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Assessing Cultural Competence in Health Professional Student's

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Abstract

Background-The United States has become a more diverse society and healthcare professionals must be ready to meet the needs of this more culturally diverse society. Students studying in the many areas of healthcare must learn to be culturally competent. To ensure that students are culturally competent and can provide culturally competent care routed in a global perspective their abilities must be developed and assessed. With the absence of any such assessment tool in the literature reviewed the objective set forth in a preliminary study was to develop a tool to assess cultural competence from a global perspective. With this objective met, the objective of this dissertation was to determine the cultural competence levels of entering and exiting health science students within and across differing professional programs.

Study Design-Exploratory, Cross-Sectional, Two Group Design.

Setting- Seton Hall University

Participants- 196 student's agreed to participate in the study. 146 were entering (first year) students and 59 were exiting (final year) students. Of the 146 entering students 138 of the surveys were usable in the data analysis and 58 of the 59 exiting were usable.

Outcome Measures- Health professional students from the School of Health and Medical Science or School of Nursing at Seton Hall University who consented to participate in the study and were first year pre-clinical students completed the Global (worldview) Cultural Competence Survey during the first two weeks of their academic program. Health professional students from the School of Health and Medical Science or School of Nursing who consented to participate in the study and were in their final year

post clinical students completed the Global (worldview) Cultural Competence Survey during the last two weeks of their academic program.

Results -The analysis revealed that the Global (worldview) Cultural Competence Survey is a valid and reliable tool to assess cultural competence from a global perspective in health professional students. A significant difference in GWCCS total score was observed between entering and exiting students in health sciences- with the exiting students being slightly more culturally competent. However, a statistical significance in GWCCS total score was not observed between entering and exiting students in health sciences based upon their professional program.

Conclusion-The findings suggest that exiting health science students are slightly more culturally competent than entering health science students as determined by the Global (worldview) Cultural Competence Survey. Although, exiting health professional students were culturally competent based on this global assessment tool, ideally to enhance their abilities it would be advantageous for them to be culturally proficient. The author offers the Global (worldview) Cultural Competence Survey as a tool which can be used to assess health professional programs curriculums as it relates to developing students cultural proficiency skills from a global perspective.

Chapter I

INTRODUCTION

Background of the Problem

Diversity in the United States has increased the need to both understand cultural competence and increase the level of cultural competence among those providing healthcare services (Velde, 2003). Professionals working in the healthcare industry interact with patients from diverse cultural backgrounds who require health services. Healthcare professionals interact with patients from differing cultural backgrounds whose points of reference regarding the provision of healthcare are different from their own (Schim, 2005). If healthcare professionals lack an awareness, appreciation and sensitivity to potential cultural differences, patient centered care practices may be compromised. The literature suggests that improved provider-client communications, improved compliance with medical regimens, greater patient satisfaction with care and better health outcomes may all be associated with providing culturally competent care (Fortier & Bishop, 2003). Physical therapists, occupational therapist, speech language pathologists, physician assistants, and athletic trainers are among the many healthcare professionals who based upon changes in patient demographics require healthcare professionals to practice patient centered care rooted in an appreciation and respect for cultural diversity (Velde, 2003).

With the need for culturally competent care being recognized the burden has been placed on the healthcare educational system to implement educational programs to increase cultural competence in students before they enter the work force. Health professional students must be exposed early to the concepts of cultural competency

within their curriculums in order to increase their understanding of cultural differences and ensure knowledge and application of culturally competent care. It may be plausible that curricular designs which emphasis expert content knowledge acquisition may not effectively address the role of cultural influences on health care management. Limited experiences exploring the impact that cultural differences may have on patient centered care practices in academia may further limit practicing professionals as they frequently work autonomously which limits their mentorship especially when learning to address cultural differences.

A mechanism which may support the development of cultural competent practices in health care is to provide diverse learning and teaching practices within healthcare curriculums so that students can foster an appreciation and understanding of the impact of cultural diversity. Providing healthcare professional students and ultimately providers the knowledge base, attitudinal framework, and skill set to appreciate, accommodate, and negotiate cultural and individual variations in beliefs, values, lifestyles, education, and any other elements that comprise a person's culture is foundational to the promotion of patient centered care practices (Myers, 2005).

The pressure to be more responsive to a culturally diverse client population is not only felt by healthcare professionals but also by healthcare systems at large. These systems further support the need to ensure that healthcare professional students are educated on the importance of cultural competence practice (Velde, 2003). To meet this need healthcare professional educators have begun to explore different curriculums as a means to expose students to the principles of culturally competent care. Learning and teaching strategies that ensure that culturally competent care is provided using foundational

perspectives rooted in the readiness to learn theory will aide in the development of effective learning opportunities and offer support to faculty while challenging students (Velde, 2003).

Several researchers including Dupre (2007), Black (2002), Shore (2007), Wong (2007), and Campbell (2005) agree that a formal method of developing cultural competence is needed. They agree that International Community Immersion Experiences, Immersion Learning Experience in a Culturally Diverse Setting, Phased Approach, Clinical Affiliation Journaling, and Clinical Practicum's are all strategies which provide a framework for teaching and learning cultural competence. Although many healthcare curriculums have adapted one or more of these methods of teaching cultural competence to their students, there has not been one dominant or consistent method for exposing students to cultural competence. Additionally, many healthcare educational programs have adjusted their curriculums to include cultural competence exposures in compliance with their accreditation standards with minimal evidence supporting the strength of these exposures. Given that the standards provided by the accrediting bodies do not include any specific guidelines this leaves educators with the challenge of developing evidenced based culturally competent curriculums that enhance knowledge, beliefs and attitudes towards cultural differences (Dupre, 2007).

Impacting the types of strategies used to expose students to cultural competency practices are not surprising the amount of students housed within a program and funding available to educational programs. Schools that are able to provide an International Community Immersion Experience may only have the funding to allow a small portion of

their student population to attend. These experiences are often expensive, difficult to replicate or attain and limited as only one particular cultural experience is often explored. Some schools may not even be able to afford to provide any experiences that are outside of their community.

In the literature it is evident that not only are there different teaching methods being used to promote cultural competency but that there are also different definitions of what cultural competency means. The definitions used to define culture and cultural competence, have been derived from the theory of cultural competence being promoted. Although there are several different cultural competence theories prevalent in healthcare, Purnell is of particular interest as his theory views cultural competence from a global perspective. According to Larry Purnell culture is a pattern of learned behaviors from family members, educational institutions, religious institutions, or social groups (Purnell, 2005). These learned behaviors are transformed into beliefs, norms, values, and ways of life. Culture involves shared beliefs passed from one person or group to another and is often passed from generation to generation, becoming integrated as part of the identity of the individual, as well as translating into all aspects of life. Subcultures, which exist in every culture, consist of groups that have different experiences than the dominant culture and are often distinguished by language, education, social economic factors, or sexual orientation. These characteristics allow a person or population of this subculture to feel unified with others by their nationality, language, socioeconomic status, education, sexual orientation, or other factors (Purnell, 2005).

The behaviors within a subculture influence communication, expression, and development of relationships. Cultural differences influence work ethics and life

experiences. These cultural influences can become challenging thereby causing healthcare professions to look at their environment and themselves in regard to their beliefs, norms, values, and how they deliver care to others (Dupre, 2007). As one begins to understand themselves and how they interact with others in their work and or professional environment(s) they begin to develop awareness, understanding and appreciation of themselves and of others, which eventually leads to the development of "cultural competence" over time. Extending this idea to professional healthcare practice, if the appreciation of differences among humans giving and receiving care is included in a professional healthcare program's curriculum, it could be assumed that eventually healthcare practitioners will begin to develop "culturally competent care." Culturally Competent care involves a multi-dimensional construct. Therefore it is not enough for healthcare practitioners to understand the meaning of culture. In order to deliver culturally competent healthcare they must be knowledgeable of more than a list of cultural traits and ethnic groups; they must learn to demonstrate cultural competency in their delivery of healthcare and understand the meaning of cultural competence (Dupre, 2007).

These aforementioned ideas are supported by Purnell's (2005) definition of cultural competence, in which he purports that cultural competence results from some general knowledge of different cultures and consciously applying this knowledge to different situations. However, cultural competence is not the same as or sufficient to address cultural sensitivity issues. Healthcare professionals often use the phrase "cultural competence" to address cultural sensitivity; however, a distinction between cultural competence and cultural sensitivity is clarified by Purnell. As Purnell states, cultural

sensitivity involves personal attitudes of the healthcare professional and not saying things that may be offensive to a patient who comes from a different culture than their own (Purnell). He also explains that culturally sensitive terms change over time, range from generation to generation, and are often used to define cultural competence or awareness (Purnell, 2005).

Healthcare providers may often feel a sense of uncertainty when they are interacting with a person that has a different culture from their own culture. Therefore learning culturally sensitive terms can be one basic technique to assist healthcare professionals with understanding some of the terminology associated with serving a multi-cultural society. Conversely, the term "cultural competence" refers to an understanding that the person possesses the knowledge and skills to communicate with people of different cultures (Purnell, 2005). A culturally competent person has the ability to provide healthcare services within an environment where people may have different values, beliefs, human behaviors, or customs than the individual healthcare provider.

Further clouding the issue are the different definitions of cultural competence in the literature. In the literature cultural competence has been referred to as cultural awareness, cultural knowledge, cultural skills, and cultural encounters. Two authors Purnell and Capell provide similar definitions of cultural competence and are both action oriented. According to Capell (2007), cultural competence is defined as having the ability to remain sensitive to a person's race, gender, and culture, which often includes the ability to communicate effectively with patients, work effectively with culturally diverse groups, and have respect for cultural attributes (Capell, 2007). Based on the definition provided

by Capell and Purnell; the notion of cultural competence as an action oriented framework will be used as a foundation for my work.

In reviewing the literature it is also clear that a consistent method for the assessment of one's cultural competence in the practice of patient centered care is not present. Recently, five primary tools have emerged within the literature to assess cultural competence. The five tools focus on common themes which include cultural awareness, cultural knowledge, cultural skill, cultural desire, cultural encounters and cultural diversity. These tools include the Cross Cultural Adaptability Inventory (CCAI) by Kelly and Meyers, The Inventory for Assessing the Process of Cultural Competence (IAPCC) by Campinha-Bacote, The Inventory for Assessing the Process of Cultural Competence Revised (IAPCC-R) by Campinha-Bacote, The Cultural Competence Assessment (CCA) by Schim, Doorenbos, and Benkert, and the Cultural Competence Self -Assessment Questionnaire (CCSAQ) by Mason. Of the five tools the IAPCC and IAPCC-R by Campinha-Bacote are considered the "gold standard" of the industry however there are still challenges raised in the literature as to whether or not these tools are really assessing cultural competence or some other sub-construct.

Campinha-Bacote's Cultural Competence Theory is one example of readiness to learn. Within the IAPCC-R model there are five constructs which include cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire. The theory is based on the concept that cultural competence is a process, and a healthcare professional must continually strive to achieve the ability and availability to effectively work within the cultural context of a patient/client and may consist of their family, individual or community (Campinha-Bacote, 1999). Cultural awareness is defined as the process of

conducting a self-examination of one's own biases towards other cultures and the in-depth exploration of one's cultural and professional background. Cultural knowledge is defined as the process in which the healthcare professional seeks and obtains a sound educational base focused on culturally diverse groups. Cultural skill is the ability to conduct a cultural assessment to collect relevant cultural data regarding the client's presenting problem as well as accurately conducting a culturally-based physical assessment. Cultural encounters is the process which encourages the healthcare professional to directly engage in face-to-face cultural interactions and other types of encounters with clients from culturally diverse backgrounds in order to modify existing beliefs about a cultural group and to prevent possible stereotyping. Cultural desire is the motivation of the healthcare professional to want to engage in the process of becoming culturally aware, and not feeling as if they have to. Among the five constructs cultural encounters is the pivotal construct of cultural competence that provides the energy source and foundation for one's journey towards cultural competence (Campinha-Bacote, 1999). Campinha-Bacote also emphasizes in her theory that cultural competence is a process of becoming culturally competent and not being culturally incompetent and this process of becoming culturally competent must be done formally. The Inventory for Assessing the Process of Cultural Competence-Revised (IAPCC-R) is the revised version of the original IAPCC, created by Campinha-Bacote in 1997. The IAPCC-R determines cultural competence in healthcare providers and was designed to determine the cultural competence of healthcare providers for education, clinical, and research purposes. The IAPCC-R contains several domains to measure cultural desire, cultural awareness,

cultural knowledge, cultural skill, and cultural encounters which assess action based competence which is paramount in cultural competence.

The Cultural Competence Assessment (CCA) created by Schim, Doorenbos, and Benkert in 2003 was designed to measure cultural competence among health care providers and staff. Its domains are divided into two subscales. One subscale measures cultural diversity, cultural awareness and cultural sensitivity while the other subscale is centered on behaviors associated with cultural competence (Capell, 2007). The tool was designed for and originally tested on non-specified healthcare workers. The tool however has been correlated with another gold standard tool the IAPCC.

The Cross Cultural Adaptability Inventory (CCAI) assesses the potential for cross cultural adaptability defined as the ability of a person to adapt when living or traveling in a place where another culture is dominant and relies on relevant research and polling of experts in cultural competence for construct validity to identify consistent traits and skills that are associated with cultural adaptability instead of relying on a single theory or model (Capell, 2007). The CCAI has four domains, which includes emotional resilience, flexibility/openness, perceptual acuity, and personal autonomy. The emotional resilience domain provides information on how an individual perceives feelings of frustration, confusion and loneliness when interacting with a person from a different culture. The domain determines the ability of the person to "bounce back" from a negative encounter and whether or not they can do this in a constructive manner. The flexibility/openness domain measures whether or not a person enjoys encounters with a person that thinks different or has behaviors that are different from their own during a cross-cultural

encounter. The perceptual acuity domain assesses the ability of person to pay attention to and accurately perceive different aspects of their environment. The domain focuses on how a person may receive a communication (verbal or nonverbal) cue and how accurately they interpret these cues. The final domain of the CCAI focuses on personal autonomy. Personal autonomy domain measures a persons' belief system and the extent to which it has evolved, whether or not that person is comfortable in that system and if that person can respect the values of another person if they are placed in a setting that is unfamiliar (Kraemer, 2003). The scores from each domain provide clues to specific areas of cultural competence and has been used in some healthcare and nursing populations. The CCAI has been used effectively with people preparing to travel, live or work abroad; sojourners returning from abroad and readjusting to their home culture; those who work in a multicultural or culturally diverse environment; individuals who emigrate voluntarily or who are forced to relocate; and those professionals who work with the above groups.

Cultural Competence Self-Assessment Questionnaire (CCSAQ), developed by Mason in 1995 was designed to assist with internal improvements in organizations in particular to measure cultural competence among service agencies. The domains cover knowledge of communities and personal involvement scales. The measure is based on the Child and Adolescent Service System Program Cultural Competence Model. This model describes cultural competency in terms of four dimensions: attitude, practice, policy, and structure (Mason, 1995).

While these five tools have been used to access cultural competency they are not framed upon the Purnell Model and thus do not assess cultural competence from a global action oriented framework perspective. Developing a tool based on the Purnell Model of

cultural competency will allow healthcare professionals to assess cultural competence from a global action oriented perspective. Purnell utilizes a model which consists of 12 constructs as opposed to 4 or 5 constructs described earlier in the five most popular tools used to assess cultural competence. By using 12 domains the model offers an opportunity to identify various cultural meanings that are essential for a culturally competent encounter between a healthcare professional and their client/ patient. Using the Purnell model for Cultural Competency presents a potential solution for overcoming ethnocentrism and encourages the healthcare professional to consider the whole person (Black, 2002). Using the Purnell Model, the healthcare professional can address the person's needs and abilities from a global perspective and thus support a truly patient centered care practice model.

STATEMENT OF THE PROBLEM

Cultural competence has emerged as a primary concern for professionals and teaching faculty in entry level healthcare educational programs (Campbell, 2005). These professionals often cite that as students they were able to perform their technical duties, but struggled with communicating with patients effectively and being culturally competent. They also refer to their inexperience with persons of a different culture and how this inexperience resulted in barriers to providing services. These concerns support the need for developing and assessing cultural competence in health professional students so that they can engage in patient centered care practices rooted in a global awareness of the cultural differences and its impact on care.

Healthcare professionals and organizations have prioritized the need to address multicultural diversity as well as racial and ethnic disparities in healthcare (Purnell, 2005). Providing quality healthcare services to a multicultural society requires healthcare providers to acknowledge and understand the similarities and differences among themselves, their communities, their colleagues, and employment settings with regard to cultural diversity and its impact on care (Purnell, 2005). Providing culturally competent care allows for healthcare providers to improve outcomes, reduce cost, and improve healthcare efficiency (Campbell, 2005). These healthcare professionals must look at culture from multiple perspectives and learn about cultural diversity to ensure culturally competent practice. The National Center for Cultural Competence has identified several reasons why cultural competence is needed for both current and future healthcare practitioners. The Center has determined that essentially there are three reasons that support cultural competence among healthcare professions, which include the change in demographics within the United States, the need to eliminate current disparities in the health status of the people with diverse racial, ethnic, and cultural backgrounds, and to improve the quality of services and health outcomes (Campbell, 2005).

Further support for culturally competent practice by healthcare practitioners comes from data from the 2010 Census which provides information on the nation's changing racial and ethnic diversity. The examination of racial and ethnic group distributions nationally in this census shows that the non-Hispanic white population alone is still numerically and proportionally the largest major race and ethnic group in the United States. However, during the past 10 years, the Hispanic and Asian populations have grown considerably, which is a result of higher levels of immigration. The Black

population, the second-largest major race group, has experienced some growth over the decade however, grew at a slower rate than all other major race groups except for Whites. Overall, the U.S. population has become more racially and ethnically diverse over time (U.S. Census Bureau, 2010). There is also evidence to support that the quality of health care services are poorer in rural areas which may consist of people from various cultures (Campbell, 2005). Improving quality of services will also affect health outcomes across many rural communities. When a person lives in a rural community they often have higher rates of smoking, obesity, and unintentional injuries. When a healthcare professional becomes more culturally aware they may be better able to work with and appreciate their cultural differences and improve services to persons within these areas suffering from these types of illnesses and injuries. Ensuring that healthcare professionals are culturally competent to work in rural as well as other communities also relies heavily on teaching faculty.

Traditionally, health professionals are taught in clinical experiences as well as in the classroom. Academic faculties have described the need for an increase in curricula that discusses more than race and socioeconomics. With the continually evolving demographics in patient populations, faculty see the need to produce culturally competent practitioners. In order to develop a cultural competent practitioner four strategies are often used by health professional educators. These four strategies include knowledge oriented strategies, awareness oriented strategies, affect-oriented strategies, and skill oriented strategies (Ekelman, 2003). Knowledge Oriented Strategies uses lectures, group discussions, written and visual materials to focus on providing students with information about their own culture and the culture of others. This method of developing cultural

competence in students is considered the most rudimentary of the four strategies, however, many educators believe that this method may also allow students to over generalize about the information and form stereotypes (Ekelman, 2003). Educators feel this may be an occurrence since these learning strategies lack adequate depth and affective components.

The second strategy entitled Awareness-Oriented Strategies; often include fieldwork, clinical education, role-playing, values clarification activities, and cultural immersion experiences. Using this strategy to develop cultural competence in students focuses on the student's ability to see situations from their own viewpoint as well as the viewpoint of others with accuracy. The third strategy or affect–oriented strategy, involves role playing, field experiences using resource people from a particular host culture and cultural immersion (Ekelman, 2005). This strategy focuses on the emotions involved when dealing with value-laden issues related to diversity. Students are expected to empathize with others. Students are engaged in activities where they must process the feelings of others. The fourth and final strategy, the skill-oriented strategy, involves focusing on nurturing a student's ability to perform effectively in interactions with person's of a different culture. Historically, it has been assumed that students have knowledge, awareness and affective competences and are thus able to apply their knowledge of cultural competency when they are providing a service to a client. Often the application of cultural competence may be displayed in the field, clinical education environment and or cultural immersion experience. Yet, it is not consistently observed and or accessed via a global action perspective as noted by Purnell. Given that the application of cultural competence is an important part of increasing cultural competence

it is important for the student to secure both knowledge of and actively apply culturally competent care. Clearly, immersion experiences in another country or community than a student's own exposes the student to an environment that is different from their culture and requires that they live and or work within this particular environment. Students are expected to learn to function in these different environments and learn from the potential culture shock, emotional and intellectual challenges (Ekelman, 2005). Therefore immersion experiences are considered an intense experience for student development of cultural competence but one too often not available to all and only focusing on one differing cultural experience.

Many teaching and learning strategies have been discussed in the literature in order to develop a student's level of cultural competency. However the literature does not distinguish any one learning strategy as the preferred method by teaching professionals. Often academic faculty utilize a teaching method that are easily available, match their curricular map, or have been used previously as a means of teaching cultural competency primarily because limited evidence exists to support teaching strategy guidelines. It is concerning that although there are many strategies being used to develop cultural competency in health science students, many programs do not provide specific guidelines for implementation or data regarding its effectiveness.

Health professional educational accrediting bodies have identified the need for cultural competency practicing clinicians and have mandated the inclusion of the topic of cultural competency into curriculum accreditation requirements. Consequently, each professional program has infused cultural competence in their education program in a

slightly different manner based upon either professional accreditation bodied guidelines and or consensus from the program educators. Even following these educational mandates evidence supports that students may only be culturally aware upon completion of their educational programs and not culturally competent practitioners.

For example upon graduating from an accredited entry-level physical therapy program, professionals struggle communicating with and providing services to diverse patient populations (Romanello, 2007). As physical therapists begin working in healthcare facilities, they are exposed to a multicultural society. Providing quality physical therapy services to a multicultural society requires that the physical therapist practice in a culturally competent manner (Kraemer, 2003). Until 1998 physical therapy entry level curricula were not required to incorporate material focusing on individual or cultural differences, cultural sensitivity, or cross-cultural awareness (Kraemer, 2003). However, once the American Physical Therapy Association (APTA) began to recognize the importance of cultural competence standards in physical therapy professional educational curricula were adjusted.

In 1997, the APTA, which influences program accreditation and ethics guidelines, added a section in their Professional Practice Expectations of APTA's manual to address cultural competence. As a result, physical therapy educators were provided with the requirements for addressing individual and cultural differences in physical therapy curricula (Kraemer, 2003). The additional standards focused on providing students with an understanding of the importance and role of cultural competence in practice; however, the standards did not provide specific guidelines for application. The APTA only states that the students need to be sensitive to individual and cultural differences while

engaging in physical therapy practice, research, and education (Kraemer, 2003). They did not specify that the students needed to be exposed to lecture series, immersion experiences, or other methods of teaching cultural competence.

Without specific educational programs that comply with the guidelines from the Commission on Accreditation in Physical Therapy Education (CAPTE), physical therapists do not have a method of ensuring that they are practicing with cultural competency. Although cultural competence coursework has been integrated into physical therapy programs since 1998, the issue remains that the curricula have not been able to effectively address the need to transform knowledge awareness into clinical application and effectiveness to meet the increased racial and ethnic diversity within the United States (Velde, 2003). Changes in the United States population and feedback from practicing physical therapists support the need for expanded education and research on incorporating cultural competence in physical therapy education programs, which ensures knowledge and application of these practices. However this is not an issue concerning just physical therapy professional students and faculty, this is an issue that is affecting other healthcare professionals and their accrediting bodies.

Similarly, occupational therapists value the importance of providing culturally competent care and have also made efforts to address patients' cultural values and beliefs in their curriculums. The American Occupational Therapy Association Accreditation Council's Standards for an Accredited Education Program requires occupational therapy students to show some level of cultural competency. They specify that students should have knowledge and appreciation of the role of socio-cultural, socioeconomic, diversity factors, and lifestyle choices in contemporary society (Ekelman, 2003). The accreditation

standards also emphasize the importance of occupational therapy students to appreciate the influence of social conditions and ethical contexts in which humans choose and engage in their occupations (Ekelman, 2003). However, similar to CAPTE, the Accreditation for Occupational Therapists, has not provided specific guidelines on how students should increase their level of cultural competence. The Accreditation for Occupational Therapists only emphasizes that occupational therapy curriculums must include preparation for practicing as a generalist with a broad exposure to current practice settings, referring to schools hospitals, communities, long-term care and any emerging practice areas (Anonymous, 2008). They have expressed that the occupational therapist curriculum must prepare students to work with a variety of populations including, but not be limited to, children, adolescents, adults, and elderly persons in areas of physical and mental health (Anonymous, 2008). This data furthers the notion that there is a pervasive recognition of the need globally among health professionals for cultural competence education within their professional level program curriculums.

Interestingly, speech language pathologists and physician assistants also have accreditation standards; however again, these accrediting bodies do not provide any specific guidelines to their educational institutions. For example the Council on Academic Accreditation in Audiology and Speech Language Pathology has determined that their clinical practicum should provide direct clinical contact and involve experiences with a diverse client population. They have detailed some information on the number of hours for the clinical practicum and have stated that the clinical observations should be supervised. The only guidelines given were specific to clinical practicum, which must include experience with client populations across their life span, from

culturally and linguistically diverse backgrounds and with various types and severities of communication and/or related disorders, differences and disabilities (Battle, 2005).

The Accreditation Review Commission on Education for the Physician Assistant is the accrediting agency for Physician Assistants. While, they have defined some standards for Physician Assistants regarding cultural competence education inclusion in their curriculums, they have not provided specific guidelines. Yet, they state that there is a need for incorporating cultural competence into healthcare education (ARC-PA, 2011).

The National Athletic Training Association has accredited 365 entry level athletic training education programs. The Commission on Accreditation of Athletic Training Education (CATTE) has determined that the profession of athletic trainers continues to grow and with this growth there should be knowledge of culturally competent healthcare delivery (Marra, 2010). Within the 4th edition of the NATA's Athletic Training Educational Competences, cultural competence education and care is included. Based on inclusion of this information there is an assumption that the CAATE-accredited ATEP's have included cultural competence education and diversity training. However, the ATEP determines the delivery of culturally competent content (Marra, 2010). Therefore, the curriculums may incorporate stand-alone college courses, discussions within a college course, or other forms of training.

Educational accrediting bodies in physical therapists, occupational therapist, speech language pathologists, physician assistants, and athletic trainers see the importance of developing cultural competent professionals but to date have not established specific guidelines for developing educational programs to increase cultural competency. As a result health professional educators are developing their own programs to increase

cultural competence without a clear mechanism for implementation and assessment. While, it is important to provide learning experiences to increase cultural competence assessing their effectiveness is imperative. We would argue that using an active engagement global perspective as that proposed by the Purnell model is necessary to be able to effectively assess cultural competence in today's health care students and professionals and thus indirectly evaluating the effectiveness of teaching strategies used to develop cultural competency.

PURPOSE OF THE STUDY

The purpose of this study is two-fold. First, to assess levels of Cultural Competence in health professional students using The Global (Worldview) Cultural Competency Survey (GCCS) based on the Purnell Model created by Larry Purnell (Purnell, L., 2005). Second, to determine if a difference exists in the level of Cultural competence between Health Professional Students entering (first year pre-clinical) within the first two weeks of admission to their professional program and exiting (final year post-clinical) during the last two weeks of their professional program using the *Global (worldview) Cultural Competence Survey.*

As mentioned in the literature there are several tools used to assess cultural competency including the Cross Cultural Adaptability Inventory (CCAI), The Inventory for Assessing the Process of Cultural Competence (IAPCC), the revised version of the IAPCC the IAPCC-R, Cultural Competence Assessment (CCA), and The Cultural Competence Self-Assessment Questionnaire (CCSAQ). However each of these tools used are not rooted in a model of cultural competency which speaks to a global action

perspective. Therefore in a pilot study the PI developed and validated a tool based upon the Purnell Model, "Global (worldview) Cultural Competency Survey". Appendix C. provides pilot study survey development and validation. The purpose of this present study was to measure Cultural Competency in Health Science professional students using the Global (worldview) Cultural Competency Survey which is rooted in the Purnell Model.

SIGNIFICANCE OF THE STUDY

Recognizing that the U.S. patient population continues to become diverse, educators of healthcare professionals recognize the need to include cultural competence in their curriculums. As the need to service a culturally diverse population of patients continues to increase using an effective measuring tool to assess cultural competence from a global perspective is also needed. Additionally, using a consistent method for assessing cultural competence from a global perspective will enable educators/ researchers to evaluate teaching and learning strategies used in health care professional curriculums to develop cultural competency in students and ultimately improve patient centered healthcare practices.

RESEARCH QUESTIONS

Research Question One:

A. What is the level of cultural competence of health professional students as measured by the GWCCS in the Health Science Professional Programs within the University upon entering?

B. What is the level of cultural competence of health professional students as measured by the GWCCS in the Health Science Professional Programs within the University upon exiting?

Research Question Two:

Is there a difference between cultural competence levels in entering (first year) and exiting (final year) health science students of a Health Science Professional Program within the University as measured by the GWCCS?

Research Question Three:

Is there a difference between cultural competence levels in entering (first year) and exiting (final year) health science students based upon their Health Science Professional Program within the University as measured by the GWCCS?

THEORECTICAL FRAMEWORK

As mentioned previously, there are five primary tools within the literature to assess Cultural Competence. However, limitations noted within the five tools supported the need to develop a new global perspective based tool for assessing cultural competence among health professional students. Limitations among the five tools include requiring a high level of literacy, questions which may have a positive bias, and limited testing of the tools within diverse population's environment (Capell, 2007). Each of the five tools also can be considered cultural general tools since they measure the ability of the healthcare professional to provide care to patients without distinguishing a particular cultural group (Capell, 2007). Specifically, the Cross Cultural Adaptability Inventory (CCAI) includes transparency of the questions. This may be considered a positive bias as the questions focus on living in another culture rather than to treat patients of another culture in one's own culture. For example the scale includes questions regarding one's ability to enjoy life anywhere and ease in making friends (Capell, 2007). The Inventory to Assess the Process of Cultural Competence and the Inventory for Assessing the Process of Cultural Competence-Revised was designed by nurses for nurses, The Cultural Competence Assessment has limited testing and only tested on Caucasian Americans, and the Cultural Competency Self-Assessment Questionnaire is used to develop agency specific training interventions. Thus, the limitations noted with these tools supported the need to develop a Global (worldview) Cultural Competence Survey.

In an attempt to assess if the academic environment is developing healthcare students cultural competence levels a worldview must be used to assess cultural competence

levels. Existing literature shows that healthcare professional students often lack cultural competence needed to practice effectively in today's culturally diverse healthcare environment. To date, there is no study, to the best of our knowledge that has explicitly assessed cultural competence from a global (worldview) perspective and thus the development of the GWCCS survey was warranted as a means to secure this information. The GWCCS survey was developed, in a preliminary study, based on the Purnell Model and supports the theoretic framework of assessing healthcare professionals from a global or worldview perspective.

The Purnell Model suggests that constructs should be general and specific and not focus on one particular group or culture but rather be considered a global model. Purnell defines global as concepts related to global society. The phenomena related to global society include: world communication and politics; conflicts and warfare; natural disasters and famines; international technology; advances in health sciences; space exploration and the expanded opportunities for people to travel around the world and interact with persons from a diverse society (Purnell, 2005). These global events affect all societies and directly or indirectly force changes in lifeways (ways of life), worldviews and acculturation patterns. The model was designed as a wholistic organizing framework, which means the model is a system conceptualized from biology, anthropology, sociology, economics, geography, history, ecology, physiology, psychology, political science, pharmacology, nutrition as well as theories from communication, family development, and social support (Purnell, 2005). The model has specific questions and a format for assessing culture. These questions can be used to assess cultural competence across different disciplines and practice settings. The Purnell

Model was not designed specifically for the nursing population as the IAPCC-R nor is the Purnell Model intended to assess an individual's adaptability when living or traveling in other cultures as the CCAI. Therefore the tool developed from the Purnell model was designed not to focus on one particular healthcare profession, racial or ethnic group. Rather, this tool was intended to focus on all healthcare professional students to provide a wholistic and global perspective on cultural competency.

As we look more closely at the Purnell Model we see there are two levels, macro and micro, which encompasses several concepts which measure various aspects associated with being culturally competent. The macro level includes concepts of global society, community, family, and person. The micro level includes twelve domains of culture which includes: nutrition, pregnancy, death rituals, spirituality, healthcare practices, health-care practitioners, overview/heritage, communication, family roles and organization, workforce issues, bio-cultural ecology, and high-risk behaviors.

Clearly, students and staff must utilize a comprehensive (wholistic) framework for learning about their culture and the cultures of their patients and families (Purnell, 2005). One can use the Purnell Model as a wholistic framework for assessing healthcare professionals' cultural competency via assessing their cultural general and cultural specific knowledge, which as Purnell suggests, is specific enough to understand what affects/influences a health sciences student's cultural worldview (Purnell, 2005).

In summary, the Purnell Model of Cultural Competence addresses several constructs and concepts. The model is more consistent with the complexity of cultural competence and the effect global society has on culturally competent healthcare providers (Purnell, 2005). The model has specific questions and a format for assessing culture which sets it

apart from other models, which may be specific to a certain ethnic group or healthcare profession. The model focuses on globalization and was ultimately designed as a wholistic organizational framework with specific questions and a format for assessing culture, which can be used across disciplines and practice settings (Purnell, 2005). Based upon the reasons noted above, the Purnell Model was used as the theoretical frame for the design of the survey tool used in this research to assess cultural competency. Understanding health professionals' level of cultural competency from a general and specific perspective will ultimately help educators to develop appropriate learning experiences that can be assessed for efficacy that can support healthcare professionals' abilities to practice in a more culturally appropriate manner.

Interestingly, Larry Purnell, PhD, RN, FAAN who developed the Purnell Model began his insightful reflection on this topic in 1989 when as a university professor he accompanied several nursing students into a community hospital for clinical observations. The students were primarily Caucasian and from either middle and upper class families and were encountering staff and patients from lower socioeconomic backgrounds (Purnell, 2005) as the patients and staff were primarily from Appalachia and were from a different culture from the students. After this encounter it became obvious to Purnell that students needed to become more culturally competent. The Model for Cultural Competence was later established in 1991 as Purnell, continued to realize the importance of having a framework for learning about cultural competence (Purnell, 2005). While continuing to teach undergraduate courses and reflecting on the education and practice experience, he realized that students and staff would benefit from a framework for learning about their culture and different cultures. Staff and students had

made comments about the lack of a model and provided clarification that ethnocentric behaviors and lack of cultural awareness, cultural sensitivity, and cultural competence existed (Purnell, 2005). The model was then developed to allow the students and staff the opportunity to learn about what impacts their values, beliefs and ways of life while also evaluating those of their patients. The model provides a circular diagram consisting of four concentric rims consisting of global society, community, family, and person. The first, outermost rim represents global society which is briefly described as world politics, space exploration, or natural disasters. The second rim represents community, a group of persons with common interests and identity, who live within the same area. The inner third rim represents family, which is briefly defined as two or more persons who are connected emotionally, however may or may not live near each other. Family can also be a person that is non-blood related who have the same emotional connection. The innermost rim represents the person who is described as a human being capable of adapting to their environment including biological, physiological, and psychological changes. All four rims surround12 pie-shaped wedges representing cultural concepts and domains that provide the conceptual framework for the Purnell Model (Purnell, 2005). The domains and concepts are essential for assessing cultural attributes of an individual, family, or group and include nutrition, high risk behaviors, pregnancy, death rituals, spirituality, health-care practices, health-care practitioners, overview/heritage, communication, family roles and organization, workforce issues, and biocultural ecology (Purnell, 2005). Although the model consists of rims and domains which are specific to the model there is a darkened empty circle within the center of the circle which represents unknown phenomena, practices, and characteristics of the individual or group. Within a

healthcare environment this area can contract or expand with the level of cultural knowledge and skills the healthcare professional possess. Finally there is also a jagged line at the bottom of the circle which represents the nonlinear concept of cultural consciousness. This area represents the worldviews of a person which may be influenced by their own culture. These worldviews are not easily changed and may be associated with race, gender, color, nationality, or religious practices including the use of prayer (Purnell, 2005).

Purnell's model attempts to explain the complexities associated with cultural competence and can be used within educational environments to assist with teaching cultural competence. The model can be applied to clinical practice, formal education, research, healthcare administration, and management to teach concepts and characteristics of culture (Purnell, 2005). The relationship between the concepts stated in each section of the model allows for individual growth, which can affect the level of social awareness when interacting with different cultures. However, until the work conducted here no assessment tool has been routed in this model and thus the work presented here positively builds upon that of Purnell's.

Chapter II

Literature Review

The literature is replete with options for the inclusion of cultural competence experiences into healthcare professional programs. These experiences include classroom lecture series, laboratories, or learning another language and cultural encounters. Researchers continue to investigate these different teaching and learning strategies used within the curricula to establish their effectiveness in developing cultural competency skills within healthcare professional students.

For example, entry-level physical therapy programs have used diverse strategies such as promoting advanced continuing educational courses, reviewing the literature within courses, fostering interaction opportunities between political and social agencies and the academic community to better understand the link between the health of patients and community issues, use of situational video clips for the promotion of discussion among students, and the use of real time electronic correspondence between students engaging in off campus community experiences (Bender, 2002). Most recently, researchers have begun to investigate the effectiveness of several teaching and learning strategies involving the immersion of physical therapy students into different environments. Students involved in these programs were completely immersed in the clinical environment of the patient/client addressing their physical therapy needs (Dupre, 2007). One descriptive research study involving cultural encounters and immersion of U.S. students included six students from Simmons College located in Boston, Massachusetts

participating in an immersion period in San Juan del Sur, Nicaragua during winter break. Students volunteered to participate in the project registered between the years 2002-2004. These students were accompanied by a physical therapy faculty member and other members of the Simmons community. The study had both quantitative and qualitative components. All Simmons College students enrolled in the entry-level doctoral physical therapy program were informed of their requirement to complete one credit of community service. The students volunteered to participate in this experience, previously completed the foundational and clinical science courses, and had the ability to speak Spanish, which were the only inclusion criteria (Dupre, 2007). The intent of the immersion experience was to have the students encounter real-life situations which promote self-awareness of their own beliefs, allow the students to increase their personal knowledge through personal exposure, give the students the opportunity to observe modeling by their professor of cultural competent care and practice culturally competent healthcare.

All participants spent the entire two weeks in San Juan del Sur, Nicaragua where they served clients with physical therapy needs. Prior to traveling to Nicaragua, the students were involved in daily group discussions with their instructor, participated in classroom discussions, and read assigned material (Dupre, 2007). Through this pre-immersion experience the students were able to recognize that culture is a learned behavior that is often shared by a group. The students also became familiar with their own culture. Familiarity with one's own culture is important in order to understand and appreciate the culture of another person and affects one's ability to understand and learn about cultural

competence (Dupre, 2007). Although assignments and discussions were held, the students were not exposed to any ideas of cultural competency prior to their trip.

The students completed a pre-trip questionnaire as part of a research venture. The pre-trip questionnaire consisted of questions related to student knowledge of the Nicaraguan culture including the Nicaraguan economic status, religious beliefs, educational level, medical beliefs, and their definition of disability (Dupre, 2007). The questions before the trip also asked what the student expected to accomplish and what barriers, if any, they anticipated when trying to provide healthcare in this region. During the flight home the students were provided with a post-trip questionnaire. The questions after the trip also asked about the level of knowledge the students had about the Nicaraguan culture, asked students to share what they learned in this experience that they may not have learned in a classroom, asked for a list of accomplishments made in Nicaragua, asked how they were able to adjust their healthcare practices in a new environment, requested that the student share any frustrating or rewarding experiences, and discussed whether or not their level of speaking Spanish became a barrier (Dupre, 2007). The pre-and post-trip questions also included open ended questions. The intent of the open ended questions was to avoid bias and allow the students to provide extensive responses. Data coding was used as a method of collecting data and identifying similar responses from the students. The Terry Cross continuum of cultural competence was used to assess the progress of the physical therapy students. The tool assessed cultural knowledge and awareness as opposed to cultural skill.

As a result of this experience students were able to travel to another country, were exposed to different models of learning by going into the community and homes of the

patients and were capable of providing information through an assessment. Data on the international immersion experience supported that physical therapy students advanced from cultural blindness to cultural pre-competence and thus was considered an increase in cultural competence by the participants (Dupre, 2007). However, the immersion procedure is not a common experience for the promotion of cultural competence due to the difficulty of coordinating student and faculty as well as the costs associated with traveling to a foreign country. Additionally, the tool used to assess cultural competence did not address it from a global perspective. The tool used to assess cultural competence in this study was the CCAI-Cross Cultural Adaptability Inventory tool. One limitation of the CCAI tool included transparency of the questions. Many of these questions had a positive bias and focused more on the ability of a person to live among people of another culture rather than the importance of treating patients of another culture in one's own culture (Capell, J., Vennstra, G., & Dean, E., 2007). Many of the questions also focused on one's ability to enjoy life anywhere and ease in making friends. Although the tool had been used in at least two studies on physical therapy and faculty populations within the United States the inclusion of questions within the tool that were not specific to healthcare also posed as another limitation.

Conversely, Shore (2007) explored a model of preparation in cross cultural sensitivity and then evaluated its effectiveness in a physical therapy curriculum. The participants included two consecutive groups of entry level physical therapist students from Azusa Pacific University, a private urban university located in the United States. The first group of twelve students included six females and six males and the average age was twenty-seven years old. The second group consisted of twenty students, ten women and ten men

and their average age was twenty eight years old. The model consisted of three phases to evaluate and increase the opportunity for students to interact with patients more effectively. These three phases involved student understanding of cultural differences, simulating application of knowledge, and application of what has been learned. The intent of the three phases was also to expose the students to cultural competence within the classroom while also allowing them to apply this knowledge within a therapeutic setting (Shore, 2007). The first phase consisted of classroom lectures and case studies to reveal the differences between cultural value systems and increased understanding. Phase two involves applying baseline knowledge during group projects, which is a method of providing simulated cross-cultural application in the classroom. The third phase took place during the clinical affiliation, where the students were providing direct services to patients from various cultures (Shore, 2007). This series of events allowed the movement from didactic knowledge, to stimulated scenario, to clinical application; producing an integration of the knowledge into practice. The CCAI tool was also used within this three phased approach. As mentioned previously the CCAI assessment tool contained limitations including transparency of questions and the questions within the tool were not specific to healthcare.

Based upon the two examples provided above from the physical therapy literature we see that diverse strategies are being used to infuse and promote cultural competency into health science program curriculums. However, while these experiences are being introduced questions surrounding how one assesses cultural competency continues to emerge. The CCAI is often used as a pre-analysis tool for assessing cultural competence and is most commonly used within the nursing profession and contains several

constructs. The tool encompasses the 5 constructs of cultural competence as defined by Campinha-Bacote and involves the integration of cultural desire, cultural awareness, cultural knowledge, cultural skill, and cultural encounters (Campinha-Bacote, 2009). The instrument contains fifty questions, a scoring sheet, and profiling graph. Once the scores are calculated in all four cross cultural scales, the graph provides a profile which explains the relationship between the four scales and additional feedback for the person using the instrument (Capell, 2007). One of the scales includes cultural desire which can be defined as having the motivation to assist others. Cultural awareness is the ability to acknowledge any prejudices or biases that may be present toward others (Capell, 2007). Cultural knowledge involves actively seeking to become educated about a culture different from your own. While cultural knowledge involves trying to learn about a culture, cultural skill focuses on actively collecting data on the problem that the patient has presented and assessing the problem with cultural sensitivity. Finally, cultural encounters; involves actively seeking to have face-to- face interactions with a person from a different culture. The model has face, content, and construct validity with an overall reliability of 0.9 and was originally designed to determine a person's potential for adapting when they are living in other cultures (Capell, 2007).

The CCAI examines several domains including emotional resilience, flexibility/openness, perceptual acuity, and a person's level of autonomy, which is intended to measure dimensions that may be common for all cross cultural experiences. Emotional Resilience consists of eighteen items which provide information on how well the person can rebound from a negative experience or feeling that they may have received when encountering a person from a different culture. This section is intended to see how

a person is emotionally resilient, which briefly means the person enjoys new experiences, takes risks, has a sense of humor and is comfortable with ambiguity. The next domain is flexibility/openness, which consists of fifteen items and measures the ability of a person to interact with people that have different cultures than their own and believe they are comfortable with having encounters with persons that have cultures that are different from their own. Perceptual Acuity contains ten items and measures the ability of a person to recognize verbal and nonverbal cues and pay attention to these cues in order to communicate with a person of a different culture. Finally, Personal Autonomy contains seven items which measures how comfortable a person is with themselves. A person with strong personal autonomy feels comfortable with change (Kraemer, 2003).

These four constructs were assessed in physical therapist students using the CCAI in 2005 and 2006 when Susan Shore utilized the CCAI on faculty and students at Azusa Pacific University a private urban university as an instruction tool and also as a means to assess educational effectiveness. All second year physical therapist students completed the Cross Cultural Adaptability Inventory (CCAI) during the first phase. The CCAI assessment was administered as a pre and post-test; given before instruction and after returning from their affiliation. During the second phase, the students began participating in a three day, twenty minute didactic lecture and discussion session, related to cultural adaptability conducted by a physical therapy faculty member. The third phase required students complete the post CCAI assessment.

The lectures and discussions in the first phase focused on topics related to their clinical settings of the physical therapy program. Students were given an in-classroom

assignment which allowed them to reflect upon their cultural roots and value systems. These values systems consisted of cultural holidays, foods, traditions, dress and values from their cultural tradition (Shore, 2007). They were then instructed to discuss these findings among their colleagues under the classroom ground rules which were established to provide a platform for open discussion and mutual respect. Students also reviewed the data from the 2000 US population Census, were introduced to materials from the Cross Cultural and International Special Interest Group of the American Physical Therapy Association Health Policy and Administration Section and the World Confederation for Physical Therapy. Additional topics were discussed including the meaning of culture and cultural value systems, major health belief systems, and verbal and non-verbal cross-cultural communication.

The second phase of application included simulated application of knowledge. In this section, students were assigned to group projects related to one of the five minority populations described within the US Census Bureau. The students were assigned the tasks of representing a minority group to determine the population's health belief system, cultural value system, verbal and nonverbal communication patterns (Shore, 2007). They were expected to utilize information from journal articles to explain how a person from that minority group would expect to be provided treatment and what suggestions for interacting with this person from this particular culture would appear appropriate. In an oral presentation students explained how they would approach a person from a different culture and their method of communication. Students also provided specific recommendations on how they would provide physical therapy care to a patient. An example of a recommendation would include providing instructions on how to treat a

Native American and the way the student would interact. After this exercise students created a brief summary of the presentations from their classroom and utilized these presentations as a reference tool.

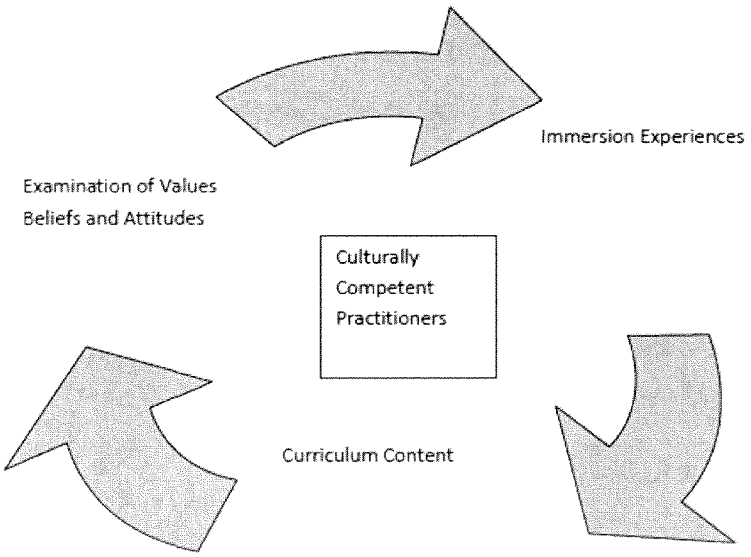
The third phase included clinical application of knowledge. Students left the institution on two consecutive six-week clinical affiliations and were encouraged to remember and apply in their affiliations what they learned from the cross cultural encounters (Shore, 2007). Students participated in debriefing sessions which focused on their cross-cultural clinical experience once they returned from the two consecutive six-week affiliations. The raw means and standard deviations from the CCAI before and after instruction were calculated. The results showed that there was no significant difference between the mean white student score (231.5) and the mean minority group student score (238.0). In group one there was no significant change in pre versus post instruction scores while in group two there was a significant increase in total score (P=.036), as determined by the pair t-test. Following the feedback questionnaire and after twelve weeks of clinical affiliation, the students identified cross cultural communication, health belief systems and the evaluation of personal cultural personal heritage as topics of discussion that were beneficial (Shore, 2007). All students believed the discussions were helpful and should continue as a permanent part of the curricula.

While previously mentioned research focuses on fully immersing students in different communities than their own, or using a pseudo-immersion technique as explored by Shore, other research has been done in physical therapy programs using a snowball procedure of surveying. Snowball sampling is often considered biased since it involves

continuous repetition, however since the populations were difficult to locate the sampling method was accepted (Romanello, 2007). In this descriptive study physical therapy education programs were asked to identify other physical therapy programs which they felt were incorporating cultural competence into their curricula until saturation occurred. Saturation was utilized as an identification process and this identification process continued until the informants repeatedly named the same individuals and the same physical therapy programs (Romanello, 2007). The American Physical Therapy Association (APTA), the Department of Education, and the Department of Minority and International Affairs were able to provide the names of physical therapists and physical therapist programs. After several programs voluntarily withdrew from the study and other programs stated faculty did not buy into the concept, one physical therapy program was considered (Romanello, 2007). This was a different approach to collecting samples from different curricula and in the end an on-site visitation to observe the curricula was scheduled. The goal of the on-site visit was to observe the curricula through the lens of the students and faculty. Based upon the observation it was noted that the curricula involved prompting students to consider cultural differences that were different from their own to develop cultural competence. The faculty was encouraged to work with students in both clinical and classroom environments. In order to integrate cultural competence into the school a Curriculum Integration (CI) Model was developed in the physical therapy program being observed. The CI model was designed to engage students and faculty in examining values, beliefs, and attitudes, focusing on helpful curricula content where the students were given the opportunity to share their thoughts, faculty created immersion experiences, and faculty attempts to create a diverse classroom

environment (Romanello, 2007). Based on student descriptions the researcher suggests that all of these components encouraged cultural competence and the need for physical therapy faculty to remain committed to integrating cultural competency concepts into physical therapy programs. In the classroom, different experiences were shared and different exercises were used to allow students to learn more about each other, their individual cultures and also to provide insight into the dangers of stereotyping. One exercise included using general questions that were asked around the classroom about a person's family and background. Students were given the opportunity to share their culture with other members of their class. The researcher described the various methods for teaching cultural competence including the use of classroom group discussions. The descriptive study concluded from the statements given by the students that they were benefiting from having a diverse faculty and student body, working in a diverse clinical setting and sharing experiences in the classroom would benefit future physical therapy students (Romanello, 2007). The study also concluded that students wanted more time for discussion of cultural competence and felt the use of technology would assist them in researching different values, beliefs and life-ways. The students specifically requested the use of technology to expose them to people from different cultures when these encounters presented themselves in a clinical setting. However, the type of technology was not specified. The following figure provides an example of the Curriculum Integration Model previously mentioned.

Figure 1. Curriculum Integration Model



Romanello, M.L. (2007). Integration of Cultural Competence in Physical Therapist Education. Journal of Physical Therapy Education, (21)1.

While other researchers have used different teaching and learning strategies to promote cultural competence, one researcher assessed the effectiveness of learning Spanish in physical therapist programs as a means to promote cultural competency. Bybee, 2004 supports that being able to communicate with patients in their native language can make a difference in the level of cooperation attained during treatment

regardless of the level of cultural competency one possess (Bybee, 2004). To assess this hypothesis all first year students were invited to participate regardless of whether they considered Spanish their first language or were able to speak Spanish. Eighteen students participated in a twelve hour course to learn Hispanic culture, basic Spanish grammar and clinical terminology, which took place over the course of four weeks (Bybee, 2004). The researcher administered a pre and post-test of anatomy and Spanish clinical phraseology and included a section which examined both recognition and recall of Spanish terms and phrases (Bybee, 2004). The pre-test was administered during the first class and the post test was given during the final class of this four week course. The pre-and post- test were not standardized and were created by the instruction and investigators of the project. The research concluded that all students were capable of increasing their knowledge of the Spanish language despite their varied language backgrounds. Therefore the course instruction provided language development regardless of the students' initial ability to speak Spanish. This study provided an example of how communication can serve as the foundation for increasing cultural competence. More importantly the study provides another means to introduce cultural competence education into an established healthcare professional program.

The need for insuring cultural competency in health professions students is seen in other health professionals including speech language pathologists (SLP) who recognize the need to prepare professionals better to work with a diverse population. Researchers in SLP as well as other healthcare professions recognize the acquisition of cultural competency as a process along a continuum where one moves from cultural destructiveness (intentionally destructive to diverse cultures), to cultural incapacity

(unintentionally destructive because of lack of capacity to respond to diversity), to cultural blindness (profess to being unbiased and view all people and cultures the same), to cultural pre-competence (realize weaknesses in servicing diverse groups and desire to provide quality services; to cultural competence (demonstrate an acceptance of and respect for differences; and cultural proficiency (engage in practices that demonstrate high esteem for diverse cultures) (Stewart, 2002). The literature suggests that in order to assist with moving through this continuum of CC that they must put forth initiatives to increase the diversity of healthcare professionals, increase the quantity and quality of research and improve academic and clinical preparation. SLPs have specifically expressed the need for more knowledge on how to service bilingual/bicultural populations within their curriculum. These healthcare professionals have also expressed their concerns over lack of coursework and sufficient clinical hours to assist with servicing clients from a diverse background.

Stewart in 2002 moved this research agenda forward by assessing how to prepare SLPs to service diverse populations. Stewart administered a survey to program directors of SLP professional preparation programs in the United States and yielded 91 surveys that were usable. The four page survey contained checklists, short answer questions, a Likert-type rating scales and an open space at the end of the survey for comments. There were five sections to the final survey; which included program demographic information, recruitment and management issues pertaining to graduate students from diverse populations, research relevant to issues of diversity, academic coursework in diversity and clinical practicum with clients from diverse backgrounds (Stewart, 2002). The results showed that the professional preparation programs in speech language pathology

programs continue to fall short in their enrollment of minority students and although some graduate students are being provided with information concerning diversity, clinical experiences vary according to the location of the preparation program. The article provides additional information on the need for a diverse population of SLPs and methods of ensuring that these graduates have received the knowledge, attitude and skill to provide quality services to a diverse population (Stewart, 2002). The literature concerning SLP supports the idea that cultural competency programs need to be implemented in student curriculums of Speech Language Pathologists and supports the need for assessing cultural competence from a global (worldview) perspective across healthcare professional programs.

Other researchers have investigated students enrolled in the National Health Service Corps (NHSC), a federal program that is seeking to increase access to primary care services and reduce healthcare disparities (Campbell, 2005). The NHSC supports the need to prepare clinicians to be culturally competent. This federal program collaborated with the National Center for Cultural Competence in an effort to identify the reasons why clinicians should be culturally competent (Campbell, 2005). Students involved in this program were physical therapists, physician assistants, social workers and nurse practitioners from four Midwestern universities ranging in size from 5,000 to 25,000 students. The descriptive study involved a pre and post survey designed to answer research questions and consisted of two instruments. One instrument, the Inventory for Assessing the Process of Cultural Competence among Healthcare Professionals (IAPCC), was used to assess cultural competence and the other was a questionnaire developed by Price used to determine the students' attitudes toward working with people who were

living in poverty and in rural areas. Since additional information was needed to evaluate the NHSC program, more questions were given after the two assessments. As mentioned previously, The Inventory for Assessing the Process of Cultural Competence-Revised (IAPCC-R) determines cultural competence in healthcare providers. The IAPCC is the original version of this tool and was also developed to measure cultural competence among healthcare professionals. The IAPCC assessment is self-administered and uses a four-point Likert scale with scores ranging from twenty to eighty. When a person scores between eighty and seventy five they are considered culturally proficient, a culturally competent person may have a score of seventy four to sixty, culturally aware ranges from fifty nine to forty and finally a person receiving a score between thirty nine and twenty is considered culturally incompetent (Campbell, 2005). The instruments has content validity, construct validity and includes five statements or questions at the end, which also assists in determining the level of cultural competence.

The IAPCC instrument consists of twenty questions measuring overall cultural competence (Campbell, 2005). The twenty questions were intended to measure four constructs which include cultural awareness, cultural knowledge, cultural skill, and cultural encounters. These constructs will assist in providing information on what is not known about the students. Cultural awareness occurs when the healthcare provider cognitively begins to appreciate the values, beliefs, ways of life, and techniques for solving problems practiced of a different culture. Cultural knowledge involves actively seeking out knowledge about a particular culture. Cultural skill is the ability to search for cultural data which relates directly to the healthcare needs of the patient and taking the time to implement a physical assessment. Finally a cultural encounter involves having

the healthcare provider participate in cross cultural encounters with a person from a different culture (Campbell, 2005). This instrument also included questions on demographics and additional questions that would help in the evaluation of the NHSC program. The questions used a scale from 1 to 5, with 1 being the weakest and 5 being the strongest. The participants were asked to rate their strength of intention of working in a community that was considered underserved before and after their clinical experience. Evaluated within the study were the types of underserved populations that the students had worked with as well as their feelings about the experience with this population.

Based upon the IAPCC- results, the researcher concluded the students remained culturally aware, but were not considered culturally proficient or culturally competent (Campbell, 2005). The researcher also determined from the sixty-six preclinical and seventy-two post clinical surveys and comparison of total scores for cultural competence that there were no statistically significant differences in cultural awareness. The scores listed the students as culturally aware. The limitations of the study supported that the IAPCC should be modified to increase reliability therefore they proposed that the IAPCC –R may be considered for future research. Overall it was concluded that the students need additional programs in education to increase cultural competence and positively influence their attitudes towards people living in poverty.

Occupational Therapist are also healthcare professionals who within their academic curriculums utilize course assignments to help occupational therapy students increase their knowledge and awareness so that they can practice in a more sensitive manner recognizing and addressing persons of a different culture (Yuen & Yau, 1999). One descriptive study in occupational therapy used an experiential learning approach to

provide information on a cultural interview experience with first-year occupational therapy students (Yuen & You, 1999). The focus of the study was to determine the impact the interview experience would have on a student's cultural awareness, cultural sensitivity and attitudes toward another ethnic group. The students interviewed another person from a different culture than their own and primarily interviewed students on the school campus. Students were instructed to interview students that were either born in another country or who have lived in a foreign country for over 10 years. As a result of the diversity within the school many of the interviewees were from Europe, were South American, African, and Middle Eastern or had an Asian background.

The participants were asked about issues related to the healthcare system including family responsibilities in providing healthcare, activities of daily living, the value of work and time, customs, interpersonal relations, spiritual practices and beliefs, social structure, dietary practices, family life patterns, family interaction, and perception. Additional questions focused on values, beliefs and practices, cultural aspects of ageing, childbearing, lifestyles, value systems, communication styles, community support and cultural taboos and myths (Yuen & You, 1999). Similar to the Purnell Model of Cultural Competence mentioned earlier in this document the questionnaire provided the students with some questions about cultural competence from a global perspective. Students delivered their findings in a written format and then were provided with a questionnaire. The questionnaire contained questions about the impact the interview had on their attitudes, awareness and sensitivity toward other ethnic groups.

Forty two of the forty eight students responded to the questionnaire and of the forty two, thirty of the students responded that the interview had an effect on their awareness

of another ethnic group. However nineteen agreed that the interview had an effect on their sensitivity toward another ethnic group and eighteen stated the interview had an effect on their attitudes toward another ethnic group. As a result of the study the students expressed a heightened level of cultural awareness. For example, one student stated, "I think the interviewing process is a good way to become culturally aware. When you are able to speak with someone one-on-one you see how they really are, rather than judging them by their ethnic group....Talking to someone with a different ethnic background made me feel more comfortable with the differences as well (Yuen & You, 1999)." In conclusion the interview process helped students to increase their awareness of their attitudes and values toward other ethnic persons and cultures, clarified previous myths and stereotypes, increased awareness of the impact of cultural factors on practice and gained further insight about other cultures (Yuen & You, 1999).

Athletic Trainers are also focusing on the development of cultural competence skills within their educational process. The literature involving athletic trainers states that the concept of culture and its relationship to athletic training beliefs and practices are unexplored (Marra, 2010). However, athletic trainers have recognized that patients that suffer from injuries and illnesses are people from diverse backgrounds and this has created a challenge for these healthcare professionals. One article found attempted to assess the cultural competence levels of Certified Athletic Trainers (AT-C) as they provide healthcare services. The study also attempted to examine the relationship between cultural competence and sex, race/ethnicity, years of AT experience and district of the National Athletic Trainer's Association district. The Cultural Competence Assessment CCA was completed by the Athletic Trainers along with the two subscales:

Cultural Awareness and Sensitivity and Cultural Competence Behavior. The assessment had Cronbach alpha in the range of .89-.92. A total of 3,102 participants completed the survey. The results of those surveyed revealed that the self-reported scores were higher than the CCA scores. The results also revealed that sex and race/ethnicity were indicators of cultural competence levels among athletic trainers. These findings provide a baseline for levels of Cultural Competence among Athletic Trainers and assist educators and employers as they seek to develop diversity training education for athletic training students (Marra, 2010).

As we can see from the snap shot of studies present here across the healthcare professions healthcare students are generally provided information on different cultures in their curricula yet their level of cultural knowledge, cultural awareness, cultural skill and cultural encounters has not significantly increased or been effectively assessed from a global perspective. While, the literature continues to support that students show an increase in cultural awareness and knowledge; however, there has not been a standard strategy for or combination of strategies to increase cultural awareness and application in clinical practice. The question that also continues to go unanswered is whether or not there is a relationship between these curricular models and an increase in cultural knowledge, cultural awareness, cultural skills, and cultural encounters which suggest additional research is needed. However, at this point it is possible to derive from the literature that ensuring that healthcare professionals' possess cultural competence is necessary to reduce healthcare disparities, increase adherence to medical advice and increase patient satisfaction with their healthcare providers (Khanna, 2009)

As we reviewed the literature which exposed students to different cultures using the diverse teaching strategies it was evident that assessment was a major concern as a consistent and global tool was not being used. Generally, students across all health profession programs were assessed using different assessment tools for cultural competence. More importantly, none assessed cultural competence from a global (worldview) perspective using the Purnell Model as a foundation frame and thus truly neglected the constructs of global perspectives and influences.

Clearly, the United States has increased in its diversity and health professionals must learn to care for a multi-cultural society (Velde, 2003). Ensuring cultural competency in speech language pathology, physician assistants, physical therapist, occupational therapist and athletic trainers will support better healthcare plans and outcomes for patients. Educators within health science professional programs are responsible for promoting cultural competent curriculums based on the accreditation standards of each health professional association. Diverse teaching and learning strategies are being employed across and within the differing health professional curriculums to meet this need. Researchers are attempting to evaluate the effectiveness of these curricular strategies using, the current tools available to assess cultural competency. However, to date to the best of our knowledge there is no tool that assesses cultural competence based on the Purnell Model which recognizes the impact of a global perspective on cultural competency development. Therefore, in order to support this global perspective preliminary pilot study work by this author sought to develop and validate a survey tool founded upon the Purnell Model (see appendix for the tool development findings). With the *Global (worldview) Cultural Competence Survey (GWCCS)* found to be valid and

reliable the authors sought to assess the level of cultural competence in health professional students (speech language pathologist, physician assistants, occupational therapist, physical therapist, athletic trainers, and nursing students) in order to provide healthcare researchers a global tool to assess cultural competence and ultimately the effectiveness of teaching and learning strategies in promoting and developing cultural competency skills in students.

The purpose of this study was to assess the level of cultural competence in health professional students (speech language pathologist, physician assistants, occupational therapist, physical therapist, athletic trainers, and nursing students), using the *Global (worldview) Cultural Competence Survey (GWCCS)*. The study determined if a difference existed in the level of cultural competence between health professional students within Seton Hall University entering (first year pre-clinical) within the first two weeks of admission to their professional program and exiting (final year post-clinical) health professional students within Seton Hall University during the last two weeks of their professional academic program using the *Global (worldview) Cultural Competence Survey*; which is based on the Purnell Model.

Chapter III

PILOT DEVELOPMENT

To meet our objectives, a pilot study was used to develop and determine if the Global (worldview) Cultural Competence Survey (GWCCS) was a valid and reliable tool to assess cultural competence in health professional students. The GWCCS was developed by the Primary Investigator (PI) using the Purnell Model as a theoretical frame. In this pilot study the Delphi technique was used to establish content validity and internal consistency of the Global (worldview) Cultural Competence Survey. The information obtained in the pilot study lead to the dissertation proposal which sought to determine if there was a difference between cultural competence levels in entering (first year pre-clinical) and exiting (final year post-clinical) students of Health Science Professional Programs within Seton Hall University as measured by the GWCCS.

RESEARCH DESIGN

The research study was descriptive, exploratory, and used a cross-sectional two group research design. According to Portney and Watkins (2009) descriptive research attempts to describe a group of individuals in a set or variable, to document their characteristics. For example within this descriptive study of health science professional students; level of cultural competence was explored and the factors which may relate to cultural competence was then documented.

The study also used exploratory research. According to Polit and Hungler (1995) exploratory research begins with a phenomena of interest and is aimed at investigating the full nature of the phenomenon, the manner in which it is manifested, and the other

factors with which it is related. In this study, cultural competence is the phenomena being studied. Students entering (first year pre-clinical) and exiting (final year post-clinical) a professional study from the School of Health and Medical Science were identified as the study sample. The study population was chosen as a result of the students' status in the program (entering or exiting); which included and addressed the role of cultural competence in healthcare which is mandatory for all health professional students (Khanna, S. 2009).

Finally, the study was cross-sectional rather than longitudinal as different cohorts were used for the two groups (first year pre-clinical and final year post-clinical). According to Portney and Watkins (2009) cross-sectional research design is often used to study a stratified group of subjects at one point in time and draws conclusions about a population by comparing the characteristics of those strata. In this case the cross-sectional research design would be used to determine if there is a difference between cultural competence levels in entering (first year pre-clinical) and exiting (final year post-clinical) students of a Health Science Professional Program within Seton Hall University as measured by the GWCCS.

Non-parametric statistics were used. According to Portney and Watkins 2009 non-parametric statistics are appropriate when data are nominal or ordinal, the sample size is small, and when the data cannot be presumed to be normally distributed which was the case in this study.

STUDY PARTCIPANTS

The target study population included Health Professional students from the School of Health and Medical Science and the School of Nursing within Seton Hall University.

Specifically, those students entering (first year pre-clinical) the first two weeks of a Health Science Professional Program or School of Nursing within Seton Hall University and students exiting (final year post-clinical) the final two weeks of a Health Science Professional Program or School of Nursing within Seton Hall University were eligible to participate.

A G Power analysis was conducted with an alpha of 0.05 and a power of (1-Beta) **of** 0.8. The total sample size calculated from this G-Power analysis was a minimum total of N 290 subjects.

INCLUSION AND EXCLUSION CRITERIA

Eligible students were entering (first year pre-clinical) within the first two weeks and exiting (final post-clinical) the last two weeks of their final professional study year as a Health Professional Student within the School of Health and Medical Sciences or School of Nursing. All students who were 18 years old were also able to participate as they were able to provide their own consent to participate in the study. Students who were not 18 years of age were not included since they were not able to provide their own consent to participate in the study.

PROCEDURE

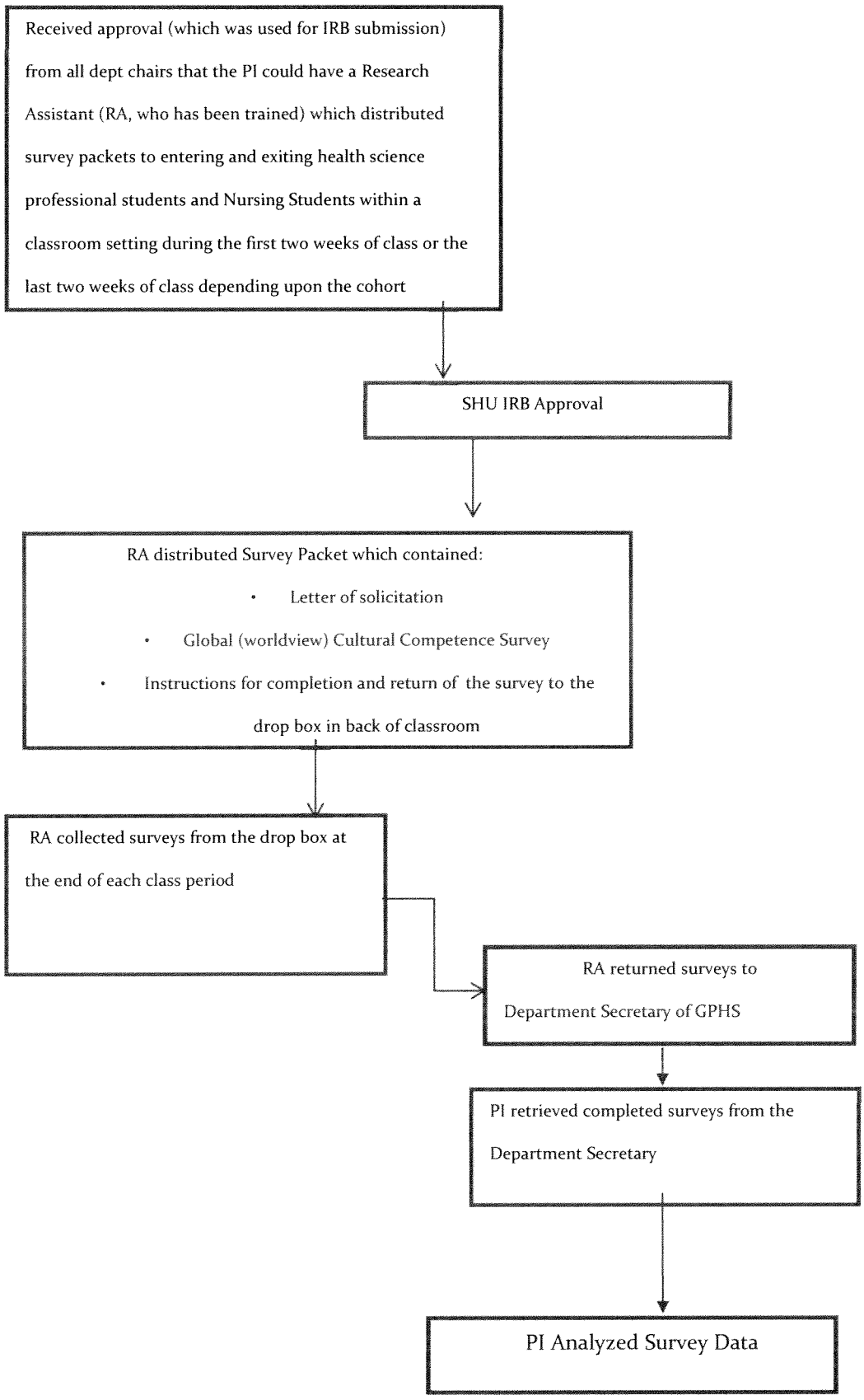
The Primary Investigator (PI) sent an email to the chairs of each health science professions department including athletic training, physical therapy, occupational therapy, speech language pathology, physician assistant and nursing program which outlined the project and requested their approval to work with their secretary and a research assistant to distribute survey packets to the departments' students meeting the inclusion criteria. Once approval was obtained from the chairs the research assistant was provided with training from the PI in procedural mechanics of the survey distribution and completed study packets which included the letter of solicitation, Global (worldview) Cultural Competence Survey and instructions for completion and return of the survey to the drop box in the back of the classroom.

Upon receiving IRB approval from Seton Hall University, the survey packets were given to the research assistant for distribution to each student entering (first year pre-clinical) their first two weeks and exiting (final year post-clinical) their last two

weeks as a student within the HS programs at SHU. The survey packet provided students with instructions on the intent of the study, and the voluntary nature of the participation and anonymity and instruction on drop off of the survey if they voluntarily chose to participate. Additionally, the questionnaires (survey) contained explicit instructions regarding how the participants should fill out each sub-section of the surveys. To ensure confidentiality, personal identifiers were not requested by the participants such as name or address.

The surveys were distributed to the students during their class periods while they were on campus. After completion of the Global (worldview) Cultural Competence Survey students were instructed via the survey packet instructions to return the completed surveys to the survey packet envelope and then proceed to drop the packet in a drop box located in back of the room on a desk which the research assistant upon completion of the testing session retrieved all packets and delivered them to the Department Secretary of GPHS who in turn provided them to the PI. All participants were informed that they must complete the survey using paper and pen / pencil format. All participants were informed that they have the option to accept or decline to participate in the study. Their voluntary completion of the questionnaire was considered their consent as well as verification that they are over 18 years of age.

Figure2: Data Collection for Dissertation



Instrumentation

The Global (worldview) Cultural Competence Survey was created in a pilot study and used here to assess levels of cultural competence among healthcare professional students by the PI. The survey was constructed from emergent themes in the literature review (Purnell, L. (2005); Velde, B., Wittman, P., & Bamberg, R. (2003); Campinha-Bacote, J. (1999); Capell, J., Vennstra, G., & Dean, E. (2007); Dupre, A.M. & Goodgold, S. (2007). The dependent variable was cultural competence levels of Heath Science Professional Students and the independent variables were the twelve domains nutrition, high risk behaviors, pregnancy, death rituals, spirituality, health-care practices, health-care practitioners, overview/heritage, communication, family roles and organization, workforce issues, and bicultural ecology.

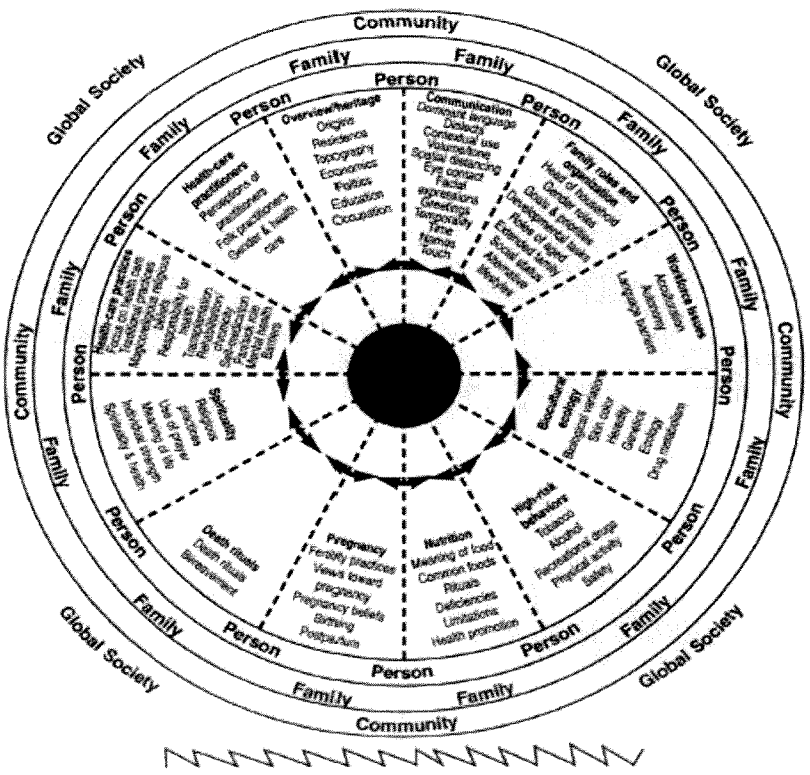
Instructions for completing each section and designation of the scale used were included at the beginning of each section. The survey was based on the Purnell Model and contained questions derived from the diagram of the model. The questions were based on the four concentric rims consisting of global society, community, family, and person (Appendix A). All four rims surround12 pie-shaped wedges representing cultural concepts and domains that provide the conceptual framework for the Purnell Model (Purnell, 2005). Therefore the survey also contained questions based on these 12 pie shaped wedges. The domains and concepts are essential for assessing cultural attributes of an individual, family, or group and include nutrition, high risk behaviors, pregnancy, death rituals, spirituality, health-care practices, health-care practitioners,

overview/heritage, communication, family roles and organization, workforce issues, and bicultural ecology. Section 2 included questions on The Role of Cultural Competence in health science professional education; while Section 3 included questions on the students' demographics. A Likert scale was used to score the items in the survey which included Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. (Please see Appendix C. for Pilot Study Survey Development and Validation)

Analysis of Data

After the questionnaires were completed, they were screened and compiled in an excel file in aggregate form, each response item was then coded for analysis. Data was analyzed using both descriptive and inferential statistics SPSS Version 22.0 (SPSS, 2014). Demographic characteristics (Section 3) were presented in tabular form using descriptive statistics and reported as means, standard deviation, frequencies, and percentages and presented as bar charts. The level of data for sections 1 and 2 were ordinal scale. Therefore, inferential statistics – specifically for non-parametric statistics was used. Mann Whitney U was used to determine differences in cultural competence levels of students entering (first year pre-clinical) and students exiting (final year post-clinical); assessing these levels using the Global (worldview) Cultural Competence Survey. Specifically descriptive statistics reported as means, standard deviation, frequencies and percentages addressed question one. While Mann Whitney U-was used to determine differences in entering and exiting students. Kruskal Wallis test was used to determine the difference between cultural competence levels in entering (first year) and exiting (final year) health science students based upon their Health Science Professional Program within Seton Hall University.

Figure. 3 The Purnell Model for Cultural Competence



Purnell, L. (2005). The Purnell model for cultural competence. *The Journal of Multicultural Nursing and Health*, 11(2).

Chapter IV

RESULTS

The following information will provide the results of the research study. There were three main research questions used in the study. The first research question consisted of two parts; one related to cultural competence levels of entering students and the other related to cultural competence levels of exiting students. The second research question consisted of one part and was related to the difference in cultural competence levels between entering and exiting students despite their health professional program. While the third research question sought to determine if there is a difference between cultural competence levels in entering (first year) and exiting (final year) health science students based upon their Health Science Professional Program within Seton Hall University as measured by the GWCCS.

Four hundred fifty four surveys were distributed to entering and exiting students within the programs. A total of two hundred and five surveys were received for both entering and exiting students. Of the two hundred and five surveys received one hundred and forty six were from “entering” students and fifty nine from "exiting" students. Of the one hundred forty six surveys from “entering” students one hundred and thirty eight were considered valid surveys for assessing cultural competence levels. Of the fifty nine “exiting” students fifty eight were considered valid to assess cultural competence levels.

Table 1. Provides data representing entering and exiting student response rates. The first column indicates the five program/subjects that participated in the study. The second column indicates the number of surveys distributed to entering students. The third column indicates the number of surveys retuned by entering students. The fourth column

indicates the number of surveys distributed to exiting students. The fifth column indicates the number of surveys returned from exiting students. The sixth column indicates the response rates for entering students and the seventh column indicates the response rates for exiting students. The total response rate for entering students was 35.39%. The total response rate for exiting students was 36.19%. The difference in response rate may have been a result of attrition within the nursing program which showed fewer valid surveys upon exiting students. The response rate for Entering and Exiting Students was acceptable according to Whitman, M.V (2013). Forty three students did not complete the survey and were not considered in the response rate calculation.

Table 1. Entering and Exiting Student Response Rates

Program/Subjects	Number of Entering Distributed	Number of Entering Returned	Number of Exiting Distributed	Number of Exiting Returned	Entering Return Rate	Exiting Return Rate
Athletic Trainers	24	23	22	21	95.8%	95.45%
Speech Language Pathologist	40	11	38	0	27.5%	0%
Physician Assistant	32	30	35	34	93.75%	97.1%
Nursing (RN)	165	20	33	1	12.12%	3.03%
Occupational Therapy	30	19	35	3	63.33%	8.57%
Total	291	103	163	59	35.39%	36.19%

Table 1. Shows the entering and exiting student response rate

Note: 43 Students did not complete the survey.

Response rate = number of surveys returned/number of surveys distributed Halbesleben, J. B., & Whitman, M. V. (2013).

Cultural Competence levels were measured by The Global Worldview Cultural Competence Survey created by the Principle Investigator based on the Purnell Model. Cronbach's alpha was ran for entering, exiting, and overall surveys for both entering and exiting students to obtain the reliability of the Global Worldview Cultural Competence tool. Table 2. Shows the Chronbach's Alpha –Reliability analysis for 30 questions-Entering/Exiting and Overall

Table 2. Overall Cronbach's Alpha-Reliability Analysis

Entering (138 valid cases out of the 146 surveys received)
Cronbach's alpha = .818, Number of items=30
Exiting (58 valid cases out of 59 surveys received)
Cronbach's alpha = .872, Number of items = 30
Overall (196 valid cases out of the 205 surveys received)
Cronbach's alpha = .841, Number of items = 30

Table 2. Shows the Overall Cronbach's Alpha-Reliability Analysis

Table 3. Provides a comparison of scoring scale for the Inventory for Assessing the Process of Cultural Competence (IAPCC) and the Global Worldview Cultural Competence Survey (GWCCS). The Inventory to Assess the Process of Cultural Competence was created by Campinha Bacote who is a seminal author on cultural competence. Smith and Campbell have written an article on the The Inventory for Assessing Cultural Competence (IAPCC) which supports the use of the tool for calcualting the raw scores for the Global Worldview Cultural Competence Survey Smith-Campbell, B. (2005).

Table 3. Comparison of Scoring Tables of the GWCCS and IAPCC

Scores Calculated in Percentages	IAPCC-SCORING *	GWCCS-SCORING **	Cultural Competence Level
25-49%	20-39	38-74	Cultural Incompetent
50-74%	40-59	75-112	Cultural Awareness
75-93%	60-74	113-140	Cultural Competence
94-00%	75-80	141-150	Cultural Proficient

Table 3. Shows the Comparison of Scoring Tables of the GWCCS and IAPCC

*Bacote's Study used 20 questions with a 0-4 Liket Scale

**GWCC Survey used 30 questions for the construct with 1-5 likert scale.

Smith-Campbell, B. (2005). Health Professional Students' Cultural Competence and Attitudes toward the Poor: The Influence of a Clinical Practicum Supported by the National Health Service Corps. Journal of Allied Health, 34(1).

Demographics

Gender

Entering students that participated in the study from all five programs included both females and males. There were 78 female (81.3%) and 18 male (18.8%) entering students. Exiting students that participated in the study from all five programs included: 42 female (72.4%) and 16 male (27.6%) exiting students. Females made up 77.9% of the students in all five of the programs. Males made up 22.1% of the students in all five of the programs. Figure 4. shows the gender demographics for both entering and exiting students. Table 4. provides a cross tabulation of the gender demographics for both entering and exiting students.

Figure 4. Demographics for Gender both Entering and Exiting Students

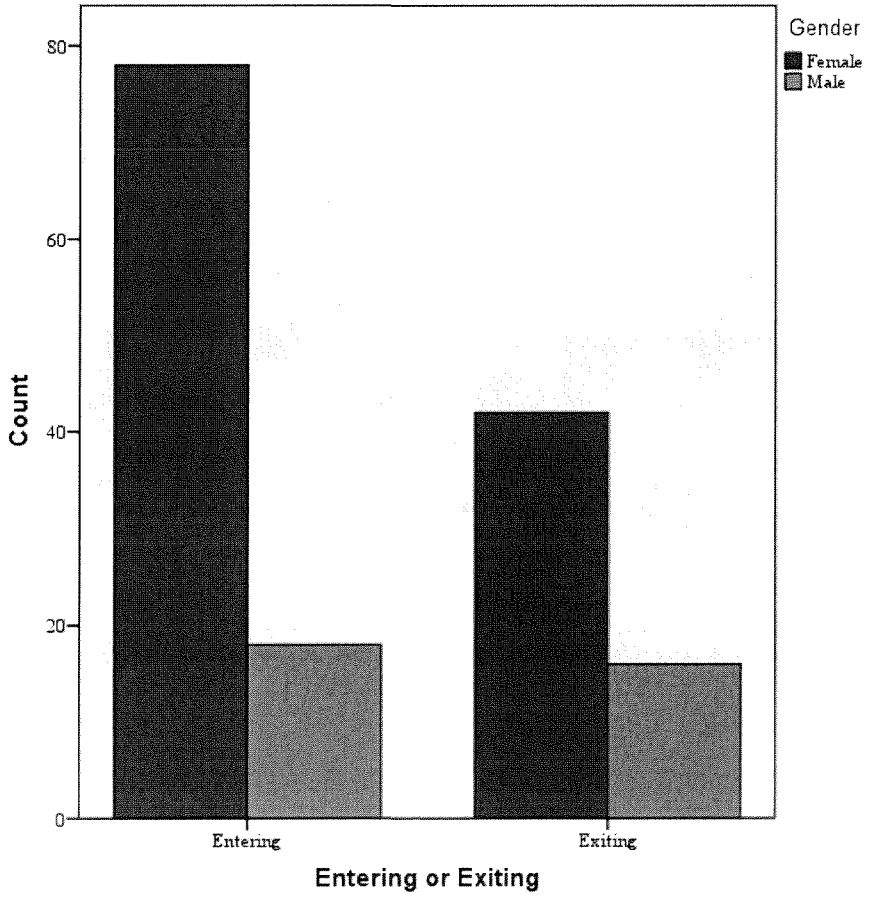


Figure 4. Shows Demographics for Gender both Entering and Exiting Students

Table 4. Gender Cross tabulation for Entering and Exiting Students

Entering or Exiting * Gender Crosstabulation

			Gender		
			Female	Male	Total
Entering or Exiting	Entering	Count	78	18	96
		% within Entering or Exiting	81.3%	18.8%	100.0%
	Exiting	Count	42	16	58
		% within Entering or Exiting	72.4%	27.6%	100.0%
Total		Count	120	34	154
		% within Entering or Exiting	77.9%	22.1%	100.0%

Table 4. Shows the Gender Cross tabulation for Entering and Exiting Students

Age

The majority of the "entering" students that participated in the study were 21 years old and under (49 students or 50.5%) with the next largest age of participants between the ages of 22 and 34 (46 students or 47.4%). The majority of "exiting" students that participated in the study were between the ages of 22 and 34 (51 students or 87.9%). Figure 5 and Table 5 provides both a graphic depiction of the data and age cross tabulation of entering and exiting students.

Figure 5. Frequencies for Age both Entering and Exiting Students

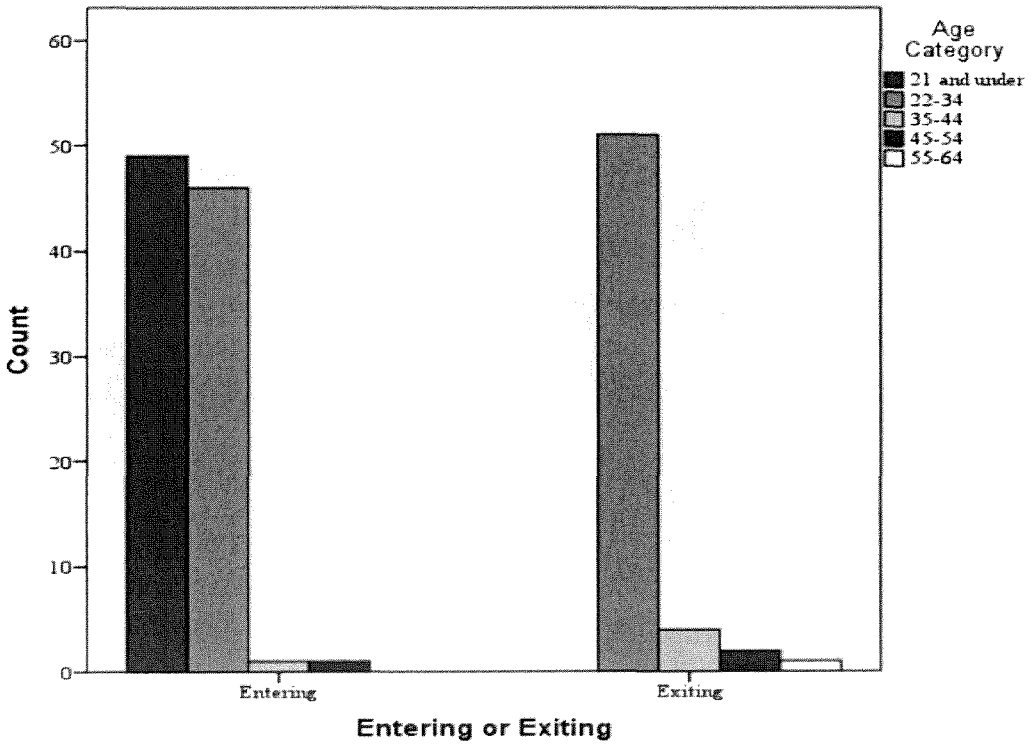


Figure 5. Shows the frequencies for Age Both Entering and Exiting Students

Table 5. Age-Cross tabulation for Entering and Exiting Students

Entering or Exiting * Age Category Crosstabulation

			Age Category					
			21 and under	22-34	35-44	45-54	55-64	Total
Entering or Exiting	Entering	Count	49	46	1	1	0	97
		% within Entering or Exiting	50.5%	47.4%	1.0%	1.0%	0.0%	100.0%
	Exiting	Count	0	51	4	2	1	58
		% within Entering or Exiting	0.0%	87.9%	6.9%	3.4%	1.7%	100.0%
Total		Count	49	97	5	3	1	155
		% within Entering or Exiting	31.6%	62.6%	3.2%	1.9%	0.6%	100.0%

Table 5. Shows the Age-Cross tabulation for Entering and Exiting Students

Ethnicity

The majority of the "entering" students in all five of the programs identified as Caucasian/non-Hispanic (69 or 71.1%.) with the next largest group self-identifying as Other (12 or 12.4%). Other students identified as African American/Black (9 or 9.3%) Asian Pacific Islander (5 or 5.2%), and Hispanic (2 or 2.1%. There were no entering students that identified as Native American. The majority of the "exiting" students in all five of the programs identified as Caucasian/non-Hispanic (42 or 72.4%.) with the next largest group self-identifying as Other (7 or 12.1%). Other students identified as African

American/Black (9 or 9.3%) Asian Pacific Islander (5 or 5.2%), and Hispanic (2 or 2.1%. There were no exiting students that identified as Native American. Please see Figure 6.

Figure 6. Demographics for Ethnicity for both Entering and Exiting Students

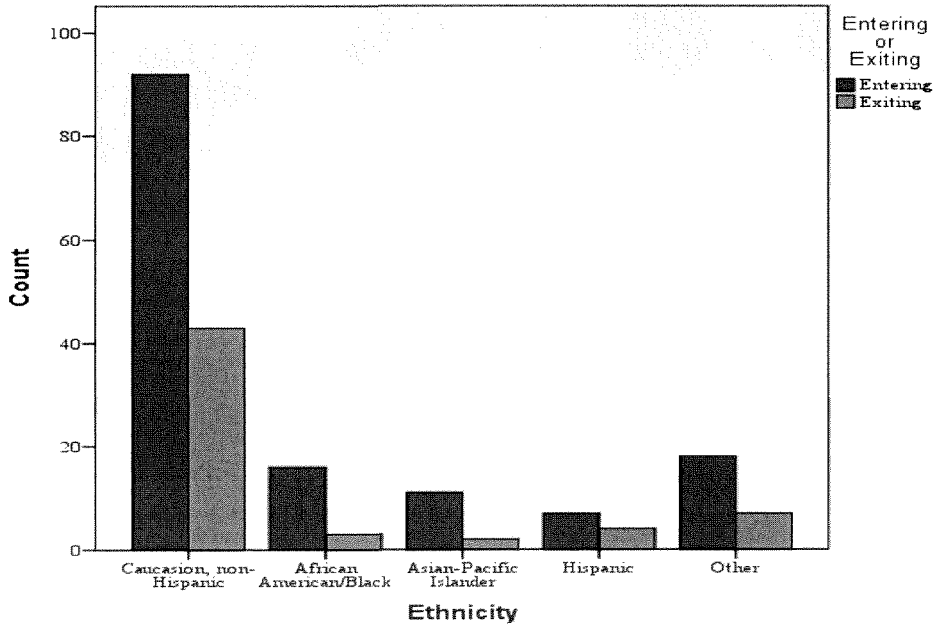


Figure 6. Shows Demographics for Ethnicity for both Entering and Exiting Students

Table 6. Ethnicity Cross tabulation for Entering and Exiting Students

Entering or Exiting * Ethnicity Crosstabulation

			Ethnicity					
			Caucasion. non-Hispanic	African American/Black	Asian-Pacific Islander	Hispanic	Other	Total
Entering or Exiting	Entering	Count	69	9	5	2	12	97
		% within Entering or Exiting	71.1%	9.3%	5.2%	2.1%	12.4%	100.0%
	Exiting	Count	42	3	2	4	7	58
		% within Entering or Exiting	72.4%	5.2%	3.4%	6.9%	12.1%	100.0%
Total		Count	111	12	7	6	19	155
		% within Entering or Exiting	71.6%	7.7%	4.5%	3.9%	12.3%	100.0%

Table 6. Shows the Ethnicity Cross tabulation for Entering and Exiting Students

Professional Program of Participants

Ninety-seven entering students from five healthcare professional programs participated in the study. The highest amounts of entering student participants were physician assistants (28.9%). The next highest amount of entering students was athletic trainers (22.7%). Other student participants included nursing (19.6%), occupational therapy students (18.6%) and speech language pathologist (10.3%). There were also fifty-eight exiting students from the five healthcare professional programs. The highest amounts of exiting students were physician assistant (56.9%). The next highest amounts of exiting students were athletic trainers (36.2%). Other student participants included occupational therapist (5.2%) and nursing (1.7%). Figure 7 and Table 7 provides both a graphic depiction of the data and a cross tabulation of professional program of participants.

Figure 7. Professional Program of Participants both Entering and Exiting Students

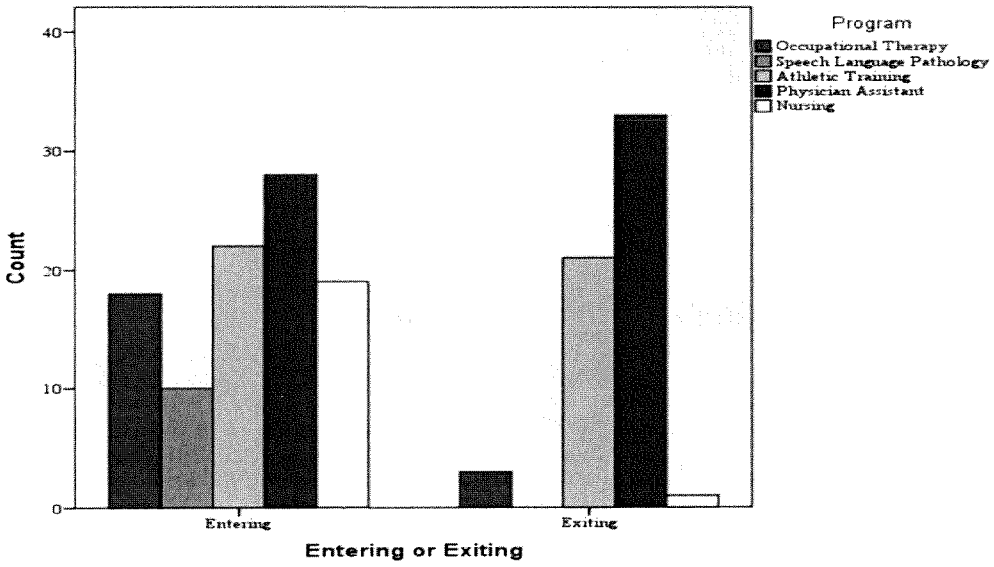


Figure 7. Shows Professional Program of Participants both Entering and Exiting Students

Table 7. Professional Program of Participants-Cross tabulation for Entering and Exiting Students

Entering or Exiting * Program Crosstabulation

			Program					
			Occupational Therapy	Speech Language Pathology	Athletic Training	Physician Assistant	Nursing	Total
Entering or Exiting	Entering	Count	18	10	22	28	19	97
		% within Entering or Exiting	18.6%	10.3%	22.7%	28.9%	19.6%	100.0%
	Exiting	Count	3	0	21	33	1	58
		% within Entering or Exiting	5.2%	0.0%	36.2%	56.9%	1.7%	100.0%
Total		Count	21	10	43	61	20	155
		% within Entering or Exiting	13.5%	6.5%	27.7%	39.4%	12.9%	100.0%

Table 7. Shows Professional Program of Participants –Cross tabulation for Entering and Exiting Students

Personal Information-Travel Internationally

Ninety-one students provided personal information on traveling internationally. Seventy (76.9%) entering students that participated in the study stated they had traveled internationally. While 21 (23.1%) stated they had not traveled internationally. The majority of "exiting" students stated they had also traveled internationally 42 (79.2%). While 11 (20.8%) exiting students stated they had not traveled internationally. Please see Figure 8. Table 8. also provides a cross tabulation.

Figure 8. Personal Information-Travel Internationally Both Entering and Exiting Students

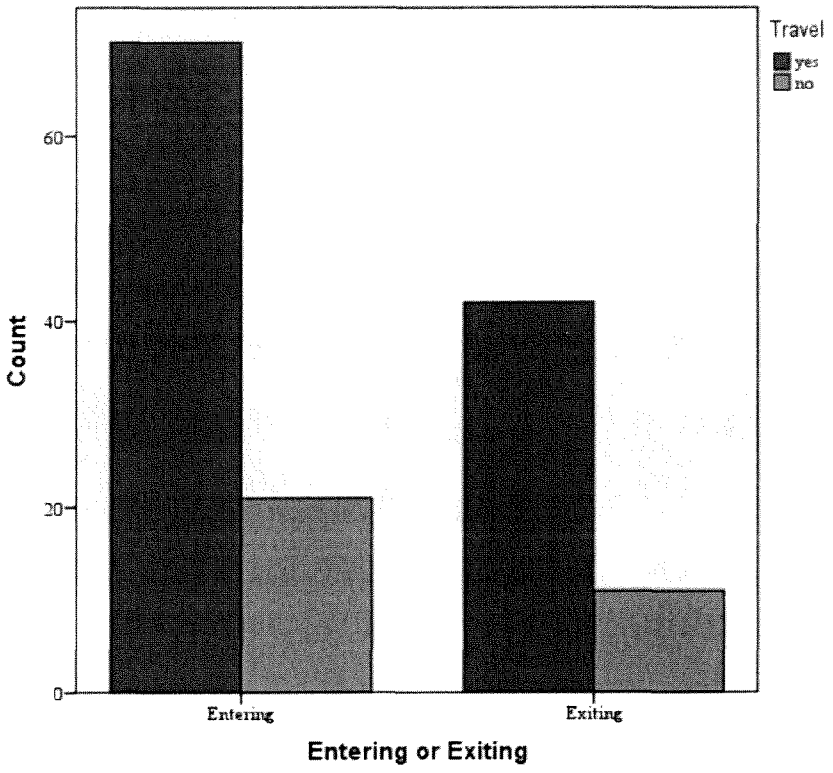


Figure 8. Shows Personal Information-Travel Internationally both Entering and Exiting Students

Table 8. Personal Information-Travel Internationally Cross tabulation for Entering and Exiting Students

Entering or Exiting * Travel Crosstabulation

			Travel		
			yes	no	Total
Entering or Exiting	Entering	Count	70	21	91
		% within Entering or Exiting	76.9%	23.1%	100.0%
	Exiting	Count	42	11	53
		% within Entering or Exiting	79.2%	20.8%	100.0%
Total		Count	112	32	144
		% within Entering or Exiting	77.8%	22.2%	100.0%

Table 8. Shows Personal information-Travel Internationally Cross tabulation for Entering and Exiting students.

Educational Experience Internationally

Ninety-one students provided personal information on their Educational Experience Internationally. Sixty-four (70.3%) entering students stated they had no educational experience internationally. While 27(29.7%) entering students stated they had educational experience internationally. The majority of exiting students stated they had no educational experience internationally 34(64.2%). While 19(35.8%) exiting students stated they had educational experience internationally. Please see Figure 9.

Table 9. also provides a cross tabulation.

Figure 9. Personal Information- Educational Experience Internationally Both Entering and Exiting Students

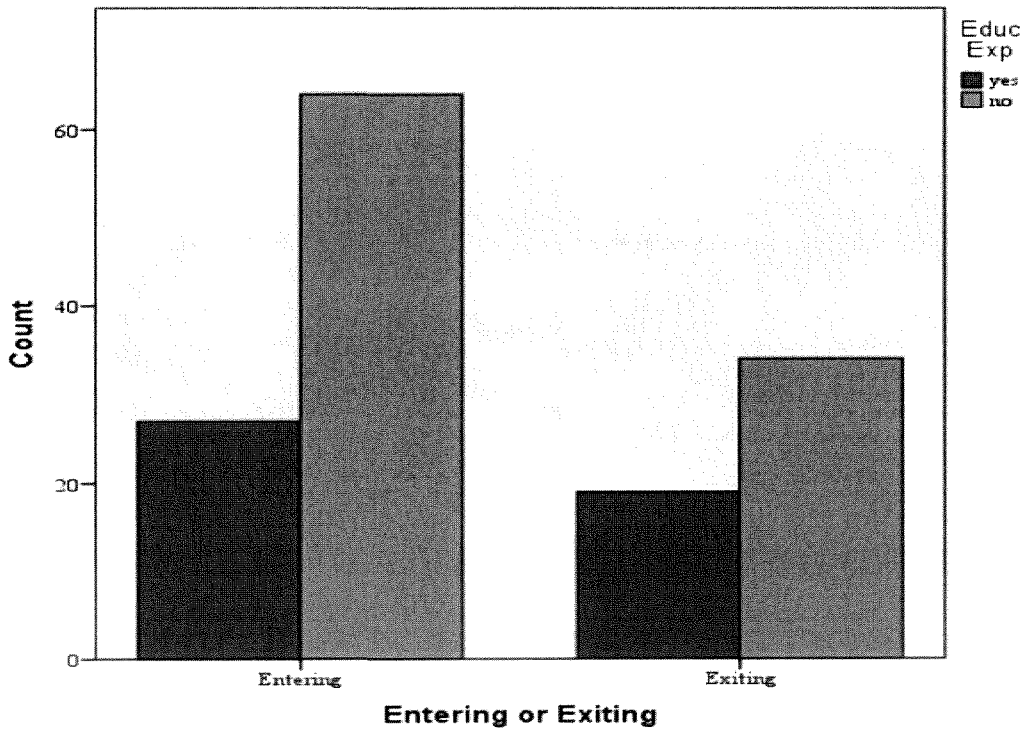


Figure 9. Shows Personal Information-Educational Experience Internationally both Entering and Exiting Students

Table 9. Personal Information Educational Experience Internationally Cross tabulation for Entering and Exiting Students

Entering or Exiting * Educ Exp Crosstabulation

			Educ Exp		
			yes	no	Total
Entering or Exiting	Entering	Count	27	64	91
		% within Entering or Exiting	29.7%	70.3%	100.0%
	Exiting	Count	19	34	53
		% within Entering or Exiting	35.8%	64.2%	100.0%
Total		Count	46	98	144
		% within Entering or Exiting	31.9%	68.1%	100.0%

Table 9. Shows Personal Information Educational Experience Internationally Cross tabulation for Entering and Exiting Students.

Research Questions

Descriptive Statistics was used to answer research Question number one and determine level of Cultural Competence regardless of the professional program.

Research Question One:

A. What is the level of cultural competence of health professional students as measured by the GWCCS in the Health Science Professional Programs within the University upon entering?

B. What is the level of cultural competence of health professional students as measured by the GWCCS in the Health Science Professional Programs within the University upon exiting?

Table 10. Provides a comparison of scoring scale for the Inventory for Assessing the Process of Cultural Competence (IAPCC) and the Global Worldview Cultural Competence Survey (GWCCS). The Inventory for Assessing the Process of Cultural Competence was created by Campinha Bacote who is a seminal author on cultural competence. Smith and Campbell have written an article on the The Inventory for Assessing the Process of Cultural Competence (IAPCC) which supports the use of the tool for calcualting the raw scores for the Global Worldview Cultural Competence Survey (Smith-Campbell, B., 2005).

Table 10. Comparison of Scoring Tables of the GWCCS and IAPCC

Scores Calculated in Percentages	**IAPCC-SCORING ***	**GWCCS-SCORING ****	**Cultural Competence Level**
25-49%	20-39	38-74	Cultural Incompetent
50-74%	40-59	75-112	Cultural Awareness
75-93%	60-74	113-140	Cultural Competence
94-00%	75-80	141-150	Cultural Proficient

Table 10. Shows the Comparison of Scoring Tables of the GWCCS and IAPCC

*Bacote's Study used 20 questions with a 0-4 Liket Scale

**GWCC Survey used 30 questions for the construct with 1-5 likert scale.

Smith-Campbell, B. (2005). Health Professional Students' Cultural Competence and Attitudes toward the Poor: The Influence of a Clinical Practicum Supported by the National Health Service Corps. Journal of Allied Health, 34(1).

Table 11 provides the scores for Descriptive Statistics and Analysis for Entering Versus Exiting Students. While Figure 10. shows Box Plots with the mean standard deviation for the Global Worldview Cultural Competence Scores for Entering and Exiting Students.

Table 11. GWCC Score Descriptive Statistics and Analysis for Entering Versus Exiting Students

Global Worldview Cultural Competence Score

		Overall	Entering	Exiting
N	Valid	196	138	58
	Missing	9	8	1
Mean		119.27	118.02	122.24
Median		119.00	117.00	121.00
Std. Deviation		9.986	9.448	10.671
Range		60	50	51
Minimum		90	90	99
Maximum		150	140	150

Table 11. Shows the GWCC Score Descriptive Statistics and Analysis for Entering Versus Exiting Students

Figure10. Box Plots with Mean Standard Deviation GWCC Scores

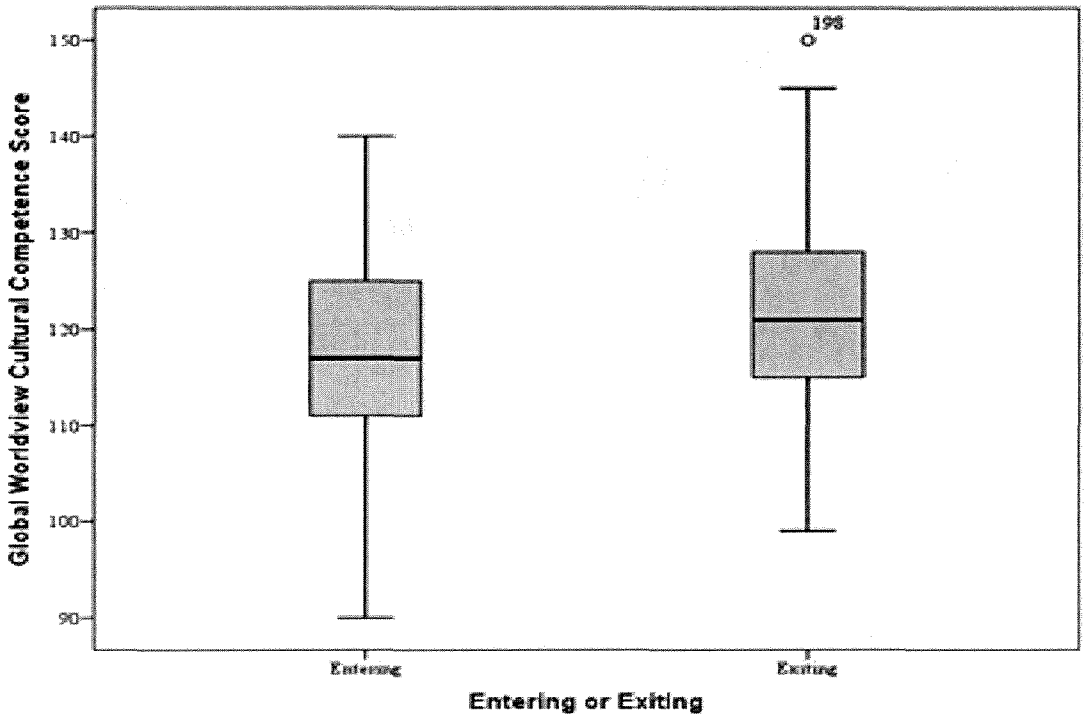


Figure 10. Box Plots with Mean Standard Deviation GWCC Scores

The Mann-Whitney U Test was used to answer research question number two. The purpose was to determine the difference between the two groups which consisted of all entering students and all exiting students.

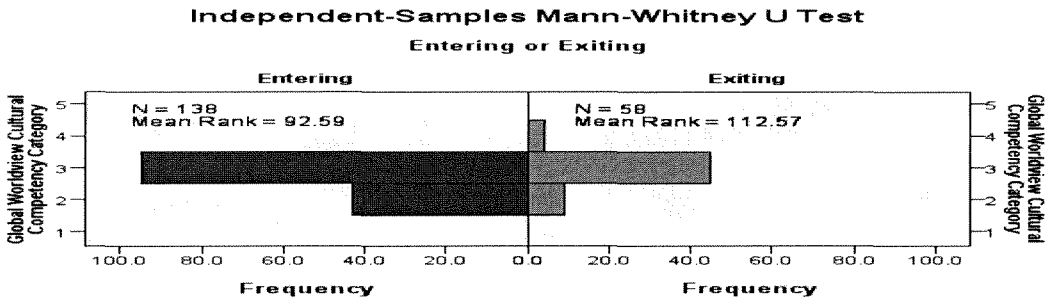
Research Question Two:

Is there a difference between cultural competence levels in entering (first year) and exiting (final year) health science students of a Health Science Professional Program within the University as measured by the GWCCS?

To test if there was a significant change in the GWCC Category, a nonparametric analysis was needed; since both entering/exiting and GWCC Categories are categorical variables. The Mann-Whitney U was a legitimate analysis to test for the significant difference between entering and exiting students. The Mann Whitney U test is used to test for difference between two independent groups on a continuous measure.

The results of Mann-Whitney U Test was significant. There was a significant shift up in mean rank from the entering students' GWCC Category to the exiting students' GWCC Category (mean rank for entering is 92.59 and mean rank for exiting is 112.57). The scoring range also showed a person that was culturally proficient in the exiting population. Please see Figure 11.

Figure 11. Independent Samples-Mann- Whitney U Test Entering and Exiting Students



Total N	196
Mann-Whitney U	4,818.000
Wilcoxon W	6,529.000
Test Statistic	4,818.000
Standard Error	284.711
Standardized Test Statistic	2.866
Asymptotic Sig. (2-sided test)	.004

Figure 11. Shows Independent Samples-Mann-Whitney U Test Entering and Exiting Students

In order to answer Research Question Number Three additional analysis were completed including the Mean Score and Kruskal Wallis.

Research Question Three:
Is there a difference between cultural competence levels in entering (first year) and exiting (final year) health science students BASED UPON THIER Health Science Professional Program within the University as measured by the GWCCS?

The Mean score for the Entering Students by Program shows Occupational Therapist had the highest mean score of 120.94 while the second highest score was for Athletic Training with a score of 120.09. Please see Table 12 and Figure 12.

Table 12. Global Worldview Cultural Competence Mean Score for Entering Students by Program

Report[a]

Global Worldview Cultural Competence Score

Program	Mean	Std. Deviation	N
Occupational Therapy	120.94	11.924	18
Speech Language Pathology	118.10	8.306	10
Athletic Training	120.09	8.332	22
Physician Assistant	119.71	7.393	28
Nursing	117.80	10.299	20
Total	119.47	9.144	98

a. Entering or Exiting = Entering

Table 12. Shows the Global Worldview Cultural Competence Mean Score for Entering Students by Program

The box plots in Figure 12 shows the distribution of scores among the programs.

Figure 12. GWCC Score by Program for Entering Students

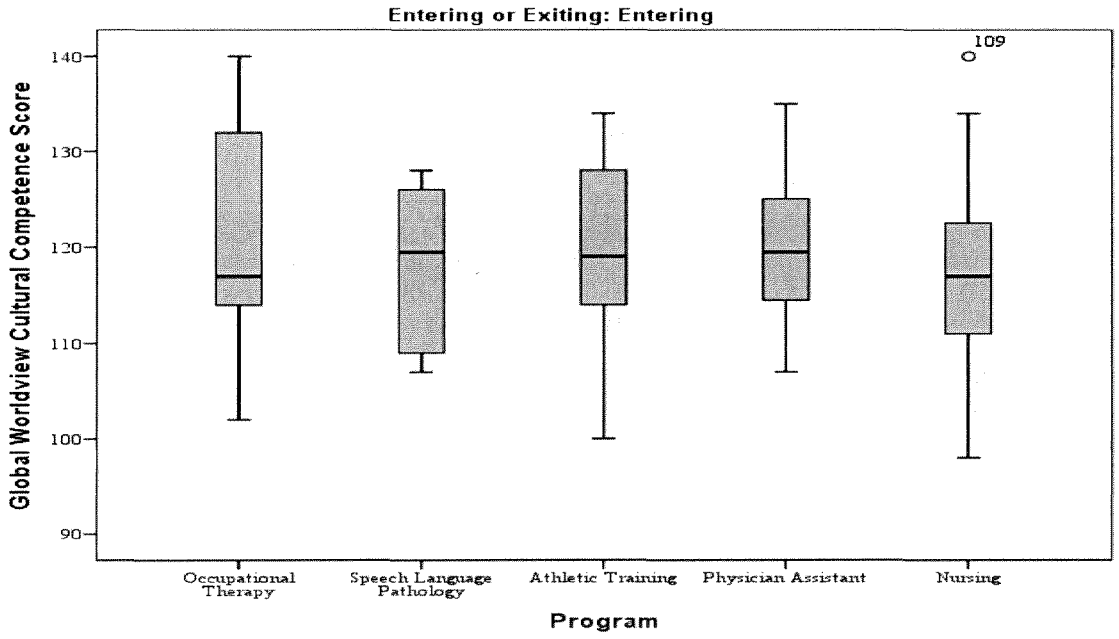


Figure 12. Shows the GWCC Score by Program for Entering Students

Please see Table 13 for the GWCC Scores by program exiting Students and Figure 13 also provides a box plot of score by program exiting.

Table 13. Global Worldview Cultural Competence Score by Program-Exiting Students

Report[a]

Global Worldview Cultural Competence Score

Program	Mean	Std. Deviation	N
Occupational Therapy	123.33	6.658	3
Athletic Training	120.33	10.901	21
Physician Assistant	123.58	10.946	33
Nursing	115.00	.	1
Total	122.24	10.671	58

a. Entering or Exiting = Exiting

Table 13. Shows the Global Worldview Cultural Competence Score by Program-Exiting Students

Figure 13. Global Worldview Cultural Competence Score by Program Exiting

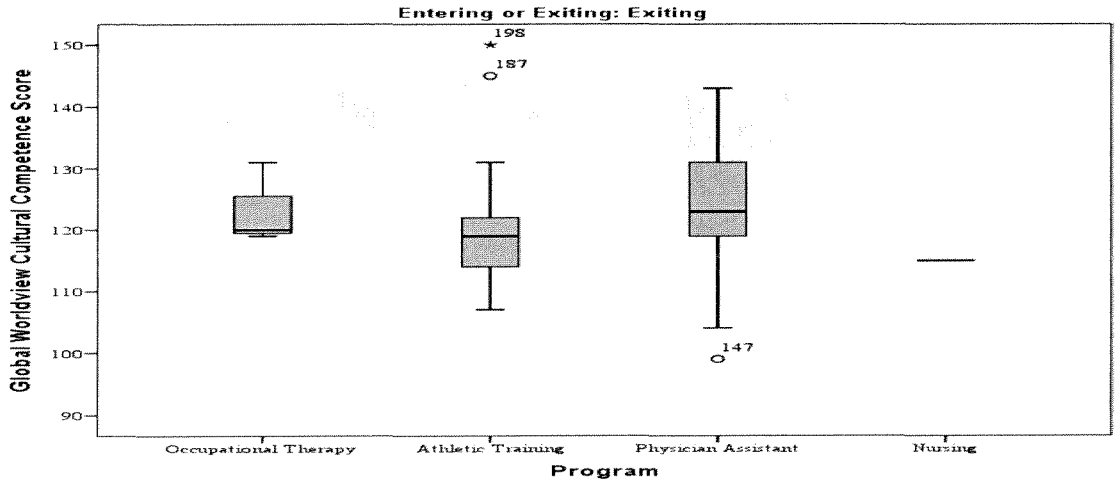


Figure 13. Shows the Global Worldview Cultural Competence Score by Program Exiting

The results of the analysis of entering and exiting students' GWCC suggests that there is a homogeneity of distribution of GWCC scores within the entering and exiting students regardless of program. Therefore, if there is an improvement of the GWCC score for a student it may not be as a result of their program. For Speech Language Pathology there were no results for the exiting surveys. Please see Table 14.

Table 14. GWCC Score by Program Entering and Exiting Students

Descriptive Statistics

Dependent Variable: Global Worldview Cultural Competence Score

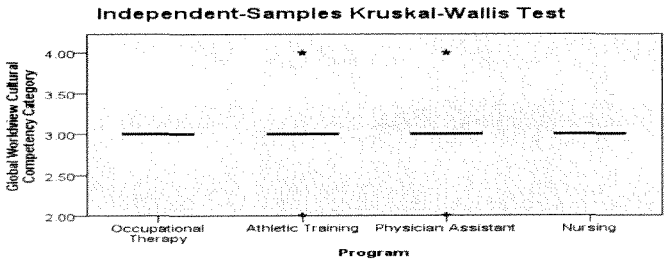
Entering or Exiting	Program	Mean	Std. Deviation	N
Entering	Occupational Therapy	120.94	11.924	18
	Speech Language Pathology	118.10	8.306	10
	Athletic Training	120.09	8.332	22
	Physician Assistant	119.71	7.393	28
	Nursing	117.80	10.299	20
	Total	119.47	9.144	98
Exiting	Occupational Therapy	123.33	6.658	3
	Athletic Training	120.33	10.901	21
	Physician Assistant	123.58	10.946	33
	Nursing	115.00	.	1
	Total	122.24	10.671	58
Total	Occupational Therapy	121.29	11.226	21
	Speech Language Pathology	118.10	8.306	10
	Athletic Training	120.21	9.556	43
	Physician Assistant	121.80	9.605	61
	Nursing	117.67	10.057	21
	Total	120.50	9.798	156

Table 14. Shows the GWCC Score by Program for Entering and Exiting Students

The Kruskal Wallis test sometimes referred to as the Kruskal Wallis H Test is the non-parametric alternative to the one-way between groups analysis of variance. The test allows you to compare the scores on some continuous variable for three or more groups. The Kruskal Wallis Test is similar in nature to the Mann-Whitney U Test but it allows you to compare more than just two groups. The Cultural Competence scores were converted to ranks and the mean rank for each group was compared. This is a "between

groups" analysis which states that different people must be in each of the different groups (Elliott and Woodward, 2007). The Kruskal-Wallis was used since I had independent samples and was looking for the mean rank of the five health professional programs. Also the sample size was non parametric, there was a small sample size, and no assumptions were made about the population. The GWCC Score results were similar and there was no significant difference of the GWCC Categories between programs for both entering and exiting students. Please see Figure 14.

Figure 14. Independent-Samples Kruskal-Wallis Test between Programs for Both Entering and Exiting Students



Total N	58
Test Statistic	.182
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.981

1. The test statistic is adjusted for ties.
2. Multiple comparisons are not performed because the overall test does not show significant differences across samples.

Figure 14. Shows the Independent-Samples Kruskal-Wallis Test between Programs for Both Entering and Exiting Students

Summary of Additional Questions Posed

Additional questions were posed to provide additional insight into the data. These questions were included within the survey to determine how the participants defined cultural competence, cultural competence within health science professional curriculums and to further understand participant beliefs towards the role of Cultural Competence in Health Science Professional education.

Specifically, participants were asked several questions which sought to understand how they defined cultural competence. Some questions included:

Culture is defined as an integrated pattern of human behavior that includes thoughts, communications, actions, customs, beliefs, and values of a racial, ethnic, religious, or social group.

Competence implies having the ability to function effectively (in practice and in everything you do).

Culture influences health and illness.

Culture is transmitted through behavioral patterns.

Culture is learned through family, school, community, and other social organizations.

Cultural Competence refers to the ability to communicate effectively with a person/people from a different culture.

Table 15. Provides information on the responses to the definition of cultural competence questions.

Table 15. Summary of Student Responses to the Definition of Cultural Competence Questions

Summary of responses to the definition of cultural competence questions

			Entering (143)	Exiting (50)	Overall (202)
Human Behavior	Disagree	Count	1	0	1
		% within Entering or Exiting	.7%	0.0%	.5%
	Neutral	Count	5	2	7
		% within Entering or Exiting	3.5%	3.4%	3.4%
	Agree	Count	69	27	96
		% within Entering or Exiting	47.9%	45.8%	47.3%
	Strongly Agree	Count	69	30	99
		% within Entering or Exiting	47.9%	50.8%	48.8%
Competence	Disagree	Count	3	1	4
		% within Entering or Exiting	2.1%	1.7%	2.0%
	Neutral	Count	14	3	17
		% within Entering or Exiting	9.7%	5.2%	8.4%
	Agree	Count	72	31	103
		% within Entering or Exiting	50.0%	53.4%	51.0%
	Strongly Agree	Count	55	23	78
		% within Entering or Exiting	38.2%	39.7%	38.6%
Health/Illness	Strongly Disagree	Count	2	1	3
		% within Entering or Exiting	1.4%	1.7%	1.5%
	Disagree	Count	22	3	25
		% within Entering or Exiting	15.3%	5.1%	12.3%
	Neutral	Count	32	13	45
		% within Entering or Exiting	22.2%	22.0%	22.2%
	Agree	Count	71	31	102
		% within Entering or Exiting	49.3%	52.5%	50.2%
	Strongly Agree	Count	17	11	28
		% within Entering or Exiting	11.8%	18.6%	13.8%
Behavior Patterns	Disagree	Count	7	2	9
		% within Entering or Exiting	4.9%	3.4%	4.4%
	Neutral	Count	27	6	33
		% within Entering or Exiting	18.8%	10.2%	16.3%
	Agree	Count	89	39	128
		% within Entering or Exiting	61.8%	66.1%	63.1%
	Strongly Agree	Count	21	12	33
		% within Entering or Exiting	14.6%	20.3%	16.3%
Learned	Disagree	Count	3	0	3
		% within Entering or Exiting	2.1%	0.0%	1.5%
	Neutral	Count	5	2	7
		% within Entering or Exiting	3.5%	3.4%	3.4%

		% within Entering or Exiting	3.5%	3.4%	3.4%
	Agree	Count	66	30	96
		% within Entering or Exiting	45.8%	50.8%	47.3%
	Strongly Agree	Count	70	27	97
		% within Entering or Exiting	48.6%	45.8%	47.8%
Different Cultures	Disagree	Count	7	4	11
		% within Entering or Exiting	4.9%	6.8%	5.4%
	Neutral	Count	21	6	27
		% within Entering or Exiting	14.7%	10.2%	13.4%
	Agree	Count	79	26	105
		% within Entering or Exiting	55.2%	44.1%	52.0%
	Strongly Agree	Count	36	23	59
		% within Entering or Exiting	25.2%	39.0%	29.2%

Table 15. Shows Summary of Student Responses to the Definition of Cultural Competence Questions

Sixty-nine (47.9%) entering students responded strongly agree that culture is defined as an integrated patter of human behavior that includes thoughts, communications, actions, customs, beliefs, and values of a racial, ethnic, religious, or social group . Thirty (50.8%) of exiting students also responded strongly agree.

Students were also asked several questions concerning the curriculum of cultural competence. Some of these questions included:

Cultural values are a focus of my professional Health Science curriculum.

Learning experiences contribute to the development of Cultural Competence.

Education through diverse learning experiences influences Cultural Competence.

I have engaged in at least one learning experience that focused on Cultural Competence.

I am aware of specific Cultural Competence learning experiences within my educational curriculum.

Nineteen (13.3%) of entering students responded strongly agree when asked if cultural values are a focus of my professional Health Science curriculum. While four (6.8%) of exiting students responded strongly agree. Please see Table 16.

Table 16. Summary of student responses to the Curriculum of Cultural Competence Questions

Summary of responses to the Curriculum of Cultural Competency questions

			Entering (142)	Exiting (59)	Overall (201)
Cultural Values	Strongly Disagree	Count	3	1	4
		% within Entering or Exiting	2.1%	1.7%	2.0%
	Disagree	Count	13	10	23
		% within Entering or Exiting	9.1%	16.9%	11.4%
	Neutral	Count	39	14	53
		% within Entering or Exiting	27.3%	23.7%	26.2%
	Agree	Count	69	30	99
		% within Entering or Exiting	48.3%	50.8%	49.0%
	Strongly Agree	Count	19	4	23
		% within Entering or Exiting	13.3%	6.8%	11.4%
Learning Experiences	Disagree	Count	1	0	1
		% within Entering or Exiting	.7%	0.0%	.5%
	Neutral	Count	10	2	12
		% within Entering or Exiting	7.0%	3.4%	6.0%
	Agree	Count	68	29	97
		% within Entering or Exiting	47.9%	49.2%	48.3%
	Strongly Agree	Count	63	28	91
		% within Entering or Exiting	44.4%	47.5%	45.3%
Education	Disagree	Count	1	0	1
		% within Entering or Exiting	.7%	0.0%	.5%
	Neutral	Count	10	4	14
		% within Entering or Exiting	7.0%	6.8%	7.0%
	Agree	Count	74	27	101
		% within Entering or Exiting	52.1%	45.8%	50.2%
	Strongly Agree	Count	57	28	85
		% within Entering or Exiting	40.1%	47.5%	42.3%
One Experience	Strongly Disagree	Count	2	0	2
		% within Entering or Exiting	1.4%	0.0%	1.0%
	Disagree	Count	16	3	19
		% within Entering or Exiting	11.3%	5.1%	9.5%
	Neutral	Count	26	7	33
		% within Entering or Exiting	18.3%	11.9%	16.4%
	Agree	Count	66	26	92
		% within Entering or Exiting	46.5%	44.1%	45.8%
	Strongly Agree	Count	32	23	55
		% within Entering or Exiting	22.5%	39.0%	27.4%
Specific Learning	Strongly Disagree	Count	0	1	1
		% within Entering or Exiting	0.0%	1.7%	.5%

Disagree	Count	11	6	17
	% within Entering or Exiting	7.7%	10.2%	8.5%
Neutral	Count	46	10	56
	% within Entering or Exiting	32.4%	16.9%	27.9%
Agree	Count	62	30	92
	% within Entering or Exiting	43.7%	50.8%	45.8%
Strongly Agree	Count	23	12	35
	% within Entering or Exiting	16.2%	20.3%	17.4%

Table 16. Shows Summary of Student Responses to the Curriculum of Cultural Competence Questions

Students were then asked questions concerning their beliefs towards the role of cultural competence. Some of the questions included:

Health Science students should possess cultural knowledge.

Health Science students should practice in a cultural competent manner.

Health science professional curricula should possesss guidelines which ensure that students are regularly exposed to the tenets associated with culturally competent practice behaviors

Cultural Competence is an important part of health science professional curriculums.

Seventy-Six (52.8%) entering students responded strongly agree that health science students should practice in a culturally competent manner. While 37 (62.7%) exiting students responded strongly agree. Please see Table 17.

Table 17. Summary of Beliefs towards the Role of Cultural Competence Questions

Summary of Role of Cultural Competency questions

			Entering (144)	Exiting (59)	Overall (203)
Possessing	Disagree	Count	2	1	3
		% within Entering or Exiting	1.4%	1.7%	1.5%
	Neutral	Count	9	2	11
		% within Entering or Exiting	6.3%	3.4%	5.4%
	Agree	Count	64	24	88
		% within Entering or Exiting	44.4%	40.7%	43.3%
	Strongly Agree	Count	69	32	101
		% within Entering or Exiting	47.9%	54.2%	49.8%
Practice	Disagree	Count	0	1	1
		% within Entering or Exiting	0.0%	1.7%	.5%
	Neutral	Count	12	1	13
		% within Entering or Exiting	8.3%	1.7%	6.4%
	Agree	Count	56	20	76
		% within Entering or Exiting	38.9%	33.9%	37.4%
	Strongly Agree	Count	76	37	113
		% within Entering or Exiting	52.8%	62.7%	55.7%
Guidelines	Disagree	Count	3	1	4
		% within Entering or Exiting	2.1%	1.7%	2.0%
	Neutral	Count	15	6	21
		% within Entering or Exiting	10.4%	10.2%	10.3%
	Agree	Count	74	29	103
		% within Entering or Exiting	51.4%	49.2%	50.7%
	Strongly Agree	Count	52	23	75
		% within Entering or Exiting	36.1%	39.0%	36.9%
Prof Curriculums	Disagree	Count	2	1	3
		% within Entering or Exiting	1.4%	1.7%	1.5%
	Neutral	Count	11	4	15
		% within Entering or Exiting	7.6%	6.8%	7.4%
	Agree	Count	71	29	100
		% within Entering or Exiting	49.3%	49.2%	49.3%
	Strongly Agree	Count	60	25	85
		% within Entering or Exiting	41.7%	42.4%	41.9%

Table 17. Shows summary of beliefs towards the role of Cultural Competence Questions

Responses to the additional questions show students strongly agree on the definition of cultural competence and that cultural competence should be infused within health professional science curriculums. They also believe that healthcare professionals have a

responsibility to the healthcare profession as culturally competent healthcare professionals.

Chapter V

DISCUSSION

The purpose of the study was to assess cultural competence in health professional students (Speech Language Pathologist, Physician Assistants, Occupational Therapist, Physical Therapist, Athletic Trainers, and Nursing Students), using the Global *(worldview)* Cultural Competence Survey which is based on the Purnell Model. A significant difference in GWCCS scores was observed between entering and exiting students in health sciences with the exiting students being slightly more culturally competent. Surprisingly, entering students were considered Culturally Competent with scores ranging from 90-140. More entering students identified as females (78 or 81.3%) and were 21 and under (49 or 50.5%). These students identified as having traveled internationally (27or 29.7%) and Caucasian non-Hispanic (69 or 71%). More entering students identified themselves as "other" (12 or 12.4%) than exiting students when asked about their ethnicity. The specific characteristics of this population of students which represents a more cultural experienced group may help us to explain why these entering students are considered culturally competent already.

Exiting Students were also considered Culturally Competent with scores ranging from 99-150. Exiting Students identified as females (42 or 72.4%) ranging between the age of 22 and 34 years old (51 or 87.9%). There were less exiting students than entering students that had traveled internationally (42 or 79.2%) and identified themselves as Caucasian non-Hispanic (42 or 72.4%). While we see a slight increase in their cultural competence the fact that they are not cultural proficient based upon our scales leads for

concern and drives us back to our initial looming practical question of interest, "what teaching and learning strategies promote cultural competence in health sciences students." While, a statistical significance in GWCCS scores was not observed between entering and exiting students in health sciences based upon their professional program. Exiting students actually received a higher score within the cultural competence category. Ideally exiting students should be culturally proficient post curricular experiences focusing on cultural competency development and if they are not this leads us to question the curriculums being implied.

Educators need to reassess their curriculums and determine what combination of learning experiences benefit students so they will exit their programs culturally proficient. Students and faculty should have a voice in the development of the curriculums so the student does not become a healthcare professional that has all the skills and knowledge of their profession but lack knowledge and understanding of the need to be culturally competent. Learning experiences should be evaluated to determine if they are appropriate for the goal of increasing culturally competent students. However, assessing Cultural Competence must be from a global perspective. The Global Worldview Cultural Competence Survey now offers a global perspective on cultural competency and can be used. Thus these findings can be used by academic programs as a means to re-evaluate their individual programs and develop strategies to increase cultural competence levels of their students and these institutions can be encouraged to use the Global Worldview Cultural Competence Survey as a tool to assess cultural competence from a global perspective.

United States continues to be an ever increasing diverse population and it is critically important that healthcare professionals are educated specifically to address issues of culture in an effective manner. Cultural Competence should be at the forefront and should not be of marginal importance within a curriculum. Cultural Competence should be infused within curriculums in order to emphasize the importance of relationships between healthcare professionals and the patients. Curriculums should provide the healthcare student with the knowledge, skill, and attitude to work with a person from a different culture without stereotyping while providing enough cultural competence to be aware of normative cultural values.

Limitations of the study

As with all studies there were several notable limitations to the study. These limitations included a small sample size, voluntary sample, generalizability, self-reported data, sample of convenience and a low return rate. Although the surveys were sent out to a large group of potential participants as with any survey the researcher is limited by the return response. The sample could be bias since participants were volunteering to complete the survey and therefore they may already have an interest in cultural competence. Generalizability was also a limitation of the study since the results can only be generalizable to the health professional students (SLP, PA, OT, and AT) within this University. Data was also self-reported data and there was no way to verify accuracy of self-reported data. Students completing the survey also may have answered the way they thought the Principal Investigator wanted them to answer. Some students may also embellish the truth, exaggerate or downplay their real feelings toward cultural competence. The data was also a sample of convenience and was collected from graduate

students in the health professional programs within one University and not across Universities.

Chapter VI

CONCLUSION

The purpose of this study was two-fold: a) to assess the cultural competence levels of entering (first year) and exiting(final year) health professional students; b) to determine if there is a difference between cultural competence levels in entering (first year) and exiting (final year) as measured by the Global Worldview Cultural Competence Survey (GWCCS) in the Health Science Professional Programs within aUniversity. The pilot study research concluded that the Global (worldview) Cultural Competence Survey is a valid and reliable tool to assess cultural competence from a global perspective in health professional students. Based on the data from the correspondents in this study a significant difference in GWCCS scores was observed between entering and exiting students in health sciences; with the exiting students being slightly more culturally competent and a statistical significance in GWCCS scores was not observed between entering and exiting students in health sciences based upon their professional program.

As our society becomes more diverse and global, culture can no longer be associated with ethnicity, race, or a particular cultural group. Healthcare institutions must continue to emphasize the importance of cultural competence and remain in position to have a positive impact on cultural competence (Long, 2012). To meet this need they must seek to evaluate their educational experiences and practices to ensure that students are developing the necessary skills to meet the challenges of today.

Implications of the Study

Cultural Competence can be identified as a non-linear process that is never ending and forever expanding, and contracting based on the level of cultural competence (Purnell, 2005). The findings of this study support that cultural competence is based on a continuous increase in knowledge and skill development related to culture and the way in which a persons' culture is shaped depending on their values , beliefs and life-ways and for students this is continuous over the period of the academic curriculum. Therefore educators must utilize different learning strategies wisely within their curriculums and evaluate if they truly increase the levels of cultural competence of their students.

Recommendations for Future Research

As we seek to explore the possibilities for future research endeavors in this area expanding this study methodology to look across Universities, different educational professional programs, specially pre-post an educational learning strategy or longitudinally within an academic program, the data obtained will broaden our understanding regarding cultural competency. Additionally, other researcher can use the Global Worldview Cultural Competence Survey to assess cultural competence in students and healthcare professionals as they seek to serve a more diverse society.

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Appendix A

Definitions for the purposes of this study

Culture: implies that the integrated pattern of human behavior that includes thoughts, Communications, actions, customs, beliefs, values and instructions of racial, ethnic, religious, or social group.

Competence: implies having the capacity to function effectively (in practice and in everything you do).

Cultural Competence: Behavioral patterns, arts, beliefs, values, customs, lifeways (customary manner of living, a way of life) and all other products of human work and thought characteristics of a population of people that guide their worldview and decision making (Purnell, L 2003).

Appendix B

Sample Questions from the Global Worldview Cultural Competence Survey

Sample Questions from the Global Worldview Cultural Competence Survey have been provided. For additional information concerning the Global Worldview Cultural Competence Survey please contact Seton Hall University Genevieve Pinto Zipp, PT, EdD.Professor, Department of Interprofessional Health Sciences and Health Administration genevieve.zipp@shu.edu.

Global (worldview) Cultural Competence Survey

Global (Worldview) Cultural Competency Survey (GWCCS)

The Health Science Profession supports the promotion of Cultural Competence (CC). As a Health Science Professional understanding your perceptions regarding CC is important to the further development of CC in Health Science education and practice. Therefore we ask that you complete the following survey which we have created to gain insight on the current status of CC in the health sciences. Your responses will be held in the strictest of confidence and will be anonymous. The data will only be reported in aggregate form. Participation in this study is completely voluntary, by completing this survey you are giving your consent to participate in the study.

Definitions for the purposes of this survey

Culture: implies that the integrated pattern of human behavior that includes thoughts, communications, actions, customs, beliefs, values and instructions of racial, ethnic, religious, or social group.

Competence: implies having the capacity to function effectively (in practice and in everything you do).

Cultural Competence: Behavioral patterns, arts, beliefs, values, customs, Lifeways (customary manner of living, a way of life) and all other products of human work and thought characteristics of a population of people that guides their worldview and decision making (Purnell, L 2003).

Part 1

INSTRUCTIONS: For each question below, you will find 5 responses, from Strongly Disagree, 1 to Strongly Agree, 5. Circle the answer that most closely reflects how you would answer the question today. It should take approximately 30 minutes to answer all questions.

Please circle only one response for each question using the rating scale below:

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

1. I reflect on and examine my own heritage (cultural).

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

2. I accept family roles and how it is organized within a person's household.

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

3. How an individual performs in the healthcare work environment may be related to healthcare practices from their country of origin.

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

4. Specific ethnic and racial origins may result in differences in the way drugs are metabolized by the body.

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

5. Nutrition includes a person's value or importance of the role that food holds in their daily life experiences.

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

Appendix C

Pilot Study Survey Development and Validation

The Global (worldview) Cultural Competence survey was developed by the Principal Investigator. In order to determine content validity and internal consistency (item reliability) of the Global (worldview) Cultural Competence survey a pilot study was conducted. The pilot study involved survey validation for both content validity and internal consistency (item-reliability). The Global (worldview) Cultural Competence Survey was administered to health science professional faculty members of the School of Health and Medical Science and School of Nursing at Seton Hall University for content validity. The faculty members reviewed the survey and provided feedback on each item. The faculty members were selected if they had taught; research coursework or had experience in survey design research, taught content on cultural awareness to students within the School of Nursing or Health Sciences Programs, and was a health professional. Portney and Watkins (2009) explains "content validity" as a type of measurement validity that demands that an instrument be free from the influence of factors irrelevant to the purpose of the instrument's measurement (Portney & Watkins, 2009). The panel of content experts reviewed the instrument to determine if the items in the questionnaire satisfied the content domains. Only the items with higher than 85% consensus were included in the final questionnaire. The original questionnaire had fifty three (53) items. The survey went to the faculty members and by the second round a content validated questionnaire was finalized and had 58 items.

After obtaining content validity the survey instrument was then validated for internal consistency (item-reliability). The Primary Investigator (PI) provided a solicitation letter

with the survey to Ms. Joann DeBerto, department secretary of the GPHS at SHU in an envelope; who in turn distributed the envelope containing the solicitation letter and survey to a classroom of students in their final professional year within the School of Health and Medical Sciences Professional Programs at Seton Hall University and School of Nursing at Seton Hall University within their respective classrooms. Prior to the distribution of the survey to the students by Ms. Joann Deberto the PI received confirmation from the School of Health and Medical Science Dept Chairperson that Ms. Deberto could distribute the letter of solicitation and survey on behalf of the PI. Item reliability (internal consistency) was important to establish since it reflects the extent to which items measure various aspects of the same characteristic and nothing else (Portney &Watkins, 2009).

The survey was divided into 5 sections. Sections 1 to 4 were ordinal scale and included questions focused on the Purnell Model as well as additional information. Section 5was nominal scale and included questions concerning demographics. There was a total of 58 questions. Questions focused on Cultural Competence (30 questions), Cultural Competence Definitions (6 questions), Curriculums (5 questions), Belief Towards CC in HS Professional Education (4 questions) and Demographics (13 questions). Only the thirty questions from Section one Cultural Competence were used to Assess Cultural Competence. The other questions were for additional information.

The thirty questions centered on the entire Purnell Model. The twelve (12) constructs, outlying rim, third rim, second rim, and inner rim. The 12 constructs were Overview/Heritage, Communication, Family Roles and Organization, Workforce Issues, Biocultural Ecology, High Risks Behaviors, Nutrition, Pregnancy, Death Rituals

Spirituality, Healthcare Practitioners. The outlying rim represented global society, the third rim represented community, the second rim represented family, and the inner rim represented the person. Definitions of Cultural Competence, Curriculum, and Roles of Cultural Competence were included in the second through fourth sections of the survey. Information concerning the survey participant's demographics was included in section five. Section five contained classification of variables that were mutually exclusive and thus characterized as a nominal scale. Some of the questions asked in the demographic section of the survey included questions about a student's gender, age, race/ethnic category, specific health science professional program, years of practice as a professional, area of clinical experience or if they had traveled internationally. All of the questions in section one through section four comprised of categorical items that ranged from one extreme through a neutral point to the opposite extreme, thus an ordinal scale. Each category of response was given a numerical value from 1 to 5 with options from Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree respectively.

Determining the total score of the Cronbach's alpha for all thirty questions used to assess Cultural Competence was important for the study. Cronbach's coefficient alpha (α) is the statistical index used to measure internal consistency. The index ranges from 0.00 to 1.00. The indices for Overview/Heritage, Communication, Family Roles and Organization, Workforce Issues, Biocultural Ecology, High Risks Behaviors, Nutrition, Pregnancy, Death Rituals Spirituality, Healthcare Practitioners, Global Society Community, Family, Person, were calculated separately from Definitions of Cultural Competence, Curriculum, and Roles of Cultural Competence. This was done to ensure the Cronbach's on the sections of the survey used to assess cultural competence and the

additional sections which provided additional information were at the appropriate rate. A separate analysis of the Cronbach's alpha for the entire Purnell Model was ran which included the 12 constructs, outlying, second, third, and inner rim (Figure 3. and Table 2.). According to Portney & Watkins (2009), a scale with strong internal consistency should only show a moderate correlation among the items, between .70 and .90. Items with too low correlation would probably measure different traits. Conversely, if the items have too high a correlation, they are probably redundant and the content validity of the scale might be limited (Portney & Watkins, 2009). A separate analysis of the Cronbach's alpha for Family Role was .324, Nutrition .342, Pregnancy .303, Spirituality .601, Health Practices .032, Healthcare Practitioners .612, Community .111, Person .236, Definition of Cultural Competence .636, Curriculum .744, Role of Cultural Competence .905, and Demographics .086. It is appropriate to conclude that Cronbach's α indices obtained was .819 for all the items (30 questions used to assess cultural competence) which concludes that the instrument is closer to the acceptable range and that the items on the scale are measuring the same attribute.

Appendix D

Seton Hall University IRB Approval

SETON HALL UNIVERSITY
1 8 5 6

May 13, 2013

Sophia Jones
122 Rockview Avenue
North Plainfield, NJ 07080

Dear Ms. Jones,

The Seton Hall University Institutional Review Board has reviewed the information you have submitted addressing the concerns for your proposal entitled "Assessing Cultural Competence in Health Professional Students". Your research protocol is hereby accepted as revised and is categorized as exempt.

Please note that, where applicable, subjects must sign and must be given a copy of the Seton Hall University current stamped Letter of Solicitation or Consent Form before the subjects' participation. All data, as well as the investigator's copies of the signed Consent Forms, must be retained by the principal investigator for a period of at least three years following the termination of the project.

Should you wish to make changes to the IRB approved procedures, the following materials must be submitted for IRB review and be approved by the IRB prior to being instituted:

- Description of proposed revisions;
- *If applicable*, any new or revised materials, such as recruitment fliers, letters to subjects, or consent documents; and
- *If applicable*, updated letters of approval from cooperating institutions and IRBs.

At the present time, there is no need for further action on your part with the IRB.

In harmony with federal regulations, none of the investigators or research staff involved in the study took part in the final decision.

Sincerely,

Mary F. Ruzicka, Ph.D.

Mary F. Ruzicka, Ph.D.
Professor
Director, Institutional Review Board

cc: Dr. Genevieve Pinto Zipp