 2002, 95.8% in 2003 and 98.6% in 2004 (APTA, 2005). The unemployment rate for new physical therapy graduates was 1.8% in October 2000 (Goldstein, 2001). In comparison, unemployment rate for radiation oncologists was 1-2% (Busheé, 2001). Employment rate does not vary and will not be entered into the study model.

Minority graduates. Demographics of accredited U.S. physical therapist education programs suggest that most minority students attend majority institutions (APTA, 2005). This places minority students at risk for low retention and low graduation rates that negatively impact provider diversity. Student-identified factors that influence academic success were identified in a study of nursing students at accredited programs (n=770). Minority students (n=561; 72%) and White students (n=209; 28%) agreed that faculty support was essential to academic success in nursing school (Condon, 1996). Commitment of both majority and minority faculty is important to the success of minority students (Campbell & Davis, 1996). The responsibility of creating diverse educational

environments that produce competent, culturally appropriate providers is the responsibility of all faculty and not just minority faculty (Tanner, 1996).

Minority-serving higher education institutions are important to racial and ethnic diversity in accredited U.S. physical therapist education programs. Only 7% of all accredited U.S. physical therapist education programs are located at minority-serving higher education institutions (Reicherter, Wilson, Chesbro & Manuel, 2003). Research findings on enrollment diversity revealed that minority-serving higher education institutions, Masters I & II institutions, minority core physical therapy faculty, the West and Midwest were the strongest predictors of minority physical therapy student enrollment (Bello-Haas, 2002). These studies support increasing diversity through retention in accredited U.S. physical therapist education programs.

Enhancing student retention is one method used to increase the number of minority graduates in physical therapist, medical, nursing and dental education programs (Haskins & Kirk-Sanchez, 2006; Acosta & Olsen, 2006; Gardner, 2005; Noonan et al., 2003). A retrospective study examined the impact of an Illinois medical school initiative to enhance recruitment success, retention rate and graduation rate of minority medical students. The Medical Opportunities Program was effective from 1969 through 1978 and was succeeded by the Urban Health Program beginning in 1979. Comparison of on time and delayed graduation rates of minority students were compared for both phases of the initiative. Providing minority students delays in meeting graduation requirements under the Medical Opportunities Program resulted in higher medical school graduation rates of 55%

for on-time graduation and 81% for on-time and delayed graduation. Graduation rates during 1969 to 1985 were 69.8% for on-time and 30.2% delayed minority students. Minority student retention rate for the same period was 88% (Payne et al., 1986).

Diversity Climate

Accredited U.S. physical therapist education programs are diverse at individual and organizational levels of the construct, *diversity climate*. The *diversity climate* individual-level relevant to accredited U.S. physical therapist education programs is *identity structures*. Since the unit of analysis is the program, *identity structures* refer to program characteristics. The theoretical framework permits accredited U.S. physical therapist education programs to be identified according to degree awarded, census description, minority population density, number of core faculty, number of students enrolled and population density. Thorough Medline and CINAHL searches reveals no published studies that describe these program characteristics as they naturally exist together in accredited U.S. physical therapist education programs.

Three *diversity climate* levels relevant to accredited U.S. physical therapist education programs at the organizational level are *culture and acculturation process, structural integration* and *institutional bias in human resource systems* [Appendix K]. In this study, *culture and acculturation process* is cultural competence scale score of key informants, *structural integration* items are faculty diversity, number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty and

minorities in program leadership positions. In this study, *institutional bias in human resource systems* item is perception of diversity climate scale score.

Identity structures. In this study, the *identity structures* level has 6 items. These items are degree awarded, census description, minority population density, number of core faculty, number of students enrolled and population density. These items are described in 'Description of Population and Sample Frame' in Chapter 3.

Culture and acculturation process. Cultural competence is a federal mandate that focuses on the elimination of racial and ethnic health care disparities at organizational, structural and clinical levels (Betancourt, 2006). Strategies to address these disparities at the organizational level deal with health professions program leadership and labor force. The structural level addresses "processes of care" and the clinical level deals with clinical encounters between patients and providers (Betancourt, 2006; Camphina-Bacote, 2002). Specific recommendations for health professions education programs identifies four primary strategies to address these disparities (USDHHS, 2003, 2000; Smedley et al., 2002). Health professions programs are directed to increase awareness of health care disparities among health care professionals, increase minority representation and diversity in the health professions labor force, incorporate cultural competence training in all health professions curricula and integrate teaching about the impact of culture, race and ethnicity on clinical decision making of health professionals (Betancourt, 2006).

Racial and ethnic health care disparities exist in physical therapy rehabilitation of hip fractures and joint replacements. A retrospective analysis of medical records of geriatric Medicare patients (n=2,762) in acute care hospitals (n=297) in five states showed statistically significant differences in rehabilitation intensity between African American and non-African American patients after controlling for clinical factors. More African American patients (63%) received lower intensity physical and occupational therapy rehabilitation for acute hip fracture when compared to non-African American patients (43%). This significant disparity in intensity of rehabilitation services provided was predicted by non-clinical factors of race, state and size of hospital rather than the patient's clinical presentation. No disparity existed in initiation of rehabilitation (Hoenig, Rubenstein & Kahn, 1996). Disparities in arthritis-related lower extremity joint replacements existed among Black, Hispanic and White community dwellers (n=6,159). Controlling for access, health insurance and income, minorities have fewer lower extremity joint replacements compared to Whites. This disparity may be due to social or cultural factors (Dunlop, Song, Manheim & Chang, 2000).

Health professions programs have recognized the importance of preparing culturally competent graduates who are equipped for practice in the United States and abroad (Walsh & deJoseph, 2003; St. Clair & McHenry, 1999; Jung, Larin, Gemus & Birnie, 1999). These graduates are expected to provide competent services that address individual client needs (Zust & Moline, 2003; Kerfeld, Guthrie & Stewart, 1997). Accredited physical therapist education programs provide opportunities for core faculty and students to enhance cultural

knowledge and cultural awareness in the curriculum. Literature reviews in multicultural seminar courses and dialogues with high school minority students about careers in physical therapy provides opportunities for second year physical therapy students to learn about the health beliefs and career aspirations of others (Jaffee-Gropack & Harding, 1999).

Altruism is a core value in accredited physical therapist education programs (APTA, 2004). The development of service-oriented providers begins with service learning activities and supervised *pro bono* clinical experiences within the academic curriculum (Sawyer & Lopopolo, 2004). A survey of 88 physical therapy program directors (RR=48%) in masters and doctoral programs revealed that 77% of all physical therapist education programs incorporated some form of community-based learning in the curriculum (Village, Clouten, Millar, Geigle, Okafor, Simuel & Uzarraga, 2004). Supervised community-based clinical experiences can help to develop cultural competence skills in third year physical therapy students. The benefit of multiple, short-term clinical encounters allowed students to understand physical therapy services in the context of limited financial resources (Allaben et al., 2001). Results of these studies suggest that the inclusion of *pro bono* and other service learning projects can help to foster altruism in programs and increase cultural competence.

Short-term, international clinical education experiences in accredited programs expand the perspective of physical therapist practice. Perceived benefits of these experiences by program students are changes in their world view, personal changes and a broader view of physical therapist practice

(Sawyer & Lopopolo, 2004). A multidisciplinary volunteer program special project between physical therapy students and a rural Mexico pediatric population concluded that program benefits were a greater understanding of different health care views and enhancement of cultural skill in evaluation, treatment and communication (Ngo et al., 2001). Results of these studies suggest that accredited U.S. physical therapist education programs should incorporate international clinical education experiences into curriculum to enhance program cultural competence outcomes.

Caution should be taken when generalizing cultural competence findings beyond the program within which the data was collected. One study of cultural competence in an allied health program revealed higher response rates among core faculty (59%; n=35) than enrolled students (28%; n=151). The program response rate was 32% (n=186). While no statistically significant difference in cultural competence scores was found between the two groups, the student group was more diverse (18% non-White) than the faculty group (3% non-White). This study may be generalized to programs with a majority of White females (Velde, Wittman & Bamburg, 2003).

Discussions about diversity and cultural competence are useful in programs despite emotional responses to multicultural course content. A qualitative study describing student responses to diversity course content in clinical doctoral mental health programs found that diversity discussions and content generated emotional behaviors in students including anger and avoidance. Periodic faculty group discussions about students' responses in

classroom settings may facilitate favorable course outcomes (Jackson, 1999). These group discussions about diversity issues may occur in network groups. These homogeneous groups are formed to provide a support network to women, minorities or other similar groups that convene to discuss specific workplace concerns. The formation of network groups positively affects retention of minorities (Friedman & Holtom, 2002).

Structural integration. While minority graduate outcomes are favorable, under-representation of minority students and faculty in accredited U.S. physical therapist education programs persist (Haskins & Kirk-Sanchez, 2006). The lack of minority faculty, role models and mentors are barriers to retention and graduation of minority students (Acosta et al., 2006; Gardner, 2003; Wright & Carrese, 2003). In one study, the number of minority faculty was not correlated with the number of minority graduates. However, a correlation did exist between the number of minority applicants and number of minority faculty (Splenser, Canlas, Sanders & Melzer, 2003).

A supportive academic environment is essential to higher retention and graduation rates for minority students (Gardner, 2005; Wilcox, 2003). Supportive and inclusive academic environments facilitate stronger academic performance in African American students at predominantly White institutions (Lett & Wright, 2003). These findings support previous research which indicated that the presence of diversity has a positive impact on the performance of an organization (Cox & Blake, 1991). As the number of minorities increase in both the labor pool

and the general population, organizations should recruit and retain a multicultural work force (Cox, 1993).

Integration of minority students into the academic environment with a supportive and diverse mentorship network has a positive impact on retention (Gardner, 2003). A survey of educational persistence among African American nursing faculty (n=139; RR=56%) identified five factors that influenced MS degree completion while simultaneously working as nursing faculty. These factors were financial aid, supportive nursing school environment, a support system including family and friends, students and faculty, and high self-esteem (Eastman-Robinson, 1999).

Increasing minority representation in accredited U.S. physical therapist education programs includes addressing the disparate number of minorities in program leadership positions. Of all program directors (n=205), 5.9% (n=12) are non-White (APTA, 2005). Of academic coordinators/directors of clinical education in these programs (n=226), 8.4% (n=19) are non-White (APTA, 2005). This disparity is problematic because it disconnects physical therapist education and the profession of physical therapy from the minority communities that they are supposed to serve (Evans, 1999). Qualitative comments in a study of health care employee perceptions of workplace diversity showed that 18% (n=177) indicated that more minorities should be in leadership positions in their organization (Sharpe, 1997). No current data exists on the perceptions of leadership diversity in accredited U.S. physical therapist education programs.

Organizations that value diversity promote cultural interactions and those that do not tend to promote conformity (Cox, 1993). Minority retention and role modeling are negatively impacted when there is a perceived lack of cultural interactions (McManemy, 2002). In a qualitative study of African American nursing students (n=71), fifty-one percent (n=35) reported that perceived lack of minority faculty was significant. Additional impacts were the lack of professional role models, assumptions of discrimination and a lack of representation at the university level. Findings suggest that increasing program diversity may influence positive perceptions and foster consistent role modeling (Mills-Wisneski, 2005). Consistent role modeling and mentoring were shown to enhance minority nursing student retention and facilitate culturally sensitive student behaviors toward patients (McManemy, 2002).

Institutional bias in human resource systems. Previous descriptive cross-sectional research using the Interactional Model of Cultural Diversity examined perceptions of nurses in organizational settings. One study described perceptions of career outcomes and organizational experiences of African American nurse managers (n=50). Focus groups generated themes that included job satisfaction, networking, compensation and opportunities for promotion. A discriminant function analysis was selected to analyze the relationships among career outcomes and organizational experiences. The model was effective in explaining a relationship between career outcomes and organizational experiences using Cox' Interactional Model of Cultural Diversity as a theoretical framework (Hill, 1999).

There are no published studies that identify and describe *diversity climate* in accredited U.S. physical therapist education programs. A body of literature does exist that describes perception of *diversity climate* in health professions and graduate programs (Price et al., 2005; Wilcox et al., 2005; Bello-Haas, 2002; McManemy, 2002; Lett & Wright, 2003; Mayhew, Grunwald & Dey, 2005; Williams, 2005; 2002).

Research on *diversity climate* in higher education institutions has shown that differences in perception of diversity climate exist between minorities and non-minorities. A study of minority student perceptions of social support in graduate school showed that African American and Native American doctoral students (n=203) viewed the campus climate as less supportive than Asian American and Hispanic doctoral students (Williams, 2000). These differences persist beyond graduate school. A retrospective survey on perceptions of graduate school experiences among White (n=803) and minority (n=651) students revealed that African American doctoral students conveyed less satisfaction with doctoral programs, experienced more problems while enrolled in doctoral programs and perceived the campus social environment as negative (Williams, 2002).

A study of undergraduate minority (n=252) and White (n=851) students at a predominantly White research I Midwestern institution showed statistically significant differences between these two groups in ratings of campus climate and the importance of increasing campus diversity. Minority students rated the 'importance of increasing diversity' more favorably and rated 'campus climate'

less favorably than White students (Whitmire, 2004). Although this study dealt with student views of racial climate at one institution, the findings are relevant to the perception of *diversity climate* at higher education institutions with doctoral physical therapist education programs.

Institutional and non-institutional factors can influence perception of *diversity climate* by minorities in higher education institutions. Academic faculty perceptions of *diversity climate* tend to be influenced by the extent of structural integration of minorities within the institution and institutional bias. A qualitative study of tenure track, ethnically diverse physician faculty (n=29) revealed that institutional support after minority faculty have been recruited is important to the retention of minority faculty. The absence of mentorship and inadequate retention efforts were considered impediments to achievement in academic teaching roles (Price et al, 2005).

One study found that interactions with different cultural groups predict perception of *diversity climate*. A study of students (n=544) at a predominantly White Midwestern public university found that the two strongest predictors of college student perceptions of *diversity climate* were the incorporation of diversity into curriculum and student interactions with diverse peers prior to attending college (Mayhew, Grunweld & Dey, 2005). This finding is consistent with a previous study that examined student perceptions of racial climate on a diverse community college campus (Kern, 1997). A common limitation of these studies is the inability to generalize the research findings beyond the institution at which the research was conducted.

Modification of the Theoretical Framework

A modification of the Interactional Model of Cultural Diversity was applied to examine the relationships among cultural diversity, perception and acceptance of cultural diversity and career and work outcomes of 97 nurses in a Southeast university hospital. Quantitative analysis included cross-tabulations, chi square tests of association, ANOVA, correlations and 2 x 2 ANOVAs. A level of significance was achieved between work group outcomes and cultural differences. Cohesion was significant when examining main and interactive effects of acceptance of diversity and perception of diversity. Additional research examining the relationship between work group effectiveness outcomes and cultural diversity indicators was recommended (Solanky, 1998).

Modification of the original theoretical framework is appropriate for relevance to accredited U.S. physical therapist education programs (Appendix L). This modification eliminates the group/intergroup level of the construct, *diversity climate*; *informal integration* of the construct, *diversity climate; affective outcomes* and *achievement outcomes* of the construct, *individual career outcomes*, and all first level and two second level items, market share and profitability, of the construct, *organizational effectiveness*. The modified theoretical framework consists of the individual-level of the construct, *diversity climate*, with 2 levels, *individual-level* and *organizational-level* and 1 level of the construct, *organizational effectiveness*, referred to as *achievement of formal program outcomes*.

The construct, *organizational effectiveness*, is the dependent variable in this study. It has 1 level referred to in the model as *achievement of formal organizational goals*, with 5 items. These items are licensure rate, graduation rate, number of graduates, number of minority graduates and percent minority graduates.

The construct, *diversity climate*, is the independent variable in this study. It has 1 individual-level, *identity structures,* and 3 organizational-levels, *culture and acculturation process, structural integration* and *institutional bias in human resource systems.* The *identity structures* level has 6 items: degree awarded, census description, minority population density, number of core faculty, number of students enrolled and population density. *Culture and acculturation process* has 1 item, cultural competence scale score. Subscales are cultural desire, cultural awareness, cultural knowledge, cultural skill, and cultural encounters. All subscales are of the original instrument (Camphina-Bacote, 2002). *Structural integration* has 7 items. These items are faculty diversity, number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty and minorities in program leadership positions. *Institutional bias in human resource systems* has 1 item, perception of diversity climate scale score. Subscales are diversity climate, hiring practices, promotion practices, training and development, equity and fairness, visible commitment and politics in the workplace. All subscales are of the original instrument's Ethnicity Subscale (Brinkman et al, 1992).

Research Hypotheses

Main research hypothesis. The purpose of this study is to evaluate the effectiveness of the Interactional Model of Cultural Diversity as a theoretical framework to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs. This purpose is reflected in the main research hypothesis for the study. The main research hypothesis is as follows: The Interactional Model of Cultural Diversity will be an effective theoretical framework to identify *diversity climate* factors (*identity structures, culture and acculturation process, structural integration, institutional bias in human resource systems*) associated with *organizational effectiveness* (*achievement of formal program outcomes*) in accredited U.S. physical therapist education programs.

Detailed construct hypotheses. There are 70 bivariate hypotheses and 5 multivariate hypotheses that will test the theoretical framework's ability to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs. These detailed construct hypotheses are listed in Appendix C.

Chapter III focuses on the research design, research method, population and sampling frame, survey development, operational definitions, survey administration, protection of human subjects and proposed statistical analysis. The Chapter concludes with a description of the sample.

CHAPTER III

Method

Research Design

The purpose of this study is to evaluate the effectiveness of the Interactional Model of Cultural Diversity (Cox, 1993) as a theoretical framework to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs. The model suggests that diversity has a direct effect on formal program outcomes (Cox, 1993).

Non-experimental research design is the most appropriate design to answer research questions that focus on the relationship between *diversity climate* factors and *organizational effectiveness* in accredited U.S. physical therapist education programs (Polit & Beck, 2004). The independent variable, *diversity climate*, and the dependent variable, *organizational effectiveness*, are examined as they naturally exist without current and purposeful manipulation of the independent variable, *diversity climate*. Experimental manipulation will not provide a realistic understanding of the relationship between *diversity climate* and *organizational effectiveness* as they naturally exist in these programs (Polit & Beck, 2004).

Two aspects of non-experimental design are applicable in this study. These aspects are descriptive and causal comparative design (Polit & Beck, 2004). The descriptive aspect permits observation and description of study variables as they naturally occur in accredited U.S. physical therapist education programs. This study is descriptive in that it describes aggregate program

identity structures and key informant characteristics. The causal comparative aspect permits examination of group differences based on *diversity climate identity structures* (degree awarded, census description, minority population density, number of core faculty, number of students enrolled, population density) in the model. The construct hypotheses address these program group differences.

This is a cross-sectional study because data collection on *diversity climate* and *organizational effectiveness* in these programs was done at a specific point in time (Polit & Beck, 2004). Causal inferences are not made because *diversity climate*, is examined as it naturally exists in these programs and the independent variable, *diversity climate*, is not subject to current and purposeful manipulation (Polit & Beck, 2004; Spector, 1981).

Research Method

The survey consisted of 89 questions using two valid and reliable instruments. The statistical analysis presented in this Chapter indicated that the theoretical framework was partially supported due to statistically significant relationships among the construct variables. Hypotheses testing answered 5 research questions that evaluated the effectiveness of the theoretical framework.

The alpha level established for all study hypotheses was the .05 level of significance. Variables were dichotomized based on industry standard and median distribution in accredited U.S. physical therapist education programs. No independent variables were removed from the model due to multicollinearity.

Because the Interactional Model of Cultural Diversity (Cox, 1993) proposes that diversity climate is associated with organizational effectiveness, logistic regression models will be used to determine which *diversity climate* variables predict *organizational effectiveness* variables.

All variables significant at $p \leq .05$ were entered into each model. All variables that did not reach statistical significance were entered into each model because the theoretical framework supports their inclusion. Census description was eliminated from the model because less than 5% of full-study programs are located in micropolitan statistical areas (U.S. Census Bureau, 2000). Two dummy variables were created to represent each category of the faculty diversity variable in the multivariate analysis. Both dummy variables were entered together in each logistic regression model. A new dichotomized variable was created for minorities in leadership positions and this new variable was entered into the logistic regression models. A Kruskal-Wallis analysis of variance identified program group differences based on faculty diversity in accredited U.S. physical therapist education programs. The description of perception of diversity climate is presented in this chapter. Qualitative survey responses to Question 79, "In your opinion, what should your program do to improve its diversity climate? Be specific." are summarized.

An item analysis indicates that most items have sufficient response variability. Item analysis on the IAPCC-R is not reported due to copy restrictions. Two items had limited variability and these items may be referenced on page 109 in the book. The IAPCC-R items were scored per the method in the book.

Percent responses for the *institutional bias in human resource systems* subscale are presented in Appendix A. Item responses were contained in 5 of 6 response categories for six items. No responses were reported in the 'strongly disagree' category for Q46 which states 'Our program respects all persons, regardless of ethnicity', Q49 which states 'Our program values a culturally diverse faculty and student body', Q61 which states 'Our program provides clinical learning opportunities with minority clinical instructors' and Q71 which states 'Our program promotes research and scholarly development of all faculty. No responses were reported in the 'strongly agree' category for Q74 which states 'Qualified minority faculty are not promoted as often as qualified non-minorities' and Q77 which states 'The performance appraisal system is biased against minorities'. Item responses were contained in all 6 response categories for Q78 which states 'Overall, how would you rate the diversity climate in your program?' Response categories are 1 ('Poor climate for diversity') to 6 ('Excellent climate for diversity'). Percent item responses for Q78 were reported for 1 (1.32%), 2 (3.31%), 3 (15.89%), 4 (36.42%), 5 (31.13%) and 6 (11.92%).

Data sources. This study employs data from three sources. These sources are the American Physical Therapy Association (APTA), a survey and the U.S. Census Bureau. Data obtained from the first two sources will be entered into an SPSS dataset. These three data sources will supply the variables needed to test the model.

The first source of data for this study is the APTA. This organization is the primary professional membership organization that represents 66,000+ members

in 52 chapters in the United States and its territories. The goal of the APTA is "to foster advancements in physical therapy practice, research and education" (www.apta.org, accessed on May 3, 2007).

The APTA reports annual aggregate program, faculty, graduate and student enrollment data on all U.S. accredited and developing physical therapist education programs (n=209; 100%) [APTA, 2005]. Program level 2004-2005 aggregate data on number and ethnicity of core faculty and enrolled students was obtained on November 14, 2005 (Appendix M).

Aggregate program, core faculty, graduate and student enrollment data obtained from the APTA was used to define specific model variables. These variables are *achievement of formal program outcomes* (licensure rate, graduation rate, number of graduates, number of minority graduates, percent minority graduates), *individual-level identity structures* (degree awarded, number of core faculty, number of students enrolled), *structural integration* (faculty diversity, number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty, minorities in program leadership positions) [APTA, 2005; Cox, 1993].

The second source of data is a survey of all accredited U.S. physical therapist education programs that meet the study criteria (Appendix D). The survey assessed *organizational effectiveness* and *diversity climate identity structures* (degree awarded, number of core faculty, number of students enrolled), *culture and acculturation process* (cultural competence scale score), *structural integration* (faculty diversity, number of minority students enrolled,

percent minority students enrolled, number of minority core faculty, percent minority core faculty, minorities in program leadership positions), and *institutional bias in human resource systems* (perception of diversity climate scale score, diversity climate subscale score, hiring practices subscale score, promotion practices subscale score, training and development subscale score, equity and fairness subscale score, visible commitment subscale score and politics in the workplace subscale score). Survey items will be linked to the model constructs (Table 1).

The third source of data is the U.S. Census Bureau (www.census.gov; See Glossary of Terms). This data source was used to define individual-level identity structures items in the theoretical model (census description, minority population density population density). Theoretical and operational definitions for U.S. Bureau of the Census terms used in this study were obtained from the Dicennial Management Division Glossary (accessed at www.census.gov on September 9, 2006 and May 7, 2007). In this study, census data was obtained from Census 2000 (See Glossary of Terms).

The study survey was developed using two existing instruments and researcher-developed questions. The Ethnicity Subscale of 'The Diversity Survey' was adapted to measure perception of diversity climate scores in accredited U.S. physical therapist education programs [Brinkman, LaFasto & Larson, 1992; Appendix E]. This portion of the study survey was researcher-developed and reviewed by an expert panel (Appendix F; Table 2). Cultural competence of key informants was measured using the 'Inventory for Assessing

The Process of Cultural Competence Among Healthcare Professionals – Revised (IAPCC-R) [Campinha-Bacote, 2002]. Survey items excluding the IAPCC-R were researcher-developed.

Data for this study was collected in web-based format. Previous studies have shown that data collection using a web-based format yield higher response frequencies to survey items dealing with sensitive information when compared to the telephone interview method alone (Lau, Tsui & Wang, 2003). The increase in anonymity using web-based technology for survey completion produced lower social desirability and higher self-esteem when compared to handwritten, non-anonymous survey completion in one randomized controlled study (Joinson, 1999). A 79% response rate on a web-based questionnaire was reported among an intact group of laboratory directors surveyed on public health laboratory testing for sexually transmitted diseases (Dicker, Mosure, Steece & Stone, 2004) compared to a 43.2% response rate reported among an intact group of pharmacy directors in U.S. hospitals to a mail survey on hospital-based pharmacy practice (Pedersen, Schneider & Scheckelhoff, 2006). These studies support the use of the combination of computerized questionnaire method to assess perception of *diversity climate* in an intact group of ACCE/DCE informants.

This survey was administered in web-based format to one ACCE/DCE at each accredited U.S. physical therapist education program that met the study criteria. It was deployed to 12 pilot programs (RR=75%) before being deployed to the remaining accredited U.S. physical therapist education programs that met

the study criteria. After the pilot study, necessary survey changes were approved by the researcher and dissertation committee. The survey was then deployed to remaining accredited U.S. physical therapist education programs that met the study criteria. If an ACCE/DCE had a physical impairment that impacts computer use, the researcher was prepared to conduct a telephone survey to meet the needs of that ACCE/DCE.

Variable Definitions

Variables can be measured when they are operationally defined. These definitions should include the level of measurement and how each measurement is examined (Rothstein & Echternach, 1993). In the absence of a standard method, all variables were dichotomized based on median distribution or theoretical reasons.

Dependent variable. In this study, the construct, *organizational effectiveness*, is the dependent variable. Its theoretical definition is "the extent to which first level and second level outcomes produce desired organizational results" (Cox, 1993). Its operational definition is the extent to which accredited U.S. physical therapist education programs achieve formal program outcomes. It is measured with 5 items. These items are licensure rate, graduation rate, number of graduates, number of minority graduates and percent minority graduates.

Licensure rate. Licensure rate is ratio. It is not normally distributed in programs. In this analysis, licensure rate was dichotomized and recoded into 2 new variables, Maxpass and Minpass, which were entered into 13

bivariate analyses with dichotomized *diversity climate* variables. In this analysis, licensure rate is dichotomized in two ways as programs with 100% licensure rate/programs with less than 100% licensure rate and programs with 80% or higher licensure rate/programs with less than 80% licensure rate. The operational definition of 'Maxpass' is defined as '100% /less than 100%'. 'Minpass' is defined as 'less than 80 %/80% or higher'. Its theoretical definition is "the percentage of graduates who take and successfully pass the National Physical Therapy Examination regardless of the number of attempts" (CAPTE, 2006). Its operational definition is pass rate for first time test takers in the most recent graduating class. It is measured by key informants' responses to Q1 (Q=Question) on the survey.

Graduation rate. Graduation rate is ratio. It is not normally distributed in programs. In this analysis, graduation rate is dichotomized as programs with 100% graduation rate/programs with less than 100% graduation rate. It was dichotomized and recoded into 1 new variable, 'Maxgrad', which was entered into a bivariate analysis with each *diversity climate* variable. Its theoretical definition is "the percentage of students admitted to the program who complete the program within 150% normally expected time for completion" (CAPTE, 2006). Its operational definition is the number of recent graduates divided by the total cohort of admitted students. It is measured by key informants' responses to Q2 on the survey.

Number of graduates. Number of graduates is ratio. It is not normally distributed in programs. It was dichotomized and recoded into 1 new

variable, 'Allgrad', which was entered into a bivariate analysis with each *diversity climate* variable. In this analysis, number of graduates is dichotomized as programs with 29 or higher graduates/programs with less than 29 graduates. Its theoretical definition is "the extent to which first level and second level outcomes produce desired organizational results" (Cox, 1993). Its operational definition is all physical therapy students who hold a masters or DPT degree from an accredited U.S. physical therapist education program in the most recent graduating class. It is measured by key informants' responses to Q3 on the survey.

Number of minority graduates. Number of minority graduates is ratio. In this analysis, number of minority graduates is dichotomized in two ways as programs with 4 or more minority graduates/programs with less than 4 minority graduates and programs with 1 or more minority graduates/programs with no minority graduates. It was dichotomized and recoded into 2 new variables, 'Allmingrad' and 'Allmingrad2', which were entered separately into a bivariate analysis with each *diversity climate* variable. 'Allmingrad' is dichotomized as 'less than 4 / 4 or more minority graduates' 'Allmingrad2' is dichotomized as 'none / 1 or more minority graduates'. Its theoretical definition is "the extent to which first level and second level outcomes produce desired organizational results" (Cox, 1993). Its operational definition is all physical therapy minority students who have earned a masters or DPT degree from an accredited U.S. physical therapist education program in the most recent

graduating class who are members of minority groups. It is measured by key informants' responses to Q4 on the survey.

Percent minority graduates. Percent minority graduates is ratio. In this analysis, percent minority graduates is dichotomized in two ways as programs with 9% or higher minority graduates/programs with less than 9% minority graduates and programs with 1% or higher minority graduates/programs with 0% minority graduates. Its theoretical definition is "the extent to which first level and second level outcomes produce desired organizational results" (Cox, 1993). Its operational definition is number of minority graduates divided by the total number of graduates in most recent graduating class. It is measured by key informants' responses to Q5 on the survey.

Independent variable. In this study, the construct, *diversity climate*, is the independent variable. Its theoretical definition is "a set of individual, group and organizational factors that interact to influence organizational outcomes" (Cox, 1993). Its operational definition is individual and organizational factors that influence achievement of formal program outcomes. It is measured with 5 *identity structures* items (degree awarded, minority population density, number of core faculty, number of students enrolled, population density), 1 *culture and acculturation process* item (cultural competence scale score), 6 *structural integration* items (faculty diversity, number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty, minorities in program leadership positions), and 1 *institutional bias in*

human resource systems item (perception of diversity climate scale score). It is measured by key informants' responses to Q6-Q77 on the survey.

Degree awarded. Degree awarded is nominal with 2 levels. Its theoretical definition is "an individual-level factor within the *diversity climate*" (Cox, 1993; Appendix K). Its operational definition is masters/entry level DPT. It is measured by key informants' responses to Q6 on the survey.

Census description. Census description is nominal with 2 levels. Its theoretical definition is "a complete enumeration of a population...in an area" (U.S. Bureau of the Census, www.census.gov accessed on May 7, 2007). Its operational definition is metropolitan/micropolitan. It is measured by key informants' responses to Q7 on the survey.

Minority population density. Minority population density is nominal with 2 levels. Its theoretical definition is "an individual-level factor within the *diversity climate*" (Cox, 1993; Appendix K). Its operational definition is <23% minority/≥23% minority. It is measured by key informants' responses to Q8 on the survey.

Number of core faculty. Number of core faculty is ratio. In this analysis, number of core faculty is dichotomized as '10 or more core faculty/fewer than 10 core faculty'. Its theoretical definition is "those individuals appointed to and employed primarily in the program, including the program administrator, Academic Coordinator/Director of Clinical Education (ACCE/DCE) and other faculty who report to the program administrator" (CAPTE, 2005). Its operational definition is total number of core physical therapy faculty in an

accredited U.S. physical therapist education program. It is measured by key informants' responses to Q9 on the survey.

Number of students enrolled. Number of students enrolled is ratio. In this analysis, number of students enrolled is nominal with 2 levels, '80 or more students enrolled/less than 80 students enrolled'. Its theoretical definition is "an individual-level factor within the *diversity climate*" (Cox, 1993; Appendix K). Its operational definition is the number of physical therapy students enrolled in an accredited U.S. physical therapist education program. It is measured by key informants' responses to Q10 on the survey.

Population density. Population density is nominal with 2 levels. Its theoretical definition is "the population of an area divided by the number of square miles or square kilometers of land area" (U.S. Bureau of the Census Decennial Management Division Glossary accessed at www.census.gov on May 7, 2007). Its operational definition is urban/rural. It is measured by key informants' responses to Q11 on the survey.

Cultural competence scale score. Cultural competence scale score is ratio. In this analysis, it is dichotomized as 'culturally competent/not culturally competent' based on the method defined in the book. Its theoretical definition is "the extent to which a healthcare professional is competent" (Campinha-Bacote, 2003). Its operational definition is the IAPCC-R scale score. It is measured by key informants' responses.

Faculty diversity. Faculty diversity is nominal with 3 levels. Its theoretical definition is "levels of heterogeneity in the formal structure of an

organization" (Cox, 1993). Its operational definition is programs with 2 or more minority core faculty, programs with 1 minority core faculty and programs with no minority core faculty. It is measured by key informants' responses to Q37 on the survey.

Number of minority students enrolled. Number of minority students enrolled is ratio. In this analysis, number of minority students is dichotomized as '10 or more minority students enrolled/less than 10 minority students enrolled'. Its theoretical definition is "levels of heterogeneity in the formal structure of an organization" (Cox, 1993). Its operational definition is number of physical therapy students who are members of minority groups in accredited U.S. physical therapist education programs. It is measured by key informants' responses to Q38 on the survey.

Percent minority students enrolled. Percent minority students enrolled is ratio. In this analysis, percent minority students is dichotomized as '10% or more minority students enrolled/less than 10% minority students enrolled'. Its theoretical definition is "levels of heterogeneity in the formal structure of an organization" (Cox, 1993). Its operational definition is number of minority graduates divided by the total number of graduates expressed for the most recent graduating class. It is measured by key informants' responses to Q39 on the survey.

Number of minority core faculty. Number of minority core faculty is ratio. In this analysis, number of minority core faculty is dichotomized as '1 or more minority core faculty/no minority core faculty'. Its theoretical definition is

"levels of heterogeneity in the formal structure of an organization" (Cox, 1993). Its operational definition is core faculty who are members of minority groups in an accredited physical therapist education program. It is measured by key informants' responses to Q40 on the survey.

Percent minority core faculty. Percent minority core faculty is ratio. In this analysis, percent minority core faculty is dichotomized as '.01% or higher minority core faculty/no percent minority core faculty'. Its theoretical definition is "levels of heterogeneity in the formal structure of an organization" (Cox, 1993). Its operational definition is percentage of core faculty who are members of minority groups in an accredited physical therapist education program. It is measured by key informants' responses to Q41 on the survey.

Minorities in program leadership positions. Minorities in program leadership positions is nominal with 2 levels, 'yes/no'. Its theoretical definition will be "the extent to which minorities are represented in the authority structure of an organization" (Cox, 1993). In this study, minorities in program leadership positions is presence of a minority core physical therapy faculty in the formal position of program director or academic coordinator/director of clinical education in an accredited U.S. physical therapist education program. It is measured by key informants' responses to Q42-Q43 on the survey.

Perception of diversity climate scale score. Perception of diversity climate scale score is ratio. In this analysis, perception of diversity climate scale score is dichotomized as '147 and higher/less than 147". Its theoretical definition will be "perception of the importance of program efforts toward

promoting diversity and general attitude towards minorities" (Kossek & Zonia, 1993). Its operational definition is key informants' opinions about program atmosphere for minorities in accredited U.S. physical therapist education programs. It is measured by key informants' responses to Q44-Q79 on the survey.

Diversity climate subscale score is ratio. Its theoretical definition is "employees' general perceptions about the organization's ability to manage diversity" (Brinkman et al, 1992). Its operational definition is key informants' opinions about diversity climate subscale items. It is measured by key informants' responses to Q44, Q48, Q49, Q51, and Q75 in the survey.

Hiring practices subscale score is ratio. Its theoretical definition is "the hiring practices of the organization and the attitudes which influence these practices are targeted here" (Brinkman et al, 1992). Its operational definition is key informants' opinions about hiring practices subscale items. It is measured by key informants' responses to Q57, Q59, Q60, Q67 and Q72 in the survey.

Promotion practices subscale score is ratio. Its theoretical definition is "...the organization's attitudes and practices about promotion. As with hiring, the attitudes behind the actions, as well as the actual practices, are targeted" (Brinkman et al, 1992). Its operational definition is key informants' opinions about promotion practices subscale items. It is measured by key informants' responses to Q69, Q70 and Q74 in the survey.

Training and development subscale score is ratio. Its theoretical definition is "the common theme for this category focuses on the amount and type of training and help offered to organizational employees. The actual list of

programs and opportunities are not the issue. Rather, it is the employees' perceptions of what is available that is of interest' (Brinkman et al, 1992). Its operational definition is key informants' opinions about training and development subscale items. It is measured by key informants' responses to Q45, Q53, Q55, Q61, Q62, Q63 and Q64 in the survey.

Equity and fairness subscale score is ratio. Its theoretical definition is "...equality both in organizational policy and regard for different individuals. The general sense of fairness and respect with which the organization treats minorities and/or women is the focus. Judgments of performance, daily conduct and immersion in the communication network is specified" (Brinkman et al, 1992). Its operational definition is key informants' opinions about equity and fairness subscale items. It is measured by key informants' responses to Q46, Q54, Q58 and Q71 in the survey.

Visible commitment subscale score is ratio. Its theoretical definition is "...visible and tangible signs (not merely verbal commitments) that the organization values minorities and/or women. Gender and minority/non-minority ratios are targeted, as well as recognition for achievements and opportunities to discuss concerns" (Brinkman et al, 1992). Its operational definition is key informants' opinions about visible commitment subscale items. It is measured by key informants' responses to Q47, Q50, Q52, Q65, Q66, Q68 and Q73 in the survey.

Politics in the workplace subscale score is ratio. Its theoretical definition will be "...perceptions of whether or not acts, or attitudes, of favoritism

are operating within the organization" (Brinkman et al, 1992). Its operational definition is key informants' opinions about politics in the workplace subscale items. It is measured by key informants' responses to Q56, Q76 and Q77 in the survey.

Qualitative responses are derived from key informants' responses to two inquiries. Key informants were asked to respond to Q78, "Overall, how would you rate the diversity climate in your program?" on a 6 point Likert scale from 1 ('Poor climate for diversity') to 6 ('Excellent climate for diversity') and to one, open-ended question (Q79), "In your opinion, what should your program do to improve its diversity climate? Be specific."

Demographic variables. Key informant demographic items are not in a model construct. These items are age, ethnicity, gender, years as core faculty, years as core faculty in current program, years as ACCE/DCE in current program, entry-level PT degree, highest degree held, current academic rank in current program and tenure status.

Age is ratio. Its operational definition is age in years as of January 1, 2007. It is measured by key informants' responses to Q80 on the survey.

Ethnicity is nominal with 6 levels. Its operational definition is African American, American Indian/Alaska Native, Asian/Pacific Islander, Hispanic/Latino, White and Other. It is measured by key informants' responses to Q81 on the survey.

Gender is nominal with 2 levels. Its operational definition is male/female. It is measured by key informants' responses to Q82 on the survey.

Years as core faculty is ratio. Its operational definition is number of years as core faculty in all programs. It is measured by key informants' responses to Q83 on the survey.

Years as core faculty in current program is ratio. Its operational definition is number of years as core faculty in the program at which the key informant is currently working. It is measured by key informants' responses to Q84 on the survey.

Years as ACCE/DCE in current program is ratio. Its operational definition is number of years as ACCE/DCE in the program at which the ACCE/DCE is currently working. It is measured by key informants' responses to Q85 on the survey.

Entry-level PT degree is nominal with 4 levels. Its operational definition is bachelors/certificate/masters/entry-level DPT. It is measured by key informants' responses to Q86 on the survey.

Highest degree held is nominal with 6 levels. Its operational definition is bachelors/masters/entry-level DPT/transition DPT/PhD/Other professional doctorate. It is measured by key informants' responses to Q87 on the survey.

Current academic rank in current program is nominal with 6 levels. Its operational definition is professor, associate professor, assistant professor, instructor, lecturer or other. It is measured by key informants' responses to Q88 on the survey.

Tenure status is nominal with 4 levels. Its operational definition is tenured/tenure-track/non-tenured/not eligible. It is measured by key informants' response to Q89 on the survey.

Survey Instruments

The Diversity Survey

General description. This instrument was developed to examine diversity issues pertinent to organizational success in a diverse, global society. Its purpose is to assess employee perceptions about diversity climate within an organization and how the organization manages diversity issues with respect to differences associated with ethnicity and gender. An organization may use the survey outcomes to assess current diversity programs and facilitate change to enhance organizational success (Brinkman et al, 1992) [Appendix E].

This instrument assesses employee perceptions of general organizational practices, the treatment of women in the organization, the treatment of minorities in the organization and other attributes associated with diversity. Other aspects of diversity addressed in this instrument are differences related to age, gender, ethnicity, age, physical ability, sexual orientation, job level and domestic versus international (Brinkman et al, 1992).

Variables. The Diversity Survey consists of a demographic profile and 8 sections. The demographic profile includes ethnicity (Caucasian, Black/African American, Hispanic, Asian, Native American Indian); sex (male/female); age (open-ended); job classification (management/professional, salaried non-exempt, hourly) and U.S. citizen (yes/no).

Section I is organizational climate. It focuses on 'general practices within our organization'. It has one subscale, organizational climate, with 10 statements.

Section II is gender. It assesses 'how women are treated within our organization'. It has 7 subscales with 3 statements per subscale. These subscales are diversity climate, hiring practices, promotion practices, training and development, equity and fairness, visible commitment and politics in the workplace. One semantic differential asks 'In your opinion, to what extent do you feel our organization is an excellent place for women to work'? The 6-point agreement scale is strongly agree, agree, agree slightly, disagree slightly, disagree and strongly disagree. One open-ended question focuses on 'What would have to change in order for you to feel our organization is an excellent place for women to work?'

Section III is ethnicity. It assesses 'how minorities are treated within our organization.' It has 7 subscales. These subscales are diversity climate, hiring practices, promotion practices, training and development, equity and fairness, visible commitment and politics in the workplace. One semantic differential asks, 'In your opinion, to what extent do you feel our organization is an excellent place for minorities to work?' The 6-point agreement scale is strongly agree, agree, agree slightly, disagree slightly, disagree and strongly disagree. One open-ended question focuses on 'What would have to change in order for you to feel our organization is an excellent place for minorities to work?'

Section IV is age. It assesses whether favoritism, fair treatment and awareness with respect to age exist within the organization. It has 1 subscale, age, with 3 statements.

Section V is physical ability. It assesses whether favoritism, fair treatment and awareness with respect to physical ability exist within the organization. It has 1 subscale, physical ability, with 3 statements.

Section VI is sexual orientation. It assesses whether favoritism, fair treatment and awareness based on sexual orientation exist within the organization. It has 1 subscale, sexual orientation, with 3 statements.

Section VII is job level. It assesses whether favoritism, fair treatment and awareness based on job level exist within an organization. It has 1 subscale, job level, with 3 statements.

Section VIII is domestic versus international. It assesses whether favoritism, fair treatment and awareness based on domestic versus international status exist within the organization. It has 1 subscale, domestic versus international, with 3 statements. Five, open-ended questions asks 'What changes does our organization need to make in any of the following: age, physical ability, sexual orientation, job level and domestic versus international' (Brinkman et al, 1992).

Reliability and validity. This instrument is an accurate and consistent tool for measuring employee perceptions of how effectively organizations manage diversity. Reliability coefficients for the scale have been reported between .77 and .97. The scales were found to differentiate between

respondents based on minority/non-minority (ethnicity) and male/ female (gender) in 4,191 employees of a large organization (Brinkman, 1992).

Scoring. A mean subscale score was obtained by adding the value of each statement response and dividing by the total number of statements in that subscale. A mean scale score was obtained by adding the means of each subscale and dividing by the total number of subscales in this section. A score of 5 or higher will indicate positive perception of diversity climate (Brinkman, 1992; Sharpe, 1997).

Agreement with positively worded and non-agreement with negatively worded statements will result in a higher score. Higher scores will reflect a positive perception of diversity climate in accredited U.S. physical therapist education programs. Validity coefficients tend to be lower in negatively worded items and higher in positively worded items (Streiner & Norman, 1995). For reverse coding, the 6 point Likert scale is strongly agree (SA) = 1, agree (A) = 2, agree slightly (AS) = 3, disagree slightly (DS) = 4, disagree (D) =5, and strongly disagree (SD) =6. Negatively worded items are Q56, Q60, Q70, Q73, Q74 and Q77.

Studies using The Diversity Survey. One study examined military personnel's perceptions of *diversity climate* at one military teaching hospital using aspects of diversity deemed relevant for this organization. These diversity climate aspects included ethnicity, age, gender, physical ability, sexual orientation and job level. Employee respondents were civilian (45%), female (57%), minority (37%), enlisted personnel (30%), officers (25%) and managers

(24%). Perceptions of diversity climate were less than favorable for personnel in lower job levels (51%), minorities (16%) and women (13%). These less than favorable ratings were attributed to hearing negative comments about women, hearing negative comments about minorities, job level favoritism and preferential treatment toward some employees. Assessment of perceptions of diversity climate at all organizational levels may provide evidence to support guidelines for the constructive management of diversity within a health care organization (Sharpe, 1997).

Inventory for Assessing the Process of Cultural Competence in Healthcare Professionals – Revised (IAPCC-R).

General description. The Inventory for Assessing the Process of Cultural Competence in Healthcare Professionals – Revised (IAPCC-R) assesses the process of cultural competence in healthcare professionals (Campinha-Bacote, 2003). The model assumes that cultural competence is a process rather than an event. This process involves the integration of all model constructs to effectively render culturally appropriate healthcare services for "individuals, groups and communities" (Campinha-Bacote, 2003).

Constructs. The IAPCC-R measures 5 interrelated constructs. These constructs are cultural desire, cultural awareness, cultural knowledge, cultural skill and cultural encounters (Campinha-Bacote, 2003). Subscale definitions are found in the original author's textbook.

Reliability. Reliability studies provide evidence that the IAPCC-R is a reliable measure of cultural competence in academic faculty and enrolled physical therapy students. A single administration of the IAPCC-R to U.S.

nursing and health education faculty (n=313; RR=41.8%) revealed Cronbach's alpha coefficient was .869 (Kardong-Edgren, 2004). The IAPCC-R was administered to a convenience sample of enrolled physical therapy students (n=218; RR=92%) at an accredited U.S. physical therapist education program. Cronbach's alpha coefficient of .78 was reported in this study (Gulas, 2005).

The IAPCC-R was a reliable measure of cultural competence in faculty and students. A convenience sample of nursing faculty and undergraduate nursing students (n=111) revealed a Cronbach's alpha coefficient of .81 (McCoy, 2005).

Validity. Studies to establish internal validity of the IAPCC-R yielded similar findings when the tool was administered in English to samples of convenience in nursing and physical therapist education programs. A convenience sample of nursing faculty (n=32), graduate nursing students (n=101) and undergraduate nursing students (n=228) was used to assess cultural competence in these groups (N=361). The Guttman split-half was .76 and Spearman-Brown was .76 (Mabunda & White, 2007). Findings in a smaller convenience sample of enrolled physical therapy students yielded a Guttman split-half of .77 (Gulas, 2005).

The IAPCC-R has been translated into Swedish, but the validity findings were questionable. Linguistic changes to the instrument to analyze the translation process from English to Swedish may be due to instrumentation and cultural competence content in the original instrument (Olt & Emami, 2006).

Content validity was established by expert panels in two published U.S. studies (Cooper-Braithwaite, 2005; Campinha-Bacote, 1999).

Studies using the IAPCC-R. Mean cultural competence scores were assessed in an undergraduate nursing program using this instrument. A power analysis indicated that 63 subjects were needed in each group to yield power of .80 at $p < .05$. A one-way ANOVA showed statistically significant differences in mean cultural competence scores of first year students, fourth year students and nursing faculty. Fourth year undergraduate nursing students had higher statistically significant mean cultural competence scores compared to first year undergraduate students. Statistically significant differences were also found between first and fourth year undergraduate nursing students and nursing faculty.

Nursing faculty had higher statistically significant mean cultural competence scores than the students. Experience in healthcare ($r=.298$, $p<.0001$) and visiting a foreign country ($r=.33$, $p<.001$) were positively correlated with total sample IAPCC scores. Limitations of this study included lack of minority undergraduate nursing students and minority nursing faculty in the total sample.

Further empirical research is needed to describe the relationship between clinical experience and self-reported cultural competence scores. The use of stratified random sampling techniques to include multiple United States geographical locations, equal gender representation and increased numbers of

racial/ethnic minority subjects were suggested as needed areas for future research (Sargent et al., 2005).

Cultural competence using the IAPCC-R in 313 nursing and health education faculty showed that mean scores were higher for nursing faculty. IAPCC-R scores for nursing faculty who taught in high immigrant states were significantly higher than those who taught in low immigrant states. No statistical difference was found in IAPCC-R scores for health education faculty who taught in high immigrant states and those who taught in low immigrant states. Study findings suggest that cultural competence scores may be influenced by cultural encounters with diverse groups (Kardong-Edgren, 2004).

Cultural competence was measured in ten registered nurses enrolled in a baccalaureate nursing program having partnership between a public health department and an undergraduate nursing program. Renowned leaders in public health and health care professionals were partnered with the registered nurses and provided a series of three facilitated workshops during a sixteen-week undergraduate theory course that included clinical experience. Qualitative themes emerged during the nurses' clinical encounters, weekly discussions with the experts and faculty and writing assignments.

The IAPCC was used to measure the students' cultural competence scores prior to and following the facilitated workshops. In this manner, the instrument was used as a pretest-posttest measure. Repeated measures indicated significant increase in the nurses' post-intervention scores on the IAPCC. Limitations to the study include small sample size, different clinical and

life experiences of the nurses and biased student responses following weekly discussions with experts and faculty. Qualitative themes provided information on barriers to the process of cultural competence from the perspective of the study participants. Strategies to assist the nurses with the process of cultural competence emerged from these qualitative themes (Doutrich and Storey, 2004).

Survey Instrument Development

General description. The construct, *diversity climate*, and the construct, *organizational effectiveness*, were measured by a survey instrument that was developed for use in this study. The survey was designed by the researcher and examined by a panel of experts for face validity (Appendix D; Appendix F). After IRB approval, it was pilot tested with 12 accredited U.S. physical therapist education programs. Subsequent changes to the survey instrument were made by the researcher and dissertation committee after the pilot study. The survey was deployed to the remaining 178 of all accredited U.S. physical therapist education programs eligible to participate in this study (n=191).

The survey instrument used in this study was largely based on two valid and reliable survey instruments. These instruments are The Diversity Survey (Appendix E) and the Inventory for Assessing the Process of Cultural Competence in Healthcare Professionals – Revised (IAPCC-R) [Campinha-Bacote, 2003].

The Diversity Survey was developed and tested by Dr. Heidi Brinkman (Brinkman et al, 1992). She stated that The Diversity Survey may be modified for this study due to limitations in its application to accredited U.S. physical therapist

education programs (Appendix N; Personal Communications with and Original Survey, Research and Development Process and Recommended Cover Letter, Dr. Heidi Brinkman, February 24 and 28; March 21, 29, 30; April 7, 2006). The survey used for this study included the Inventory for Assessing the Process of Cultural Competence in Healthcare Professionals – Revised (IAPCC-R, Campinha-Bacote, 2003), program demographic items and ACCE/DCE demographic items. Permission from the author to use the IAPCC-R was obtained on May 18, 2007 and December 4, 2007 [Appendix G].

Subscale item modifications. Changes to original language is made for relevance to accredited U.S. physical therapist education programs. The word 'organization' was replaced with 'program'. The words 'faculty', 'student' and 'student body' are added to some items. Subscale items are added by the researcher to reflect relevance to physical therapist education. These subscale items are training and development (Q55;Q61;Q62;Q63;Q64), hiring practices (Q67;Q72), equity and fairness (Q71) and visible commitment (Q50). Promotion practices subscale items are reworded to reflect diversity and promotion of qualified core faculty (Q69;Q70;Q74). One open-ended question (Q79) asks, 'In your opinion, what should your program do to improve its diversity climate?' Wording for this question was changed to reflect program relevance.

Measurement. Perception of diversity climate is measured on a 6 point Likert scale (Likert, 1952). Response categories were identical to those of the original instrument (Brinkman et al, 1992). The 6-point positive integer semantic differential may increase social desirability bias (Streiner & Norman, 1995).

Response set bias. The names of subscales are not included in the survey. The survey questions are arranged non-categorically to avoid response set bias (Polit & Beck, 2004). The IAPCC-R is maintained in the statement order of the original instrument.

Sections. The final draft survey instrument consists of 6 sections with 89 items. Survey sections corresponded to the theoretical model. Section 1 measured the construct, *organizational effectiveness.* Sections 2-5 measured the construct, *diversity climate*. Section 6 measured key informant demographic variables and were not included in a model construct.

Section 1 measures *achievement of formal program outcomes.* It measures licensure rate (Q1), graduation rate (Q2), number of graduates (Q3), number of minority graduates (Q4) and percent minority graduates (Q5).

Section 2 measures *identity structures.* It measures degree awarded (Q6), census description (Q7), minority population density (Q8), number of core faculty (Q9), number of students enrolled (Q10) and population density (Q11).

Section 3 measures *culture and acculturation process.* It measures cultural competence scale score (Q12-Q36). This score measures cultural competence of key informants.

Section 4 measures *structural integration.* It measures faculty diversity (Q37), number of minority students enrolled (Q38), percent minority students enrolled (Q39), number of minority core faculty (Q40), percent minority core faculty (Q41) and minorities in program leadership positions (Q42; Q43).

Section 5 measures *institutional bias in human resource systems.* It measures perception of diversity climate scale score (Q44-Q79), diversity climate subscale score (Q44, Q48, Q49, Q51, and Q75), hiring practices subscale score (Q57, Q59, Q60, Q67 and Q72), promotion practices subscale score (Q69, Q70 and Q74), training and development subscale score (Q45, Q53, Q55, Q61, Q62, Q63 and Q64), equity and fairness subscale score (Q46, Q54, Q58 and Q71), visible commitment subscale score (Q47, Q50, Q52, Q65, Q66, Q68 and Q73), politics in the workplace subscale score (Q56, Q76 and Q77), program diversity climate rating (Q78) and improving diversity climate in the program (Q79).

Section 6 measures key informant demographic variables. It measures age (Q80),ethnicity (Q81), gender (Q82), years as core faculty (Q83), years as core faculty in current program (Q84), years as an ACCE/DCE in current program (Q85), entry-level PT degree (Q86), highest degree held (Q87), current academic rank in current program (Q88) and tenure status (Q89). Table 1 presents the description of survey sections, model constructs, survey items and survey questions that measure the model constructs.

Table 1

Model Constructs, Items and Survey Questions

Survey Section	Model Construct	Model Item	Survey Questions
1	*Organizational effectiveness Achievement of formal program outcomes*	Licensure rate Graduation rate Number of graduates Number of minority graduates Percent minority graduates	Q1 Q2 Q3 Q4 Q5
2	*Diversity climate Identity structures*	Degree awarded Census description Minority population density Number of core faculty Number of students enrolled Population density	Q6 Q7 Q8 Q9 Q10 Q11
3	*Diversity climate Culture and acculturation process*	Cultural competence scale score	Q12-Q36
4	*Diversity climate Structural integration*	Faculty diversity Number of minority students enrolled Percent minority students enrolled Number of minority core faculty Percent minority core faculty Minorities in program leadership positions	Q37 Q38 Q39 Q40 Q41 Q42;Q43
5	*Diversity climate Institutional bias in human resource systems*	Perception of diversity climate scale score Diversity climate subscale score Hiring practices subscale score Promotion practices subscale score Training and development subscale score Equity and fairness subscale score Visible commitment subscale score Politics in the workplace subscale score Program diversity climate rating Improving diversity climate	Q44-Q79 Q44;Q48;Q49; Q51;Q75 Q57;Q59;Q60; Q67;Q72 Q69; Q70;Q74 Q45;Q53;Q55; Q61;Q62;Q63; Q64 Q46;Q54;Q58; Q71 Q47;Q50;Q52; Q65;Q66;Q68; Q73 Q56;Q76;Q77 Q78 Q79

Survey Section	Model Construct	Model Item	Survey Questions
6	*Items not in a model construct Key informant demographic variables*	Age	Q80
		Ethnicity	Q81
		Gender	Q82
		Years as core faculty	Q83
		Years as core faculty in current program	Q84
		Years as an ACCE/DCE in current program	Q85
		Entry-level PT degree	Q86
		Highest degree held	Q87
		Current academic rank in current program	Q88
		Tenure status	Q89

Establishing validity. Since the survey instrument was not established by the author of The Diversity Survey, each item was examined for its ability to measure *institutional bias in human resource systems* based on subscale definitions from the original instrument. Acceptance of items based on original subscale definitions will confirm the intended purpose and facilitate the number of completed surveys (Streiner & Norman, 1995).

Panel of experts. Selection of a panel of experts is based on professional expertise and interest in diversity issues unique to accredited U.S. physical therapist education programs. This panel is selected by the researcher. A panel of experts is selected using geographical diversity and professional expertise. Agreement was received from one expert in organizational diversity management (PhD, speech-language pathologist and author/designer of The Diversity Survey), one expert in physical therapy education, research and measurement [EdD, Fellow of the American Physical Therapy Association (FAPTA), physical therapist researcher and expert in measurement, former chair of an accredited U.S. physical therapist education program] and one ACCE/DCE in an accredited U.S. physical therapist education program located within a minority serving higher education institution (ACCE/DCE and current doctoral student). Anonymity between members of the panel of experts is maintained by the researcher.

The researcher emailed a cover letter, review form including items and subscale definitions from the original instrument to the panel of experts (Appendix F). They were asked to use the subscale definitions to select the

subscale that best matched the item as written. Individual panel responses were provided electronically to the researcher. Panelists were asked to provide feedback to the researcher regarding wording changes to better reflect subscale definitions.

If any two of three panelists reach subscale agreement, the item was retained in that subscale. If agreement was not reached, the researcher and dissertation committee would have to concur on a subscale placement for that item based on the original instrument's subscale definitions. If the researcher and dissertation committee could reach agreement, the original author of The Diversity Survey would determine the subscale that best fits that item. Item and subscale decisions are presented in Table 2.

Table 2

Expert Panel Item Review and Subscale Decisions

Item	Item Decision	Subscale Decision
1	No change	Diversity climate
2	No change	Training and development
3	No change	Equity and fairness
4	No change	Visible commitment
5	No change	Diversity climate
6	No change	Diversity climate
7	No change	Visible commitment
8	No change	Diversity climate
9	No change	Visible commitment
10	No change	Training and development
11	No change	Equity and fairness
12	No change	Training and development
13	No change	Politics in the workplace
14	No change	Hiring practices
15	No change	Equity and fairness
16	No change	Hiring practices
17	No change	Hiring practices
18	No change	Training and development
19	No change	Training and development
20	No change	Training and development
21	No change	Training and development
22	No change	Visible commitment
23	No change	Visible commitment
24	No change	Hiring practices
25	No change	Visible commitment
26	No change	Promotion practices
27	No change	Promotion practices
28	No change	Equity and fairness
29	No change	Hiring practices
30	No change	Visible commitment
31	No change	Promotion practices
32	No change	Diversity climate
33	No change	Politics in the workplace
34	No change	Politics in the workplace

Population and Sampling Frame

Eligibility criteria. The unit of analysis for this study is the accredited U.S. physical therapist education program. An eligible program for this study is a physical therapist education program that is currently accredited by the Commission on Accreditation of Physical Therapist Education (CAPTE), graduated at least one physical therapy class by May 2006 and had at least one academic coordinator/director of clinical education (ACCE/DCE). These criteria were intended to rule out developing programs, non-CAPTE accredited programs and programs located outside of the United States.

As of June 2005, there were 208 accredited U.S. physical therapist education programs. Of 208 programs, 191 (91.8%) met the eligibility criteria for participation in this study.

Program exclusions. Thirteen programs are excluded from the full study. Participating pilot programs are excluded from the full study. Since the researcher is the sole ACCE/DCE at one accredited U.S. physical therapist education program out of which this study is conducted, this specific program is excluded. Twelve programs were selected by the researcher to participate in the pilot study. Of 191 eligible programs, the final number of programs eligible to participate in the full study is 178 (93%).

Diversity climate. Program characteristics were obtained from the U.S. Census Bureau and the American Physical Therapy Association (APTA) [APTA, 2005; U.S. Bureau of the Census, 2000]. These characteristics are found in the construct, *diversity climate. Identity structures* relevant to *diversity climate* are

degree awarded, census description, minority population density, population density, number of core faculty and number of students enrolled. *Structural integration* items relevant to *diversity climate* are faculty diversity and percent minority students enrolled.

Degree awarded. In 2004-2005, 80% (n=152) of these programs conferred the entry-level DPT degree. Thirty-nine programs (20%) conferred the masters degree (APTA, 2005).

Census description. The majority of programs are located in metropolitan statistical areas (96%; n=184). Remaining programs are located in micropolitan statistical areas (4%; n=7) [U.S. Bureau of the Census, 2000].

Minority population density. According to *Profiles of General Demographic Characteristics,* minorities comprise approximately 23% of the United States population. In 2000, nearly 61% (n=116) of these programs were located in U.S. areas with a minority population ≥23% while the remaining programs were in areas with <23% minority population density (39%; n=75) [U.S. Bureau of the Census, 2000].

Number of core faculty. There is a wide range of core faculty size and ethnic diversity in these programs. In 2004-2005, there were 1,885 physical therapy faculty of which 7.9% (n=148) were minority core faculty. The range of faculty in these programs was 4-44 with a mean of 9.9 core faculty (sd=-5.9) [APTA, 2005].

Number of students enrolled. There was a wide range of ethnic diversity in the student bodies in these programs. In 2005, there were a total of

15,261 enrolled students in these 191 programs. The range of enrolled students in these programs ranged 6-289 with a mean of 80 students (sd=-7.4) [APTA, 2005]. The average program had 1-72 enrolled students in 2005. Quartile ranges indicate that 57.1% of these programs had 1-72 enrolled students, 35% had 73-144 enrolled students, 6.3% had 145-216 enrolled students and 1.6% had 217-289 enrolled students.

Population density. The majority of accredited U.S. physical therapist education programs are in highly populated areas. Within those larger areas, most programs are geographically located in urban areas (70%; n=133). Fewer programs (30%; n=58) were located in rural areas [U.S. Bureau of the Census, 2000].

Faculty diversity. Over half of all accredited U.S. physical therapist education programs had no minority core faculty in 2005. Faculty diversity in these programs show that 57.6% had no minority core faculty, 22.5% had one minority core faculty, 16.8% had at least 2 minority core faculty and <50% of number of core faculty and 3.1% had more than 2 minority core faculty and ≥50% of number of core faculty. Majority minority core faculty was found in 3.1% of all programs (APTA, 2005).

Percent minority students enrolled. Minority students were enrolled in nearly every program in 2005 (n=2,395; 15.7%). The majority of programs had at least one enrolled minority student (96.3%; n=184). The range of enrolled minority students was 0-88 with a mean of 12.75 (sd=-12.75). The average program had approximately 24% minority students enrolled. Quartile

ranges indicate that 78% of these programs had 0-24.26% enrolled minority students, 15.7% of programs had 24.27-48.54% enrolled minority students, 2.6% of programs had 48.54-72.81% enrolled minority students and 3.7% of programs had the remaining percentage of enrolled minority students (APTA, 2005).

Key informants. Key informants in higher education diversity research justify the use of core physical therapy faculty to assess perceptions of diversity climate (Gebbie & Hwang, 2000; Hughes & Preski, 1997; Kern, 1997; Streiner & Norman, 1995; Creswell, 1994). Key informants are valuable in identifying themes associated with faculty attitudes toward meeting mentorship needs of racially and ethnically diverse graduate students (Wright & Carrese, 2003). There is no published literature on utilization of ACCE/DCE(s) as key informants in identifying *diversity climate* factors in accredited U.S. physical therapist education programs.

Academic coordinators/directors of clinical education [ACCE/DCE(s)] are core physical therapy faculty with unique and multiple responsibilities (CAPTE, 2006; Strickler, 1991). Academic coordinators/directors of clinical education are primarily responsible for the administration of clinical education in accredited physical therapist education programs (Gwyer, Odom & Gandy, 2003). The demographic profile of 2004-2005 accredited U.S. program ACCE/DCE(s) is presented in Table 3 (APTA, 2005).

Table 3

Description of Key Informants in Accredited U.S. Physical Therapist Education Programs (2005 Fact Sheet, APTA, 2005)

Description	2004-2005
Total	226
Distribution in accredited U.S. programs (%)	
1	75
2 or more	25
Age (mean yrs)	48.6
Ethnicity (%)	
African American	3.9
American Indian	0.4
Asian	2.6
Caucasian	91.5
Hispanic	0.8
Other	0.4
Unknown	0.4
Gender (%)	
Male	11.1
Female	88.9
Years as faculty (yrs)	
Mean years as faculty	10.6
Mean years as faculty in current program	8.8
Entry-level PT degree* (%)	
Bachelors	69.9
Certificate	4.6
Masters	23.6
Entry-level DPT	0.5
Highest degree held* (%)	
PhD	11.1
Professional doctorate	15
Entry-level DPT	4.4
Masters	62.8
Bachelors	0.08
Current academic rank in current program*	
Professor	3.9
Associate professor	15
Assistant professor	55.3
Instructor	13.7
Lecturer	5.3
Other	6.6
Tenure status	
Tenured	12
On tenure track	19.6
Not eligible	28.4
No tenure track	40

*Percentages do not equal 100%

Survey Administration

A one-time survey administration was given to all accredited U.S. physical therapist education programs that are eligible for participation in this study. A pilot study was conducted to refine the survey instrument and determine feasibility for a full study (Polit & Beck, 2004).

Pilot study. A sample of 12 of 191 (6.3%) accredited U.S. physical therapist education programs was purposefully selected based on faculty diversity (APTA, 2005). Of these 12 programs, 4 programs with 2 or more minority core faculty, four programs with 1 minority faculty, and 4 programs with no minority faculty were selected. Other *diversity climate identity structures* and *structural integration* items in the model were considered in the selection of pilot programs to increase program variability (US Census Bureau, 2000; APTA, 2005).

Pilot study participation. The researcher emailed one ACCE/DCE at each program to obtain permission to participate, gain program access and confirm email addresses for the study. Confirmation of unduplicated email addresses maximized the number of returned electronic messages (Kohnert, Kennedy, Glaze, Kan & Carney, 2003). Anonymity of program responses to *diversity climate* items was essential to maximize the quality of the data collected from informants (Durant, Carey & Schroder, 2002). Each initial and subsequent contact attempt between programs and researcher was documented and maintained in the researcher's confidential electronic files.

If a key informant chose to participate in the study, an initial test email was sent. A subsequent email containing a cover letter (See Appendix H) and link to the web-based survey was sent to the key informant upon confirmed receipt of the test email. The second confirmation was generated from the web-based program or a confirmatory telephone call from the researcher to the key informant. This ensured that the informant received the electronic communication and had gained electronic access to the survey (Appendix D) and cover letter to key informants (Appendix H). Electronic confirmation following the respondent's on-line survey completion was generated by the web-based program to establish that a survey had been completed. Non-respondents were tracked in this manner.

Random selection. When a program had two or more ACCE/DCE core faculty, the researcher randomly selected one ACCE/DCE for participation in this study. If one ACCE/DCE refused to participate and there was more than one ACCE/DCE in the program, another ACCE/DCE from that program was invited to participate in the study.

Non-respondents. If no ACCE/DCE was willing to participate at a program, documentation of attrition biases and reasons given for non-participation was documented. Non-responding programs were tracked based on the absence of a returned and completed survey using web-based technology. Program characteristics of non-respondents were compared with program characteristics of respondents. This may help to explain program-related reasons for the rate of unreturned surveys.

Maximizing response rate. Three electronic reminders were sent to participating programs. Key informants were requested to return the completed survey via email within 1 week. As completed surveys were returned, an electronic message was automatically sent to confirm completion of the survey and thank participating programs. Non-respondents received an email reminder after the first week of data collection. If non-respondents persisted after 2 weeks, the researcher used a combination of emails and telephone calls to encourage survey return. Electronic reminders and telephone calls continued through the third week of the study (Dicker, Mosure, Steece & Stone, 2004).

If an ACCE/DCE did not return a completed survey after 3 weeks from the start of data collection, the researcher offered a telephone survey. Reducing the burden of response may increase the overall response rate (Phillips, Yates, Glasgow, Ciszek, & Attewell, 2005). If non-participation persisted after 3 weeks, the researcher in consultation with the dissertation committee determined if the response rate of returned surveys was sufficient for analysis.

Response rate and non-response bias was calculated and reported in the pilot study and full study (Polit & Beck, 2004). The researcher monitored program participation and non-participation throughout the data collection process.

Protection of Human Subjects

This research study received exempt status by the Human Subjects Review Board of the College of Health Sciences at Old Dominion University.

Following approval, a cover letter was sent to prospective participants with information relevant to informed consent (Polit & Beck, 2004).

A cover letter to key informants included relevant information regarding informed consent (Appendix H). This information included reason for the research, goals of the study, procedure for data collection and reporting, time commitment for survey completion, nature of the research as an academic requirement of the researcher, how participants were selected, potential risks and benefits, guarantee of program anonymity, voluntary consent, right to withdraw from the study and contact information for the researcher and dissertation chair (Polit & Beck, 2004).

Completion of the survey constituted implied consent. There were no identified risks associated with participation or non-participation in this study. An informant may be uncomfortable with the topic of diversity and may experience minimal discomfort responding to a question.

Electronic program data was treated in a sensitive manner and maintained in the researcher's confidential electronic files. All identifying program information was placed in a separate file in a locked file cabinet in the researcher's campus office and in electronic format with access limited to the researcher and dissertation advisor. Electronic files were password-secured and backed up on the Old Dominion University-based electronic network. Anonymity of program responses was maintained at all times by random assignment of code numbers to each set of program and ACCE/DCE information lists. Confidentiality

of all key informants and responses was maintained by reporting research findings in the aggregate only.

Participation in this study will aid in understanding (a) relationship(s) between *diversity climate* and *organizational effectiveness* in current accredited U.S. physical therapist education programs. The results of this study may contribute significantly to the body of knowledge on the relationship between diversity and outcomes in accredited U.S. physical therapist education programs.

Statistical Analysis ~~Plan~~

The statistical analysis ~~plan~~ includes bivariate and multivariate analyses based on the model constructs (Appendix I). Survey data was entered in web-based format. Outliers were removed and decisions were made by the researcher on the inclusion of incomplete surveys. Data analysis was generated using Statistical Package for Social Science 15.0 for Windows. The significance level for the bivariate analysis will be $p \leq .05$.

Question #78 reads, 'Overall, how would you rate the diversity climate in your program?' The rating scale applied is a 6-point Likert scale of agreement from 1 ('poor climate for diversity') to 6 ('excellent climate for diversity'). The perception of program diversity climate rating reflects key respondents' perceptions of diversity climate in the program at which they currently work. Analysis of Q78 which reads, 'Overall, how would you rate the diversity climate in your program?', will be based on a 6-point Likert scale of agreement from 1 ('poor climate for diversity') to 6 ('excellent climate for diversity'). Six response categories were collapsed into 2 response categories to produce a dichotomous

variable for program diversity climate. These response categories are favorable perception of diversity climate (≥5) and less than favorable perception of program diversity climate (<5).

Two dummy independent variables are created to represent the 3 category variable, faculty diversity. 'MinorityCore1' is coded to represent '1 minority core faculty' in the category of 1. 'MinorityCore2' is coded to represent '2 or more minority core faculty' in the category of 1. All other variables are dichotomized. One new dichotomous variable, 'leader', is created to incorporate program director and ACCE/DCE groups as minorities in program leadership positions in the multivariate analysis. 'Leader' is coded to represent 'yes' in the category of 1.

Eight multiple logistic regression models are computed for *organizational effectiveness*. Fourteen independent variables including both dummy variables were entered together into each multiple logistic regression model. Observed frequencies in cross-tabulations of dichotomous independent variables show one empty cell in percent minority core faculty and number of minority core faculty, minorities in leadership positions and number of minority core faculty, and minorities in leadership positions and percent minority core faculty. Tables list all variables in each logistic regression model including *B*, standard error of *B*, odds ratios and 95% confidence intervals for odds ratios. Predictor variables in the model that are significant are designated by *.

Limitations of the study

Instrumentation. Internal consistency of the perception of diversity climate items of the survey instrument for use in physical therapist education programs was not established prior to the start of this study. Estimates of reliability were not established prior to this study. Errors of measurement are possible in this instrument due to its novelty.

Sample deficiencies. An intact sample of all accredited U.S. physical therapist education programs that met inclusion criteria is used in this study. The pool of key informants is biased toward Caucasian and female perceptions of diversity climate due to the shortage of minorities and male ACCE/DCE(s) in the United States at the time this study was conducted (APTA, 2006). These perceptions may not be representative of perceptions of other core physical therapy faculty in accredited U.S. physical therapist education programs.

Design. Non-experimental research design has limitations compared to experimental and quasi-experimental research design. The inability to make causal inferences in cross-sectional studies makes study findings vulnerable to misinterpretations (Polit & Beck, 2004).

This study focuses on pre-existing programs. In this study, the accredited U.S. physical therapist education program is an intact organization that existed in its natural state prior to this study. Similarity of programs was not assumed prior to this cross-sectional study on diversity. Pre-existing differences in these programs may explain the independent variable effect on the construct, *organizational effectiveness.* One such pre-existing difference is faculty diversity.

Structural integration occurs due to self-selection by faculty and students into these programs and not by random assignment by the researcher for study purposes. This self-selection process may explain why some programs differ in outcomes when compared to other programs. Self-selection may result in biases that may interfere with perception of *diversity climate* in these programs (Polit & Beck, 2004).

Self-reported data. Self-reported data has limitations, often due to variables that are not directly related to the study. This is a concern because key informants in this study are predominantly female (APTA, 2005).

Research on male and female respondents shows that gender influences the quality of self-reported data. Gender, anonymity and perceived item threat impacted the quality of self-reported data in male (n=155) and female (n=203) undergraduate students. Male gender and conditions of anonymity improved the quality of self-reported data in a study of self-reported sensitive behaviors among these students. Even under conditions of confidentiality, female students tended to associate negative consequences with truthful self-reported information about sensitive behaviors and often chose not to respond to the item rather than bias the response. Perceived item threat was higher in female compared to male undergraduate students (Durant, Carey & Schroder, 2002). In 2004-2005, 88.9% of all academic coordinators/directors of clinical education were female (APTA, 2007). Research findings may have implications for survey completion and response refusals by female key informants in this study.

Description of the Sample

Key informants. A total of 151 key informants participated in the full study (Table 4). The majority of these key informants were Caucasian (92.7%; n=140) and female (89.4%; n=135) with an overall mean age of 47.13 years (sd=8.39). Minorities (7.3%; n=11) and males (10.6%; n=16) represented a smaller percentage of key respondents. Over 60% of all key respondents held doctoral degrees, had served in (a) physical therapy core faculty position(s) for an average of 10.32 years, averaged 8.2 years in current position, and served as program ACCE/DCE position for an average of 7.17 years. Most key informants were ranked at the level of assistant professor and approximately 13% (n=20) were tenured. The 'other' category represents those key informants with a clinical faculty and/or administrative rank within an accredited U.S. physical therapist education program.

Table 4

Description of Full Study Key Informants (N=151)

Description	N	%
Ethnicity		
African American	3	2.0
Asian	2	1.3
Caucasian	140	92.7
Hispanic	2	1.3
Other	4	2.7
Gender		
Male	16	10.6
Female	135	89.4
Entry level PT degree		
Certificate	11	7.3
Bachelors	98	64.9
Masters	42	27.8
Highest degree held		
PhD	25	16.5
Professional doctorate	22	14.6
Transition DPT	43	28.5
Entry-level DPT	1	0.7
Masters	58	38.4
Bachelors	2	1.3
Current academic rank in current program		
Professor	4	2.7
Associate professor	27	17.9
Assistant professor	74	49.0
Instructor	11	7.3
Lecturer	7	4.6
Other	28	18.5
Tenure status		
Tenured	20	13.2
On tenure track	26	17.2
Not eligible	56	37.1
No tenure track	49	32.5
	Mean	**SD**
Age	47.18	8.39
Years as core faculty	10.32	7.09
Years as core faculty in current program	8.20	6.29
Years as ACCE/DCE in current program	7.17	5.95

Accredited U.S. physical therapist education programs. A total of 151 programs (RR=83.9%) participated in the full study. Program differences based on *identity structures* (degree awarded, census description, minority population density, number of core faculty, number of students enrolled, population density) and *structural integration* program differences related to minority faculty and students are presented in Table 5. *Identity structures* of full study programs indicate the majority were urban, metropolitan DPT programs located in minority-dense U.S. cities. These programs had more minority students (range=6.4%-100%) than minority faculty (range=0-100%). Minority program directors (4.0%; n=6) and minority academic coordinators/directors of clinical education (9.3%; n=14) comprised a small percentage of all program leadership positions in these programs. More than half (52.3%; n=79) of all full study programs had no minority core faculty.

Table 5

Description of Full Study Programs (N=151)

Program	N	%
Degree awarded		
Masters	33	21.9
DPT	118	78.1
Census description		
Micropolitan	3	2.0
Metropolitan	148	98.0
Minority population density		
<23%	59	39.1
≥23%	92	60.9
Population density		
Rural	39	25.8
Urban	112	74.2
Faculty diversity*		
2 or more minority core faculty	29	19.5
1 minority core faculty	41	27.5
No minority core faculty	79	52.3
Minorities in program leadership positions		
Program director and/or chair is a minority core faculty	6	4.0
ACCE/DCE is a minority core faculty	14	9.3
	Mean	**SD**
Core faculty		
Number of core faculty	9.86	3.86
Number of minority core faculty	0.94	1.96
Percent minority core faculty	8.46	------
Enrolled students		
Number of students enrolled	93.41	37.12
Number of minority students enrolled	13.12	14.79
Percent minority students enrolled	14.65	------

*Calculations based on number of responses (N) =149

Reliability of scales and subscales. Internal consistency estimates were obtained for all scales and subscales used in the full study. A reliability index above .70 indicates that it provides an adequate test of research hypotheses for group level comparisons and confirms the existence of true relationships (Polit & Beck, 2004). Cronbach's coefficient *alpha* is an index of internal consistency used when there are at least 3 response choices on an ordinal scale (Streiner & Norman, 1995).

Overall Cronbach's coefficient *alphas* were excellent for the scales (Table 6). Both scales exceeded .70 and subsequently will be used to test hypotheses and predict relationships in the full study. Cronbach's coefficient *alpha* at .70 or above is noted for the cultural desire subscale and the diversity climate subscale. Variability in Cronbach's *alpha* for the remaining perception of *diversity climate* subscales may be due to the number of items in each subscale (Polit & Beck, 2004). Scale reliability in this study is similar to that of previous studies that reported .77 to .97 (Brinkman, 1992).

Cronbach's coefficient *alphas* were low for the subscales, particularly the hiring practices and equity and fairness subscales. This finding is not problematic since the analysis will be performed on the scale rather than subscales.

Table 6

Cronbach's Alpha Coefficients for Scales and Subscales

Scales and Subscales	Cronbach's *alpha*	Cronbach's *alpha* for Standardized Items
IAPCC-R scale	**.822**	**.826**
Cultural desire subscale	.765	.776
Cultural awareness subscale	.381	.417
Cultural knowledge subscale	.624	.611
Cultural skill subscale	.409	.378
Cultural encounters subscale	.466	.465
Perception of *diversity climate* scale	**.781**	**.831**
Diversity climate subscale	.720	.739
Hiring practices subscale	.224	.124
Promotion practices subscale	.542	.596
Training and development subscale	.340	.371
Equity and fairness subscale	.115	.023
Visible commitment subscale	.421	.427
Politics in the workplace subscale	.586	.625

Chapter 4 presents the study results. The Chapter includes hypothesis testing and statistical analysis.

CHAPTER IV

Results

Description of *organizational effectiveness*

Organizational effectiveness variables in this study are licensure rate, graduation rate, number of graduates, number of minority graduates and percent minority graduates. These variables are not normally distributed in full study accredited U.S. physical therapist education programs. Table 7 presents the distribution of *organizational effectiveness* as dichotomized for this analysis. Table 8 presents means and standard deviations for the scales and subscales in the full study.

Table 7

Description of *organizational effectiveness* variables

Variable	N	%
Licensure rate	**135**	
Lowest licensure rate reported		56
Highest licensure rate reported		100
Programs with 100% licensure rate	43	31.9
Programs with <100% licensure rate	92	68.1
Programs with 80% or > licensure rate	121	89.6
Programs with <80% licensure rate	14	10.4
Graduation rate	**145**	
Lowest graduation rate reported		40
Highest graduation rate reported		100
Programs with 100% graduation rate	52	36.4
Programs with <100% graduation rate	91	63.6
Number of graduates	**147**	
Lowest number of graduates reported	4	
Highest number of graduates reported	68	
Programs with 29 or more graduates	72	49
Programs with <29 graduates	75	51
Number of minority graduates	**146**	
Lowest number of minority graduates reported	0	
Highest number of minority graduates reported	34	
Programs with 4 or more minority graduates	124	84.9
Programs with <4 minority graduates	22	15.1
Programs with 1 or more minority graduates	146	100
Programs with no minority graduates	0	0
Percent minority graduates	**145**	
Lowest percent minority graduates reported	0	
Highest percent minority graduates reported	83	
Programs with 9% or higher minority graduates	73	50.3
Programs with <9% minority graduates	72	49.7
Programs with 1% or higher minority graduates	145	100
Programs with no minority graduates	0	0

Table 8

Means and Standard Deviations for *diversity climate* scales and subscales

Diversity climate subscale	Mean	SD
Culture and acculturation process		
Cultural competence scale score	75.85	7.02
Cultural desire subscale score	17.91	1.92
Cultural awareness subscale score	15.92	1.80
Cultural knowledge subscale score	13.30	2.01
Cultural skill subscale score	14.22	1.97
Cultural encounters subscale score	14.48	1.78
Institutional bias in human resource systems		
Program diversity rating		
Perception of diversity climate scale score	4.40	0.41
Diversity climate subscale score	4.73	0.72
Hiring practices subscale score	3.66	0.67
Promotion practices subscale score	4.94	0.74
Training and development subscale score	3.96	0.63
Equity and fairness subscale score	4.27	0.60
Visible commitment subscale score	3.98	0.66
Politics in the workplace subscale score	5.31	0.67

Bivariate results for *organizational effectiveness*

Description of programs with 100% licensure rate. Of all DPT programs, 42.4% have 100% licensure rate. Of all masters programs, 27% have 100% licensure rate. Among programs that report 100% licensure rate, 43.5% are located in minority dense areas. Nearly 43% of programs with 100% licensure rate have 10 or more core physical therapy faculty and 36.4% of programs with 100% licensure rate have less than 10 core physical therapy faculty. There is a statistically significant relationship between population density and licensure rate **(p=.046)**. More urban programs (43.8%) reported 100% licensure rate when compared to rural programs with 100% licensure rate (25.6%). Thirty-eight percent of all programs have culturally competent key informants. When compared to programs with licensure rate less than 100%, programs with 100% licensure rate have more minority students enrolled, higher percent minority students enrolled, more minority core faculty and higher percent minority core faculty. Of all programs with 100% pass rate, 57.1% have a minority ACCE/DCE in a program leadership position. Of all programs with 100% licensure rate, 38.8% have favorable perceptions of diversity climate.

Description of programs with 80% or higher licensure rate. Of all DPT programs, 91.5% have 80% or higher licensure rate. Of all masters programs, 87.9% have 80% or higher licensure rate. There is a statistically significant difference in licensure rate between programs with fewer than 10 core faculty and programs with 10 or more core faculty **(p=.029)**. There is a statistically significant difference in licensure rate between programs with less

than 80 students enrolled and programs with 80 or more students enrolled **(p=.042)**. There is a statistically significant difference in licensure rate between programs with culturally competent ACCE/DCEs and programs whose ACCE/DCEs are not culturally competent **(p=.042)**. There are no statistically significant differences in licensure rate in accredited U.S. physical therapist education programs based on number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty, minorities in leadership positions or perception of diversity climate scale score.

Crosstab results for licensure rate. Four bivariate relationships are statistically significant for licensure rate. These statistically significant relationships are Maxpass and population density, Minpass and number of core faculty, Minpass and number of students enrolled and Minpass and cultural competence scale score. Crosstab results and p-value of Pearson chi-square tests for licensure rate are presented in Table 9 and Table 10.

Table 9

Crosstab results for programs with 100% licensure rate (Maxpass)

	% programs	p-value
Identity structures		
Degree awarded		.116
Masters	27.3	
DPT	42.4	
Minority population density		.166
<23%	32.2	
≥23%	43.5	
Number of core faculty		.420
Fewer than 10	36.4	
10 or more	42.9	
Number of students enrolled		.166
Less than 80	32.2	
80 or more	43.5	
Population density		**.046**
Rural	25.6	
Urban	43.8	
Culture and acculturation process		
Cultural competence scale score		.746
Not culturally competent	40.7	
Culturally competent	38.0	
Structural integration		
Number of minority students enrolled		.135
Less than 10	33.3	
10 or more	45.2	
Percent minority students enrolled		.185
Less than 10	32.8	
10 or more	43.6	
Number of minority core faculty		.533
None	36.7	
1 or more	41.7	
Percent minority core faculty		.533
0	36.7	
.01 or higher	41.7	
Minorities in program leadership positions		
ACCE/DCE is minority core faculty		.146
Yes	57.1	
No	37.2	
Institutional bias in human resource systems		
Perception of diversity climate scale score		.931
Less than 147	39.4	
147 and higher	38.8	

Table 10

Crosstab results for programs with 80% or > licensure rate (Minpass)

	% programs	p-value
Identity structures		
Degree awarded		.523
Masters	87.9	
DPT	91.5	
Minority population density		.379
<23%	88.1	
≥23%	92.4	
Number of core faculty		**.029**
Fewer than 10	86.4	
10 or more	96.8	
Number of students enrolled		**.042**
Less than 80	84.7	
80 or more	94.6	
Population density		.375
Rural	87.2	
Urban	92.0	
Culture and acculturation process		
Cultural competence scale score		**.042**
Not culturally competent	84.7	
Culturally competent	94.6	
Structural integration		
Number of minority students enrolled		.666
Less than 10	89.7	
10 or more	91.8	
Percent minority students enrolled		.388
Less than 10	88.1	
10 or more	92.3	
Number of minority core faculty		.704
None	89.9	
1 or more	91.7	
Percent minority core faculty		.704
0	89.9	
.01 or higher	91.7	
Minorities in program leadership positions		
ACCE/DCE is minority core faculty		.773
Yes	92.9	
No	90.5	
Institutional bias in human resource systems		
Perception of diversity climate scale score		.065
Less than 147	88.7	
147 and higher	92.5	

Results for graduation rate

Description of programs with 100% graduation rate. There are no statistically significant differences in graduation rate based on degree awarded. Of all masters programs 48.5% have a 100% graduation rate. Of all programs located in minority dense areas, 35.9% of them have 100% graduation rate. Of programs with 10 or more core physical therapy faculty, 39.7% have 100% graduation rate. Nearly 46% of all programs with 100% graduation rate enroll less than 80 students. There is a statistically significant difference in graduation rate based on population density. Of all rural programs, 59% have 100% graduation rate and 33% of all urban programs have 100% graduation rate **(p=.004).** There are no statistically significant program differences in graduation rate based on minority population density, number of core faculty and number of students enrolled. There is a statistically significant relationship between graduation rate and population density. More urban programs (67%) reported graduation rate below 100% and more rural programs (59%) reported 100% graduation rate. Of all programs with culturally competent key informants, 41.3% have 100% graduation rate. In study programs with less than 10 minority students enrolled (43.6%), less than 10% minority students enrolled (43.3%) 1 or more minority core faculty (41.7%), .01% or higher minority core faculty (41.7%) and favorable perception of diversity climate (42.5%), graduation rate is 100%. There is no statistically significant difference in graduation rate between programs with minorities in program leadership positions and programs with no minorities in program leadership position.

Crosstab results for graduation rate. One bivariate relationship is statistically significant for graduation rate. This statistically significant relationship is Maxgrad and population density. Results of crosstabs and p-value of Pearson chi-square tests for graduation rate are presented in Table 11.

Table 11

Crosstab results for programs with 100% graduation rate (Maxgrad)

	% programs	p-value
Identity structures		
Degree awarded		.245
Masters	48.5	
DPT	37.3	
Minority population density		.225
<23%	45.8	
≥23%	35.9	
Number of core faculty		.991
Fewer than 10	39.8	
10 or more	39.7	
Number of students enrolled		.225
Less than 80	45.8	
80 or more	35.9	
Population density		**.004**
Rural	59.0	
Urban	33.0	
Culture and acculturation process		
Cultural competence scale score		.623
Not culturally competent	37.3	
Culturally competent	41.3	
Structural integration		
Number of minority students enrolled		.317
Less than 10	43.6	
10 or more	35.6	
Percent minority students enrolled		.454
Less than 10	43.3	
10 or more	37.2	
Number of minority core faculty		.643
None	38.0	
1 or more	41.7	
Percent minority core faculty		.643
0	38.0	
.01 or higher	41.7	
Minorities in program leadership positions		
ACCE/DCE is minority core faculty		.142
Yes	21.4	
No	41.6	
Institutional bias in human resource systems		
Perception of diversity climate scale score		.461
Less than 147	36.6	
147 and higher	42.5	

Results for number of graduates

Description of programs with 29 or more graduates. Of all DPT programs, 51.7% have 29 or more graduates compared to 45.5% of all masters programs. Of all programs located in minority dense areas, 55.4% of them have 29 or more graduates. There is statistically significant relationship between number of graduates and number of core faculty **(p=.000)**, number of students enrolled **(p=.000)** and population density **(p=.036)**. Of all programs with 10 or more core faculty, 71.4% have 29 or more graduates. Approximately 67% (67.4%) of all programs with 80 or more students and 55.4% of all urban programs have 29 or more minority graduates. There is no statistically significant difference in number of graduates in programs with and without culturally competent key informants. There is a statistically significant difference in number of graduates in programs with less than 10 minority students enrolled and programs with 10 or more minority students enrolled **(p=.018).** There is no statistically significant difference in number of graduates and percent minority students enrolled, number of minority core faculty, percent minority core faculty, minorities in program leadership positions and perception of diversity climate scale score. Of all programs with 10 or more minority students enrolled (60.3%), 10% or more minority students enrolled (51.3%), 1 or more minority core faculty (54.2%), minorities in program leadership positions (42.9%) and favorable perception of diversity climate (52.2%), there are 29 or more graduates.

Crosstab results for number of graduates. Four bivariate relationships are statistically significant for number of graduates. These statistically significant

relationships are Allgrad and number of core faculty, Allgrad and number of students enrolled, Allgrad and population density and Allgrad and number of minority students enrolled. Results of crosstabs and p-value of Pearson chi-square tests for number of graduates are presented in Table 12.

Table 12

Crosstab results for programs with 29 or more graduates (Allgrad)

	% programs	p-value
Identity structures		
Degree awarded		.526
Masters	45.5	
DPT	51.7	
Minority population density		.117
<23%	42.4	
≥23%	55.4	
Number of core faculty		**.000**
Fewer than 10	35.2	
10 or more	71.4	
Number of students enrolled		**.000**
Less than 80	23.7	
80 or more	67.4	
Population density		**.036**
Rural	35.9	
Urban	55.4	
Culture and acculturation process		
Cultural competence scale score		.919
Not culturally competent	50.8	
Culturally competent	50.0	
Structural integration		
Number of minority students enrolled		**.018**
Less than 10	41.0	
10 or more	60.3	
Percent minority students enrolled		.672
Less than 10	47.8	
10 or more	51.3	
Number of minority core faculty		.368
None	46.8	
1 or more	54.2	
Percent minority core faculty		.368
0	46.8	
.01 or higher	54.2	
Minorities in program leadership positions		
ACCE/DCE is minority core faculty		.557
Yes	42.9	
No	51.1	
Institutional bias in human resource systems		
Perception of diversity climate scale score		.572
Less than 147	47.9	
147 and higher	52.5	

Results for number of minority graduates

Description of programs with 4 or more minority graduates. Of all masters programs, 51.5% have 4 or more minority graduates. Of all DPT programs, 39% have 4 or more minority graduates. There is a statistically significant relationship between number of minority graduates and minority population density **(p=.000)**. Of programs in minority dense areas, 57.6% of them have 4 or more minority graduates. Of all programs with 10 or more core faculty, 49.2% of them have 4 or more minority graduates. There is a statistically significant relationship between number of minority graduates and number of students enrolled **(p=.004)**. Of all programs with 80 or more students enrolled, 51.1% have 4 or more minority graduates. Of all urban programs, 42.9% have 4 or more minority graduates. There is no statistically significant relationship between cultural competence scale score of key informants and number of minority graduates. There are statistically significant relationships between number of minority graduates and number of minority students enrolled **(p=.000)**, percent minority students enrolled **(p=.000)**, number of minority core faculty **(p=.001)** and minorities in program leadership positions **(p=.003)**. Of all programs with 10 or more minority students enrolled, nearly 70% of them have 4 or more minority graduates. Of all programs with 10% or more minority students enrolled (66.7%), 1 or more minority core faculty (55.6%), .01% or higher percent minority core faculty (55.6%) and minorities in leadership positions (78.6%), there are 4 or more minority graduates. Of all programs with favorable perception of diversity climate, 47.5% have 4 or more minority graduates.

Description of programs with 1 or more minority graduates. Of all masters programs, 84.8% have 1 or more minority graduates. Of all DPT programs, 80.5% have 1 or more minority graduates. There is a statistically significant relationship between number of minority graduates and minority population density **(p=.009)**, number of core faculty **(p=.047)** and number of students enrolled **(p=.002)**. Of programs in minority dense areas, 88% of them have 1 or more minority graduates. Of all programs with 10 or more core faculty, 88.9% of them have 1 or more minority graduates. Of all programs with 80 or more students enrolled, 89.1% have 1 or more minority graduates. Of all urban programs, 83.9% have 1 or more minority graduates. There is no statistically significant relationship between cultural competence scale score of key informants and number of minority graduates. There are statistically significant relationships between number of minority graduates and number of minority students enrolled **(p=.000)**, percent minority students enrolled **(p=.001)**, number of minority core faculty **(p=.008)** and percent minority core faculty **(p=.008)**. Of all programs with 10 or more minority students enrolled (95.8%), 10% or more minority students enrolled (91%), 1 or more minority core faculty (90.3%) and .01% or higher percent minority core faculty (90.3%), there are 1 or more minority graduates. Of all programs with minorities in leadership positions, 92.9% of them have 1 or more minority graduates. There is a statistically significant relationship between number of minority graduates and perception of diversity climate scale score **(p=.014)**. Of programs with favorable perception of diversity climate, 88.7% of them have 1 or more minority graduates.

Crosstab results for number of minority graduates. Number of minority graduates is not normally distributed in programs. A total of 17 bivariate relationships were significant at the .05 level. Results of crosstabs and p-value of Pearson chi-square tests for number of minority graduates are presented in Table 13 and Table 14.

Table 13

Crosstab results for programs with 4 or more minority graduates (Allmingrad)

	% programs	p-value
Identity structures		
Degree awarded		.197
Masters	51.5	
DPT	39.0	
Minority population density		**.000**
≤23%	16.9	
≥23%	57.6	
Number of core faculty		.115
Fewer than 10	36.4	
10 or more	49.2	
Number of students enrolled		**.004**
Less than 80	27.1	
80 or more	51.1	
Population density		.632
Rural	38.5	
Urban	42.9	
Culture and acculturation process		
Cultural competence scale score		.640
Not culturally competent	44.1	
Culturally competent	40.2	
Structural integration		
Number of minority students enrolled		**.000**
Less than 10	15.4	
10 or more	69.9	
Percent minority students enrolled		**.000**
Less than 10	11.9	
10 or more	66.7	
Number of minority core faculty		**.001**
None	29.1	
1 or more	55.6	
Percent minority core faculty		**.001**
0	29.1	
.01 or higher	55.6	
Minorities in program leadership positions ACCE/DCE is minority core faculty		**.003**
Yes	78.6	
No	38.0	
Institutional bias in human resource systems		
Perception of diversity climate scale score		.126
Less than 147	35.2	
147 and higher	47.5	

Table 14

Crosstab results for programs with 1 or more minority graduates (Allmingrad2)

	% programs	p-value
Identity structures		
Degree awarded		.571
Masters	84.8	
DPT	80.5	
Minority population density		**.009**
≤23%	71.2	
≥23%	88.0	
Number of core faculty		**.047**
Fewer than 10	76.1	
10 or more	88.9	
Number of students enrolled		**.002**
Less than 80	69.5	
80 or more	89.1	
Population density		.185
Rural	74.4	
Urban	83.9	
Culture and acculturation process		
Cultural competence scale score		.980
Not culturally competent	81.4	
Culturally competent	81.5	
Structural integration		
Number of minority students enrolled		**.000**
Less than 10	67.9	
10 or more	95.9	
Percent minority students enrolled		**.001**
Less than 10	68.7	
10 or more	91.0	
Number of minority core faculty		**.008**
None	73.4	
1 or more	90.3	
Percent minority core faculty		**.008**
0	73.4	
.01 or higher	90.3	
Minorities in program leadership positions		
ACCE/DCE is minority core faculty		.249
Yes	92.9	
No	80.3	
Institutional bias in human resource systems		
Perception of diversity climate scale score		**.014**
Less than 147	73.2	
147 and higher	88.7	

Results for percent minority graduates

Description of programs with 9% or more minority graduates. Of all masters programs, 59.4% have 9% or more minority graduates. Of all DPT programs, 50.9% have 9% or more minority graduates. There is a statistically significant relationship between percent minority graduates and minority population density **(p=.000)**. Of programs in minority dense areas, 65.9% of them have 9% or more minority graduates. There is a statistically significant relationship between percent minority graduates and number of core faculty **(p=.05)**. Of all programs with 10 or more core faculty, 62.3% of them have 9% or more minority graduates. Of all programs with 80 or more students enrolled, 57.1% have 9% or more minority graduates. Of all urban programs, 52.3% have 9% or more minority graduates. There is no statistically significant relationship between percent minority graduates and cultural competence scale score. There are statistically significant relationships between percent minority graduates and number of minority students enrolled **(p=.000)**, percent minority students enrolled **(p=.000)**, number of minority core faculty **(p=.000)**, percent minority core faculty **(p=.000),** minorities in program leadership positions **(p=.042)** and perception of diversity climate scale score **(p=.023)**. Of all programs with 10 or more minority students enrolled (72.9%), 10% or more minority students enrolled (78.9%), 1 or more minority core faculty (69%), .01% or higher percent minority core faculty (69%), minorities in leadership positions (78.6%) and favorable perception of diversity climate scale score (61.5%), there are 9% or more minority graduates.

Description of programs with 1% or more minority graduates. Of all masters programs, 84.8% have 1% or more minority graduates. Of all DPT programs, 80.2% have 1% or more minority graduates. There is a statistically significant relationship between percent minority graduates and minority population density **(p=.009)**. Of programs in minority dense areas, 87.9% of them have 1% or more minority graduates. There is a statistically significant relationship between percent minority graduates and number of core faculty **(p=.048)**. Of all programs with 10 or more core faculty, 88.7% of them have 1% or more minority graduates. There is a statistically significant relationship between percent minority graduates and number of students enrolled. Of all programs with 80 or more students enrolled, 89% have 1% or more minority graduates. Of all urban programs, 83.6% of them have 1% or more minority graduates. There is no statistically significant relationship between percent minority graduates and cultural competence scale score. There are statistically significant relationships between percent minority graduates and number of minority students enrolled **(p=.000)**, percent minority students enrolled **(p=.001)**, number of minority core faculty **(p=.006)**, percent minority core faculty **(p=.006)** and perception of diversity climate scale score **(p=.011)**. Of all programs with 10 or more minority students enrolled (95.8%), 10% or more minority students enrolled (90.9%), 1 or more minority core faculty (90.3%), .01% or higher percent minority core faculty (90.3%) and favorable perception of diversity climate scale score (88.7%), there are 1% or more minority graduates.

Crosstab results for percent minority graduates. Percent minority graduates is not normally distributed in accredited U.S. physical therapist education programs. It was dichotomized and recoded into 2 new variables, 'Allminpercentgrad' and 'Allminpercentgrad2', which were entered into a bivariate analysis with each *diversity climate* variable. The operational definition of 'Allmingrad' is 'less than 4/4 or more'. The operational definition of 'Allmingrad2' is 'none/1% or more'. A total of 18 bivariate relationships were significant for percent minority graduates. Results of crosstabs and p-value of Pearson chi-square tests for number of minority graduates are presented in Table 15 and Table 16.

Table 15

Crosstab results for programs with 9% or more minority graduates (Allminpercentgrad)

	% programs	p-value
Identity structures		
Degree awarded		.393
Masters	59.4	
DPT	50.9	
Minority population density		**.000**
≤23%	31.6	
≥23%	65.9	
Number of core faculty		**.050**
Fewer than 10	46.0	
10 or more	62.3	
Number of students enrolled		.172
Less than 80	45.6	
80 or more	57.1	
Population density		.836
Rural	51.3	
Urban	53.2	
Culture and acculturation process		
Cultural competence scale score		.629
Not culturally competent	55.2	
Culturally competent	51.1	
Structural integration		
Number of minority students enrolled		**.000**
Less than 10	27.6	
10 or more	79.2	
Percent minority students enrolled		**.000**
Less than 10	19.7	
10 or more	78.9	
Number of minority core faculty		**.000**
None	37.7	
1 or more	69.0	
Percent minority core faculty		**.000**
0	37.7	
.01 or higher	69.0	
Minorities in program leadership positions		
ACCE/DCE is minority core faculty		**.042**
Yes	78.6	
No	50.0	
Institutional bias in human resource systems		
Perception of diversity climate scale score		**.023**
Less than 147	42.9	
147 and higher	61.5	

Table 16

Crosstab results for programs with 1% or more minority graduates (Allminpercentgrad2)

	% programs	p-value
Identity structures		
Degree awarded		.544
Masters	84.8	
DPT	80.2	
Minority population density		**.009**
≤23%	70.7	
≥23%	87.9	
Number of core faculty		**.048**
Fewer than 10	75.9	
10 or more	88.7	
Number of students enrolled		**.002**
Less than 80	69.0	
80 or more	89.0	
Population density		.203
Rural	74.4	
Urban	83.6	
Culture and acculturation process		
Cultural competence scale score		.970
Not culturally competent	81.4	
Culturally competent	81.1	
Structural integration		
Number of minority students enrolled		**.000**
Less than 10	67.5	
10 or more	95.8	
Percent minority students enrolled		**.001**
Less than 10	68.2	
10 or more	90.9	
Number of minority core faculty		**.006**
None	72.7	
1 or more	90.3	
Percent minority core faculty		**.006**
0	72.7	
.01 or higher	90.3	
Minorities in program leadership positions		
ACCE/DCE is minority core faculty		.241
Yes	92.9	
No	80.0	
Institutional bias in human resource systems		
Perception of diversity climate scale score		**.011**
Less than 147	72.5	
147 and higher	88.7	

Kruskal-Wallis one-way analysis of variance results for faculty diversity

A Kruskal-Wallis one-way analysis of variance test was performed to examine faculty diversity and *organizational effectiveness* in accredited U.S. physical therapist education programs. The 3 groups of faculty diversity in this study are 'programs with 2 or more minority core faculty' (Group 1), 'programs with 1 minority core faculty' (Group 2) and 'programs with no minority core faculty' (Group 3). Table 17 presents significant between group differences for number of minority graduates **(p=.000)** and percent minority graduates **(p=.000)** in these programs. Licensure rate, graduation rate and number of graduates were not statistically significant.

Table 17

Kruskal-Wallis Test* results for faculty diversity and *organizational effectiveness*

Organizational effectiveness	X^2 (H)	df	Sig.
Licensure rate	.355	2	.837
Graduation rate	1.387	2	.500
Number of graduates	3.677	2	.159
Number of minority graduates	17.375	2	**.000**
Percent minority graduates	16.197	2	**.000**

***Grouping variable: faculty diversity**

A post-hoc analysis revealed the groups between which these differences exist. Three Mann-Whitney tests were performed post-hoc on Groups 1 and 2, Groups 1 and 3, and Groups 2 and 3 (Table 18). There is a statistically significant difference in number of minority graduates between programs with 2 or more minority core faculty and programs with 1 minority core faculty. Programs with 2 or more minority core faculty and programs with no minority core faculty have statistically significant differences in number of minority graduates and percent minority graduates. There is a statistically significant difference in percent minority graduates between programs with 1 minority core faculty and programs with no minority core faculty.

Results for programs with 2 or more minority faculty (Group 1) and programs with 1 minority core faculty (Group 2). There is a statistically significant difference in number of minority graduates between programs with 2 or more minority core faculty and programs with 1 minority core faculty **(p=.021)**. There is no statistically significant difference in percent minority graduates between programs with 2 or more minority core faculty and programs with 1 minority core faculty.

Results for programs with 2 or more minority core faculty (Group 1) and programs with no minority core faculty (Group 3). There is a statistically significant difference in number of minority graduates between programs with 2 or more minority faculty and programs with no minority faculty **(p=.000).** There is a statistically significant difference in percent minority graduates between

programs with 2 or more minority faculty and programs with no minority faculty **(p=.000).**

Results for programs with 1 minority core faculty (Group 2) and programs with no minority core faculty (Group 3). There is a statistically significant difference in percent minority graduates between programs with 1 minority core faculty and programs with no minority core faculty **(p=.020).** There is no statistically significant difference in number of minority graduates in programs with 1 minority core faculty and programs with no minority core faculty.

Table 18

Post-hoc Mann-Whitney analyses for faculty diversity

Group 1[2] and Group 2[1]			
Organizational effectiveness	**N**	**Mann-Whitney U**	**Sig.**
Licensure rate	62	435.000	.588
Graduation rate	66	455.000	.280
Number of graduates	68	427.500	.087
Number of minority graduates	67	369.500	**.021**
Percent minority graduates	67	410.000	.074
Group 1[2] and Group 3[o]			
Organizational effectiveness	**N**	**Mann-Whitney U**	**Sig.**
Licensure rate	100	953.500	.800
Graduation rate	106	1067.000	.718
Number of graduates	108	891.000	.078
Number of minority graduates	108	569.500	**.000**
Percent minority graduates	107	597.500	**.000**
Group 2[1] and Group 3[o]			
Organizational effectiveness	**N**	**Mann-Whitney U**	**Sig.**
Licensure rate	108	1208.00	.643
Graduation rate	114	1268.500	.334
Number of graduates	118	1516.000	.888
Number of minority graduates	108	1177.500	.057
Percent minority graduates	116	1089.000	**.020**

[2]programs with 2 or more minority core faculty
[1]programs with 1 minority core faculty
[o]programs with no minority core faculty

Research Questions and Hypotheses Testing for Bivariate Relationships

The main research question is: 'Is the Interactional Model of Cultural Diversity an effective theoretical framework to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs?' To answer this question, 5 specific construct research questions were addressed in this section. Supported research hypotheses are highlighted in bold print.

Research Question #1: Is there a statistically significant relationship between *diversity climate identity structures* (degree awarded, census description, minority population density, number of core faculty, number of students enrolled, population density) and *organizational effectiveness* (licensure rate, graduation rate, number of graduates, number of minority graduates and percent minority graduates) in accredited U.S. physical therapist education programs?

Identity structures

Identity structures will be associated with *organizational effectiveness* in accredited U.S. physical therapist education programs.

Hypotheses for degree awarded. Hypotheses 1-5 were not supported. There were no statistically significant relationships between degree awarded and *organizational effectiveness.*

Hypotheses for census description. Hypotheses 6-10 were not analyzed due to insufficient number of cases for statistical analysis.

Hypotheses for minority population density. **Hypothesis 11** was supported because there was no statistically significant relationship between

licensure rate and minority population density. **Hypothesis 12** was supported because there was no statistically significant relationship between graduation rate and minority population density. **Hypothesis 13** was supported because there was no statistically significant relationship between number of graduates and minority population density. **Hypothesis 14** was supported because accredited U.S. physical therapist education programs located in ≥23% minority population had a statistically significant higher number of minority graduates than accredited U.S. physical therapist education programs located in <23% minority population density **(Allmingrad, p=.000; Allmingrad2, p=.009). Hypothesis 15** was supported because accredited U.S. physical therapist education programs located in ≥23% minority population had a statistically significant higher percent minority graduates than accredited U.S. physical therapist education programs located in <23% minority population density **(Allminpercentgrad, p=.000; Allminpercentgrad2, p=.009).**

Hypotheses for number of core faculty. **Hypothesis 16** was supported because accredited U.S. physical therapist education programs with ≥10 core faculty had a statistically significant higher licensure rate than accredited U.S. physical therapist education programs with <10 core faculty **(Minpass, p=.029).** Hypotheses 17 was not supported because there was no statistically significant relationship between graduation rate and number of core faculty. **Hypothesis 18** was supported because accredited U.S. physical therapist education programs with ≥10 core faculty had a statistically significant higher number of graduates than accredited U.S. physical therapist education programs with <10 core faculty

(Allgrad, p.000). Hypothesis 19 was not supported because there was a statistically significant difference in number of minority graduates between accredited U.S. physical therapist education programs with ≥10 core faculty and accredited U.S. physical therapist education programs with <10 core faculty **(Allmingrad2, p=.047). Hypothesis 20** was not supported as written and there was a statistically significant difference in percent minority graduates in programs with <10 core faculty and programs with ≥10 core faculty. Programs with more core faculty had higher percent minority graduates than programs with less core faculty **(Allminpercentgrad, p=.05; Allminpercentgrad2, p=.048).**

Hypotheses for number of students enrolled. **Hypothesis 21** was not supported as written and there was a statistically significant difference in licensure rate between accredited U.S. physical therapist education programs with <80 students enrolled and accredited U.S. physical therapist education programs with ≥80 students enrolled **(Minpass, p=.042).** Hypothesis 22 was not supported because there was no statistically significant relationship between graduation rate and number of students enrolled. **Hypothesis 23** was supported because accredited U.S. physical therapist education programs with ≥80 students enrolled had a statistically significant higher number of graduates than accredited U.S. physical therapist education programs with <80 students enrolled **(Allgrad, p=.000). Hypothesis 24** was supported because accredited U.S. physical therapist education programs with ≥80 students enrolled had a statistically significant higher number of minority graduates than accredited U.S. physical therapist education programs with <80 students enrolled **(Allmingrad,**

p=.004; Allmingrad2, p=.002). Hypothesis 25 was not supported as written. Accredited U.S. physical therapist education programs with ≥80 students enrolled had a statistically significant higher percent minority graduates than accredited U.S. physical therapist education programs with <80 students enrolled **(Allminpercentgrad2, p=.002).**

Hypotheses for population density. Hypothesis 26 was not supported because there was a statistically significant difference between licensure rate in urban accredited U.S. physical therapist education programs and rural accredited U.S. physical therapist education programs **(Maxpass, p=.046).** Hypothesis 27 was not supported because there was a statistically significant difference between graduation rate in urban accredited U.S. physical therapist education programs and rural accredited U.S. physical therapist education programs **(Maxgrad, p=.004). Hypothesis 28** was supported because urban accredited U.S. physical therapist education programs have a statistically significant higher number of graduates than rural accredited U.S. physical therapist education programs **(Allgrad, p=.036).** Hypothesis 29 was not supported because there was no statistically significant relationship between number of minority graduates and population density. Hypothesis 30 was not supported because there was no statistically significant relationship between population density and percent minority graduates.

Research Question #2: Is there a statistically significant relationship between *diversity climate culture and acculturation process* (cultural competence score) and *organizational effectiveness* (licensure rate, graduation rate, number

of graduates, number of minority graduates and percent minority graduates) in accredited U.S. physical therapist education programs?

Culture and acculturation process

Culture and acculturation process will be associated with *organizational effectiveness* items in accredited U.S. physical therapist education programs.

Hypotheses for cultural competence scale score. Hypothesis 31 was not supported because there was a statistically significant relationship between licensure rate and cultural competence scale score **(Minpass, p=.042).** Hypotheses 32 was not supported because there was no statistically significant relationship between graduation rate and cultural competence scale score. Hypotheses 33 was supported because there was no statistically significant relationship between number of graduates and cultural competence scale score. **Hypotheses 34** was supported because there was no statistically significant relationship between number of minority graduates and cultural competence scale score. **Hypotheses 35** was supported because there was no statistically significant relationship between percent minority graduates and cultural competence scale score.

Research Question #3: Is there a statistically significant relationship between *diversity climate structural integration* (faculty diversity, number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty, minorities in program leadership positions) and *organizational effectiveness* (licensure rate, graduation rate,

number of graduates, number of minority graduates, percent minority graduates) in accredited U.S. physical therapist education programs?

Structural integration

Structural integration will be associated with *organizational effectiveness* in accredited U.S. physical therapist education programs.

Hypotheses for faculty diversity. **Hypotheses 36** was supported because there was no statistically significant difference in licensure rate between 3 groups of accredited U.S. physical therapist education programs. **Hypotheses 37** was supported because there was no statistically significant difference in licensure rate between 3 groups of accredited U.S. physical therapist education programs. **Hypothesis 38** was supported because there was no statistically significant difference in licensure rate between 3 groups of accredited U.S. physical therapist education programs. **Hypothesis 39** was not supported because there was a statistically significant difference in number of minority graduates between programs with no minority core faculty and programs with 1 minority core faculty **(p=.021)** and between programs with no minority core faculty and 2 or more minority core faculty **(p=.000). Hypothesis 40** was not supported because there was a statistically significant difference in percent minority graduates between programs with no minority core faculty and programs with 2 or more minority core faculty **(p=.000)** and between programs with 1 minority core faculty and 2 or more minority core faculty **(p=.020).**

Hypotheses for number of minority students enrolled. **Hypothesis 41** was supported because there was no statistically significant difference between licensure rate and number of minority students enrolled. **Hypothesis 42** was supported because there was no statistically significant difference between graduation rate and number of minority students enrolled. **Hypothesis 43** was supported because there was a statistically significant relationship between number of graduates and number of minority students enrolled **(Allgrad, p=.018). Hypothesis 44** was supported because there was a statistically significant relationship between number of minority graduates and number of minority students enrolled **(Allmingrad, p=.000; Allmingrad2, p=.000). Hypothesis 45** was supported because there was a statistically significant relationship between percent minority graduates and number of minority students enrolled **(Allminpercentgrad, p=.000; Allminpercentgrad2, p=.000).**

Hypotheses for percent minority students enrolled. **Hypothesis 46** was supported because there was no statistically significant relationship between licensure rate and percent minority students enrolled. **Hypothesis 47** was supported because there was no statistically significant relationship between graduation rate and percent minority students enrolled. Hypothesis 48 was not supported because there was no statistically significant relationship between number of graduates and percent minority students enrolled. **Hypothesis 49** was supported because there was a statistically significant relationship between number of minority graduates and percent minority students enrolled

(Allmingrad, p=.000; Allmingrad2, p=.001). Hypothesis 50 was supported because there was a statistically significant relationship between percent minority graduates and percent minority students enrolled **(Allminpercentgrad, p=.000; Allminpercentgrad2, p=.001).**

Hypotheses for number of minority core faculty. **Hypothesis 51** was supported because there was no statistically significant relationship between licensure rate and number of minority core faculty. **Hypothesis 52** was supported because there was no statistically significant relationship between graduation rate and number of minority core faculty. **Hypothesis 53** was supported because there was no statistically significant relationship between number of graduates and number of minority core faculty. **Hypothesis 54** was supported because there was a statistically significant relationship between number of minority graduates and number of minority core faculty **(Allmingrad, p=.001; Allmingrad2, p=.008). Hypothesis 55** was supported because there was a statistically significant relationship between percent minority graduates and percent minority core faculty **(Allminpercentgrad, p=.000; Allminpercentgrad2, p=.006)**

Hypotheses for percent minority core faculty. **Hypothesis 56** was supported because there was no statistically significant relationship between licensure rate and percent minority core faculty. **Hypothesis 57** was supported because there was no statistically significant relationship between graduation rate and percent minority core faculty. **Hypothesis 58** was supported because there was no statistically significant relationship between number of graduates

and percent minority core faculty. **Hypothesis 59** was supported because there was a statistically significant relationship between number of minority graduates and percent minority core faculty **(Allmingrad, p=.001; Allmingrad2, p=.008). Hypothesis 60** was supported because there was a statistically significant relationship between percent minority graduates and percent minority core faculty **(Allminpercentgrad, p=.000; Allminpercentgrad2, p=.006).**

Hypotheses for minorities in leadership positions. **Hypothesis 61** was supported because there was no statistically significant relationship between licensure rate and minorities in leadership positions. Hypothesis 62 was not supported because there was no statistically significant relationship between graduation rate and minorities in leadership positions. **Hypothesis 63** was supported because there was no statistically significant relationship between number of graduates and minorities in leadership positions. **Hypothesis 64** was supported because there was a statistically significant relationship between number of minority graduates and minorities in leadership positions **(Allmingrad, p=.003). Hypothesis 65** was supported because there was a statistically significant relationship between percent minority graduates and minorities in leadership positions **(Allminpercentgrad, p=.042).**

Research Question #4: Is there a statistically significant relationship between *diversity climate institutional bias in human resource systems* (perception of diversity climate scale score) and *organizational effectiveness* (licensure rate, graduation rate, number of graduates, number of minority

graduates, percent minority graduates) in accredited physical therapist education programs?

Institutional bias in human resource systems

Institutional bias in human resource systems items will be associated with *organizational effectiveness* in accredited U.S. physical therapist education programs.

Hypotheses for perception of diversity climate scale score. **Hypothesis 66** was supported because there was no statistically significant relationship between licensure rate and perception of diversity climate scale score. **Hypothesis 67** was supported because there was no statistically significant relationship between graduation rate and perception of diversity climate scale score. **Hypothesis 68** was supported because there was no statistically significant relationship between number of graduates and perception of diversity climate scale score. **Hypothesis 69** was supported because programs with perception of diversity climate score $\geq$147 have statistically significant higher number of minority graduates than programs with perception of diversity climate score <147 **(Allmingrad2, p=.014). Hypothesis 70** was supported because programs with perception of diversity climate score $\geq$147 have statistically significant higher percent minority graduates than programs with perception of diversity climate score <147 **(Allminpercentgrad, p=.023; Allminpercentgrad2, p=.011).**

Summary of bivariate analysis

A total of 48 bivariate hypotheses were supported in this analysis. Statistically significant bivariate relationships are presented in Table 19. *Identity structures* was associated with licensure rate, graduation rate, number of graduates, number of minority graduates and percent minority graduates. *Culture and acculturation process* was associated with licensure rate. *Structural integration* was associated with number of graduates, number of minority graduates and percent minority graduates. *Institutional bias in human resource systems* was associated with number of minority graduates and percent minority graduates.

Table 19

Summary of bivariate analysis for *organizational effectiveness* and *diversity climate*

Organizational effectiveness	*Diversity climate*	p-value
Licensure rate	***Identity structures***	
Minpass	Number of core faculty	.029
Minpass	Number of students enrolled	.042
Maxpass	Population density	.046
	Culture and acculturation process	
Minpass	Cultural competence scale score	.042
Graduation rate	***Identity structures***	
Maxgrad	Population density	.004
Number of graduates	***Identity structures***	
Allgrad	Number of core faculty	.000
Allgrad	Number of students enrolled	.000
Allgrad	Population density	.036
	Structural integration	
Allgrad	Number of minority students enrolled	.018
Number of minority graduates	***Identity structures***	
Allmingrad	Minority population density	.000
Allmingrad2	Minority population density	.009
Allmingrad2	Number of core faculty	.047
Allmingrad	Number of students enrolled	.004
Allmingrad2	Number of students enrolled	.002
	Structural integration	
Allmingrad	Number of minority students enrolled	.000
Allmingrad2	Number of minority students enrolled	.000
Allmingrad	Percent minority students enrolled	.000
Allmingrad2	Percent minority students enrolled	.001
Allmingrad	Number of minority core faculty	.001
Allmingrad2	Number of minority core faculty	.008
Allmingrad	Percent minority core faculty	.001
Allmingrad2	Percent minority core faculty	.008
Allmingrad	Minorities in program leadership positions	.003

	Institutional bias in human resource systems	
Allmingrad2	Perception of diversity climate scale score	.014
Percent minority graduates	***Identity structures***	
Allminpercentgrad	Minority population density	.000
Allminpercentgrad2	Minority population density	.009
Allminpercentgrad	Number of core faculty	.050
Allminpercentgrad2	Number of core faculty	.048
Allminpercentgrad2	Number of students enrolled	.002
	Structural integration	
Allminpercentgrad	Number of minority students enrolled	.000
Allminpercentgrad2	Number of minority students enrolled	.000
Allminpercentgrad	Percent minority students enrolled	.000
Allminpercentgrad2	Percent minority students enrolled	.001
Allminpercentgrad	Number of minority core faculty	.000
Allminpercentgrad2	Number of minority core faculty	.006
Allminpercentgrad	Percent minority core faculty	.000
Allminpercentgrad2	Percent minority core faculty	.006
Allminpercentgrad	Minorities in program leadership positions	.042
	Institutional bias in human resource systems	
Allminpercentgrad	Perception of diversity climate scale score	.023
Allminpercentgrad2	Perception of diversity climate scale score	.011

Summary of Not Favorable Responses to Diversity Climate Item Responses

The percent of item responses that represent not favorable perceptions of diversity climate are presented in Table 20. These responses are categorized based on *institutional bias in human resource systems* subscales. Responses were positive regarding changes that need to take place to improve diversity climate, hiring practices, promotion practices, training and development, equity and fairness, visible commitment and politics in the workplace in full study programs.

Table 20

Percent Not Favorable Responses to *institutional bias in human resource systems* items in the full study

Subscale	% Not Favorable Responses
Diversity climate	
Q44. Pleased with program success in handling diversity issues	30.5
Q48. Nothing needs to change about how program handles diversity issues	58.9
Q49. Program values culturally diverse faculty and student body	18.6
Q51. Program dedicated to well-being of every employee	5.3
Q75. Do not hear offensive stories, jokes or remarks about minorities	11.3
Hiring practices	
Q57. Program doing good job in attracting and hiring minority faculty	83.3
Q59. Ratio of minority to non-minority hiring for new faculty positions is adequate	57.7
Q60. Program does not use best recruiting practices to improve its diversity**	36.7
Q67. Program should hire more minority core faculty	45.6
Q72. Written recruitment and retention plan to maintain and increase diversity	60.8
Promotion practices	
Q69. Promotes current minority faculty before hiring from outside	34.5
Q70. Academic administrators do not actively promote workplace diversity**	17.3
Q74. Qualified minority faculty are not promoted as often**	6.7
Training and development	
Q45. Adequate support systems in place to retain minorities	45.7
Q53. Program should provide more training in Spanish	57.6
Q55. Service learning should be incorporated more in curriculum	65.6
Q61. Program provides clinical learning opportunities with minority CIs	18.5
Q62. Program provides international clinical education experiences	70.9
Q63. Cultural competence skills of CIs is a program priority	58.9
Q64. Cultural competence skills of core faculty is a program priority	56.3
Equity and fairness	
Q46. Program respects all persons regardless of ethnicity	3.3
Q54. Minorities not involved in program communication networks	38.7
Q58. Program should do more to include minorities in activities	74.2
Q71. Promotes research and scholarly development of all faculty	4.6
Visible commitment	
Q47. Leadership needs to demonstrate more awareness	41.7
Q50. Written commitment to diversity in mission, philosophy, goals	24.2
Q52. Forums to share concerns of minority faculty and students	66.7
Q65. Committed to diversity by numbers of minority faculty and students	78.5
Q66. Good role models for minorities in program leadership	57.3
Q68. Recognition of achievements of minority faculty	6.0
Q73. Rarely talk openly about diversity issues**	29.1
Politics in the workplace	
Q56. Some people receive preferential treatment in program**	17.2
Q76. Disrespect toward minorities is not tolerated in program	3.9
Q77. Performance appraisal system is biased against minorities**	5.9

**Indicates negatively worded item.

Summary of perception of program climate ratings (Q78)

Question #78 reads, 'Overall, how would you rate the diversity climate in your program?' The rating scale applied is a 6-point Likert scale of agreement from 1 ('poor climate for diversity') to 6 ('excellent climate for diversity'). The perception of program diversity climate rating reflects key respondents' perceptions of diversity climate in the program at which they currently work. For purposes of analysis, 6 response categories were collapsed into 2 response categories to produce a dichotomous variable for program diversity climate. These response categories are positive perception of diversity climate ($\geq$5) and negative perception of program diversity climate (<5).

Licensure rate. There was no statistically significant difference in perception of program diversity climate rating between programs with 100% licensure rate and programs with less than 100% licensure rate. Of all programs with favorable perception of diversity climate ratings, 30.8% reported 100% licensure rate. Of all programs with less than favorable ratings, 45.3% had 100% licensure rate.

Graduation rate. There was no statistically significant difference in perception of program diversity climate rating between programs with 100% graduation rate and programs with less than 100% graduation rate. Of all programs with positive perception of diversity climate ratings, 44.6% had 100% graduation rate. Of all programs with less than favorable ratings, 36% had 100% graduation rate.

Number of graduates. There was no statistically significant difference in perception of program diversity climate rating between programs with 29 or more graduates and programs with less than 29 graduates. Of all programs with favorable perception of program diversity climate ratings, 43.1% had 29 or more graduates. Of all programs with less than favorable perception of program diversity climate ratings, 44.2% had 29 or more graduates.

Number of minority graduates. There was a statistically significant difference in perception of program diversity climate ratings between programs with 4 or more minority graduates and programs with less than 4 minority graduates **(p=.009)**. Of all programs with favorable perception of diversity climate ratings, 53.8% had 4 or more graduates. Of all programs with less than favorable perception of diversity climate ratings, 32.6% had 4 or more minority graduates.

Percent minority graduates. There was a statistically significant difference in perception of program diversity climate ratings between programs with 9% or more minority graduates and programs with less than 9% minority graduates **(p=.002)**. Of all programs with favorable perception of diversity climate ratings, 67.2% had 9% or more minority graduates. Of all programs with less than favorable perception of diversity climate ratings, 41.7% had 9% or more minority graduates.

Summary of Qualitative Responses (Q79)

One open-ended question (Q79) asks, "In your opinion, what should your program do to improve its diversity climate? Be specific." Responses were

positive regarding changes that need to take place to improve diversity climate in full study programs. All full study key informants (100%; N=151) responded to this open ended question. Item responses (n=198) are grouped according to subscale definitions. No responses were specific to promotion practices. Additional responses to the question that do not meet the subscale definition are listed as 'other'. Aggregate percent responses are listed by *institutional bias in human resource systems* subscale in Table 21.

Table 21

Aggregate Key Informant Qualitative Responses

Perception of Diversity Climate Subscale	Percent Responses
Diversity climate	
Recruit more culturally diverse faculty and students	22.0
Cultural awareness training for students	3.0
Establish program support systems for minority students	2.0
Highlight existing program diversity	2.0
Continue to develop service learning programs	1.5
More faculty involvement in program diversity goals	0.5
Hiring practices	
Hire more minority core faculty	12.0
Competitive salary and benefit packages	1.5
Formal written plan for hiring minority faculty	1.0
Advertise for faculty openings across a wider venue	1.0
Create additional faculty positions	0.5
Training and development	
Incorporate cultural competence in entire curriculum	5.5
Diversity awareness training for core faculty	3.0
Bring in external speakers with expertise in program diversity	1.0
Improve cultural competence of clinical instructors	0.5
Equity and fairness	
Recruitment/mentorship program for prospective UG minority students	2.5
Identify successful minority recruitment strategies	1.5
Establish a formal method for communication of different concerns	0.5
Involve program graduates and students in minority recruitment	0.5
Visible commitment	
Formal written policies to increase minority recruitment and retention	6.5
Establish financial support and scholarships for minority students	6.0
Network with faith-based, minority schools and community organizations	4.0
More open discussions with students about program experiences	3.5
Involvement in college-wide diversity initiatives	3.0
Support core faculty committed to program diversity	1.5
Clinical education placements in culturally diverse settings	1.5
Politics in the workplace	
Change admissions process to increase URM admissions	1.0
No tolerance policy toward racial incidents and offensive language	0.5
Other	
Continue current program diversity initiatives	8.0
No exposure to diverse populations	1.5
Currently promoting diversity but program diversity is not improving	1.0

Research Question and Hypothesis Testing for Multivariate Relationships

Research Question #5: *Of identity structures, culture and acculturation process, structural integration* and *institutional bias in human resource systems,* which *diversity climate* factor will be the most significant predictor of *organizational effectiveness* in accredited U.S. physical therapist education programs? Five hypotheses were developed to address this question. Multiple logistic regression analysis is the statistical method selected to test these hypotheses as the outcome variables are all dichotomous. Two separate models for each outcome variable were produced based on number of minority students enrolled and percent minority students enrolled. One model was selected based on the highest proportion of the variability explained for each outcome variable.

Results for licensure rate

Logistic regression results for predictors of 100% licensure rate (Maxpass). Hypothesis 71, which states that *identity structures* will be the strongest predictor of licensure rate, was not supported by this analysis because *identity structures* is not the strongest predictor of 100% licensure rate (Table 22). There are no significant predictors of 100% licensure rate in this model. The model examined *identity structures* (degree awarded, minority population density, number of core faculty, number of students enrolled, population density), *culture and acculturation process* (cultural competence scale score), *structural integration* (faculty diversity, number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty, minorities in leadership positions) and *institutional bias in human*

resource systems (perception of diversity climate scale score) but these variables did not predict 100% licensure rate.

Table 22

Logistic regression model for predictors of 100% licensure rate (Maxpass)

Diversity climate variable	*B*	SE of *B*	Odds Ratio	95% CI for O.R.
Degree awarded	.640	.491	1.897	.724 – 4.965
Minority population density	.192	.435	1.211	.516 – 2.844
Number of core faculty	-.047	.425	0.954	.415 – 2.197
Number of students enrolled	.353	.428	1.424	.615 – 3.294
Population density	.789	.481	2.202	.857 – 5.653
Cultural competence scale score	-.102	.374	0.903	.434 – 1.882
MinorityCore 1	.048	.436	1.049	.446 – 2.466
MinorityCore 2	-.366	.582	0.694	.222 – 2.172
Percent minority students enr.	.298	.397	1.348	.619 – 2.935
Minorities in p. leadership positions	.839	.647	2.313	.651 – 8.221
Per. of diversity climate scale score	-.143	.363	0.867	.426 – 1.765

Coded '1' = 100; '0' = Less than 100

Model X^2 = 11.137

p =.432

Nagelkerke's R^2 = .102

Logistic regression results for predictors of 80% or higher licensure rate (Minpass). Hypothesis 71, which states that *identity structures* will be the strongest predictor of licensure rate, was not supported by this analysis because *identity structures* was not the strongest predictor of 80% or higher licensure rate (Table 23). *Culture and acculturation process* (cultural competence scale score) was the only significant predictor of 80% or higher licensure rate in this model. Programs with a culturally competent ACCE/DCE were 3.8 times more likely to have 80% or higher licensure rate. The model examined *identity structures* (degree awarded, minority population density, number of core faculty, number of students enrolled, population density), *structural integration* (faculty diversity, number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty, minorities in leadership positions) and *institutional bias in human resource systems* (perception of diversity climate scale score) but these variables did not predict 80% or higher licensure rate.

Table 23

Logistic regression model for predictors of 80% or higher licensure rate (Minpass)

Diversity climate variable	*B*	SE of *B*	Odds Ratio	95% CI for O.R.
Degree awarded	-.052	.756	0.949	.216 – 4.177
Minority population density	.262	.813	1.299	.264 – 6.391
Number of core faculty	1.376	.903	3.958	.674 – 23.245
Number of students enrolled	.893	.734	2.442	.580 – 10.286
Population density	.565	.740	1.760	.412 – 7.512
Cultural competence scale score	1.359	.639	3.892*	1.112– 13.623
MinorityCore 1	.759	.905	2.135	.362 – 12.578
MinorityCore 2	-1.136	.905	0.321	.055 – 1.893
Minorities in p. leadership positions	-.287	1.036	0.751	.098 – 5.722
Per. of diversity climate scale score	.548	.636	1.731	.497 – 6.023
Percent minority students enr.	.223	.750	1.250	.287 – 5.435

Coded '1' = 80 or higher; '0' = Less than 80

Model X^2 = 16.643

p=.119

Nagelkerke's R^2 = .232

Results for graduation rate

Logistic regression results for predictors of 100% graduation rate (Maxgrad). **Hypothosis 72**, which states that *structural integration* will be the strongest predictor of graduation rate, was supported by this analysis because *structural integration* was the strongest predictor of graduation rate in this analysis (Table 24). *Identity structures* was a significant predictor of graduation rate. Urban programs were 0.2 times less likely to have 100% graduation rate. *Structural integration* was a significant predictor of 100% graduation rate. Programs with minorities in program leadership positions were 0.1 times less likely to have 100% graduation rate. The model examined *culture and acculturation process* (cultural competence scale score) and *institutional bias in human resource systems* (perception of diversity climate scale score) but these variables did not predict 100% graduation rate.

Table 24

Logistic regression model for predictors of 100% graduation rate (Maxgrad)

Diversity climate variable	*B*	SE of *B*	Odds Ratio	95% CI for O.R.
Degree awarded	-.621	.473	0.537	.213 – 1.358
Minority population density	.146	.445	1.158	.484 – 2.768
Number of core faculty	.146	.428	1.158	.501 – 2.677
Number of students enrolled	-.131	.453	0.877	.361 – 2.130
Population density	-1.232	.462	0.292*	.118 – .722
Cultural competence scale score	.329	.377	1.389	.664 – 2.907
MinorityCore 1	.206	.435	1.229	.524 – 2.881
MinorityCore 2	.893	.580	2.441	.783 – 7.609
Minorities in p. leadership pos.	-1.768	.775	0.171*	.037 - .779
Per. of diversity climate scale score	.110	.364	1.116	.547 – 2.278
Number of minority students enr.	.495	.650	0.610	.254 – 1.463

Coded '1'=100; '0'='Less than 100'

Model X^2 = 18.960

p=.062

Nagelkerke's R^2 = .162

Results for number of graduates

Logistic regression results for predictors of 29 or more graduates (Allgrad). **Hypothesis 73**, which states that *identity structures* will be the strongest predictor of number of graduates, was supported by this analysis because *identity structures* was the strongest predictor of number of graduates (Table 25). *Identity structures* was the only significant predictor of number of graduates in this analysis. Programs with 10 or more core faculty were 2.7 times more likely to have 29 or more graduates. In this analysis, the strongest predictor of 29 or more graduates was number of students enrolled. Programs with 80 or more students enrolled were 6.7 times more likely to have 29 or more graduates. The model examined *culture and acculturation process* (cultural competence scale score), *structural integration* (faculty diversity, number of minority students enrolled, percent minority students enrolled, number of minority core faculty, percent minority core faculty, minorities in leadership positions) and *institutional bias in human resource systems* (perception of diversity climate scale score) but these variables did not predict 29 or more graduates.

Table 25

Logistic regression model for predictors of 29 or more graduates (Allgrad)

Diversity climate variable	*B*	SE of *B*	Odds Ratio	95% CI for O.R.
Degree awarded	-.687	.533	0.503	.177 – 1.429
Minority population density	.232	.466	1.261	.505 – 3.147
Number of core faculty	1.023	.438	2.783*	1.180 – 6.562
Number of students enrolled	1.916	.499	6.797*	2.555 – 18.080
Population density	.646	.486	1.908	.735 – 4.950
Cultural competence scale score	-.036	.403	0.964	.438 – 2.123
MinorityCore 1	-.070	.468	0.932	.373 – 2.332
MinorityCore 2	.224	.621	1.252	.370 – 4.229
Minorities in p. leadership pos.	-.687	.720	0.503	.123 – 2.061
Per. of diversity climate scale score	.288	.393	1.334	.617 – 2.884
Number of minority students enr.	-.281	.468	0.755	.302 – 1.890

Coded '1' = 29 or higher; '0' = 'Less than 29'

Model X^2 = 43.222

p=.000

Nagelkerke's R^2 = .336

Results for Number of Minority Graduates

Logistic regression results for predictors of 4 or more minority graduates (Allmingrad). **Hypothesis 74**, which states that *structural integration* will be the strongest predictor of number of minority graduates, was supported by this analysis because *structural integration* was the strongest predictor of number of minority graduates in this model (Table 26). *Identity structures* was a significant predictor of 4 or more minority graduates. Programs located in areas with ≥23% minority population density were 4.2 times more likely to have 4 or more minority graduates. Programs with 80 or more students enrolled were 4.1 times more likely to have 4 or more minority graduates. *Structural integration* was a significant predictor of 4 or more minority graduates. Programs with 10% or more minority students enrolled were 10.6 times more likely to have 4 or more minority graduates. The model examined *culture and acculturation process* (cultural competence scale score) and *institutional bias in human resource systems* (perception of diversity climate scale score) but these variables did not predict 4 or more minority graduates.

Table 26

Logistic regression model for predictors of 4 or more minority graduates (Allmingrad)

Diversity climate variable	*B*	SE of *B*	Odds Ratio	95% CI for O.R.
Degree awarded	-.544	.636	0.580	.167 – 2.017
Minority population density	1.445	.594	4.241*	1.324 – 13.588
Number of core faculty	-.417	.578	0.659	.212 – 2.044
Number of students enrolled	1.424	.602	4.153*	1.275 – 13.523
Population density	-.700	.658	0.496	.137 – 1.803
Cultural competence scale score	-.315	.472	0.730	.290 – 1.841
MinorityCore 1	.579	.557	1.783	.599 – 5.314
MinorityCore 2	1.078	.741	2.938	.688 – 12.554
Minorities in p. leadership positions	.201	.862	1.223	.226 – 6.621
Per. of diversity climate scale score	.881	.485	2.414	.934 – 6.240
Percent minority students enr.	2.364	.515	10.638*	3.875 – 29.205

Coded '1' = 4 or more; '0' = 'Less than 4'

Model $X^2 = 71.941$

p=.000

Nagelkerke's $R^2 = .534$

Logistic regression results for predictors of 1 or more minority graduates (Allmingrad2). **Hypothesis 74**, which states that *structural integration* will be the strongest predictor of number of minority graduates, was supported by this analysis because *structural integration* was the strongest predictor of 1 or more minority graduates in this model (Table 27). Programs with 10 or more minority students enrolled were 6.3 times more likely to have 1 or more minority graduates. *Institutional bias in human resource systems* was a significant predictor of 1 or more minority graduates. Programs with favorable perception of diversity climate were 2.9 times more likely to have 1 or more minority graduates. The model examined *identity structures* (degree awarded, minority population density, number of core faculty, number of students enrolled, population density) and *culture and acculturation process* (cultural competence scale score) but these variables did not predict 1 or more minority graduates.

Table 27

Logistic regression model for predictors of 1 or more minority graduates (Allmingrad2)

Diversity climate variable	*B*	SE of *B*	Odds Ratio	95% CI for O.R.
Degree awarded	-.441	.661	0.643	.176 – 2.348
Minority population density	.320	.579	1.377	.443 – 4.281
Number of core faculty	.118	.586	1.125	.357 – 3.552
Number of students enrolled	.695	.576	2.004	.648 – 6.199
Population density	.477	.611	1.611	.487 – 5.335
Cultural competence scale score	.151	.500	1.163	.437 – 3.095
MinorityCore 1	.864	.626	2.373	.695 – 8.102
MinorityCore 2	.480	.957	1.615	.247 – 10.544
Minorities in leadership positions	.495	1.244	1.640	.143 – 18.789
Per. of diversity climate scale score	1.097	.505	2.996*	1.114 – 8.057
Number of minority students enr.	1.845	.729	6.326*	1.517 – 26.382

Coded '1' = 1 or more; '0' = 'None'

Model $X^2 = 34.500$

p=.000

Nagelkerke's $R^2 = .334$

Results for Percent Minority Graduates

Logistic regression results for predictors of 9 or higher percent minority graduates (Allminpercentgrad). Hypothesis 75, which states that *institutional bias in human resource systems* will be the strongest predictor of percent minority graduates, was not supported by this analysis because *structural integration* was the strongest predictor of percent minority graduates in this model (Table 28). *Identity structures* was a significant predictor of percent minority graduates. Programs located in areas with ≥23% minority population density were 5.5 times more likely to have 9 or higher percent minority graduates. *Structural integration* was a significant predictor of percent minority graduates. Programs with 1 minority core faculty were 4 times more likely to have 9 or higher percent minority graduates. Programs with 10% or more minority students enrolled were 14.4 times more likely to have 9 or higher percent minority graduates. *Institutional bias in human resource systems* was a significant predictor of percent minority graduates. Programs with favorable perception of diversity climate were 3.8 times more likely to have 9 or higher percent minority graduates. The model examined *culture and acculturation process* (cultural competence scale score) but this variable did not predict 9 or higher percent minority graduates.

Table 28

Logistic regression model for predictors of 9 or higher percent minority graduates (Allminpercentgrad)

Diversity climate variable	*B*	SE of *B*	Odds Ratio	95% CI for O.R.
Degree awarded	.042	.619	1.043	.310 – 3.510
Minority population density	1.719	.639	5.581*	1.595 – 19.533
Number of core faculty	.350	.586	1.418	.450 – 4.471
Number of students enrolled	.029	.587	1.030	.326 – 3.254
Population density	-1.277	.729	0.279	.067 – 1.164
Cultural competence scale score	-.201	.475	0.818	.323 – 2.075
MinorityCore 1	1.409	.587	4.091*	1.295 – 12.924
MinorityCore 2	.978	.774	2.660	.584 – 12.122
Minorities in leadership positions	.153	.943	1.165	.184 – 7.394
Per. of diversity climate scale score	1.353	.515	3.869*	1.410 – 10.619
Percent minority students enr.	2.668	.518	14.407*	5.223 – 39.737

Coded '1' = 9 or higher; '0' = 'Fewer than 9'

Model X^2 = 76.644

p=.000

Nagelkerke's R^2 = .562

Logistic regression results for predictors of 1% or higher minority graduates (Allminpercentgrad2). Hypothesis 75, which states that *institutional bias in human resource systems* will be the strongest predictor of percent minority graduates, was not supported by this analysis because *structural integration* was the strongest predictor of 1% or higher minority graduates in this model (Table 29). Programs with 10 or more minority students enrolled were 5.9 times more likely to have 1% or higher minority graduates. *Institutional bias in human resource systems* was a significant predictor of percent minority graduates. Programs with favorable perception of diversity climate were 3.2 times more likely to have 1% or higher minority graduates. The model examined *identity structures* (degree awarded, minority population density, number of core faculty, number of students enrolled, population density) and *culture and acculturation process* (cultural competence scale score) but these variables did not predict 1% or higher minority graduates.

Table 29

Logistic regression model for predictors of 1% or higher minority graduates (Allminpercentgrad2)

Diversity climate variable	*B*	SE of *B*	Odds Ratio	95% CI for O.R.
Degree awarded	-.516	.665	0.597	.162 – 2.198
Minority population density	.427	.583	1.533	.489 – 4.807
Number of core faculty	.137	.589	1.147	.362 – 3.640
Number of students enrolled	.786	.580	2.196	.704 – 6.846
Population density	.353	.621	1.423	.421 – 4.807
Cultural competence scale score	.082	.504	1.086	.404 – 2.917
MinorityCore 1	.893	.628	2.442	.713 – 8.362
MinorityCore 2	.520	.967	1.682	.253 – 11.199
Minorities in leadership positions	.499	1.249	1.647	.142 – 19.058
Per. of diversity climate scale score	1.175	.510	3.238*	1.193 – 8.792
Number of minority students enr.	1.789	.724	5.982*	1.449 – 24.701

Coded '1' = 1% or higher; '0' = '0%'

Model X^2 = 35.731

p=.000

Nagelkerke's R^2 = .347

Summary of multivariate analysis

Three multivariate hypotheses were supported. Some *diversity climate* factors significantly predicted *organizational effectiveness* in this analysis.

Licensure rate. *Culture and acculturation process* was a significant predictor of licensure rate in this analysis. Cultural competence scale score was a significant predictor of 80% or higher licensure rate in the Minpass model.

Graduation rate. *Identity structures* was a significant predictor of graduation rate in this analysis. Population density was a significant predictor of 100% graduation rate in the Maxgrad model. *Structural integration* was a significant predictor of graduation rate. Minorities in program leadership positions was a significant predictor of 100% graduation rate.

Number of graduates. *Identity structures* was a significant predictor of number of graduates in this analysis. Number of core faculty was a significant predictor of number of graduates in the Allgrad model. Number of students enrolled was a significant predictor of number of graduates in the Allgrad model.

Number of minority graduates. *Identity structures* was a significant predictor of number of minority graduates. Minority population density was a significant predictor of number of minority graduates in the Allmingrad model. Number of students enrolled was a significant predictor of number of minority graduates in the Allmingrad model. *Structural integration* was a significant predictor of number of minority graduates in this analysis. Number of minority students enrolled was a significant predictor of number of minority graduates in the Allmingrad2 model. Percent minority students enrolled was a significant

predictor of number of minority graduates in the Allmingrad model. *Institutional bias in human resource systems* was a significant predictor of number of minority graduates in the Allmingrad2 model. Perception of diversity climate scale score was a significant predictor of number of minority graduates in the Allmingrad2 model.

Percent minority graduates. *Identity structures* was a significant predictor of percent minority graduates. Minority population density was a significant predictor of percent minority graduates in the Allminpercentgrad model. *Structural integration* was a significant predictor of percent minority graduates. Faculty diversity was a significant predictor of percent minority graduates in the Allminpercentgrad model. Percent minority students enrolled was a significant predictor of percent minority graduates in the Allminpercentgrad model. Number of minority students enrolled was a significant predictor of percent minority graduates in the Allminpercentgrad2 model. *Institutional bias in human resource systems* was a significant predictor of percent minority graduates. Perception of diversity climate scale score was a significant predictor of percent minority graduates in both Allminpercentgrad and Allminpercentgrad2 models.

The discussion of the study results is presented in Chapter 5. This Chapter will conclude with recommendations for practice, education and research based on research findings in this analysis.

CHAPTER V

Summary, Recommendations and Conclusions

Summary

The purpose of this study was to evaluate the effectiveness of the Interactional Model of Cultural Diversity (Cox, 1993) as a theoretical framework to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs. *Organizational effectiveness* was measured as licensure rate, graduation rate, number of graduates, number of minority graduates and percent minority graduates. *Diversity climate* was measured as *identity structures, culture and acculturation process*, *structural integration*, and *institutional bias in human resource systems*. Results of the survey showed that 40 bivariate relationships were statistically significant at $p \leq .05$ and 48 bivariate hypotheses were supported in this analysis. There were 16 significant odds ratios and 3 supported multivariate hypotheses. Internal consistencies for two scales used in this study had excellent Cronbach's alpha coefficients. A new measurement tool to assess *institutional bias in human resource systems* in accredited U.S physical therapist education programs was adapted from the Ethnicity Subscale of The Diversity Survey (Brinkman et al, 1992) and introduced for the first time in this study. This study presented several logistic regression models for *organizational effectiveness* in accredited U.S. physical therapist education programs.

Summary of bivariate analyses. Significant associations between *diversity climate* factors and *organizational effectiveness* were identified in the

bivariate analysis. The theoretical framework was most effective in identifying *diversity climate* factors associated with minority graduates and percent minority graduates. All *structural integration* factors were statistically significantly associated with number of minority graduates and percent minority graduates. The *institutional bias in human resource systems* factor was statistically significantly associated with number of minority graduates and percent minority graduates. Significantly related *diversity climate* factors associated with number of minority graduates indicated that more minority students graduate from programs with minority core faculty, that are located in minority dense areas, that have minorities in program leadership positions and that have favorable perceptions of diversity climate. Significant associations between percent minority graduates and favorable perception of diversity climate suggest that minority faculty, minorities in program leadership positions and minority students help to create favorable climates for diversity in these programs. Further, significant associations between faculty diversity and minority graduates suggest that minority core faculty significantly contribute to *organizational effectiveness* outcomes relative to number of minority graduates and percent minority graduates. The theoretical framework was effective in identifying *structural integration* and *institutional bias in human resource systems* factors that were associated with number of minority graduates and percent minority graduates.

Summary of multivariate analyses. The multivariate analyses produced sufficient quantitative findings that support increasing minority core faculty and minority student enrollment and producing favorable diversity climates in

accredited U.S. physical therapist education programs. Several multiple logistic regression models indicated that minority population density, faculty diversity, number of minority students enrolled, percent minority students enrolled and perception of diversity climate were significant predictors of minority graduate outcomes. The model best fit *diversity climate* factors that predict number of minority graduates and percent minority graduates. Table 30 presents all *diversity climate* factors and *organizational effectiveness* variables in the study. Statistically significant relationships are noted by (**X**).

Table 30

Summary of statistically significant relationships between *diversity climate* factors and *organizational effectiveness* variables

Variable	Licensure rate	Graduation rate	Number of graduates	Number of minority graduates	Percent minority graduates
Degree awarded					
Census description					
Minority population density				X	X
Number of core faculty	X		X	X	X
Number of students enrolled	X		X	X	X
Population density	X	X	X		
Cultural competence scale score	X				
Faculty diversity					X
Number of minority students enrolled			X	X	X
Percent minority students enrolled				X	X
Number of minority core faculty				X	X
Percent minority core faculty				X	X
Minorities in program leadership positions		X		X	X
Perception of diversity climate scale score				X	X

Limitations of the study

Sample size. This research was limited due to the small population of accredited U.S. physical therapist education programs that existed at the time of this study. While the sample size was small, the response rate in this study (RR=83.9%) exceeded that found in an organizational outcome study conducted by Rondeau & Wagner (2001) which focused on Canadian nursing home administrators (N=498; RR=56.8%).

Attrition. Attrition is represented by the percent non-respondent programs that met the inclusion criteria and did not participate in this study. The total attrition in this study was 16.1%. Non-respondent program demographics were similar to respondent program demographics. Of these non-respondent programs, 89.6% were DPT, 55% were located in minority dense areas and 65.5% were urban. Based on this finding, attrition did not adversely affect the outcomes of this study.

Selection bias. Survey responses in this study represented key informant perceptions at a specific point in time. These responses may not reflect the views of all academic coordinators/directors of clinical education in accredited U.S. physical therapist education programs. While key respondents were academic coordinators/directors of clinical education and core faculty members, their perceptions may not be representative of all core faculty perceptions in these programs.

Diversity in structural integration. The *structural integration* of faculty and students in accredited U.S. physical therapist education programs was

based on ethnicity as one aspect of cultural diversity. Other areas of diversity that may impact *structural integration* of faculty and students in these programs were not examined in this study.

Strengths of the study

Results of the study indicate that these research findings apply to both masters and DPT programs. Degree awarded was not associated with *organizational effectiveness* in this analysis.

Four major strengths of this study were identified. These strengths address limitations in diversity and organizational research in accredited U.S. physical therapist education programs. This study presents:

1. a description of *diversity climate* as it naturally exists;
2. academic coordinators/directors of clinical education as key informants who were familiar with the diversity climate of the programs in which they currently worked at the time of the study;
3. a valid and reliable tool to measure *institutional bias in human resource systems*, and
4. a theoretical model to describe the relationship between *diversity climate* and *organizational effectiveness*.

The Interactional Model of Cultural Diversity (Cox, 1993) as a theoretical framework was shown to be effective in examining the constructs, *diversity climate* and *organizational effectiveness* in accredited U.S. physical therapist education programs. The results were theoretically supported and statistically significant, despite small sample size. Further, the addition of the multiple

regression analysis to examine these constructs strengthened the findings and provided a detailed understanding of the interaction of these constructs in the natural environments of accredited U.S physical therapist education programs. Findings of this study support the use of the IMCD (Cox, 1993) to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs.

Discussion of Organizational Effectiveness

Licensure rate

The multivariate analysis shows that the logistic regression model for predictors of 80% licensure rate roughly explained a higher proportion of the variability in licensure rate than the logistic regression model for predictors of 100% licensure rate. The Maxpass model explained roughly 10% of the variability in licensure rate and the Minpass model explained roughly 23% of the variability in licensure rate. While findings of this study included 4 statistically significant bivariate relationships, only one *diversity climate* factor predicted program licensure rate in the Minpass model. This interesting finding was that programs with a culturally competent ACCE/DCE were more likely to have 80% or higher licensure rate on the National Physical Therapy Examination (NPTE). One plausible explanation for the study finding is that ACCE/DCE awareness of cultural clinical experiences incorporates assignment strategies which promote development of specific knowledge, skills and behaviors in students to facilitate NPTE success. Cultural competence of the ACCE/DCE was not a significant finding in any other multivariate model in this analysis. This multivariate finding

does not support research conducted by Southerland et al (2007) which showed that multifaceted program interventions produced success on the National Council Licensure Examination for Registered Nurses (NCLEX-RN) as well as graduation rate for undergraduate nursing students.

Previous research findings show that multiple variables predict program licensure rate rather than a single factor. The results of this study do not support the findings of Mohr, Ingram, Hayes & Du (2005) which asserted that program factors (accreditation status, number of PhD and/or EdD faculty and program length) were significant predictors of licensure rate in physical therapist education programs. A study conducted by Utzman, Riddle & Jewell (2007) suggests that student demographic factors (race, ethnicity), program admissions factors (GRE score and undergraduate GPA) and other program-specific data may be helpful information for estimating NPTE failure risk in physical therapy programs. Future research to examine the role of cultural competence of the ACCE/DCE as a program-specific factor in risk estimation of NPTE failure should be explored.

Graduation rate

The multivariate analysis shows that the logistic regression model for predictors of 100% graduation rate explained roughly 16% of the variability in graduation rate in the Maxgrad model. In this analysis, there was a statistically significant difference in graduation rate between urban programs and rural programs. Minorities in program leadership positions did not reach a level of significance in the bivariate analysis. This means that there was no statistically significant difference in graduation rate between programs with minorities in

program leadership positions and programs with no minorities in program leadership positions. Urban and minorities in program leadership positions had a statistically significant negative effect in the regression model for predictors of graduation rate. An interesting finding was that minorities in program leadership positions had a negative impact on the logistic regression model for predictors of graduation rate. While this factor was the most significant predictor of graduation rate in the logistic regression model, the value of the odds ratio suggests that having minorities in program leadership positions produces little effect on graduation rate.

Findings of this analysis concur with Southerland et al (2007) and Gardner (2005) in that graduation rate is not singularly affected by having a minority in a program leadership position. Graduation rate is a measure of student retention (Southerland et al, 2007). Aggregate qualitative data show that programs recognize the importance of increasing diversity through recruitment and retention efforts. This finding is consistent with research conducted by Kachingwe (2003) in that programs committed to diversity will have to address minority representation issues. A total of 55.5% of all qualitative responses in this study indicate that programs can improve diversity climate by hiring more minority core faculty and addressing recruitment and retention of minority core faculty and minority students. This finding is supported by Agrawal (2005) in that the presence of minority faculty is important to the recruitment of underrepresented minorities to health professions programs.

Phenomenological qualitative research by Gardner (2005) showed that negative experiences of minority students enrolled in predominantly White institutions influenced graduation rate. Themes that emerged from the students' qualitative comments included behaviors of faculty and students that can impact program graduation rate. These behaviors were identified as lack of faculty acknowledgement of minority students as culturally different individuals, lack of support by the faculty, and non-minority faculty and student behaviors toward minority students that discouraged the academic success of minority students. The study suggested that these negative learning experiences can lead to academically discouraged minority students, high minority student attrition rates and lower graduation rates. These findings are consistent with a study conducted by Yoder (1997) in which some educators believed that a student's cultural background was unimportant to that student's education. Educational barriers such as these must be eliminated to improve access to health professions education by minority groups by improving the academic success of all students in health professions programs regardless of ethnicity (The Sullivan Commission, 2004). Qualitative findings in this analysis indicate that increasing minority core faculty, enrolled minority students, and favorable perceptions of diversity climate are needed to positively impact graduation rates in accredited U.S. physical therapist education programs.

Number of graduates

The multivariate analysis shows that the logistic regression model for predictors of 29 or more graduates explained roughly 33% of the variability in

number of graduates in the Allgrad model. Significant predictors of number of graduates were number of core faculty and number of students enrolled. There were no statistically significant predictors of number of graduates based on *culture and acculturation process, structural integration and institutional bias in human resource systems* factors in the theoretical framework. The multivariate analysis shows that these *diversity climate* factors are not significantly associated with number of graduates in this study.

Number of minority graduates

The multivariate analysis shows that the logistic regression model for predictors of 4 or more minority graduates explained a higher proportion of the variability in number of minority graduates than the logistic regression model for predictors of 1 or more minority graduates. The Allmingrad model explained roughly 53% of the variability in number of minority graduates and the Allmingrad2 model explained roughly 33% of the variability in number of minority graduates. Results of the multivariate analysis show that positive minority graduate outcomes are more likely when programs have minority students, minority core faculty, are located in minority dense areas and have favorable diversity climates. In the bivariate analysis, minority students enrolled, minority core faculty, having minorities in program leadership positions and favorable perceptions of diversity climate are statistically significant *diversity climate* factors associated with number of minority graduates in accredited U.S. physical therapist education programs. This means that each of these factors plays a unique role in the number of minority physical therapists that enter the healthcare

workforce. Supportive research by The Sullivan Commission (2004) asserts that training a culturally diverse workforce will improve the quality of U.S. health care. Strategies for achieving this goal are relevant for policy in health professions programs including physical therapy.

Percent minority graduates

The multivariate analysis shows that the logistic regression model for predictors of 9% or higher minority graduates explained a higher proportion of the variability in percent minority graduates than the logistic regression model for predictors of 1% or higher minority graduates. The Allminpercentgrad model explained roughly 56% of the variability in percent minority graduates and the Allminpercentgrad2 model explained roughly 34% of the variability in percent minority graduates. Results of the bivariate analysis show statistically significant program differences in percent minority graduates based on *identity structures, structural integration* and *institutional bias in human resource systems* variables. This means that the outcome variable, percent minority graduates, was significantly associated with *diversity climate* factors in accredited U.S. physical therapist education programs. One interesting finding was that the number of students enrolled in a program loses significance as percent minority graduates increases. Another interesting finding is that having minorities in program leadership positions gains significance as percent minority graduates increases. Finally, the results show that minority graduates contribute to the presence of a favorable climate of diversity in programs.

Discussion

Cultural competence of ACCE/DCE

Results of the IAPCC-R (Campinha-Bacote, 2002) indicate that academic coordinators/directors of clinical education in this study were culturally competent. These findings are supported by Kardong-Engren (2007) in that IAPCC-R results showed that nursing faculty were culturally competent. Findings are supported by Sealey et al (2006) in that culturally competent key informants are well-positioned to guide students through the process of becoming culturally competent. Subscale scores indicate that cultural desire was highest among key informants. In addition to being culturally aware, they demonstrated comparable levels of cultural skill and cultural encounters. The lowest subscale score was cultural knowledge. Although key informants were culturally competent, qualitative findings of this study show that cultural competence of core faculty is not a priority in 56% of all programs in this study.

Diversity climate in physical therapist education programs

Favorable perceptions of diversity climate were associated with a higher number of minority graduates and higher percent minority graduates in the bivariate analysis. Results of this study support findings by Saha, Guiton, Wimmers & Wilkerson (2008) in that there is an association between student body diversity and outcomes relating to diversity in U.S. medical schools. In the multivariate analysis, perception of diversity climate scale score was a significant predictor of number of minority graduates and percent minority graduates. Previous research by Gardner (2005) and Wilcox (2003) support these findings in

that supportive academic environments are essential to higher retention and graduation rates for minority students. Since most minority students attend physical therapy schools at predominantly White higher education institutions, programs should be cognizant of the impact of favorable program diversity climates on organizational outcomes relating to minority graduates (Reicherter et al, 2003; Lett & Wright, 2003; Cox & Blake, 1991).

Diversity climate in accredited U.S. physical therapist education programs was measured by the perceptions of 151 culturally competent academic coordinators/directors of clinical education who currently worked in these programs. Only 43% (N=65) of these programs were perceived as having excellent climates for diversity. Unfavorable responses to perception of diversity climate in these programs were identified in all *institutional bias in human resource systems* survey items. Based on qualitative findings in this study, patterns of preference may be operating within diversity climate, hiring practices, promotion practices, training and development, equity and fairness, visible commitment and politics in the workplace of accredited U.S. physical therapist education programs.

Implications for Practice

Provider diversity in physical therapy clinical practice is directly influenced by diversity at the program level. In this study, diversity in *structural integration* was limited to ethnicity of faculty and students. Future research should address a broader definition of diversity in the *structural integration* of faculty and students in accredited U.S. physical therapist education programs. To address elimination

of health care disparities, the socioeconomic aspects of diversity should be considered when preparing program graduates to care for vulnerable populations. Improving the effectiveness of cultural encounters among students and underserved patient population groups may be accomplished using standardized patient experiences. These academic-clinical experiences may provide opportunities for students to develop communication and cultural encounter skills with patients having different socioeconomic barriers to physical therapy care.

Programs should identify vulnerable population groups within their geographical locations. Strategies to recruit and retain students and faculty from these specific vulnerable population groups should be developed to increase the number and percent of diverse providers within the physical therapist workforce. Recruitment and retention of faculty and students from diverse cultural backgrounds may facilitate culturally rich academic programs that ultimately may address the physical therapy needs of all population groups.

Implications for Research

This study introduced a reliable and valid tool to measure *institutional bias in human resource systems,* perception of diversity climate, in accredited U.S. physical therapist education programs. This tool was developed from the ethnicity subscale of The Diversity Survey (Brinkman, 1992). Further development of the instrument used to measure perception of *diversity climate* in this study should be explored. Wording of subscale items with reliability coefficients below .70 should be further refined. In addition, the number of items

within promotion practices, equity and fairness and politics in the workplace should be further refined.

This study used the Interactional Model of Cultural Diversity (Cox, 1993) and focused on formal individual-level and organizational-level sub-constructs of *diversity climate* as these are relevant to accredited U.S. physical therapist education programs. It may be interesting to find out what role, if any, the informal networking system plays in the achievement of formal program goals. Cultural exchanges such as informal networking would provide more opportunities for cultural encounters and communication among diverse groups of faculty and students. Future research may include the sub-construct, *informal integration,* and its contribution to the achievement of organizational outcomes in accredited U.S. physical therapist education programs.

This study introduced the ACCE/DCE as key informant to assess perception of diversity climate in programs as they naturally exist. It is recommended that future research be expanded to include the perceptions of diversity climate from the perspectives of all core physical therapy faculty in accredited U.S. physical therapist education programs. This information may provide additional quantitative and qualitative data to further understand the impact of *diversity climate* on formal program outcomes. While the number of programs may remain the same, increasing the number of key informants within these programs may increase response variability and may improve internal consistency of the instrument. Based on study findings, future qualitative

research is needed to explore patterns of preference that may be operating within the diversity climate of these programs.

Implications for Education

Favorable diversity climates may contribute to recruitment and retention of under-represented minority faculty and under-represented minority students (The Sullivan Commission, 2004). Future qualitative research on the lived experiences of minority graduates while they matriculated in accredited U.S. physical therapist education programs may help to explain why perception of diversity climate scale score was such a strong predictor of minority graduate outcomes in this study. It may be helpful to know what experiences with faculty and students contributed to minority students' perceptions of *diversity climate* in these programs. This information may generate new knowledge about diversity-related outcomes that may be beneficial to policy makers, diversity management teams within higher education institutions, physical therapy program directors, core faculty, clinical faculty and students. Further qualitative assessments are needed to examine the not-favorable responses to *institutional bias in human resource systems* identified in this study. These qualitative assessments should address restructuring practice patterns that may contribute to less than favorable perceptions of *diversity climate* in accredited U.S. physical therapist education programs.

The current shortage of minority core faculty in accredited U.S. physical therapist education programs is problematic for minority graduate outcomes. The resource pool for physical therapy core faculty is graduates of accredited

U.S. physical therapist education programs. Post-graduate mentoring programs using research and teaching faculty role models should be established to develop minority graduates for core physical therapy faculty positions. Program diversity initiatives that address the transition of minority DPT graduates into PhD programs may need to address identified barriers to degree completion including fostering favorable program diversity climates and cost. Acquiring grant funds for PhD program and minority faculty development would require institutional support for increasing diversity at the program level.

Conclusions

The main hypothesis for this study was supported. Results showed that the Interactional Model of Cultural Diversity was effective in identifying *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs. Of all study hypotheses, 68% (n=51) were supported. The multivariate analyses showed that multiple logistic regression analysis was effective in predicting minority graduate outcomes in these programs. Minority core faculty are a significant component in *organizational effectiveness* as significant differences in minority graduate outcomes were shown to exist between programs with no minority core faculty, 1 minority core faculty and 2 or more minority core faculty.

Recommendations for addressing *institutional bias in human resource systems* need to be based on evidence-based strategies. Future policy direction should explore the effectiveness of studies related to *diversity climate* and *organizational effectiveness* outcomes. Based on this analysis, the current

diversity climate in accredited U.S. physical therapist education programs is sub-optimal. Long-standing inequities persist despite theoretical support for diversity and incremental progress toward increasing minority representation within these programs. Innovative and evidence-based strategies must be developed to replace long-standing practices that have produced these patterns in hiring practices, promotion practices, training and development, equity and fairness, visible commitment and politics in the workplace. The continued existence of sub-optimal *diversity climate* may limit the profession's contributions to the nation's goal of eliminating U.S. health care disparities and improving workforce diversity.

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Glossary

Accredited U.S. physical therapist education program. This is defined as one located in the United States that currently meets established standards of specialized accreditation according to the Commission on Accreditation in Physical Therapy Education (APTA, 2004). In this study, accredited U.S. physical therapist education program refers to entry-level professional preparation programs.

Census. This is "a complete enumeration of a population or the business and commercial establishments, factories, farms, or governments in an area" (U.S. Bureau of the Census Decennial Management Division Glossary, accessed at www.census.gov on May 7, 2007).

Census 2000. This is "the 22nd decennial census, taken as of April 1, 2000, for the United States, Puerto Rico, and several island areas under U.S. jurisdiction. It is also known as the 2000 Census of Population and Housing (www.census.gov, accessed on May 7, 2007).

Cultural awareness. A construct of cultural competence defined as "the self-examination and in-depth exploration of one's own cultural background" (Campinha-Bacote, 2003, p. 18).

Cultural desire. A construct of cultural competence defined as "the motivation of the healthcare professional to 'want to' engage in the process of becoming culturally competent; not the 'have to'" (Campinha-Bacote, 2003, p. 15).

Cultural encounter. A construct of cultural competence defined as "the process that encourages the health care professional to directly engage in face-to-face interactions with clients from culturally diverse backgrounds" (Campinha-Bacote, 2003, p. 48).

Cultural knowledge. A construct of cultural competence defined as "the process of seeking and obtaining a sound educational foundation about culturally diverse groups" (Campinha-Bacote, 2003, p. 27).

Cultural skill. A construct of cultural competence defined as "the ability to collect relevant cultural data regarding the client's presenting problem as well as accurately performing a culturally-based, physical assessment" (Campinha-Bacote, 2003, p. 35).

Diverse accredited physical therapist education program. This is defined as an accredited U.S. physical therapist education program with at least 1 minority core faculty.

Key informant. This is "someone well versed in the social phenomenon that you wish to study and who is willing to tell you what he or she knows" (Babbie, 1989). In this study, the key informant is the academic coordinator/director of clinical education in accredited U.S. physical therapist education programs that meet the study criteria.

Minority. This term refers to "a group with fewer members represented in the social system compared to the majority group" (Cox, 1993). Minority groups in this study are African American/Black, American Indian/Alaska Native, Asian, Hispanic/Latino, Native Hawaiian/Pacific Islander, Other or Unknown.

Non-diverse accredited physical therapist education program. This refers to any program that has no minority core faculty.

Physical therapy student. This term refers to one enrolled full-time in an accredited U.S. physical therapist education program.

U.S. Bureau of the Census. This organization is "the country's preeminent statistical collection and dissemination agency. It publishes a wide variety of statistical data about people, housing, and the economy of the nation. The Census Bureau conducts approximately 200 annual surveys and conducts the decennial census of the United States population and housing and the quinquennial economic census and census of governments" (U.S. Bureau of the Census, accessed at www.census.gov on May 7, 2007).

APPENDIX A

The Pilot Study

Purpose

A pilot study of 12 accredited U.S. physical therapist education programs was conducted to refine the survey instrument and determine feasibility for a full study (Polit & Beck, 2004). Examination of the survey process was necessary to determine if changes needed to be made in electronic and telephone survey methods of data collection prior to full study deployment.

Procedure

This research study was approved by the Old Dominion University College of Health Sciences Human Subjects Committee. Following IRB approval in July 2007, the pilot study took place during August-September 2007. A test email was sent to one ACCE/DCE at each pilot program to gain program access and willingness to participate in the study. Undeliverable electronic addresses were corrected by the researcher and subsequently used to deploy the cover letter (See Appendix I) and link to the web-based survey to one key informant per program upon confirmed receipt of test email. One electronic communication was generated each week for 3 consecutive weeks to each key informant to enhance response rate. All initial and subsequent electronic and telephone contacts between researcher and key informants were documented and maintained in the researcher's confidential electronic file. Completed surveys were tracked by a web-based program and non-respondents were offered a

telephone survey if a completed survey was not received following the third electronic reminder.

Population

Accredited U.S. physical therapist education programs. Twelve accredited U.S. physical therapist education programs (n=12; 6.3%) were purposefully selected by the researcher to obtain a representative sample of program variability (US Census Bureau, 2000; APTA, 2005). Purposeful selection of programs by faculty diversity was done to maximize representation of *diversity climate* factors as they naturally exist in accredited U.S. physical therapist education programs.

The average pilot program was urban, DPT and located in a metropolitan statistical area. Half of these programs were in minority dense areas and 66% had at least 1 minority core faculty. The average pilot program had 10 core faculty, 75 enrolled students, at least 1 minority core faculty and 17 enrolled minority students. Key informants were primarily Caucasian females with a mean age of 42 years. Most had entry level bachelors degrees and the masters as the highest degree held. Academic ranks varied, but the majority of key informants were either instructors or assistant professors. The average length of time that an ACCE/DCE had been in the current position and core faculty in the current program was 5 years. The mean number of years that these key informants were in a core faculty position was 6.78 years.

A description of the programs (n=12) is listed in Table 1. A description of pilot study programs (n=9) is listed in Table 2.

Table 1

Description of Selected Pilot Study Programs (N=12)

Program	N	%
Degree awarded		
Masters	5	41.7
DPT	7	58.3
Census description		
Micropolitan	2	16.7
Metropolitan	10	83.3
Minority population density		
≤23%	6	50
≥23%	6	50
Population density		
Rural	4	33.3
Urban	8	66.7
Faculty diversity*		
2 or more minority core faculty	4	33.33
1 minority core faculty	4	33.33
No minority core faculty	4	33.33
Minorities in program leadership positions		
Program director and/or chair	1	11.1
ACCE/DCE	3	33.3
	Mean	**SD**
Core faculty		
Number of core faculty	9.5	4.42
Number of minority core faculty	1.67	1.92
Percent minority core faculty	18.43	---
Enrolled students		
Number of students enrolled	75.17	60.17
Number of minority students enrolled	17.41	22.99
Percent minority students enrolled	24.83	---

*Percentages do equal 100%.

Table 2

Description of Pilot Study Programs (N=9)

Program	N	%
Degree awarded		
Masters	3	33.3
DPT	6	66.7
Census description		
Micropolitan	5	55.6
Metropolitan	4	44.4
Minority population density		
≤23%	5	55.6
≥23%	4	44.4
Population density		
Rural	5	55.6
Urban	4	44.4
Faculty diversity*		
2 or more minority core faculty	3	33.3
1 minority core faculty	4	44.4
No minority core faculty	2	22.2
Minorities in program leadership positions		
Program director and/or chair	1	11.1
ACCE/DCE	3	33.3
	Mean	**SD**
Core faculty		
Number of core faculty	7.28	1.64
Number of minority core faculty	1.67	2.06
Percent minority core faculty	21.44	---
Enrolled students		
Number of students enrolled	72.44	23.23
Number of minority students enrolled	12.22	18.01
Percent minority students enrolled	19.90	---

*Percentages do equal 100%.

Key informants. Characteristics of key informants (n=9; 75%) who participated in the pilot study are listed in Table 3. Pilot study ACCE/DCE ethnicity in the pilot study exceeds that reported in APTA data (APTA, 2005).

Table 3

Characteristics of Pilot Study Key Informants (N=9)

	N	%
Ethnicity		
African American	3	33.3
Caucasian	6	66.7
Gender		
Male	3	33.3
Female	6	66.7
Entry level PT degree		
Certificate	1	11.1
Bachelors	6	66.7
Masters	2	22.2
Highest degree held*		
PhD	1	11.1
Professional doctorate	1	11.1
Entry-level DPT	2	22.2
Masters	4	44.4
Bachelors	1	11.1
Current academic rank in current program*		
Assistant professor	3	33.3
Instructor	4	44.4
Lecturer	1	11.1
Other	1	11.1
Tenure status		
Tenured	1	11.1
On tenure track	2	22.2
Not eligible	5	55.6
No tenure track	1	11.1
	Mean	**SD**
Age	42.56	9.85
Years as core faculty	6.78	5.21
Years as core faculty in current program	5.00	4.38
Years as ACCE/DCE in current program	4.89	4.37

*Percentages do not equal 100%.

Response Rate

The pilot study response rate was 75% (n=9). Nine completed surveys were returned with no missing data. Of the two methods of survey administration used in this study, telephone interviews increased response rate by 42% when compared to the web-based method alone (33%).

Results

Quantitative. Percent survey responses for the *institutional bias in human resource systems* subscale are presented in Table 4. These responses are listed by response category (n=6).

Table 4

Percent Survey Pilot Study Responses for *institutional bias in human resource systems* subscale

Subscale and Items	Percent Responses					
Institutional bias in human resource systems	**SA**	**A**	**AS**	**DS**	**D**	**SD**
Q44 Pleased with program's successes	22.2	55.6	11.1	11.1	0	0
Q45 Adequate support systems	0	55.6	22.2	0	22.2	0
Q46 Respects all persons	66.7	33.3	0	0	0	0
Q47 Leadership demonstrate more awareness	0	22.2	0	11.1	66.7	0
Q48 Nothing that needs to change re diversity	0	11.1	33.3	22.2	33.3	0
Q49 Values culturally diverse faculty & students	33.3	55.6	11.1	0	0	0
Q50 Commitment to diversity written in mission	11.1	44.4	22.2	11.1	11.1	0
Q51 Dedicated to well-being of every employee	22.2	66.7	11.1	0	0	0
Q52 Forums for sharing concerns of minorities	0	44.4	11.1	22.2	22.2	0
Q53 More training in Spanish speaking skills	0	33.3	22.2	0	44.4	0
Q54 Minorities not involved in communication	0	0	0	11.1	66.7	22.2
Q55 Service learning in curriculum	0	77.8	0	11.1	11.1	0
Q56 Preferential treatment in program	0	22.2	0	0	44.4	33.3
Q57 Attracting and hiring minority faculty	0	44.4	11.1	22.2	11.1	11.1
Q58 Do more to include minorities in activities	11.1	22.2	33.3	0	33.3	0
Q59 Minority to non-minority hiring is adequate	11.1	55.6	0	11.1	22.2	0
Q60 Does not use best recruiting practices	0	0	11.1	11.1	66.7	11.1
Q61 Provides clinical learning with minority CIs	22.2	55.6	22.2	0	0	0
Q62 Provides international clinical education	22.2	11.1	11.1	0	44.4	11.1

Q63 Cultural competence of CIs is a priority	22.2	33.3	0	22.2	22.2	0
Q64 Cultural competence of faculty is a priority	22.2	11.1	33.3	22.2	11.1	0
Q65 Committed to diversity by numbers	0	22.2	33.3	0	33.3	11.1
Q66 Good leadership role models for minorities	33.3	22.2	22.2	0	22.2	0
Q67 Program should hire more minority faculty	0	44.4	33.3	0	11.1	11.1
Q68 Achievements of minority faculty	33.3	55.6	0	11.1	0	0
Q69 Promotes current minority faculty	0	55.6	11.1	11.1	22.2	0
Q70 Administrators do not promote diversity	0	0	11.1	0	77.8	11.1
Q71 Promotes research/scholarly development	33.3	55.6	11.1	0	0	0
Q72 Plan to increase and maintain diversity	0	66.7	0	11.1	22.2	0
Q73 Rarely talk openly about diversity issues	0	0	0	22.2	66.7	11.1
Q74 Qualified minority faculty are not promoted	0	0	0	33.3	44.4	22.2
Q75 Do not hear offensive remarks re minorities	33.3	55.6	11.1	0	0	0
Q76 Disrespect toward minorities not tolerated	55.6	33.3	11.1	0	0	0
Q77 Performance appraisal system biased	0	0	0	0	55.6	44.4

Perception of diversity climate mean scale score (4.42) and the range of mean subscale scores (4.07 to 5.18) of *institutional bias in human resource systems* show that key informants had overall less than favorable perceptions of diversity climate about the accredited U.S. physical therapist education programs at which they currently work. Means and standard deviations for *achievement of formal program outcomes* (licensure rate, graduation rate, number of graduates, number of minority graduates, percent minority graduates), *culture and acculturation process* (cultural competence scale score) and *institutional bias in human resource systems* (perception of diversity climate scale score) in the pilot study are listed in Table 5.

Table 5

Pilot Study Means and Standard Deviations for *organizational effectiveness* and *diversity climate* Scales and Subscales

Organizational effectiveness		
Achievement of formal program outcomes	**Mean**	**SD**
Licensure rate	92.56	9.27
Graduation rate	93.44	6.34
Number of graduates	25.11	9.26
Number of minority graduates	4.44	6.04
Percent minority graduates	20.36	31.31
Diversity climate		
Culture and acculturation process	**Mean**	**SD**
Cultural competence mean score	71.77	7.37
Cultural desire mean score	17.11	2.08
Cultural awareness mean score	15.77	1.64
Cultural knowledge mean score	12.33	1.65
Cultural skill mean score	12.55	1.74
Cultural encounters mean score	14.00	1.65
Institutional bias in human resource systems	**Mean**	**SD**
Perception of diversity climate scale score	4.42	0.44
Diversity climate subscale score	4.73	0.45
Hiring practices subscale score	4.13	0.77
Promotion practices subscale score	4.59	0.75
Training and development subscale score	4.07	0.61
Equity and fairness subscale score	4.13	0.41
Visible commitment subscale score	4.07	0.71
Politics in the workplace subscale score	5.18	0.74

The percent of item responses that represent not favorable perceptions of diversity climate are shown in Table 6. Items are categorized according to *institutional bias in human resource systems* subscales (n=7).

Table 6

Pilot Study Percent Not Favorable Responses to *institutional bias in human resource systems* items

Scale	% Not Favorable Responses
Diversity climate	
Q44. Pleased with program success in handling diversity issues	11.1
Q48. Nothing needs to change about how program handles diversity issues	44.4
Q49. Program values culturally diverse faculty and student body	0
Q51. Program dedicated to well-being of every employee	0
Q75. Do not hear offensive stories, jokes or remarks about minorities	0
Hiring practices	
Q57. Program doing good job in attracting and hiring minority faculty	44.4
Q59. Ratio of minority to non-minority hiring for new faculty positions is adequate	66.6
Q60. Program does not use best recruiting practices to improve its diversity**	11.1
Q67. Program should hire more minority core faculty	22.2
Q72. Written recruitment and retention plan to maintain and increase diversity	33.3
Promotion practices	
Q69. Promotes current minority faculty before hiring from outside	33.3
Q70. Academic administrators do not actively promote workplace diversity**	11.1
Q74. Qualified minority faculty are not promoted as often**	0
Training and development	
Q45. Adequate support systems in place to retain minorities	22.2
Q53. Program should provide more training in Spanish	44.4
Q55. Service learning should be incorporated more in curriculum	22.2
Q61. Program provides clinical learning opportunities with minority CIs	0

Q62. Program provides international clinical education experiences	55.5
Q63. Cultural competence skills of CIs is a program priority	44.4
Q64. Cultural competence skills of core faculty is a program priority	33.3
Equity and fairness	
Q46. Program respects all persons regardless of ethnicity	0
Q54. Minorities not involved in program communication networks	0
Q58. Program should do more to include minorities in activities	33.3
Q71. Promotes research and scholarly development of all faculty	0
Visible commitment	
Q47. Leadership needs to demonstrate more awareness	22.2
Q50. Written commitment to diversity in mission, philosophy, goals	22.2
Q52. Forums to share concerns of minority faculty and students	44.4
Q65. Committed to diversity by numbers of minority faculty and students	44.4
Q66. Good role models for minorities in program leadership	22.2
Q68. Recognition of achievements of minority faculty	11.1
Q73. Rarely talk openly about diversity issues**	0
Politics in the workplace	
Q56. Some people receive preferential treatment in program**	22.2
Q76. Disrespect toward minorities is not tolerated in program	0
Q77. Performance appraisal system is biased against minorities**	0

**Indicates negatively worded item.

Qualitative. One open-ended question (Q79) asks, "In your opinion, what should your program do to improve its diversity climate? Be specific." Responses were positive regarding changes that need to take place to improve diversity climate in these programs. Eight of 9 (89%) key informants responded to this question. Responses were categorized according to *institutional bias in human resource systems* subscales:

Diversity climate

1. Recruit more minority students;
2. Have more culturally diverse faculty;
3. Have more diversity both within our students and our faculty.

Hiring practices

1. Recruit more minority faculty.

Training and development

1. Students should provide in service presentations on diversity or cultural competence during clinical internships;
2. Diversity training;
3. More actual cultural experiences for students.

Visible commitment

1. Have more open forums and dialogues in programs on diversity issues, especially religion;
2. Network with more inner city schools;
3. Make physical therapy a reasonable alternative for persons from ethnically diverse backgrounds;

4. Actively advertise the program in schools with diverse student populations;
5. Increase campus awareness about diversity;
6. Increase public awareness of diversity through APTA efforts.

Summary of Pilot Study

This pilot study was conducted to refine the survey instrument and determine feasibility for a full study designed to identify *diversity climate* factors associated with *organizational effectiveness* in accredited U.S. physical therapist education programs (Polit & Beck, 2004). The pilot study examined the electronic and telephone survey method to determine if changes needed to be made prior to full study deployment.

The survey content addressed the type of questions that key informants were willing to answer about accredited U.S. physical therapist education programs at which they currently work. Key informants responded to each survey question in the order presented and nine surveys were returned with no missing data. Variation in responses is present for each survey section. Since key informants (n=9; RR=75%) answered all questions (n=89) in the survey, each question will be retained in its original text format.

The manner in which six survey items were coded in the pilot study were changed for data analysis purposes. The pilot study survey contains six negatively worded items that were positively coded. These items are Q56, Q60, Q70, Q73, Q74 and Q77. Six new reverse coded items were added to the pilot study SPSS data editor and replaced corresponding items Q56, Q60, Q70, Q73, Q74 and Q77 in the pilot study analysis. Recoded pilot study items were named

Revq65, Revq69, Revq79, Revq82, Revq83 and Revq86. Full study items Q56, Q60, Q70, Q73, Q74 and Q77 were reverse coded prior to deployment of the full study survey. The agreement scale will be changed from 'SD=1; D=2; DS=3; AS=4; A=5; SA=6' to 'SA=1; A=2; AS=3; DS=4; D=5; SD=6'. Reverse coding will ensure that higher scores represent favorable perceptions of diversity climate. It will not be necessary to include items Revq65, Revq69, Revq79, Revq82, Revq83 and Revq86 in the full study.

Two data collection methods were used in the pilot study to maximize response rate (Phillips, Yates, Glasgow, Ciszek, & Attewell, 2005). Surveys were administered to programs initially using the web-based method followed by researcher-made telephone calls to each key informant who did not respond to the web-based method after 3 reminders. Of the two methods of survey administration used in the pilot study, telephone interviews increased pilot study response rate by 42% when compared to 33% using the web-based method alone. These complimentary methods of data collection resulted in a combined 75% response rate. The combined web-based and telephone survey methods will be retained for the full study.

The data collection process will be streamlined to eliminate a one-week wait time between web-based and telephone survey administration. This week did not result in any returned web-based surveys during the pilot study. One additional week of wait time between web-based and telephone survey methods will be eliminated. The survey administration process will be changed to allow the researcher to begin data collection via telephone surveys one week earlier

when compared to the pilot study. Telephone interviews with key informants will begin after the second electronic reminder has been sent to participating programs.

Appendix B

Full Study Percent Survey Responses to Perception of Diversity Climate (N=151)

SA=Strongly Agree **A=Agree** **AS=Agree Slightly**
DS=Disagree Slightly **D=Disagree** **SD=Strongly Disagree**

Subscale and Items	Percent Responses					
Institutional bias in human resource systems	**SA**	**A**	**AS**	**DS**	**D**	**SD**
Q44 Pleased with program's successes	22.52	47.02	17.88	5.96	4.64	1.99
Q45 Adequate support systems	16.56	37.75	21.19	11.26	9.93	3.31
Q46 Respects all persons	72.85	23.84	1.32	1.32	0.66	0
Q47 Leadership demonstrate more awareness	3.97	15.23	13.91	8.61	43.05	15.23
Q48 Nothing that needs to change re diversity	2.65	17.88	10.6	27.81	33.11	7.95
Q49 Values culturally diverse faculty & students	43.05	38.41	13.91	2.65	1.99	0
Q50 Commitment to diversity written in mission	34.9	40.94	10.74	0.67	10.07	2.68
Q51 Dedicated to well-being of every employee	56.29	38.41	1.32	1.32	1.99	0.66
Q52 Forums for sharing concems of minorities	12	21.33	12.67	6	36	12
Q53 More training in Spanish speaking skills	10.6	31.79	23.18	8.61	21.85	3.97
Q54 Minorities not involved in communication	4	16	6.67	12	36	25.33
Q55 Service learning in curriculum	8.61	25.83	23.18	9.93	23.84	8.61
Q56 Preferential treatment in program	1.99	4.64	7.28	3.31	43.71	39.07
Q57 Attracting and hiring minority faculty	4	12.67	14.67	18.67	40.67	9.33
Q58 Do more to include minorities in activities	6.62	19.21	20.53	12.58	32.45	8.61
Q59 Minority to non-minority hiring is adequate	4.03	24.83	10.74	18.12	34.9	7.38
Q60 Does not use best recruiting practices	3.33	8.67	11.33	13.33	50	13.33
Q61 Provides clinical learning with minority CIs	31.13	50.33	12.58	1.99	3.97	0
Q62 Provides international clinical education	15.23	13.91	7.28	2.65	32.45	28.48
Q63 Cultural competence of CIs is a priority	11.92	29.14	22.52	11.92	22.52	1.99
Q64 Cultural competence of faculty is a priority	10.6	33.11	29.8	12.58	11.26	2.65
Q65 Committed to diversity by numbers	4.03	17.45	20.13	10.07	34.9	13.42
Q66 Good leadership role models for minorities	14	28.67	18	9.33	25.33	4.67
Q67 Program should hire more minority faculty	10.07	44.30	24.83	12.75	7.38	0.67
Q68 Achievements of minority faculty	48.99	44.97	3.36	0.67	2.01	0
Q69 Promotes current minority faculty	17.57	47.97	12.16	11.49	8.78	2.03
Q70 Administrators do not promote diversity	0.67	2.67	4.67	9.33	51.33	31.33
Q71 Promotes research/scholarly development	54.97	40.4	2.65	0.66	1.32	0
Q72 Plan to increase and maintain diversity	12.16	27.03	12.16	10.14	31.08	7.43
Q73 Rarely talk openly about diversity issues	2.65	7.28	5.3	13.91	42.38	28.48
Q74 Qualified minority faculty are not promoted	0	1.34	2.01	3.36	47.65	45.64
Q75 Do not hear offensive remarks re minorities	56.29	32.45	1.99	4.64	3.97	0.66
Q76 Disrespect toward minorities not tolerated	66.89	29.14	1.32	1.32	0.66	0.66
Q77 Performance appraisal system biased	0	0.66	1.32	3.97	48.34	45.7

Appendix C
Detailed Construct Hypotheses

Identity structures

Identity structures will be associated with *organizational effectiveness* in accredited U.S. physical therapist education programs.

Degree awarded

1. Accredited doctoral U.S. physical therapist education programs will have a statistically significant higher licensure rate than accredited masters U.S. physical therapist education programs.
2. Accredited masters U.S. physical therapist education programs will have a statistically significant higher graduation rate than accredited doctoral U.S. physical therapist education programs.
3. Accredited masters U.S. physical therapist education programs will have a statistically significant higher number of graduates than accredited doctoral U.S. physical therapist education programs.
4. Accredited masters U.S. physical therapist education programs will have a statistically significant higher number of minority graduates than accredited doctoral U.S. physical therapist education programs.
5. Accredited doctoral U.S. physical therapist education programs will have a statistically significant higher percent minority graduates than accredited masters U.S. physical therapist education programs.

Census description

6. Micropolitan accredited U.S. physical therapist education programs will have a statistically significant higher licensure rate than metropolitan accredited U.S. physical therapist education programs.
7. Metropolitan accredited U.S. physical therapist education programs will have a statistically significant higher graduation rate than micropolitan accredited U.S. physical therapist education programs.
8. Metropolitan accredited U.S. physical therapist education programs will have a statistically significant higher number of graduates than micropolitan accredited U.S. physical therapist education programs.
9. Metropolitan accredited U.S. physical therapist education programs will have a statistically significant higher number of minority graduates than micropolitan accredited U.S. physical therapist education programs.
10. Metropolitan accredited U.S. physical therapist education programs will have a statistically significant higher percent minority graduates than micropolitan accredited U.S. physical therapist education programs.

Minority population density

11. There will be no statistically significant difference in licensure rate between ≥23% minority population density accredited U.S. physical therapist education programs and <23% minority population density accredited U.S. physical therapist education programs.
12. There will be no statistically significant difference in graduation rate between ≥23% minority population density accredited U.S. physical

therapist education programs and <23% minority population density accredited U.S. physical therapist education programs.

13. There will be no statistically significant difference in number of graduates between ≥23% minority population density accredited U.S. physical therapist education programs and <23% minority population density accredited U.S. physical therapist education programs.
14. Accredited U.S. physical therapist education programs located in ≥23% minority population density will have a statistically significant higher number of minority graduates than accredited U.S. physical therapist education programs located in <23% minority population density.
15. Accredited U.S. physical therapist education programs located in ≥23% minority population density will have a statistically significant higher percent minority graduates than accredited U.S. physical therapist education programs located in <23% minority population density.

Number of core faculty

16. Accredited U.S. physical therapist education programs with ≥10 core faculty will have a statistically significant higher licensure rate than accredited U.S. physical therapist education programs with <10 core faculty.
17. Accredited U.S. physical therapist education programs with ≥10 core faculty will have a statistically significant higher graduation rate than accredited U.S. physical therapist education programs with <10 core faculty.

18. Accredited U.S. physical therapist education programs with ≥10 core faculty will have a statistically significant higher number of graduates than accredited U.S. physical therapist education programs with <10 core faculty.
19. There will be no statistically significant difference in number of minority graduates between accredited U.S. physical therapist education programs with ≥10 core faculty and accredited U.S. physical therapist education programs with <10 core faculty.
20. Accredited U.S. physical therapist education programs with <10 core faculty will have a statistically significant higher percent minority graduates than accredited U.S. physical therapist education programs with ≥10 core faculty.

Number of students enrolled

21. There will be no statistically significant difference in licensure rate between accredited U.S. physical therapist education programs with <80 students enrolled and accredited U.S. physical therapist education programs with ≥80 students enrolled.
22. Accredited U.S. physical therapist education programs with <80 students enrolled will have a statistically significant higher graduation rate than accredited U.S. physical therapist education programs with ≥80 students enrolled.
23. Accredited U.S. physical therapist education programs with ≥80 students enrolled will have a statistically significant higher number of

graduates than accredited U.S. physical therapist education programs with <80 students enrolled.

24. Accredited U.S. physical therapist education programs with ≥80 students enrolled will have a statistically significant higher number of minority graduates than accredited U.S. physical therapist education programs with <80 students enrolled.

25. Accredited U.S. physical therapist education programs with <80 students enrolled will have a statistically significant higher percent minority graduates than accredited U.S. physical therapist education programs with ≥80 students enrolled.

Population density

26. There will be no statistically significant difference in licensure rate between urban accredited U.S. physical therapist education programs and rural accredited U.S. physical therapist education programs.

27. There will be no statistically significant difference in graduation rate between urban accredited U.S. physical therapist education programs and rural accredited U.S. physical therapist education programs.

28. Urban accredited U.S. physical therapist education programs will have statistically significant higher number of graduates than rural accredited U.S. physical therapist education programs.

29. Urban accredited U.S. physical therapist education programs will have statistically significant higher number of minority graduates than rural accredited U.S. physical therapist education programs.

30. Urban accredited U.S. physical therapist education programs will have a statistically significant higher percent minority graduates than rural accredited U.S. physical therapist education programs.

Culture and acculturation process

Culture and acculturation process will be associated with *organizational effectiveness* in accredited U.S. physical therapist education programs.

Cultural competence scale score

31. There will be no statistically significant relationship between licensure rate and cultural competence scale score in accredited U.S. physical therapist education programs.
32. There will be a statistically significant relationship between graduation rate and cultural competence scale score in accredited U.S. physical therapist education programs.
33. There will be no statistically significant relationship between number of graduates and cultural competence scale score in accredited U.S. physical therapist education programs.
34. There will be no statistically significant relationship between number of minority graduates and cultural competence scale score in accredited U.S. physical therapist education programs.
35. There will be no statistically significant relationship between percent minority graduates and cultural competence scale score in accredited U.S. physical therapist education programs.

Structural integration

Structural integration will be associated with *organizational effectiveness* in accredited U.S. physical therapist education programs.

Faculty diversity

36. There will be no statistically significant difference in licensure rate between 3 groups of accredited U.S. physical therapist education programs.
37. There will be no statistically significant difference in graduation rate between 3 groups of accredited U.S. physical therapist education programs.
38. There will be no statistically significant difference in number of graduates between 3 groups of accredited U.S. physical therapist education programs.
39. There will be no statistically significant difference in number of minority graduates between 3 groups of accredited U.S. physical therapist education programs.
40. There will be no statistically significant difference in percent minority graduates between 3 groups of accredited U.S. physical therapist education programs.

Number of minority students enrolled

41. There will be no statistically significant relationship between licensure rate and number of minority students enrolled in accredited U.S. physical therapist education programs.

42. There will be no statistically significant relationship between graduation rate and number of minority students enrolled in accredited U.S. physical therapist education programs.
43. There will be a statistically significant relationship between number of graduates and number of minority students enrolled in accredited U.S. physical therapist education programs.
44. There will be a statistically significant relationship between number of minority graduates and number of minority students enrolled in accredited U.S. physical therapist education programs.
45. There will be a statistically significant relationship between percent minority graduates and number of minority students enrolled in accredited U.S. physical therapist education programs.

Percent minority students enrolled

46. There will be no statistically significant relationship between licensure rate and percent minority students enrolled in accredited U.S. physical therapist education programs.
47. There will be no statistically significant relationship between graduation rate and percent minority students enrolled in accredited U.S. physical therapist education programs.
48. There will be a statistically significant relationship between number of graduates and percent minority students enrolled in accredited U.S. physical therapist education programs.

49. There will be a statistically significant relationship between number of minority graduates and percent minority students enrolled in accredited U.S. physical therapist education programs.

50. There will be a statistically significant relationship between percent minority graduates and percent minority students enrolled in accredited U.S. physical therapist education programs.

Number of minority core faculty

51. There will be no statistically significant relationship between licensure rate and number of minority core faculty in accredited U.S. physical therapist education programs.

52. There will be no statistically significant relationship between graduation rate and number of minority core faculty in accredited U.S. physical therapist education programs.

53. There will be no statistically significant relationship between number of graduates and number of minority core faculty in accredited U.S. physical therapist education programs.

54. There will be a statistically significant relationship between number of minority graduates and number of minority core faculty in accredited U.S. physical therapist education programs.

55. There will be a statistically significant relationship between percent minority graduates and number of minority core faculty in accredited U.S. physical therapist education programs.

Percent minority core faculty

56. There will be no statistically significant relationship between licensure rate and percent minority core faculty in accredited U.S. physical therapist education programs.

57. There will be no statistically significant relationship between graduation rate and percent minority core faculty in accredited U.S. physical therapist education programs.

58. There will be no statistically significant relationship between number of graduates and percent minority core faculty in accredited U.S. physical therapist education programs.

59. There will be a statistically significant relationship between number of minority graduates and percent minority core faculty in accredited U.S. physical therapist education programs.

60. There will be a statistically significant relationship between percent minority graduates and percent minority core faculty in accredited U.S. physical therapist education programs.

Minorities in program leadership positions

61. There will be no statistically significant relationship between licensure rate and minorities in program leadership positions in accredited U.S. physical therapist education programs.

62. There will be a statistically significant relationship between graduation rate and minorities in program leadership positions in accredited U.S. physical therapist education programs.

63. There will be no statistically significant relationship between number of graduates and minorities in program leadership positions in accredited U.S. physical therapist education programs.
64. There will be a statistically significant relationship between number of minority graduates and minorities in program leadership positions in accredited U.S. physical therapist education programs.
65. There will be a statistically significant relationship between percent minority graduates and minorities in program leadership positions in accredited U.S. physical therapist education programs.

Institutional bias in human resource systems

Institutional bias in human resource systems items will be associated with *organizational effectiveness* in accredited U.S. physical therapist education programs.

Perception of diversity climate scale score

66. There will be no statistically significant difference in licensure rate between accredited U.S. physical therapist education programs with perception of diversity climate scale score < 147 and programs with ≥147 perception of diversity climate scale score.
67. There will be no statistically significant difference in graduation rate between accredited U.S. physical therapist education programs with perception of diversity climate scale score < 147 and programs with ≥147 perception of diversity climate scale score.

68. There will be no statistically significant difference in number of graduates between accredited U.S. physical therapist education programs with perception of diversity climate scale score < 147 and programs with ≥147 perception of diversity climate scale score.

69. Accredited U.S. physical therapist education programs with perception of diversity climate scale score ≥ 147 will have a statistically significant higher number of minority graduates than accredited U.S. physical therapist education programs with perception of program diversity score of <147.

70. Accredited U.S. physical therapist education programs with perception of diversity climate scale score ≥ 147 will have a statistically significant higher percent minority graduates than accredited U.S. physical therapist education programs with perception of program diversity score of <147.

Multivariate hypotheses for *organizational effectiveness*

71. *Identity structures* will be the strongest predictor of licensure rate in accredited U.S. physical therapist education programs.

72. *Structural integration* will be the strongest predictor of graduation rate in accredited U.S. physical therapist education programs.

73. *Identity structures* will be the strongest predictor of number of graduates in accredited U.S. physical therapist education programs.

74. *Structural integration* will be the strongest predictor of number of minority graduates in accredited U.S. physical therapist education programs.

75. *Institutional bias in human resource systems* will be the strongest predictor of percent minority graduates in accredited U.S. physical therapist education programs.

Appendix D
A Survey of Diversity Climate and Organizational Effectiveness in Accredited U.S. Physical Therapist Education Programs

Please answer the following questions about the physical therapist education program at which you currently work.

Section I. Tell us about your program's outcomes for the most recent academic year.

1. What was the pass rate for first time test takers?

2. What was the graduation rate?

3. How many students graduated from your program?

4. In your most recent graduating class, how many were minority?

5. In your most recent graduating class, what percent were minority?

Section II. Tell us about the type, location and size of your program.

6. My program awards a _____ degree upon completion of all curriculum requirements.
   ____Masters
   ____DPT

7. Is your program located in a large city or metropolitan area?
   ____Yes
   ____No

8. Is the minority population in this city more than 23% of the total population?
   ____Yes
   ____No

9. How many core physical therapy faculty are in your program?
10. How many students are enrolled?
    ____1st year
    ____2nd year
    ____3rd year
    ____Total number of enrolled students

11. Is your program located in an urban area or a rural area?
    ____Urban
    ____Rural

Section III. Inventory for Assessing the Process of Cultural Competence in Healthcare Professionals – Revised (IAPCC-R) [Campinha-Bacote, 2002].

Section IV. Tell us about your program's diversity.

37. Which statement best describes your program's faculty diversity?
_____ Our program has 2 or more minority core faculty.
_____ Our program has 1 minority core faculty.
_____ Our program has no minority core faculty.

38. How many minority students are enrolled in your program?
_____1st year
_____2nd year
_____3rd year
_____Total number of minority students

39. What percent of your program's enrolled students are minority students?
_____% 1st year
_____% 2nd year
_____% 3rd year
_____Total % minority students

40. How many minority core faculty are in your program?

41. Of all physical therapy core faculty, what percent are minority?

42. Is your program director and/or chair a minority core faculty?
_____Yes
_____No

43. Is the ACCE/DCE a minority core faculty?
_____Yes
_____No

Section V. Tell us your perceptions about the diversity climate in your program and the program's ability to handle diversity issues. For purposes of this study, diversity refers to ethnic diversity and how ethnic minorities are treated within your program. If your program does not have ethnically diverse faculty and/or students, please select the response that best describes your perceptions of your program as though it had ethnic diversity.

1 = Strongly disagree
2 = Disagree
3 = Disagree slightly
4 = Agree slightly
5 = Agree
6 = Strongly agree

44. I am pleased with our program's successes in handling diversity issues.

45. Our program has adequate support systems in place to retain minorities.

46. Our program respects all persons, regardless of ethnicity.

47. Our program leadership needs to demonstrate more awareness about minority cultures.

48. I see nothing that needs to change about the way our program handles diversity issues.

49. Our program values a culturally diverse faculty and student body.

50. Our program's commitment to diversity is written in its mission, philosophy and/or program goals.

51. It is clear that our program is dedicated to the well-being of every employee, regardless of ethnicity.

52. In our program, there are forums where unique concerns of minority faculty and students can be shared.

53. Our program should provide more training in Spanish speaking skills.

54. Minorities are not involved in our program's communication channels and networks as much as non-minorities.

55. Service learning should be incorporated more in our program curriculum.

56. Some people are given preferential treatment in our program.

57. Our program does a good job attracting and hiring minority faculty.

58. Our program should do more than it is presently doing to include minorities in program activities.

59. The ratio of minority to non-minority hiring for new faculty positions is adequate.

60. Our program does not use best recruiting practices to improve its diversity.

61. Our program provides clinical learning opportunities with minority clinical instructors.

62. Our program provides international clinical education experiences.

63. Developing cultural competence skills of clinical educators is a priority in our program.

64. Developing cultural competence skills of core faculty is a priority in our program.

65. You can tell our program is committed to diversity by the numbers of minority faculty and students.

66. In program leadership positions, there are good role models that minorities can identify with.

67. Our program should hire more minority core faculty.

68. Achievements of minority faculty are recognized to the same extent as achievements of non-minority faculty in our program.

69. Our program promotes current minority faculty before hiring from the outside.

70. Our academic administrators do not actively promote workplace diversity.

71. Our program promotes research and scholarly development of all faculty.

72. Our program has a written recruitment and retention plan to increase and maintain program diversity.

73. In our program, we rarely talk openly about diversity issues.

74. Qualified minority faculty are not promoted as often as qualified non-minorities.

75. In our program, I do not hear offensive stories, jokes, or remarks about minorities.

76. Disrespect toward minorities is not tolerated in our program.

77. The performance appraisal system is biased against minorities.

78. Overall, how would you rate the diversity climate in your program?

POOR CLIMATE FOR DIVERSITY	1	2	3	4	5	6	EXCELLENT CLIMATE FOR DIVERSITY

79. In your opinion, what should your program do to improve its diversity climate? Be specific.

Section VI. Tell us about yourself.

80. Your age in years

81. Your ethnicity:
____African American
____American Indian
____Asian
____Caucasian
____Hispanic
____Other

82. Your gender:
____Male
____Female

83. Years as core faculty

84. Years as core faculty in current program

85. Years as an ACCE/DCE in current program

86. Your entry-level PT degree
____Bachelors
____Certificate
____Masters
____Entry-level DPT

87. Your highest degree held
____PhD
____Professional doctorate
____Transition DPT
____Entry-level DPT
____Masters
____Bachelors

88. Your current academic rank in current program
____Professor
____Associate Professor
____Assistant Professor
____Instructor
____Lecturer
____Other

89. Your tenure status
____Tenured
____On tenure track
____Not eligible
____No tenure track

Section V of this survey is modified using the Ethnicity Subscale of The Diversity Survey (Brinkman, LaFasto & Larson, 1992; Brinkman, Larson & LaFasto, 1991) with permission from Dr. Heidi Brinkman, President, BCI, 2932 4th Street, Boulder, CO 80304. Permission granted April 3, 2006.

This survey includes Inventory for Assessing the Process of Cultural Competence in Healthcare Professionals – Revised (IAPCC-R) with permission from Josepha Camphina-Bacote, PhD, MAR, APRN, BC, CNS, CTN, FAAN, President, Transcultural C.A.R.E. Associates, 11108 Huntwicke Place, Cincinatti, OH 45241. Permission granted May 18, 2007 and December 4, 2007.

Appendix E
Diversity Survey
(Brinkman, LaFasto & Larson, 1992)

DIVERSITY SURVEY

Our organization is in the process of analyzing the way we emphasize and value differences among employees. The following questionnaire is designed to assess your perceptions about our organization and its ability to handle issues associated with gender, ethnicity, and other aspects of our employee population.

The best answer to each of the statements is your own personal opinion. Your individual responses are entirely confidential. All results will be reported as group results only. This questionnaire will take approximately 20 minutes of your time.

Demographic Data

Ethnicity:

- ☐ Caucasian
- ☐ Black/African-American
- ☐ Hispanic
- ☐ Asian
- ☐ Native American Indian

Sex

- ☐ Male
- ☐ Female

Age _____

Job Classification

- ☐ Management/Professional
- ☐ Salaried Non-Exempt
- ☐ Hourly

U.S. Citizen

- ☐ Yes
- ☐ No

Note:
This instrument was developed for the purpose of better understanding the issues associated with differences among individuals in order to include and value the contributions of all members of an organization. It is intended to be used as part of an organization's systematic plan for surfacing, addressing, and monitoring diversity issues.

The following questions focus on general practices within our organization. Please mark each statement by circling the most appropriate choice to the left, according to how much you agree or disagree with the statement. Circle SA, A, AS, DS, D, or SD for each statement according to your level of agreement or disagreement with the statement.

SA = strongly agree
A = agree
AS = agree slightly
DS = disagree slightly
D = disagree
SD = strongly disagree

Organization Climate

SA	**A**	**AS**	**DS**	**D**	**SD**	1. It is clear that our organization is dedicated to the well being of its employees.
SA	**A**	**AS**	**DS**	**D**	**SD**	2. I am very pleased with the progress our organization has made in valuing people.
SA	**A**	**AS**	**DS**	**D**	**SD**	3. Our organization is doing an excellent job of addressing issues important to employees.
SA	**A**	**AS**	**DS**	**D**	**SD**	4. Our organization does a good job of attracting and hiring high quality people.
SA	**A**	**AS**	**DS**	**D**	**SD**	5. Opportunities for growth and advancement exist in our organization.
SA	**A**	**AS**	**DS**	**D**	**SD**	6. Our organization's training and development programs do not meet the needs of our employees.
SA	**A**	**AS**	**DS**	**D**	**SD**	7. Our organization does a good job of helping employees feel confident and capable.
SA	**A**	**AS**	**DS**	**D**	**SD**	8. Our organization is committed to the fair treatment of all employees.
SA	**A**	**AS**	**DS**	**D**	**SD**	9. There are forums where employees can voice their concerns in our organization.
SA	**A**	**AS**	**DS**	**D**	**SD**	10. Some people are given preferential treatment in our organization.

The following questions focus on how women are treated within our organization.

Please mark each statement by circling the most appropriate choice to the left, according to how much you agree or disagree with the statement.

SA = strongly agree
A = agree
AS = agree slightly
DS = disagree slightly
D = disagree
SD = strongly disagree

Diversity Climate

SA	**A**	**AS**	**DS**	**D**	**SD**	11. It is clear that our organization is dedicated to the well being of its employees, regardless of whether they are male or female.
SA	**A**	**AS**	**DS**	**D**	**SD**	12. I am very pleased with the progress our organization has made in valuing women within the work place.
SA	**A**	**AS**	**DS**	**D**	**SD**	13. Our organization is doing an excellent job of addressing issues important to women.

Hiring Practices

SA	**A**	**AS**	**DS**	**D**	**SD**	14. Our organization does a good job of attracting and hiring women.
SA	**A**	**AS**	**DS**	**D**	**SD**	15. Our organization should do more than it is doing presently to recruit women.
SA	**A**	**AS**	**DS**	**D**	**SD**	16. Women tend to be hired for dead-end jobs.

Promotion Practices

SA	**A**	**AS**	**DS**	**D**	**SD**	17. Opportunities for growth and advancement exist for women in our organization.
SA	**A**	**AS**	**DS**	**D**	**SD**	18. Female employees with skill and experience are not promoted to the same degree as male employees.
SA	**A**	**AS**	**DS**	**D**	**SD**	19. Our organization actively plans for the promotion of women.

SA = strongly agree
A = agree
AS = agree slightly
DS = disagree slightly
D = disagree
SD = strongly disagree

Training and Development

SA	**A**	**AS**	**DS**	**D**	**SD**	20. An awareness of the career development needs of women is fostered within our organization.
SA	**A**	**AS**	**DS**	**D**	**SD**	21. Our organization's training and development programs do not meet the needs of female employees.
SA	**A**	**AS**	**DS**	**D**	**SD**	22. Our organization needs to develop more effective support programs for female employees.

Equity and Fairness

SA	**A**	**AS**	**DS**	**D**	**SD**	23. Our organization is committed to the fair treatment of all employees, regardless of whether they are male or female.
SA	**A**	**AS**	**DS**	**D**	**SD**	24. In our organization, the performance criteria for success are more demanding for women than for men.
SA	**A**	**AS**	**DS**	**D**	**SD**	25. Women are not involved in our organization's communication channels and networks as much as are men.

Visible Commitment

SA	**A**	**AS**	**DS**	**D**	**SD**	26. Our organization needs more women in top management.
SA	**A**	**AS**	**DS**	**D**	**SD**	27. Within the senior levels of management in our organization, there are good role models for women.
SA	**A**	**AS**	**DS**	**D**	**SD**	28. There are forums where women can voice their concerns in our organization.

SA = strongly agree
A = agree
AS = agree slightly
DS = disagree slightly
D = disagree
SD = strongly disagree

Politics in The Work Place

SA	**A**	**AS**	**DS**	**D**	**SD**	29. There seems to be favoritism shown toward men in our organization.
SA	**A**	**AS**	**DS**	**D**	**SD**	30. In our organization, people often ignore or "get around" guidelines for the fair treatment of women.
SA	**A**	**AS**	**DS**	**D**	**SD**	31. In our organization, I do not hear offensive stories, jokes, or remarks about women.

32. Circle the number on the continuum below which best represents how you feel about the following question. In your opinion, to what extent do you feel our organization is an excellent place for women to work?

1 2 3 4 5 6

A VERY POOR PLACE FOR WOMEN TO WORK — **AN EXCELLENT PLACE FOR WOMEN TO WORK**

33. What would have to change in order for you to feel our organization is an excellent place for women to work? (Please be as specific as possible)

_____

_____

_____

_____

_____

_____

Section III. Ethnicity

The following questions focus on how minorities are treated within our organization.

Please mark each statement by circling the most appropriate choice to the left, according to how much you agree or disagree with the statement.

SA = strongly agree
A = agree
AS = agree slightly
DS = disagree slightly
D = disagree
SD = strongly disagree

Diversity Climate

SA **A** **AS** **DS** **D** **SD** 34. It is clear that our organization is dedicated to the well being of its employees, regardless of whether they are minorities or non-minorities.

SA **A** **AS** **DS** **D** **SD** 35. I am very pleased with the progress our organization has made in valuing minorities within the work place.

SA **A** **AS** **DS** **D** **SD** 36. Our organization is doing an excellent job of addressing issues important to minorities.

SA **A** **AS** **DS** **D** **SD** 37. An awareness of the customs, cultures, and values of minorities is fostered within our organization.

Hiring Practices

SA **A** **AS** **DS** **D** **SD** 38. Our organization does a good job of attracting and hiring minorities.

SA **A** **AS** **DS** **D** **SD** 39. Our organization should do more than it is doing presently to recruit minorities.

SA **A** **AS** **DS** **D** **SD** 40. Minorities tend to be hired for dead-end jobs.

SA = strongly agree
A = agree
AS = agree slightly
DS = disagree slightly
D = disagree
SD = strongly disagree

Promotion Practices

SA **A** **AS** **DS** **D** **SD** 41. Opportunities for growth and advancement exist for minorities in our organization.

SA **A** **AS** **DS** **D** **SD** 42. Minority employees with skill and experience are not promoted to the same degree as non-minority employees.

SA **A** **AS** **DS** **D** **SD** 43. Our organization actively plans for the promotion of minorities.

Training and Development

SA **A** **AS** **DS** **D** **SD** 44. An awareness of the career development needs of minorities is fostered within our organization.

SA **A** **AS** **DS** **D** **SD** 45. Our organization's training and development programs do not meet the needs of minority employees.

SA **A** **AS** **DS** **D** **SD** 46. Our organization needs to develop more effective support programs for minority employees.

Equity and Fairness

SA **A** **AS** **DS** **D** **SD** 47. Our organization is committed to the fair treatment of all employees, whether they are minorities or non-minorities.

SA **A** **AS** **DS** **D** **SD** 48. In our organization, the performance criteria for success are more demanding for minorities than for non-minorities.

SA **A** **AS** **DS** **D** **SD** 49. Minorities are not involved in our organization's communication channels and networks as much as are non-minorities.

SA = strongly agree
A = agree
AS = agree slightly
DS = disagree slightly
D = disagree
SD = strongly disagree

Visible Commitment

SA **A** **AS** **DS** **D** **SD** 50. Our organization needs more minorities in top management.

SA **A** **AS** **DS** **D** **SD** 51. Within the senior levels of management in our organization, there are good role models for minorities.

SA **A** **AS** **DS** **D** **SD** 52. There are forums where minorities can voice their concerns in our organization.

Politics in the Work Place

SA **A** **AS** **DS** **D** **SD** 53. In our organization, people often ignore or "get around" guidelines for the fair treatment of minorities.

SA **A** **AS** **DS** **D** **SD** 54. There seems to be favoritism shown toward non-minorities in our organization.

SA **A** **AS** **DS** **D** **SD** 55. In our organization, I do not hear offensive stories, jokes, or remarks about minorities.

56. Circle the number on the continuum below which best represents how you feel about the following question. In your opinion, to what extent do you feel our organization is an excellent place for minorities to work?

1 **2** **3** **4** **5** **6**

A VERY POOR PLACE FOR MINORITIES TO WORK — **AN EXCELLENT PLACE FOR MINORITIES TO WORK**

57. What would have to change in order for you to feel our organization is an excellent place for minorities to work? (Please be as specific as possible)

_____

_____

_____

_____

_____

_____

The following sections focus on other aspects of diversity: age, physical ability, sexua preference, job level, and domestic versus international employment.

Once again, please mark each statement by circling the most appropriate choice to the left, according to how much you agree or disagree with the statement.

SA = strongly agree
A = agree
AS = agree slightly
DS = disagree slightly
D = disagree
SD = strongly disagree

Section IV. Age

Age

SA	**A**	**AS**	**DS**	**D**	**SD**	58. There seems to be favoritism shown toward younger employees in our organization.
SA	**A**	**AS**	**DS**	**D**	**SD**	59. Our organization is committed to the fair treatment of all employees, regardless of age.
SA	**A**	**AS**	**DS**	**D**	**SD**	60. An awareness of the needs and values of older employees is fostered within our organization.

Section V: Physical Ability

Physical Ability

SA	**A**	**AS**	**DS**	**D**	**SD**	61. There seems to be favoritism shown toward physically abled employees in our organization.
SA	**A**	**AS**	**DS**	**D**	**SD**	62. Our organization is committed to the fair treatment of all employees, regardless of physical ability.
SA	**A**	**AS**	**DS**	**D**	**SD**	63. An awareness of the needs and values of physically challenged employees is fostered within our organization.

Section VI: Sexual Orientation

SA = strongly agree
A = agree
AS = agree slightly
DS = disagree slightly
D = disagree
SD = strongly disagree

Sexual Orientation

SA	**A**	**AS**	**DS**	**D**	**SD**	64. There seems to be favoritism shown toward heterosexual employees in our organization.
SA	**A**	**AS**	**DS**	**D**	**SD**	65. Our organization is committed to the fair treatment of all employees, regardless of sexual orientation.
SA	**A**	**AS**	**DS**	**D**	**SD**	66. An awareness of the needs and values of employees with alternative sexual orientations is fostered within our organization.

Section VII: Job Level

Job Level

SA	**A**	**AS**	**DS**	**D**	**SD**	67. There seems to be favoritism shown toward some job levels in our organization.
SA	**A**	**AS**	**DS**	**D**	**SD**	68. Our organization is committed to the fair treatment of all employees, regardless of job level.
SA	**A**	**AS**	**DS**	**D**	**SD**	69. An awareness of the needs and values of all job levels is fostered within our organization.

Section VIII: Domestic Versus International

Domestic Versus International

SA	**A**	**AS**	**DS**	**D**	**SD**	70. There seems to be favoritism shown toward domestic employees in our organization.
SA	**A**	**AS**	**DS**	**D**	**SD**	71. Our organization is committed to the fair treatment of all employees, regardless of whether they are domestic or international.
SA	**A**	**AS**	**DS**	**D**	**SD**	72. An awareness of the customs, cultures and values of international employees is fostered within our organization.

Now, please consider how our organization handles diversity issues related to the foll
categories: age, physical ability, sexual preference, job level, and domestic versus international. In your opinion, *what changes does our organization need to make in any of the following areas?*

73. **Age**

74. **Physical Ability**

75. **Sexual Orientation**

76. **Job Level**

77. **Domestic Versus International**

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE!

Baxter

Appendix F
Expert Panel Cover Letter, Review Chart and Subscale Definitions

April 17, 2007

Dear Expert Panelist,

Thank you for agreeing to serve on a three-member expert panel to provide your time and expertise in survey development. My Ph.D. dissertation focus is diversity climate in physical therapist education programs.

The survey items below were modified with permission from Dr. Heidi Brinkman, co-author of The Diversity Survey (Brinkman, LaFasto & Larson, 1992). Using the subscale definitions as defined by Dr. Brinkman, please select the appropriate subscale that best fits the survey item. Write the name of the subscale in the third column. Next, provide feedback on how you believe each item should be worded to better reflect the subscale's definition. If you determine that no change should be made to the survey item, please write 'NC' in the second column next to the item. Your reviews will be kept confidential. Aggregate results will be tabulated and final item decisions will be made in conjunction with my dissertation committee.

Completion of the review should take you approximately 20 minutes. Please return your complete review to me as soon as possible. You may send it to me via email (egiles@odu.edu) or fax to the School of Physical Therapy at Old Dominion University (757/683-4410).

If you have questions about my dissertation, please feel free to contact my dissertation chair, Dr. Laurel Garzon at Old Dominion University at 757/683-5250 or via email at lgarzon@odu.edu. My contact information is below. When I have completed the study, results will be available upon request to me.

Sincerely,

Elizabeth Francis Giles, PT, MS
Ph.D. Student – Health Services Research
College of Health Sciences
School of Physical Therapy
3118 Health Sciences Building
Old Dominion University
Norfolk, VA 23529
Office: 757/683-6112
Email: egiles@odu.edu

Expert Panel Review of the Survey Questions and Subscales

Survey Item	Changes to Survey Item	Expert's Selection of Matching Subscale for the Survey Item
I am pleased with our program's successes in handling diversity issues.		
Our program has adequate support systems in place to retain minorities.		
Our program respects all persons, regardless of ethnicity.		
Our program leadership needs to demonstrate more awareness about minority cultures.		
I see nothing that needs to change about the way our program handles diversity issues.		
Our program values a culturally diverse faculty and student body.		
Our program's commitment to diversity is written in its mission, philosophy and/or program goals.		
It is clear that our program is dedicated to the well-being of every employee, regardless of ethnicity.		
In our program, there are forums where unique concerns of minority faculty and students can be shared.		
Our program should provide more training in Spanish speaking skills.		
Minorities are not involved in our program's communication channels and networks as much as non-minorities.		
Service learning should be incorporated more in our program curriculum.		
Some people are given preferential treatment in our program.		
Our program does a good job attracting and hiring minority faculty.		
Our program should do more than it is presently doing to include minorities in program activities.		
The ratio of minority to non-minority hiring for new faculty positions is adequate.		

Survey Item	Changes to Survey Item	Expert's Selection of Matching Subscale for the Survey Item
Our program does not use best recruiting practices to improve its diversity.		
Our program provides clinical learning opportunities with minority clinical instructors.		
Our program provides international clinical education experiences.		
Developing cultural competence skills of clinical educators is a priority in our program.		
Developing cultural competence skills of core faculty is a priority in our program.		
You can tell our program is committed to diversity by the numbers of minority faculty and students.		
In program leadership positions, there are good role models that minorities can identify with.		
Our program should hire more minority core faculty.		
Achievements of minority faculty are recognized to the same extent as achievements of non-minority faculty in our program.		
Our program promotes current minority faculty before hiring from outside.		
Our academic administrators do not actively promote workplace diversity.		
Our program promotes research and scholarly development of all faculty.		
Our program has a written recruitment and retention plan to increase and maintain program diversity.		
In our program, we rarely talk openly about diversity issues.		
Qualified minority faculty are not promoted as often as qualified non-minorities.		
In our program, I do not hear offensive stories, jokes, or remarks about minorities.		

Survey Item	Changes to Survey Item	Expert's Selection of Matching Subscale for the Survey Item
Disrespect toward minorities is not tolerated in our program.		
The performance appraisal system is biased against minorities.		

Subscale Definitions from the Ethnicity Dimension of The Diversity Survey (Brinkman, LaFasto & Larson, 1992)

Diversity Climate category: "This category captures employees' general perceptions about the organization's ability to manage diversity" (Brinkman, LaFasto & Larson, 1992).

Equity and Fairness category: "Here, the issue is equality both in organizational policy and regard for different individuals. The general sense of fairness and respect with which the organization treats minorities and/or women is the focus. Judgments of performance, daily conduct and immersion in the communication network is specified" (Brinkman, LaFasto & Larson, 1992).

Hiring Practices category: "The hiring practices of the organization and the attitudes which influence these practices are targeted here" (Brinkman, LaFasto & Larson,1992).

Politics in the Work Place category: "This category deals specifically with the perceptions of whether or not acts, or attitudes, of favoritism are operating within the organization" (Brinkman, LaFasto & Larson, 1992).

Promotion Practices category: "The focus here is on the organization's attitudes and practices about promotion. As with hiring, the attitudes behind the actions, as well as the actual practices, are targeted" (Brinkman, LaFasto & Larson, 1992).

Training and Development category: "The common theme for this category focuses on the amount and type of training and help offered to organizational employees. The actual list of programs and opportunities are not the issue. Rather, it is the employees' perceptions of what is available that is of interest' (Brinkman, LaFasto & Larson, 1992).

Visible Commitment category: "Indications are that this is the most important category for diversity management. It stipulates that there should be visible and tangible signs (not merely verbal commitments) that the organization values minorities and/or women. Gender and minority/non-minority ratios are targeted, as well as recognition for achievements and opportunities to discuss concerns" (Brinkman, LaFasto & Larson, 1992).

APPENDIX G
REQUEST TO USE INVENTORY FOR ASSESSING THE PROCESS OF CULTURAL COMPETENCE AMONG HEALTHCARE PROFESSIONALS – REVISED (IAPCC-R) (Campinha-Bacote, 2002)

Josepha Campinha-Bacote, PhD, MAR, APRN, BC, CNS, CTN, FAAN
President, Transcultural C.A.R.E. Associates
11108 Huntwicke Place
Cincinnati, Ohio 45241

Dear Dr. Campinha-Bacote,

I am a physical therapist director of clinical education pursuing a Ph.D. degree in health services research at Old Dominion University in Norfolk, Virginia. I am writing to request your permission to use the Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals – Revised (IAPCC – R, Campinha-Bacote, 2002) in my dissertation research. I purchased your book, "The Process of Cultural Competence in the Delivery of Healthcare Services: A Culturally Competent Model of Care", 4th edition, © 2003 by Transcultural C.A.R.E. Associates, after attending your lecture at Old Dominion University in 2003.

The title of my dissertation is "Application of the Interactional Model of Cultural Diversity to Identify Diversity Climate Factors Associated with Organizational Effectiveness in Accredited U.S. Physical Therapist Education Programs." The purpose of my study is to describe the relationship between *diversity climate* and *organizational effectiveness* in accredited U.S. physical therapist education programs. My dissertation chair is Dr. Laurel Garzon. My committee members are Dr. Stacey Plichta and Dr. Carolyn Rutledge. These faculty are working with you on the nursing HRSA grants. I am using the same instrument that they used with the nursing students, but my study involves PT faculty.

The tool will be administered once using a web-based format. If approved, a pilot study may begin as early as Summer/Fall 2007. I would be honored to use your tool in my dissertation and hope to obtain your permission to do so very soon.

Sincerely,

Elizabeth Francis Giles, PT, MS
Ph.D. Student
College of Health Sciences
School of Physical Therapy
3118 Health Sciences Building
Old Dominion University
Norfolk, VA 23529
Office: 757/683-6112
Email: egiles@odu.edu

TRANSCULTURAL C.A.R.E.
Clinical, Administrative, Research & Educational Consultation In Transcultural Health Care

J. Campinha-Bacote,
PhD., RN, CS, CNS, CTN, FAAN

Transcultural Consultant

(513) 469-1664

www.transculturalcare.net

11108 Huntwicke Place
Cincinnati, Ohio 45241

Date: May 18, 2007

To: Ms. Elizabeth Francis Giles
From: Dr. Josepha Campinha-Bacote
President, Transcultural C.A.R.E. Associates
RE: Letter of Permission For Limited Use of the IAPCC-R Online

This letter grants permission to Ms. Elizabeth Francis Giles to use my tool, *"Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals-Revised" (IAPCC-R)* in a pilot study of her dissertation entitled "Application of the Interactional Model of Cultural Diversity to Identify Diversity Climate Factors Associated with Organizational Effectiveness in Accredited U.S. Physical Therapist Education Programs." I have received payment of $240 for 12 tools to be used as a one-time web-based format for 12 subjects. Ms. Elizabeth Francis Giles agrees to the following requirements regarding use of this copyrighted tool:

TIME FRAME: Permission to use the IAPCC-R is only granted from June 2007 through September 2007. Upon October 1, Ms. Elizabeth Francis Giles must take the tool off the web-based format and destroy all hard copies of the tool. Ms. Elizabeth Francis Giles must again request permission to use the IAPCC-R for any extensions or further use of the IAPCC-R beyond the permission date. Specifically, Ms. Elizabeth Francis Giles must seek formal permission to continue use of my tool for further use in this dissertation.

ADMINISTRATION: This permission grants Ms. Elizabeth Francis Giles to administer the IAPCC-R on a secure online web-based format that has access to only 12 individuals. Other forms of administration or access to more than 12 subjects are not permitted.

RESTRICTIONS OF COPYING: Outside on placing the IAPCC-R online in a web-based format, Ms. Elizabeth Francis Giles agrees that the IAPCC-R cannot be copied or reproduced for any other reason. This includes, but not limited to, being used in formal or informal publications, handouts for presentations, PowerPoint presentations or on an overhead transparency. The IAPCC-R is only to be used in the above project in which it is administered online for access to 12 individuals/subjects.

PUBLICATIONS: Ms. Elizabeth Francis Giles agrees that any publications (formal or informal) or presentations of the findings of the study using my tool will be shared with me.

Thank you for complying with the requests of using this copyrighted tool. Please feel free to contact me if you have any questions about using the IAPCC-R. I wish you the best on your study.

TRANSCULTURAL C.A.R.E.

Clinical, Administrative, Research
& Educational Consultation
in Transcultural Health Care

J. Campinha-Bacote,
PhD, MAR, APRN, BC, CTN, CNS, FAAN

Transcultural Healthcare Consultant

Date: December 4, 2007

To: Ms. Elizabeth Francis Giles
From: Dr. Josepha Campinha-Bacote
President, Transcultural C.A.R.E. Associates

RE: Letter of Permission For Limited Use of the IAPCC-R Online

This letter grants permission to Ms. Elizabeth Francis Giles to use my tool, *"Inventory for Assessing the Process of Cultural Competence Among Healthcare Professionals-Revised" (IAPCC-R)* in her dissertation entitled "Application of the Interactional Model of Cultural Diversity to Identify Diversity Climate Factors Associated with Organizational Effectiveness in Accredited U.S. Physical Therapist Education Programs." I have received payment of $3560 for 178 individuals to have one-time access to the IAPCC-R in a secure web-based online format. Ms. Elizabeth Francis Giles agrees to the following requirements regarding use of this copyrighted tool:

TIME FRAME: Permission to use the IAPCC-R is only granted from December 10, 2007 to June 10, 2008. Upon June 11, 2008 Ms. Elizabeth Francis Giles must take the tool off the web-based format and destroy any hard copies of the tool. Ms. Elizabeth Francis Giles must again request permission to use the IAPCC-R for any extensions or further use of the IAPCC-R beyond the June 10, 2008 permission date. Specifically, Ms. Elizabeth Francis Giles must seek formal written permission to continue use of my tool for further use in this dissertation or in any project/study.

ADMINISTRATION: This permission grants Ms. Elizabeth Francis Giles to administer the IAPCC-R on a secure online web-based format that has access to only 178 individuals. Other forms of administration or access to more than 178 subjects are not permitted.

RESTRICTIONS OF COPYING: Outside on placing the IAPCC-R online in a secure web-based format, Ms. Elizabeth Francis Giles agrees that the IAPCC-R cannot be copied or reproduced for any other reason and in any format. This includes, but not limited to, being used in formal or informal publications, handouts for presentations, PowerPoint presentations or on an overhead transparency or electronic use. The IAPCC-R is only to be used in the above project in which it is administered online for access to 178 individuals/subjects.

PUBLICATIONS: Ms. Elizabeth Francis Giles agrees that any publications (formal or informal) or presentations of the findings of the study using my tool will be shared with me.

Thank you for complying with the requirements of using this copyrighted tool. Please feel free to contact me if you have any questions about using the IAPCC-R. I wish you the best on your study.

☎513-469-1664
🖷 513-469-1764
meddir@aol.com

www.transculturalcare.net

11108 Huntwicke Place
Cincinnati, Ohio 45241

Appendix H
Cover Letter to Key Informants

OLD DOMINION UNIVERSITY

COLLEGE OF HEALTH SCIENCES
SCHOOL OF PHYSICAL THERAPY
Norfolk, Virginia 23529-0288
www.odu.edu/dpt
Phone: (757) 683-4519
Fax: (757) 683-4410

Dear ACCE/DCE,

I am a director of clinical education pursuing a doctor of philosophy (PhD) degree in health services research at Old Dominion University. My area of focus is diversity in physical therapist education. As diversity in the U.S. healthcare system has increased, my interest in how physical therapist education programs enhance provider diversity has increased as well. I have chosen to study faculty perceptions of diversity climate in physical therapist education programs from the perspective of the ACCE/DCE.

Your participation in this study is voluntary. Completion of the survey will serve as your consent to participate in the study. Responses will be reported in the aggregate only and your individual responses will be confidential. There is no identified adverse risk to participation or non-participation in this study. Involvement in this study may provide insights into the perceptions of diversity climate in physical therapist education programs from the perspectives of faculty members. This information may have significance for health policy makers and higher education.

The survey will take 30-35 minutes to complete online. Please complete the survey within one week and return to me electronically.

If you have questions about this study, please feel free to contact me or my dissertation chair, Dr. Laurel Garzon, at Old Dominion University at 757/683-5250 or via email at lgarzon@odu.edu. I can be reached at the address below. When this study is completed, the results will be made available on request to me.

Sincerely,

Elizabeth Francis Giles, PT, MS
PhD Candidate, Health Services Research
Director of Clinical Education
College of Health Sciences
School of Physical Therapy
3118 Health Sciences Building
Old Dominion University
Norfolk, VA 23529
Office: 757/683-6112
Email: egiles@odu.edu

Laurel Garzon, PhD, PNP
Dissertation Committee Chair
Director,Graduate Nursing Programs
College of Health Sciences
School of Nursing
3120 Health Sciences Building
Old Dominion University
Norfolk, VA 23529
Office: 757/683-5250
Email: lgarzon@odu.edu

Appendix I
Statistical Analysis

Hypothesis	Detailed Construct Hypothesis	Statistical Test
	Hypothesis for *identity structures:* Identity structures will be associated with *organizational effectiveness* in accredited U.S. physical therapist education programs.	
	Degree awarded (H1 – H5)	
1	Accredited doctoral U.S. physical therapist education programs will have a statistically significant higher licensure rate than accredited masters U.S. physical therapist education programs.	Chi square test
2	Accredited masters U.S. physical therapist education programs will have a statistically significant higher graduation rate than accredited doctoral U.S. physical therapist education programs.	Chi square test
3	Accredited masters U.S. physical therapist education programs will have a statistically significant higher number of graduates than accredited doctoral U.S. physical therapist education programs.	Chi square test
4	Accredited masters U.S. physical therapist education programs will have a statistically significant higher number of minority graduates than accredited doctoral U.S. physical therapist education programs.	Chi square test
5	Accredited doctoral U.S. physical therapist education programs will have a statistically significant higher percent minority graduates than accredited masters U.S. physical therapist education programs.	Chi square test
6-10	Census description (H6-H10)	No analysis

Hypothesis	Detailed Construct Hypothesis	Statistical Test
	Minority population density (H11-H15)	
11	There will be no statistically significant difference in licensure rate between ≥23% minority population density accredited U.S. physical therapist education programs and <23% minority population density accredited U.S. physical therapist education programs.	Chi square test
12	There will be no statistically significant difference in graduation rate between ≥23% minority population density accredited U.S. physical therapist education programs and <23% minority population density accredited U.S. physical therapist education programs.	Chi square test
13	There will be no statistically significant difference in number of graduates between ≥23% minority population density accredited U.S. physical therapist education programs and <23% minority population density accredited U.S. physical therapist education programs.	Chi square test
14	Accredited U.S. physical therapist education programs located in ≥23% minority population density will have a statistically significant higher number of minority graduates than accredited U.S. physical therapist education programs located in <23% minority population density.	Chi square test
15	Accredited U.S. physical therapist education programs located in ≥23% minority population density will have a statistically significant higher percent minority graduates than accredited U.S. physical therapist education programs located in <23% minority population density.	Chi square test
	Number of core faculty (H16-H20)	
16	Accredited U.S. physical therapist education programs with ≥10 core faculty will have a statistically significant higher licensure rate than accredited U.S. physical therapist education programs with <10 core faculty.	Chi square test
17	Accredited U.S. physical therapist education programs with ≥10 core faculty will have a statistically significant higher graduation rate than accredited U.S. physical therapist education programs with <10 core faculty.	Chi square test

Hypothesis	Detailed Construct Hypothesis	Statistical Test
18	Accredited U.S. physical therapist education programs with ≥10 core faculty will have a statistically significant higher number of graduates than accredited U.S. physical therapist education programs with <10 core faculty.	Chi square test
19	There will be no statistically significant difference in number of minority graduates between accredited U.S. physical therapist education programs with ≥10 core faculty and accredited U.S. physical therapist education programs with <10 core faculty.	Chi square test
20	Accredited U.S. physical therapist education programs with <10 core faculty will have a statistically significant higher mean percent minority graduates than accredited U.S. physical therapist education programs with ≥10 core faculty.	Chi square test
	Number of students enrolled (H21-H25)	
21	There will be no statistically significant difference in licensure rate between accredited U.S. physical therapist education programs with <80 students enrolled and accredited U.S. physical therapist education programs with ≥80 students enrolled.	Chi square test
22	Accredited U.S. physical therapist education programs with <80 students enrolled will have a statistically significant higher graduation rate than accredited U.S. physical therapist education programs with ≥80 students enrolled.	Chi square test
23	Accredited U.S. physical therapist education programs with ≥80 students enrolled will have a statistically significant higher number of graduates than accredited U.S. physical therapist education programs with <80 students enrolled.	Chi square test
24	Accredited U.S. physical therapist education programs with ≥80 students enrolled will have a statistically significant higher number of minority graduates than accredited U.S. physical therapist education programs with <80 students enrolled.	Chi square test

Hypothesis	Detailed Construct Hypothesis	Statistical Test
25	Accredited U.S. physical therapist education programs with <80 students enrolled will have a statistically significant higher percent minority graduates than accredited U.S. physical therapist education programs with ≥80 students enrolled.	Chi square test
	Population density (H26-H30)	
26	There will be no statistically significant difference in licensure rate between urban accredited U.S. physical therapist education programs and rural accredited U.S. physical therapist education programs.	Chi square test
27	There will be no statistically significant difference in graduation rate between urban accredited U.S. physical therapist education programs and rural accredited U.S. physical therapist education programs.	Chi square test
28	Urban accredited U.S. physical therapist education programs will have statistically significant higher number of graduates than rural accredited U.S. physical therapist education programs.	Chi square test
29	Urban accredited U.S. physical therapist education programs will have statistically significant higher number of minority graduates than rural accredited U.S. physical therapist education programs.	Chi square test
30	Urban accredited U.S. physical therapist education programs will have statistically significant higher percent minority graduates than rural accredited U.S. physical therapist education programs.	Chi square test
	Hypothesis for *culture and acculturation process: Culture and acculturation process* will be associated with *organizational effectiveness* items in accredited U.S. physical therapist education programs.	
	Cultural competence scale score (H31-H35)	
31	There will be no statistically significant relationship between licensure rate and cultural competence scale score in accredited U.S. physical therapist education programs.	Chi square test

Hypothesis	Detailed Construct Hypothesis	Statistical Test
32	There will be a statistically significant relationship between graduation rate and cultural competence in accredited U.S. physical therapist education programs.	Chi square test
33	There will be no statistically significant relationship between number of graduates and cultural competence in accredited U.S. physical therapist education programs.	Chi square test
34	There will be no statistically significant relationship between number of minority graduates and cultural competence in accredited U.S. physical therapist education programs.	Chi square test
35	There will be no statistically significant relationship between percent minority graduates and cultural competence in accredited U.S. physical therapist education programs.	Chi square test
	Hypothesis for *structural integration: Structural integration* will be associated with *organizational effectiveness* items in accredited U.S. physical therapist education programs.	
	Faculty diversity (H36-H40)	
36	There will be no statistically significant difference in licensure rate between 3 groups of accredited U.S. physical therapist education programs.	Kruskal-Wallis one-way ANOVA with a post-hoc Mann-Whitney test
37	There will be no statistically significant difference in graduation rate between 3 groups of accredited U.S. physical therapist education programs.	Kruskal-Wallis one-way ANOVA with a post-hoc Mann-Whitney test
38	There will be no statistically significant difference in number of graduates between 3 groups of accredited U.S. physical therapist education programs.	Kruskal-Wallis one-way ANOVA with a post-hoc Mann-Whitney test
39	There will be no statistically significant difference in number of minority graduates between 3 groups of accredited U.S. physical therapist education programs.	Kruskal-Wallis one-way ANOVA with a post-hoc Mann-Whitney test

Hypothesis	Detailed Construct Hypothesis	Statistical Test
40	There will be no statistically significant difference in percent minority graduates between 3 groups of accredited U.S. physical therapist education programs.	Kruskal-Wallis one-way ANOVA with a post-hoc Mann-Whitney test
	Number of minority students enrolled (H41-H45)	
41	There will be no statistically significant relationship between licensure rate and number of minority students enrolled in accredited U.S. physical therapist education programs.	Chi square test
42	There will be no statistically significant relationship between graduation rate and number of minority students enrolled in accredited U.S. physical therapist education programs.	Chi square test
43	There will be a statistically significant relationship between number of graduates and number of minority students enrolled in accredited U.S. physical therapist education programs.	Chi square test
44	There will be a statistically significant relationship between number of minority graduates and number of minority students enrolled in accredited U.S. physical therapist education programs.	Chi square test
45	There will be a statistically significant relationship between percent minority graduates and number of minority students enrolled in accredited U.S. physical therapist education programs.	Chi square test
	Percent minority students enrolled (H46-H50)	
46	There will be no statistically significant relationship between licensure rate and percent minority students enrolled in accredited U.S. physical therapist education programs.	Chi square test
47	There will be no statistically significant relationship between graduation rate and percent minority students enrolled in accredited U.S. physical therapist education programs.	Chi square test
48	There will be a statistically significant relationship between number of graduates and percent minority students enrolled in accredited U.S. physical therapist education programs.	Chi square test

Hypothesis	Detailed Construct Hypothesis	Statistical Test
49	There will be a statistically significant relationship between number of minority graduates and percent minority students enrolled in accredited U.S. physical therapist education programs.	Chi square test
50	There will be a statistically significant relationship between percent minority graduates and percent minority students enrolled in accredited U.S. physical therapist education programs.	Chi square test
	Number of minority core faculty (H51-H55)	
51	There will be no statistically significant relationship between licensure rate and number of minority core faculty in accredited U.S. physical therapist education programs.	Chi square test
52	There will be no statistically significant relationship between graduation rate and number of minority core faculty in accredited U.S. physical therapist education programs.	Chi square test
53	There will be no statistically significant relationship between number of graduates and number of minority core faculty in accredited U.S. physical therapist education programs.	Chi square test
54	There will be a statistically significant relationship between number of minority graduates and number of minority core faculty in accredited U.S. physical therapist education programs.	Chi square test
55	There will be a statistically significant relationship between percent minority graduates and number of minority core faculty in accredited U.S. physical therapist education programs.	Chi square test
	Percent minority core faculty (H56-H60)	
56	There will be no statistically significant relationship between licensure rate and percent minority core faculty in accredited U.S. physical therapist education programs.	Chi square test
57	There will be no statistically significant relationship between graduation rate and percent minority core faculty in accredited U.S. physical therapist education programs.	Chi square test
58	There will be no statistically significant relationship between number of graduates and percent minority core faculty in accredited U.S. physical therapist education programs.	Chi square test

Hypothesis	Detailed Construct Hypothesis	Statistical Test
59	There will be a statistically significant relationship between number of minority graduates and percent minority core faculty in accredited U.S. physical therapist education programs.	Chi square test
60	There will be a statistically significant relationship between percent minority graduates and percent minority core faculty in accredited U.S. physical therapist education programs.	Chi square test
	Minorities in program leadership positions (H61-H65)	
61	There will be no statistically significant relationship between licensure rate and minorities in program leadership positions in accredited U.S. physical therapist education programs.	Chi square test
62	There will be a statistically significant relationship between graduation rate and minorities in program leadership positions in accredited U.S. physical therapist education programs.	Chi square test
63	There will be no statistically significant relationship between number of graduates and minorities in program leadership positions in accredited U.S. physical therapist education programs.	Chi square test
64	There will be a statistically significant relationship between number of minority graduates and minorities in program leadership positions in accredited U.S. physical therapist education programs.	Chi square test
65	There will be a statistically significant relationship between percent minority graduates and minorities in program leadership positions in accredited U.S. physical therapist education programs.	Chi square test
	Institutional bias in human resource systems	
	Hypothesis for *institutional bias in human resource systems*: *Institutional bias in human resource systems* will be associated with *organizational effectiveness* in accredited U.S. physical therapist education programs.	

Hypothesis	Detailed Construct Hypothesis	Statistical Test
	Perception of diversity climate scale score (H66-H70)	
66	There will be no statistically significant difference in licensure rate between accredited U.S. physical therapist education programs with perception of diversity climate scale score <147 and programs with ≥147 perception of diversity climate scale score.	Chi square test
67	There will be no statistically significant difference in graduation rate between accredited U.S. physical therapist education programs with perception of diversity climate scale score <147 and programs with ≥147 perception of diversity climate scale score.	Chi square test
68	There will be no statistically significant difference in number of graduates between accredited U.S. physical therapist education programs with perception of diversity climate scale score <147 and programs with ≥147 perception of diversity climate scale score.	Chi square test
69	Accredited U.S. physical therapist education programs with perception of diversity climate scale score ≥147 will have a statistically significant higher number of minority graduates than accredited U.S. physical therapist education programs with perception of diversity climate scale score of <147.	Chi square test
70	Accredited U.S. physical therapist education programs with perception of diversity climate scale score ≥147 will have a statistically significant percent minority graduates than accredited U.S. physical therapist education programs with perception of diversity climate scale score of <147.	Chi square test
	Multivariate hypotheses for *organizational effectiveness*	
71	*Identity structures* will be the strongest predictor of licensure rate in accredited U.S. physical therapist education programs.	Multiple logistic regression analysis
72	*Structural integration* will be the strongest predictor of graduation rate in accredited U.S. physical therapist education programs.	Multiple logistic regression analysis
73	*Identity structures* will be the strongest predictor of number of graduates in accredited U.S. physical therapist education programs.	Multiple logistic regression analysis

Hypothesis	Detailed Construct Hypothesis	Statistical Test
74	*Structural integration* will be the strongest predictor of number of minority graduates in accredited U.S. physical therapist education programs.	Multiple logistic regression analysis
75	*Institutional bias in human resource systems* will be the strongest predictor of licensure rate in accredited U.S. physical therapist education programs.	Multiple logistic regression analysis

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Norfolk, Virginia 23529-0288
www.odu.edu/dpt
Phone: (757) 683-4519 • Fax: (757) 683-4410

Appendix J
Protection of Human Subjects Approval Letter

July 28, 2007

Elizabeth Giles, PT MS
Senior Lecturer, School of Physical Therapy
Room 3107 Health Sciences Building
Old Dominion University
Norfolk, Virginia 23529

Dear Elizabeth Giles;

The Human Subjects Committee of the College of Health Sciences has met to consider your research proposal entitled, "Application of the Interactional Model of Cultural Diversity to Identify Diversity Climate Factors Associated with Organizational Effectiveness in Accredited U.S. Physical Therapist Education Programs".

The Committee has approved the proposal as an exempt study. Because of the exempt nature of the study, you will not have to submit a yearly progress report or a close-out-report when the study has been completed.

Please feel free to contact me if you have any additional questions.

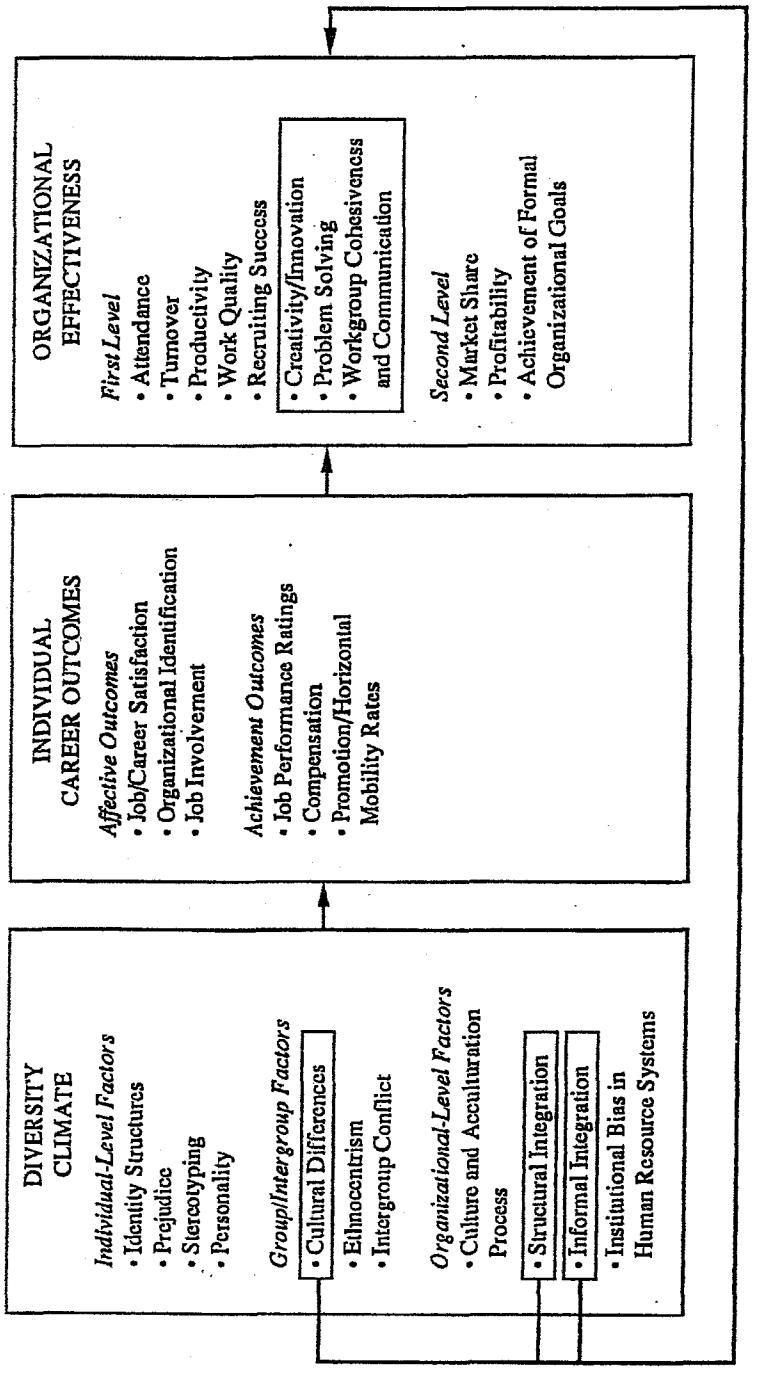
Respectfully submitted,

George Maihafer

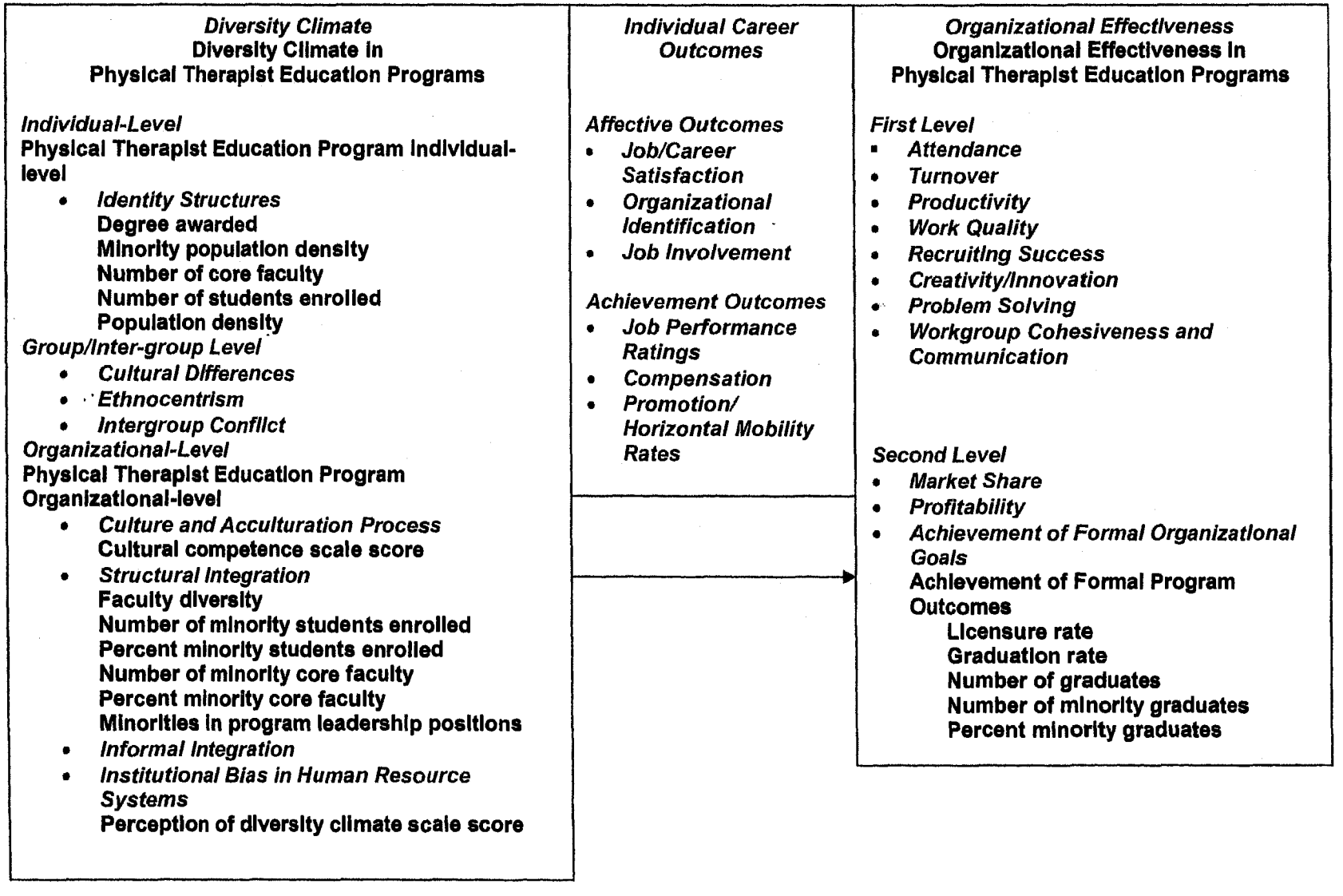
George Maihafer, PT, PhD
Chairperson, Human Subjects Committee
College of Health Sciences

Appendix K

Figure 1.1. An Interactional Model of the Impact of Diversity on Individual Career Outcomes and Organizational Effectiveness.



Appendix L
Modification of the Interactional Model of Cultural Diversity (Cox, 1993)



Appendix M
APTA Permission Letter

Commission on Accreditation in Physical Therapy Education
American Physical Therapy Association

1111 North Fairfax Street
Alexandria, Virginia 22314
Telephone: (703) 706-3245
Fax: (703) 838-8910

November 14, 2005

Elizabeth Giles, PhD student
Director of Clinical Education
Old Dominion University
Norfolk, VA

Dear Elizabeth:

Enclosed with this message are two electronic files:

an Excel file containing the data you requested

1. institutions with one or more minority faculty member
2. institutions with one or more minority student

an .rtf file with the contact information for all accredited programs.

I did not have time to integrate contact information with the excel files. Additionally, we in accreditation do not keep track of the names of the ACCE/DCE. You will need to get that information from Jody Gandy.

Please consider this letter to be formal release of the attached data for the purpose "of establishing, revising, defenses, and publication of my doctoral dissertation and all related dissertation activities that emanate from this project...[including] publication using aggregate data in the future.

When you have completed your work, we would appreciate having a copy of your dissertation.

Best wishes.

Mary Jane Harris, PT, MS
Director
APTA Department of Accreditation

Appendix N
Brinkman Permission Letter

April 3rd, 2006

Dear Elizabeth,

I am writing to give you permission to make changes to The Diversity Survey as needed to fit your specific type of organization. Please keep in mind that you will need to run new stats to determine if validity and reliability are still strong. Also, ensure steps are taken to secure the anonymity of respondents. If, at any time during your process, I can be of help with qualitative or quantitative data analysis, please let me know.

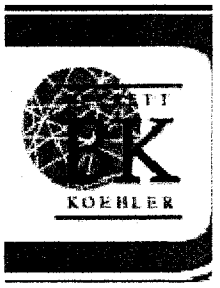
Additionally, you have my permission to include a copy of the original Diversity Survey in your dissertation.

I wish you well!

Dr. Heidi S. Brinkman

President, BCI

Appendix O
Berrett-Koehler Publishers, Inc. Permission Letter



1 December 2008

Elizabeth Francis Giles PT PhD
Senior Lecturer and Director of Clinical Education
APTA Credentialed Clinical Instructor
School of Physical Therapy
3118 Health Sciences Building
Old Dominion University
Norfolk, VA 23529

Dear Elizabeth,

Permission is hereby granted to you to use the information you requested from the book **Cultural Diversity** by Cox for your project.

Please identify the source of material as follows.

> Reprinted with permission of the publisher. From (title of book), copyright© (year) by (author), Berrett-Koehler Publishers, Inc., San Francisco, CA. All rights reserved. www.bkconnection.com

Thank you for selecting one of our books for your project, and best to you with your work.

Kind regards,

kate piersanti
copyright editor
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ELIZABETH FRANCIS GILES
VITA

Dr. Elizabeth Francis Giles was born in Lafayette, Louisiana and attended public schools in Jennings, Louisiana, Yorktown and Williamsburg, Virginia. She graduated with academic honors from Bruton High School in 1977, received numerous academic and civic scholarship awards and was the first recipient of the David Brian Bullock Memorial Scholarship. She graduated from Virginia Commonwealth University/Medical College of Virginia in 1981 with a bachelor of science degree in physical therapy. Following graduation, she was employed as a staff physical therapist at Riverside Walter Reed Hospital in Gloucester, VA and Sentara Williamsburg Regional Medical Center and Williamsburg-James City County Public Schools in Williamsburg, Virginia. During this time she served as a clinical instructor and center coordinator of clinical education and was appointed adjunct clinical assistant professor at Old Dominion University for her dedication to the clinical education of physical therapy students. While working full-time as a clinician, she graduated with a master of science degree in community health education from Old Dominion University in 1991. In 1994, she became the first African American physical therapist to be appointed to a full time core faculty position in the School of Physical Therapy at Old Dominion University where she is currently the Director of Clinical Education. While a full-time faculty member, she completed all requirements for the doctor of philosophy degree in health services research from Old Dominion University in 2008. Her doctoral internship was entitled "Linking Clinicians to the DPT: A Transition DPT Needs Assessment Study" for which she received The John L. Echternach Research Award for Best Research Presentation by the Virginia Physical Therapy Association. Her dissertation is entitled, "Application of the Interactional Model of Cultural Diversity to Identify Diversity Climate Factors Associated with Organizational Effectiveness in Accredited U.S. Physical Therapist Education Programs".

Dr. Giles is listed in Outstanding Young Women of America, Cambridge Who's Who of Executives and Professionals, Who's Who in Health Sciences Education, and Who's Who Among Students in American Colleges and Universities. She is a member of the American Physical Therapy Association, Virginia Physical Therapy Association, Golden Key International Honour Society, The Honor Society of Phi Kappa Phi, The Alpha Eta Society, and Delta Sigma Theta Sorority, Inc. She is the recipient of numerous awards and honors including Old Dominion University's Barbara Jordan Community Service Award and the American Physical Therapy Association's Minority Faculty Development Scholarship Award. In 2008, she was among the first physical therapists in the Commonwealth of Virginia to earn board certification in direct access by the Virginia Board of Physical Therapy. She was appointed by the board of directors of the Federation of State Boards of Physical Therapy to the Analysis of Entry Level Physical Therapist Task Force to develop the blueprint for the current National Physical Therapist Examination. She has served as member and past chair of the American Physical Therapy Association's Committee on Cultural Competence. She is a published author and has contributed to articles on minority health disparities, mentoring, and cultural diversity in physical therapy. She is a guest lecturer at physical therapist education programs on clinical education and cultural competence.

Dr. Giles has one daughter, Brittany Nicole, who is a third year undergraduate student majoring in health policy and management with a minor in anthropology at The University of North Carolina at Chapel Hill in Chapel Hill, North Carolina.