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A comparison of the Myers-Briggs Type Indicator type characteristics and demographics between students enrolled in the DMACC Health Care Administration program and Iowa-licensed nursing home administrators

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A comparison of the Meyers Briggs Type Indicator® type characteristics and demographics between students enrolled in the DMACC Health Care Administration program and Iowa-licensed nursing home administrators

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DEDICATION

To my wonderful family:

my husband, Ray,

and our three children:

Frankie, Jackson, and Winter

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ABSTRACT

Recent studies have identified a decline in the number of candidates sitting for the national nursing home administrator licensing exam (NAB, 2003), while other studies have recognized a decline in the number of students enrolling and completing nursing home administrator educational programs (McGinnis, 2003). This occurrence is directly in conflict with the burgeoning aging population and the anticipated 200-300% increase in nursing home use that is expected by the year 2030.

Iowa's largest nursing home administrator education program is the Health Care Administration program at Des Moines Area Community College (DMACC) and serves approximately 38 students each semester. DMACC has recognized a diminishing number of students enrolling in health care administration classes and a smaller percentage of these students who are persisting to completion of their vocational goal. A study that would illuminate who is enrolling in the DMACC Health Care Administration classes and who is succeeding to licensure would aid decisions at both the educational level as well as at the policy level.

The purpose of this study was to compare students and practitioners of nursing home administration using Myers-Briggs Type Indicator (MBTI®). The MBTI® identifies the ways an individual perceives their world and comes to conclusions about their world. It has been used in numerous studies to ascertain motivation, strengths, opportunities for growth, frustrations, values, management style, and work environment, and it is a tool common to professionals in health care, management, and higher education.

The null hypothesis of this study stated: There are no MBTI® type characteristic differences between nursing home administrator students and licensed nursing home administrators. The alternate hypothesis stated: There are MBTI® type characteristic differences between nursing home administrator students and licensed nursing home administrators.

Data were collected using convenience sampling techniques from 148 participants. The participants included 108 administrators and 40 students. The findings of this study illuminate differences and provide direction for future research efforts. Recommendations were made for DMACC educators and employers of nursing home administrators, with suggestions for further research. These suggestions are intended to assist in recruitment and retention of both students and administrators.

CHAPTER 1. INTRODUCTION

The art of nursing home administration is "... a careful choreography of limited resources to meet the mandates of many people and agencies who have different views and priorities, and all of whom can cause you great personal and professional pain while thoroughly enjoying working with the frail, elderly, and disabled residents for whom they have accepted responsibility" (Ringgenberg, 2002, p. 3). Who would want this job? As it turns out, fewer and fewer people are interested in pursuing licensure and qualifying to shoulder this immense responsibility. This study investigated the decline in licensure candidates through a look at students enrolled in a nursing home administrator education program and a sample of Iowa licensed nursing home administrators. The primary goal of this study was to acquire a description of students and nursing home administrator practitioners using the Myers-Briggs Type Indicator (MBTI®). The theory behind the MBTI® can illuminate the two individual populations as well as provide us with an understanding of who is attracted to nursing home administration and a discussion of who is persisting through the educational requirements to actually become licensed.

Background of the Study

Nursing home administrators

In the United States, federal regulations require that a nursing home have a licensed nursing home administrator at the helm [Code of Federal Regulations 42 § 483.75 (d)(2)(i) and (ii)]. Nursing home administrators (NHA) are licensed professionals who have met state-specific educational requirements and passed a national examination qualifying them to

operate, lead, and manage a nursing home. Nursing homes, also called nursing facilities, are complex organizations that demand complex skills for successful operation (Mullen, 1985). Nursing home administrators must be well-versed in health care, management, business, and at-risk population issues (Allen, 1997). Constancy in this position is important for an effective care delivery system (Castle, 2001; Christiansen & Beaver, 1996; Singh & Schwab, 1998), but studies have shown high turnover and reduced numbers of candidates pursuing licensure (McGinnis, 2003; NAB, 2001/2003; Pratt, 2002). Specifically, the National Board of Examiners for Nursing Home Administrators identified a decline greater than 40% from 1997 to 2003 (NAB, 2003). Stoil (2002) summarized, "There ... might not be enough new license recipients to replace the administrators who are retiring or leaving the field" (p. 6).

Additionally, studies at the Administration on Aging anticipate the older (65+ years) population to increase from 12.4% of the total population to 20% by 2030 (Administration on Aging, 2001). This increase in older Americans will cause an increase in nursing home usage. One study anticipates that "nursing home usage will double or triple by 2030" (Rivlin & Wiener, 1988, cited in Siegal, 1996, p. 1). The increasing number of elderly who will be utilizing nursing homes for care is in direct conflict with the decreasing number of individuals willing to lead nursing homes.. It is imperative to understand the phenomenon of declining numbers of nursing home administrator licensure candidates.

Education

The educational preparation of nursing home administrators has come under scrutiny during the investigation into the decline of nursing home administrator licensure candidates (McGinnis, 2003; NAB, 2001/2003; Pratt, 2002; Stoil, 2002). Williamson (2002) noted that

"the University of Texas Southwestern Medical Center at Dallas has cancelled its long-term care administrator programs due to lack of applicants, and Southwest Texas State University, San Marcos was also forced to scale back a similar program" (p. 12). The author also mentioned "Iowa is another place feeling the pinch. Although Iowa has 731 licensed administrators, and 424 nursing facilities, many of those individuals are ineligible candidates because they're retired, working in other jobs, or living in another state" (p. 12). McGinnis (2003) found that nursing home administrator licensure candidates in Iowa have declined drastically. In 1998, 89 candidates took the licensing exams. In 2002, 18 candidates took the licensing exams. The Indian Hills Community College health care administration program in Osceola, Iowa, closed in 1997 due to low enrollment numbers. Furthermore, the Iowa Board of Examiners for Nursing Home Administrators (Iowa Board) reported less than two phone calls per month from individuals inquiring about educational programs for pursuit of nursing home administrator preparation (Dozier, personal communication, August, 2003). Iowa reflects the national trend of declining numbers of both nursing home administrator students and candidates for licensure.

The Health Care Administration program at Des Moines Area Community College (DMACC), located in Ankeny, Iowa, has been in existence since 1971. This program provides an educational experience that meets academic and practicum requirements for approval to sit for licensure (Professional Licensure of Nursing Home Administrators, Iowa C93 § 155.3). It is considered the largest nursing home administrator preparation program in the state, and serves an average of 38 students each semester. This program is unique particularly for two reasons. First, the typical student is an adult with a four-year degree who works full-time in a long-term care facility somewhere in the state of Iowa. As a result, the

courses are offered in a non-traditional format that allows adult students to continue working. Second, the Health Care Administration program at DMACC accommodates individual programs of study prescribed by the Iowa Board.

The Iowa Board evaluates the educational background of each individual applicant and makes a ruling on what classes that individual must complete to qualify for licensure. Individuals who are interested in pursuing licensure quite often are working adults with four-year degrees and years of health care experience. They are encouraged by DMACC Health Care Administration program coordinators to write to the Iowa Board and to have the Board rule on past academic courses and life experiences, thereby creating an individualized program of study. These individuals then utilize DMACC Health Care Administration courses to fulfill requirements identified in the Board's response. Students then may complete as little as one 1-credit course or as many as 23 courses, totaling 40 credits, to qualify for approval to sit for the licensure exam. In contrast, other licensure boards will require a completed program of study as determined by an academic institution, much as a nursing degree is required before one is allowed to sit for the nursing licensing examination (Nursing Board, IAC 655-3.3(1)a). The individualized program of study prescribed by the Iowa Board makes it difficult to track student success since graduation from an academic program is not related to qualifying to sit for the NHA licensure exam in Iowa.

In her research of Iowa NHA, McGinnis (2003) found that information concerning the numbers of students enrolled in health care administration preparation programs is based primarily on anecdotal evidence, because there is no typical student, nor a standard reporting system. The DMACC Health Care Administration program began tracking enrolled students in January, 2000 because graduation rates (numbers of students who earned a health care

administration degree or certificate) were not accurately reflecting the success of the students coming out of the program, meaning that the DMACC health care administration students were finding success in their chosen career direction whether or not they held an official DMACC health care administration diploma or certificate signifying completion of an academic program.

Since January, 2000, DMACC has served more than 204 students in at least one class of the Health Care Administration program. These student numbers culminated in 43 licensed nursing home administrators between January 2000 and November 2003 (DMACC, 2003). This is a 21% persistence rate, indicating that only 1 out of 5 DMACC students actually persevere to their once-determined vocational goal of becoming a licensed nursing home administrator within four years.

The State of Iowa issued a total of 106 nursing home administrator licenses during this same time (Dozier, personal communication, November, 2003). Both the number of students enrolled in the DMACC health care administration program and the number of DMACC students becoming licensed (DMACC, 2003; McGinnis, 2003) have declined from previous years. This means that the largest nursing home administrator program in Iowa reflects the national trend of reduced numbers of students enrolled (Pratt, 2002;Williamson, 2002). Investigating this trend of diminishing students contains potential implications for understanding and addressing the decline in nursing home administrator candidates. What types of individuals are attracted to nursing home administration education? What types of individuals complete the required studies and persist to licensure? The MBTI® provides an opportunity for this investigation.

Type applications

The Myers Briggs Type Indicator® is a tool common to professionals in health care, management, and higher education. The information that can be gained from the tool can describe ways of being energized, of perceiving the world, and of making decisions. This information can provide insight about those who pursue nursing home administration, and those who persist to succeed in becoming licensed. Type theory (Jung, 1921/1971; Myers, McCaulley, Quenk, & Hammer, 1998) provides a framework to understand psychological characteristics of students and practitioners in nursing home administration. This understanding can impact curriculum development and delivery, as well as personal growth and career development for students and practitioners.

The Myers-Briggs Type Indicator® (MBTI®) is an instrument that identifies an individual's preferred ways of taking in information and making decisions (Myers, McCaulley, Quenk, & Hammer, 1998). The MBTI® has been used to identify personality characteristics, and leadership and manager traits, to provide career choice guidance, and to facilitate self-growth (Hammer, 1996). It has been used to assist in understanding educational success, career pursuits, and job satisfaction (Provost & Anchors, 2003). Studies in type have identified that there is a self-selection process in many professions (;; Lidgard & Bates, 1998; Osborn & Osborn, 1994; Reynierse, 1993). Understanding this self-selection process helps explain decisions about pursuing a particular profession and satisfaction in that role. The MBTI® tool itself is easy to administer and prior type research supports using MBTI® types as a basis for comparing two or more populations (McCaulley, 1978).

The Myers-Briggs Type Indicator® is a tool that is meant:

> ... to make the theory of psychological types described by C.G. Jung understandable and useful in people's lives. The essence of the theory is that much seemingly random variation in behavior is actually quite orderly and consistent, being due to basic difference in the way individuals prefer to use their perception and judgment. (Myers et al., 1998, p. 3)

The MBTI® identifies basic preferences on each of four dichotomies. These four dichotomies are: Extraversion or Introversion (E-I), Sensing or Intuition (S-N), Thinking or Feeling (T-F), and Judging or Perceiving (J-P). The different combinations of these preferences provide us with sixteen distinctive personality types that result from interactions among the preferences (Myers et al., 1998).

Figure 1 provides a description of each of the four dichotomies that create a total of eight preferences. An individual's MBTI® type consists of one preference from each of the four dichotomies for a total of four letters.

Where a person gets his/her energy	
Extraverted (E): Energy and attention flow out, or are drawn out, to the objects and people in the environment.	Introverted (I): energy is drawn from the environment toward inner experience and reflection.
How a person perceives his/her environment	
Sensing (S): Perceptions observable by way of the senses.	Intuition (N): Perception of possibilities, meanings, and relationships by way of insight.
How a person makes a decision	
Thinking (T): The function that comes to a decision by linking ideas together through logical connections.	Feeling (F): The function by which one comes to decisions by weighing relative values and merits of the issues.
How much structure a person prefers in his/her life	
Judging (J): The attitude that is concerned with making decisions, seeking closure, planning operations, or organizing activities.	Perceiving (P): The attitude that is attuned to incoming information and is open, curious, and interested.

Source: *MBTI® manual* (Myers et al., 1998, pp. 24-27).

Figure 1. The four dichotomies comprising the eight preferences in the MBTI®

The combinations of these preferences create sixteen distinct types. Each type is fully functional and necessary. Each type brings great strengths and unique approaches to problems and situations. This also means that each type has unique motivators and satisfiers, which is why type studies are able to show self-selection preferences in various careers. In fact, Myers (cited in Lawrence, 1986) related that job satisfaction and person-task fit was a primary motivator in distributing the MBTI®:

> When World War II came along, it was obvious that there was going to be a tremendous manpower shortage. It seemed to us that a much more useful use could be made of available manpower if the people got into the right jobs. It would be easier to assign them to jobs where they would be content and effective if you knew their type. (p. 3)

This rationale speaks directly to the heart of the current study. The first question to determine was: Is there a right type "for nursing home administration? Then, is this same type reflected in the types of students who are pursuing nursing home administration education? Finally, how do the students compare to the practitioners of nursing home administration?

Type theory (Jung, 1921) and the Myers-Briggs Type Indicator® (Myers et al., 1998) have long been used to compare populations and analyze similarities and differences. The publication, MBTI® Applications: A decade of research on the Myers-Briggs Type Indicator® (Hammer, 1996) is replete with studies comparing one population to another, and drawing informative conclusions about the choices and motivators for populations on topics such as careers, management, leadership, counseling, education, and health.

Students and health care have also been a focus for the applications of the MBTI®. Myers perceived that "... good type development is especially important in professionals who have others' lives in their hands" (cited in McCaulley, 1980, p. 9). The initial

introduction of the MBTI® into education started in the 1940s with medical students and nursing students. Later studies began to address how the MBTI® in health care populations can assist with patient and coworker communication (Allen & Brock, 2000).

McCaulley's (1978) compilation, *Application of the Myers-Briggs Type Indicator® to medicine and other health professions,* was undertaken to supply answers to questions of an increasing number in the health professions who have sought advice about the usefulness of the MBTI® for practical problems they are facing in selection, training, and counseling. The idea of creating a set of normative tables and state-of-the-art descriptions of type differences in health follow naturally from these requests" (p. i). This 1978 publication provided a number of type tables depicting the distribution of type for particular professions. It is a common practice to use a type table distribution to base findings and discussion of similarities and differences of populations.

While differences are often expected, exhibiting a self-selection process, and therefore an effect of type differences, all types are anticipated to be found in all of the health professions. McCaulley (1978) stated:

> It is important to understand that the investigators started with the basic assumption that differences are valuable and necessary and that any field as complex as health needs all MBTI® types. We did not expect to find "one right type" for any health profession, but we did expect that most professions would attract some types more than others, and that these attractions could be explained by the theory of psychological types. (p. 4)

McCaulley (1978) reported findings for a number of studies comparing students and practitioners in health fields in an effort to explain retention which parallels the purposes of this study. She surmised, "The difference may mean that some types of students are more likely than others to remain in the field for which they were trained" (p. 13). An additional

supposition for health care administrators is that the licensed nursing home administrator position requires so many different responsibilities and skills that it requires all areas of MBTI®. Even if this is the case, research is still warranted.

From the position of type theory, a successful career choice would be a career in which the bulk of the activity is in the area of natural interest and developed skills of each type (Myers, 1995). Careers that use one's preferred way of perceiving and coming to conclusions about the world "... provide activities that are intrinsically interesting and satisfying (motivation) and require use of one's best-developed skills (competence)" (McCaulley, 1978, p. 5). A successful career choice would be satisfying to the individual and contribute productivity to the business and/or society (Provost, 1984).

Of particular interest to this research, McCaulley (1978) studied health care administration. In a small sample ($n = 60$, including both students and practitioners), McCaulley found

> ... 60% extraverts, 60% intuitive types, 62% feeling types and 70% judging types. In general, administrators and executives are expected to have more judging types (J) who prefer to organize, plan and make decisions. Leadership activities requiring attention to detail are expected to attract sensing-judging (SJ) types; leadership which breaks new ground should attract intuitive-judging (NJ) types. Task-oriented leaders are expected to have more thinking-feeling (TJ) types and people-oriented leaders are expected to have more feeling-judging (FJ) types" (p. 111), although "all MBTI® types can achieve high levels of professional performance. (p. 138)

These findings provide a basis for anticipation of differences in health care administrators versus other professions or the general population; however, the differences between the students and practitioners in this example may have provided greater insight into the most frequently found types of each group.

McCaulley (1978) gave one additional piece of advice that guided the interpretation of data for the current study. She stated, "It seems often to be forgotten that the academic baseline is designed to insure the success of training, not to forecast the other components of professional performance" (p. 138). It must not be forgotten that the role of "student" is different than the role of "nursing home administrator." The mere differences in these roles reflect a difference from the theoretical to the practical experiences. It is not the role of academics to ensure employment in a particular position, but instead to help students learn (AQIP, 2004).

Robinson (1996) recognized the utility of type theory for community college faculty to "become more effective teachers in their classrooms" (p. 161). He further described how the MBTI® can help community college faculty better understand students' needs, and then transform this "understanding into more effective advising and teaching strategies" (p. 165). Finally, Provost and Anchors (2003) investigated various applications of type in higher education, including student development, leadership, retention, learning styles, advising, instructional delivery, and career development.

In conclusion, the Myers-Briggs Type Indicator® has a long history of contributing to an understanding of health care professions, health care communications, management style, career choice, and higher education. The literature suggests that the MBTI® is an appropriate tool to use to gather data and base population comparisons.

Statement of the Problem

A 200% to 300% increase in nursing home utilization is anticipated by 2030 (Rivlen & Weiner, 1988, as cited in Siegal, 1996), while there is expected to be a decline in the

number of individuals interested in leading, operating, and managing nursing homes (NAB, 2001). One contributor to this decline is the diminished number of students in nursing home administrator preparation educational programs (McGinnis, 2003), and another is the low percentage of nursing home administrator students who meet the academic and experiential requirements to become licensed (DMACC, 2003). It is important to study students because it is a subset of these students who goon to become licensed administrators. Likewise, it is important to study practitioners of nursing home administration to ascertain who has achieved licensure. Type theory and MBTI® types provide a framework for comparing students who are attracted to the DMACC Health Care Administration program against licensed nursing home administrators, and for understanding the similarities and differences of these two populations (McCaulley, 1978; Myers et al., 1998; Provost & Anchors, 2003).

Purpose of the Study

The purpose of this study was to determine what demographic and psychological type characteristic differences exist between students in a nursing home administrator educational program at DMACC and licensed nursing home administrators in Iowa. By examining how closely these two populations reflect one another, type theory offers explanations for differences in attraction, retention, and motivation of students in nursing home administrator educational programs as well as those who completed the career goal of becoming licensed.

Significance of the Study

Findings from this study will have implications for programming and delivery of curriculum for the DMACC Health Care Administration educators. Differences in demographics will identify if one gender over the other is attracted at a greater frequency to

nursing home administration education and nursing home administration. Age of interest in nursing home administration will contribute to increased understanding of attraction and life experiences that enhance or intervene in completing educational requirements. The findings will also impact DMACC Health Care Administration students through increased understanding of MBTI® type characteristics, psychological strengths and weaknesses, career choice, and management training. This study can also provide information for employers of nursing home administrators to understand better the motivators and criteria that can contribute to job satisfaction. Nursing home administrators, themselves, will also benefit by an increased understanding of interaction, perception, and decision-making styles unique to individuals as well as common to the profession. Policymakers, such as the Iowa Board of Examiners for Nursing Home Administrators, can also gain insight about what type characteristics are found in the profession and how these characteristics shape the current practice of nursing home administration. Finally, this study will also contribute to the literature on nursing home administrator students, non-traditional students, and the minimally studied nursing home administrator profession.

Research Questions

Four research questions guided this study:

1. What are the demographic differences between students and administrators?
2. What are the MBTI® type characteristics of nursing home administrator students?
3. What are the MBTI® type characteristics of licensed nursing home administrators?
4. What are the demographic and MBTI® type similarities and differences of these two populations?

Hypotheses

There were two hypotheses in this study:

1. There are demographic differences between nursing home administrator students and licensed nursing home administrators.

H_o: There are no demographic differences between nursing home administrator students and licensed nursing home administrators.

2. There are MBTI® type characteristic differences between nursing home administrator students and licensed nursing home administrators.

H_o: There are no MBTI® type characteristic differences between nursing home administrator students and licensed nursing home administrators.

Summary

Nursing home administrators are licensed professionals who have met state-specific educational requirements and passed a national examination qualifying them to operate, lead, and manage a nursing home. Nursing home administrators must be well-versed in health care, management, business, and at-risk population issues. Currently, the 40% decline in the number of candidates sitting for the licensure exam (NAB, 2003) will have important, and potentially detrimental, consequences as nursing home usage increases in the coming years (Siegal, 1996). It is imperative to understand the phenomenon of declining nursing home administrator licensure candidates, in order to create remedies to assure competent, ethical, and efficient operation of nursing facilities.

Prior to becoming licensed nursing home administrators, individuals must qualify to sit for the licensure exam through academic programs. The Health Care Administration

program at Des Moines Area Community College is one such program in the State of Iowa. The DMACC program has experienced a decline in enrollments and graduates, like other academic programs across the nation. Additionally, DMACC's Health Care Administration program has identified a discrepancy in the numbers of students who have indicated interest in learning about nursing home administration versus the numbers of these students who actually become licensed. This situation contains potential implications for understanding and addressing the decline in nursing home administrator candidates.

Type theory (Jung, 1921) and the Myers-Briggs Type Indicator® (Myers et al., 1998) provide a framework for comparing students and licensed nursing home administrators, as well as a theory for understanding the findings. The purpose of this study was to determine what MBTI® type characteristic differences and demographic differences exist between students in a nursing home administrator educational program and licensed nursing home administrators. The findings will impact nursing home administrator students, educators, licensed professionals, and employers. The research will also contribute to literature on nursing home administrator students and practitioners specifically, and non-traditional adult students in general.

CHAPTER 2. LITERATURE REVIEW

Overview

There has been a 40% decline over the last five years in the number of individuals pursuing the top leadership positions in nursing homes (NAB, 2001/2003). This decline is alarming, considering an anticipated 200%-300% increase in nursing home use in upcoming years (Siegal, 1996). This chapter will investigate current literature regarding the declining number of nursing home administrator candidates, including students in nursing home administrator educational preparation programs. Then, type theory will be presented and discussed as a viable framework for understanding self-selection into the nursing home administrator profession (McCaulley, 1978; Myers, 1995; Myers et al., 1998).

The Problem

The United States' population is aging. The U.S. Administration on Aging (2002) reported, "By 2030, there will be about 70 million older persons, more than twice their number in 2000. People 65+ represented 12.4% of the population in the year 2000 but are expected to grow to be 20% of the population by 2030" (p. 1). Growth of the elderly population leads researchers to anticipate that nursing home usage will "double or even triple by 2030" (Rivlin & Wiener, 1988, as cited in Siegal, 1996, p. 1). With the increasing aging population and the increasing need for nursing home care, the nation has, and will continue to have, an increased need for well-qualified nursing home administrators. However, the National Association of Boards of Examiners for Nursing Home Administrators (NAB) reported in 2003 that there has been a five-year decline of 40% in nursing home administrator candidates taking the national examination.

This waning interest in the top leadership position is alarming. On December 13, 2001, 23 leaders representing the long-term care industry, leading trade and professional associations, academia, and state regulatory agencies met to "discuss the decline in the recruitment and retention of long-term care administrators" (NAB, 2001, p. 1). The participants concluded that "research is necessary to identify, profile, and quantify the current and future supply of managers, and to gather data to better qualify and quantify the issues that are contributing to the decline in the recruitment and retention of administrators" (NAB, 2001, p. 2). Since that initial meeting, two more meetings have been orchestrated by the NAB to address the decline in nursing home administrator licensure candidates. The most recent meeting, the 2003 Summit, identified a need to increase the number of graduates of nursing home administrator programs in higher education (NAB, 2003).

Nursing Home Administrators

Nursing home administrators are licensed professionals who have met specific educational requirements and passed a national examination qualifying them to operate, lead, and manage a nursing home. According to the Occupational Outlook Handbook (Bureau of Labor Statistics, 2003),

> Medical and health services manager encompasses all individuals who plan, direct, coordinate, and supervise the delivery of healthcare. ... Future health services managers must be prepared to deal with evolving integrated healthcare delivery systems, technological innovations, an increasingly complex regulatory environment, restructuring of work, and an increased focus on preventative care. Most health services managers work long hours. Facilities such as nursing homes operate around the clock, and administrators may be called at all hours to deal with problems. (pp. 2-3)

Nursing facilities, also known as nursing homes or long-term care facilities, represent one component of the health care delivery system in the United States. Nursing facilities primarily care for the frail and disabled, a majority of whom are elderly, who need round-the-clock care and assistance (Iowa Code §135C). This includes a wide variety of services, including nursing, dietary, environmental, social services and activities, and business needs.

Nursing homes are complex organizations that demand complex skills for successful operation (Mullen, 1985). To operate such organizations effectively, nursing home administrators must be well-versed in health care, management, business, and at-risk population issues (Singh, 1997). The role of the licensed nursing home administrator is complex, demanding, and stressful (Mullen, 1985). Singh (1997, as cited in Singh & Schwab, 1998) stated:

> The nursing home administrator has a job which is in many respects similar to that of a general manager in a complex organization. The management of nursing homes also presents challenges that are unique in the field of health care administration because nursing homes are both social and clinical institutions. Administrators not only must oversee the treatment and rehabilitation aspects of care under the traditional medical model, but also must ensure the individual rights of residents, their social and emotional well-being, and their quality of life. Quality of life issues include personal preferences, security, autonomy, interpersonal relations, and environmental comfort factors. The nursing home administrator has a 24-hour-a-day commitment that encompasses all the facets of managing a health care institution, a housing complex, and a social services program. (p. 4)

It is the charge of the administrator to assure a satisfactory quality of care and quality of life for residents and staff through multiple means requiring specialized health care and management training (Allen, 1997, p. 113; NAB, 1997; U.S. Department of Labor, 1996, p. 48). In the U.S., federal regulations require that a nursing home have a licensed nursing home administrator at the helm [Code of Federal Regulations 42 § 483.75 (d)(2)(i) and (ii)].

Each nursing facility must have a licensed administrator managing the overall operations and each state has different educational requirements. The national nursing home administrator examination is a requirement in all 50 states plus the District of Columbia.

To be issued an active nursing home administrator license in Iowa, one must have completed a Bachelor's degree (or Associate's degree if licensed before January 1, 1999) in any subject, twelve semester hours of health care administration, six semester hours of aging studies, ten semester hours of business or law, and 720 hours of practicum. This education and experience prepares students to take a national examination (which must be passed with a minimum score of 75%) and to manage the operation of any of Iowa's 419 (DIA, 2003) licensed nursing facilities (Professional Licensure of Nursing Home Administrators, Iowa C93 § 155.3).

Declining numbers of candidates

As stated previously, the National Board of Examiners for Nursing Home Administrators identified a 40% decline over the past five years in the number of candidates sitting for the nursing home administrator examination (NAB, 2003). The American Public Health Association had also recognized a decline in numbers of licensed administrators. They recommended a review of educational requirements of nursing home administrators, especially because it was recognized "that a lot of people who receive a state NHA license never became the administrator of record for a nursing home" (Stoil, 2002, p. 8). Additionally, a survey of state licensure boards found a decline in new licensure applicants ranging from 25% to 75% at the state level (Pratt, 2002). Using information from the Iowa

Board of Examiners for Nursing Home Administrators (2002), there has been a 80% decline in the number of test takers when comparing 1998 to 2002.

Williamson (2002) wrote not only about the decline in nursing home administrator candidates, but also about the decline in students enrolling in nursing home administrator education programs. She noted that "the University of Texas Southwestern Medical Center at Dallas had cancelled its long-term care administrator programs due to lack of applicants, and Southwest Texas State University, San Marcos was also forced to scale back a similar program. Iowa is another place feeling the pinch" (p. 12). McGinnis (2003) found in her study that Iowa's nursing home administrator population is aging. Forty-seven percent of Iowa's administrators are over the age of 50, with only 4% of the current administrator population under the age of 30. Who is going to replace the retiring administrators?

Murphy (2003) also studied the Iowa nursing home administrator on job satisfaction. She identified that the average age of her sample was 46.87 years, with 44.3% male and 55.7% female. Murphy's sample averaged 11.87 years licensed, and 2.61 years in current position. One primary finding of Murphy' study was that the most challenging area for administrators was working with employees. She summarized that "It appears to be inconsistent that people who are satisfied with their occupations would change their positions every 31 months" (p. 5). How can administrator turnovers be reduced, or leavers replaced? An understanding of the personal type characteristics of students and administrators would help portray what motivates, what satisfies, and how communication occurs for these two populations.

McGinnis (2003) questioned the appropriateness of the current academic and practical requirements enforced in Iowa qualifying an individual to take the national

examination suggesting that the educational requirements create barriers for those individuals who aspire to achieve licensure. McGinnis posed an interesting point. Are the current educational requirements causing students to self-select out of the profession because of difficulty in completing the requirements, or because of recognition of personal satisfiers? Is the DMACC health care administration program meeting the competencies, imparting knowledge for students, while assisting them in focusing on their career path, whether or not that career is to actually achieve licensure? Again, the MBTI® would provide a framework for understanding the students that are attracted to health care administration education and compare that group to those that have completed the education requirements and became licensed.

The Iowa Board of Examiners, in an effort to be flexible and accept individualized applicant life experiences, does not require a completed academic program in health care administration. Instead, the Iowa Board accepts individually completed courses and is unconcerned about the successful completion of a comprehensive health care administration program in addition to the bachelor's degree. This approach to licensure diminishes the ability of the educational institutions offering nursing home administration programs to track students because students may take only one class in an educational program, or they may enroll in multiple nursing home administration programs simultaneously to meet licensure requirements more quickly. In her research, McGinnis (2003) found it difficult to track student success because there is no typical student, nor a standard reporting system. This sentiment was echoed at the DMACC Health Care Administration program, and efforts were undertaken in January 2000 to begin tracking students.

DMACC, as described in Chapter 1, has experienced a decline in the number of students enrolled in the Health Care Administration program and a decline in the number of students who complete their vocational goals and take the NAB licensure examination. This reflects both state and national trends of declining nursing home administrator candidates (Pratt, 2002; Williamson, 2002), and may provide fundamental provide insight to understanding and addressing the decline in nursing home administrator candidates.

A study that looks at students in long-term care administration programs in higher education could benefit the nursing home administrator profession by understanding the pool from which they are drawn. Woodward, Love, and Komives (2000) wrote that college has become an instrument for:

> ... acquiring new careers and new ways of knowing. By pushing and pulling around the edges, college students largely reshaped the focus of curriculum by asking, "How can I use this?" and "How does this apply to my career plans?" Even the most resistant disciplines have somewhat repackaged their content to demonstrate clear links to application and practical context. (p. 49)

Nursing home administration as a discipline has been the subject of many suggested changes to the educational requirements. The NAB and state licensure boards currently are trying to find a balance between minimizing barriers created by stringent educational requirements and the minimum educational preparation necessary to function as a licensed nursing home administrator (NAB, 2003; Pratt, 2002). Previous research has identified that rigorous academic preparation is necessary for skill building (Castle, 2001; Center for Health Workforce Studies, 2001; McGinnis, 2003; Ringgenberg, 2003), but that the convoluted educational offerings and 720-hour practicum requirement create barriers (McGinnis, 2003), keeping potential candidates out of nursing home administration in Iowa.

Education for the nursing home administrator is important. Polniaszek (cited in Williams, 2002) said, "If an unqualified person moves into that position, leadership can suffer. And without quality leadership, quality of care can suffer. It only gets worse when inexperienced administrators become so overwhelmed by responsibilities they quickly move into other careers, churning the nursing home back to square one" (p. 12).

It is the duty of educators in a vocational program to prepare students for a profession and pass licensure exams, and to recognize personal strengths and limitations to success in that position. Litman (1973, as cited in Burmeister, 1978) noted, "The fundamental issue before [educators] is to determine: 1) What are we trying to produce; 2) How and in what way it can be accomplished; and 3) What, if any, is the relationship between what is taught, what is examined, and what is practiced" (p. 19). Thus, it is the duty of the educators to assess the curriculum and its delivery.

What is missing in recent studies is the impact of personal characteristics of these students on vocational completion. Type comparisons have been used to assist professionals and educators in the areas of health care, management, career counseling, and higher education. Psychological type (Jung, 1971), through the Myers-Briggs Type Indicator®, (Myers et al., 1998) provide a framework for understanding motivators and satisfiers for students and practitioners of nursing home administration.

Theoretical Background

The Myers-Briggs Type Indicator (MBTI®) has been used in numerous studies in health care practice, business settings, career choice, and higher education. These areas are pertinent to the job preparation and job tasks of the nursing home administrator. Much of the

type literature strives to define motivators and satisfiers for each of the sixteen types, and then use this information to better understand the individuals who choose to pursue a certain career or activity (Hammer, 1996; Martin, 1996; McCaulley, 1978; Wicks, 1988). Distinctly, this was the goal of the current study.

Type in health

There are many examples of type being used in health care. The MBTI® was first introduced to medical students in numerous medical schools during the 1940's (Myers et al, 1998). Pelley and Dalley (1997) provided continued guidance for medical students to use the MBTI® for personal and academic success. Brock and Allen (2000) provided specific advice for health care professionals to apply type in their patient communications, recognizing "as health care continues to increase in complexity ... a straightforward, reliable framework for understanding differences with patients, families, and co-workers is indispensable" (p. viii).

Various studies have used the MBTI® to better understand career choice and job satisfaction in health care (Bruhn, Bunce, & Floyd, 1980; Hughes, Mosier, & Hung, 1981; Roberts, 1997), thereby creating profiles of satisfied health care practitioners. Shewchuk and O'Connor (1995, cited in Hammer, 1996) studied 522 health care executives and found that 63% of the sample preferred Thinking-Judging (TJ), and that those with an Extraverted Thinking Judging (ETJ) preference TJ types "had a more positive sense of well-being than did the non-TJs" (Hammer, 1996, p. 40). Marcic, Aiuppa, and Watson (1989, cited in Hammer, 1996) concluded that health care managers "who had preferences similar to the majority in their organization had higher self-esteem, although not higher job satisfaction"

(Hammer, 1996, p. 40). This indicates that for those who preferences match others in their organization, decisions are supported, and self-esteem is validated.

Organizational culture also seems to impact type distribution within a profession. Hammer (1996) summarized Wicks (1988) study of:

> ... respiratory therapy practitioners who were clinicians, managers, and educators. Consistent with type theory, clinicians were more likely to have a preference for Feeling (F) and managers for Thinking (T). The educators had a more even distribution of types. The pattern of wide distribution of types can also be observed across occupations within a given organization. This is important because such an analysis holds constant some of the other factors that may be related to career choice, such as the purpose, size, location, and culture of the organization. (p. 35)

Other studies provide examples of preferences and behaviors in health care professions. Quenk and Albert (1975, as cited in Myers et al., 1998) studied the work environment of physicians and found that Extraverted (E) physicians preferred to be involved actively with patients and communities; Feeling (F) indicated an emphasis on being involved with the people in their practice; and Judging (J) preferred maintaining boundaries between personal and professional lives" (p. 287). Kerlin (1992, as cited in Hammer, 1996) studied nurse executives and concluded that those who preferred Sensing (S) were "more likely to use information from others and described themselves more as rapid decision makers, while Intuitive (N) types relied more on observation and used available written literature as an information resource for decision making" (p. 60).

McCaulley's (1978) compilation, *Application of the Myers-Briggs Type Indicator® to medicine and other health professions,* "was undertaken to supply answers to questions of an increasing number in the health professions who have sought advice about the usefulness of the MBTI® for practical problems they are facing in selection, training, and counseling" (p.

i). Certainly, this is the need for the current state of nursing home administrators. McCaully felt that, "The idea of creating state-of-the-art descriptions of type differences in health follow naturally from these requests" (p. i).

McCaulley (1978) stated:

> It is important to understand that the investigators started with the basic assumption that differences are valuable and necessary and that any field as complex as health needs all MBTI® types. We did not expect to find 'one right type' for any health profession, but we did expect that most professions would attract some types more than others, and that these attractions could be explained by the theory of psychological types. (p. 4)

McCaulley clarified the rationale behind using type to explain retention in a profession:

> To estimate which types trained in the profession are most likely to practice, we compared the students and practitioners in the same field, wherever the data warranted. These comparisons can have two different interpretations if the distributions are quite different. The difference may mean that some types of students are more likely than others to remain in the field for which they were trained. (p. 13)

An additional supposition for health care administrators is that the licensed nursing home administrator position requires so many different responsibilities and skills that it requires all areas of MBTI®. If this is the case, research is still warranted.

From the position of type theory, a successful career choice would be a career in which the bulk of the activity is in the area of natural interest and developed skills of each type. McCaulley (1978) recognized that:

> Careers which call on use of one's preferred powers of perception and judgment provide activities that are intrinsically interesting and satisfying (motivation) and require use of one's best-developed skills (competence). Successful career choices should not only be more satisfying to individuals, but are valuable to society, since greater productivity occurs when people are interests in and competent in their work. Good career choices are particularly

> important in health, since disinterest and inexpertness are serious when patients' lives are at stake. (p. 5)

Of particular interest to this research, McCaulley (1978) studied health care administration. In her small sample (n = 60, including both students and practitioners), she found 60% Extraverts (E), 60% Intuitive (N) types, 62% Feeling (F) types, and 70% Judging (J) types. In general, administrators and executives would be expected to have more judging types, indicating a preference to organize, plan, and make decisions. "Leadership activities requiring attention to detail are expected to attract SJ types; leadership which breaks new ground should attract NJ types. Task-oriented leaders are expected to have more TJ types and people-oriented leaders are expected to have more FJ types" (p. 111), although "all MBTI® types can achieve high levels of professional performance" (p. 138).

McCaulley (1978) made one additional piece of advice that guided the interpretation of data in the current study: "It seems often to be forgotten that the academic baseline is designed to insure the success of training, not to forecast the other components of professional performance" (p. 138). This can explain why student populations may have different type characteristics than professionals. McCaulley (1978) wrote, "Students and practitioners may not be identical in distribution. Some fields may be training substantial numbers of people who do not remain in practice, and there may be type differences in who stays and who leaves" (p. 131). Retention studies are provided for nursing, dietetics, medical terminology, occupational therapy, pharmacists, physical therapy, radiologic technology, respiratory therapy, social work, and speech pathology (Carskadon, 2001; Hammer, 1996; McCaulley, 1978). However, no type studies have been conducted on retention of students in health care administration programs.

Type in business

Type has also been used to understand self-selection phenomena in business and management. Lueder (1986) found that top executive educators tended toward E (68%), N (71%), T (60%), and J (75%), with ENTJ (22%) and ENFJ (13%) the most frequent types. When this sample was compared to the CAPT Data Bank general sample of school administrators, the Top 100 sample was significantly more N, NT, NJ, EN, and ENTJ, and less S. This implies that top executives in education are more innovative, less confined to present circumstances, make decisions based on logic, feel satisfaction with structure and making-decisions, and are energized by and interactive in their environments.

Reynierse (1993) conducted a study of executives and also found a majority of N preferences. Interestingly, Reynierse also found a preponderance of S preferences in lower-level supervisors. Walck (1992) stated, "Clear processes of selection for N, T, and TJ emerge from management type distributions regardless of occupation or business function" (p. 13). These preferences reflect frequently found types, while other studies have identified effects of burnout on MBTI® types. Garden (1988) found that burnout causes a loss in the strength of preferences. For example, burnout in those who prefer Feeling, "resulted in a loss in the inclination to care for others; for Thinking type a loss in achievement orientation; for Sensing types, a loss in groundedness; and for Intuitive types, a loss of enthusiasm and originality" (p. 2). These two factors provide a foundation for better understanding managers and executives.

Gabelnick (as cited in Provost & Anchors, 2003) summarized, "Administrators who understand and apply the MBTI® instrument in their work arenas will be more adept and sensitive to their colleagues and will be able to enlist others in solving problems and creating

better work environments" (p. 85). Hendrickson and Gieseck (1994) recognized one of the strengths of the MBTI® is that the scale is "value-neutral, and is a way to describe behavior, rather than as a way to evaluate behaviors" (p. 218). Using type, managers will be better able to "decipher the behavior of their staff," plus "an understanding of the profile of the managers makes possible designing an organizational operating style that brings out the mangers' strengths and identifies areas for growth [in order to] achieve organization goals" (p. 222).

Type in career counseling

Career counseling is meant to assist an individual in identifying a satisfying profession that a person can perform (Myers et al., 1998). Hopkins (1997, as cited in Myers et al, p. 303) affirmed that people who felt their job matched their personalities were more satisfied with their jobs than those who did not. A study conducted by the University of Minnesota and cited in Myers et al. (1998, p. 287) summarized the ideal work environment for many preferences. First, coworker cohesion, or friendly, supportive coworkers, was most important for Extraverted Feeling types. This coworker cohesion was less important to Sensing-Thinking (ST) types than to any other function pairs. Supervisor support was more important to Extraverted types. This support was less important for the STs than for the other function pairs. Again, STs may focus less on the people side of how the job is accomplished. Autonomy is more important in the ideal work environment to the Introverted Perceivers (IP) than to their opposite, Extraverted Judging (EJ). Task orientation in this sample is more important to the Extraverted than to the introverted types, this likely fits with their focus on showing the outside world that something has been done. The Intuitive (N)

ideal environment included innovation, variety, and emphasized change. Finally,, Sensing Judging (SJ) types' preferred managerial control was the use of rules in dealing with employees.

Myers et al. (1998) provided a summary of the MBTI® in career counseling in today's world of work.

> Because the nature of work and the stability of jobs are changing, it is noteworthy that the areas of biggest concern include some that are unlikely to improve. Job security and promotional opportunities are decreasing while stress is likely to increase. To help clients weather this new world of work, career counseling can help clients focus on their unique talents, some of which the MBTI® might help point out; identify methods to teach clients to cope with stress and increase their natural resiliency; and encourage clients to take responsibility for their own career development. (p. 307)

Type in higher education

Higher education provides many opportunities to utilize the MBTI® instrument with students. Anchors, Robinson, and Wood (1984) surveyed members of the American College Personnel Association and found that the MBTI® instrument was one of the few instruments used in higher education that crossed over functional areas. Reported uses were in the areas of career development, academic advising, leadership training, counseling, roommate matching, paraprofessional training, understanding learning and teaching styles, conflict resolution, and development of retention strategies. These uses are applicable to a better understanding of the retention of nursing home administrator students to professional completion of becoming licensed nursing home administrators. Provost and Anchors (2003) and Lawrence (1993) provided further information about type in higher education as they investigate various applications of type in higher education, including student development,

leadership, retention, learning styles, advising, instructional delivery, and career development.

Lynch (2003) asserted:

> Higher education is based on the premise that individuals with different motivations can be served by different institutions to reach their different goals. Perhaps more so than other parts of our society, colleges and universities are dedicated to ensuring the fulfillment of the human potential through the recognition of individual differences. Psychological type theory is useful in advancing the purposes of higher education to help students understand themselves and others and appreciate their individual differences in addition to promoting learning, career decision-making, and leadership. Theories of type dynamics and type development deepen our insights about how personality evolves over time. (p. 7)

Type provides insight into student development, including establishing identity, developing purpose, and developing integrity (Moore, Dietz, & Jenkins, 1997). Anchors and Robinson (1992) "found several correlations between MBTI® preferences and scales on the Student Development Task Inventory-2, a measure of Chickering's vectors, indicating that personality type plays a role in the accomplishment of developmental tasks" (cited in Provost & Anchors, 2003, p. 38). Students in the DMACC Health Care Administration program average 36 years of age, work full-time, and are pursing licensure to qualify for a job with more responsibility (DMACC, 2003). This creates a different developmental task. These students "are adapting to a changing time perspective, revising career plans, and redefining family relationships. Students returning to college at this age have very different purposes and motivations from traditional-aged students" (Provost & Anchors, 2003, p. 32).

At first glance, 43 out of 204 students persevering to licensure is a retention issue, complex though it may be. DMACC's goal for students is retention to a career licensure goal outside of the institution's control. Each applicant to the Iowa Board receives an individual

program of study that may or may not include all of the courses required for a DMACC Health Care Administration degree or certificate. Provost and Anchors (2003) addressed retention and type. Kalsbeek (as cited in Provost & Anchors, 2003) wrote: "though retention and attrition are very complex issues with many intervening variables and factors, a theoretical framework or model offers a common ground for discussions, research, and action" (p. 88).

Tinto's (1975) model for retention ties student commitment to the institution. As a two-year institution, DMACC lacks this commitment from its students. The DMACC students identify with their 4-year school more so than DMACC (Foundation Report, Alumni Membership). Certainly, this is present in the part-time HCAD students who already have a 4-year degree and view their involvement in the DMACC Health Care Administration program as taking only a few classes to meet licensure requirements.

Kalsbeek (as cited in Provost & Anchors, 2003) found that:

> ... the MBTI® instrument presents us with important information about students' natural interests, learning styles, commitments and values, and work habits. Therefore, it seems that the MBTI® tool, in one single profile, may offer a wealth of useful insights regarding students' academic and social integration with specific campus climates. (p. 91)

Provost (1985) identified those college student types with the lowest retention rates: ISTP, ISFP, and ENFJ; and those with the highest retention rates: ESTJ, ENTJ, ESFJ. According to Provost and Anchors (1987), ISP types had the lowest persistence level and EJ types had the highest persistence level.

Attrition may not always reflect institutional problems.

> For example, there are multiple explanations for why Thinking types may leave a nursing program at a higher rate than Feeling types. An argument could be made that students with strong preferences for Thinking may not find

> adequate rewards or support in a nursing career and that it is in their best interest to consider other professional pursuits. In that case, their attrition may be educationally appropriate, and working to reduce that attrition may be inappropriate. (Kalsbeek, as cited in Provost & Anchors, 2003, p. 119)

Since students are more likely to remain in a program where they have interest and practical application (Van, 1992), retention or attrition of nursing home administrator students from academic experience to licensure is of primary importance in understanding the decline in nursing home administrator candidates.

Summary

The number of candidates for nursing home administrator licensure has dropped by 40% nationally in the past five years (NAB, 2003). This decline is alarming, considering the aging U.S. society and anticipated nursing home usage. Iowa has observed the decline in both candidates for licensure, and in students enrolling in vocational programs to help them meet licensure requirements. The Des Moines Area Community College Health Care Administration program, the largest nursing home administrator education program in Iowa, had only 43 out of 204 students become licensed from Spring 2000 to Fall 2003 (DMACC, 2003). Investigating declining student numbers could provide insights into the decline in nursing home administrator candidates.

Type literature indicates that the MBTI® instrument is an appropriate tool to use for predication, attrition, and improving communication skills (Hammer, 1996; Martin, 1996; McCaulley, 1978; Provost & Anchors, 2003; Wicks, 1988). Myers-Briggs Type Indicator® has a long history of contributing to an understanding of health care professions, health care communications, management style, career choice, and higher education. It is an appropriate tool to use to gather data and base population comparisons. If the MBTI® can provide useful

information about various health care professions, management, career counseling, and higher education, then it can also provide useful information about health care administration. There is very little research available on health care administration and Type, therefore, this study will contribute new knowledge to the available information about health care administration and Type.

CHAPTER 3. METHODOLOGY

The purpose of this chapter is to identify the research design, population and sample, instrumentation, methods of data collection, and methods of data analysis.

Research Design

This non-experimental study was designed following a post-positivistic theory (Creswell, 2003). It was designed to test the stated alternate hypothesis: "There are MBTI® type characteristic differences between nursing home administrator students and licensed nursing home administrators." This study was built upon previous research that investigated the use of type in health care, management, career counseling, and higher education (Hammer, 1996; Martin, 1996; McCaulley, 1978; Provost & Anchors, 2003; Wicks, 1988).

Population and Sample

Two populations were compared in this study based on their Myers-Briggs Type Indicator® (Form M) characteristics. The first population included all of the students enrolled in the Des Moines Area Community Health Care Administration program, a program that prepares individuals to become licensed nursing home administrators. The second population included all licensed nursing home administrators in Iowa, and primarily those who are actually working in the position entitled "nursing home administrator."

Participants were determined using convenience sampling techniques (McMillan & Schumacher, 1997). The sample of students came from the population of students enrolled in the DMACC Health Care Administration program, specifically those students enrolled in the HCAD 278 (Management in Health Care) class during the Fall 2002 and Fall 2003

semesters. Students enrolled in this class completed the MBTI® (Form M) as part of the regular curriculum, including an interpretation and verification session by a person qualified to perform these functions. The management class did include students pursuing a different level of certification, residential care facility certification; however, these students were not included in this study.

The sample of licensed nursing home administrators was also selected using convenience sampling techniques. First, volunteers were invited to contact the researcher through the DMACC Health Care Administration newsletter which is mailed twice annually to past DMACC students and many nursing homes across the State of Iowa. The DMACC Health Care Administration program also occasionally co-sponsors continuing education workshops for employees of long-term care facilities. Licensed nursing home administrators who attended one such workshop in Fall, 2003, were approached about participating in this study. Then, long-term care companies who employ large numbers of licensed nursing home administrators were approached about participating in this study. One company administered the MBTI® during one of their company trainings. Finally, the researcher attended two conferences, one sponsored by each of the two Iowa long-term care trade associations, Iowa Health Care Association (IHCA) and Iowa Association of Homes and Services for the Aging (IAHSA). IHCA represents over half of the licensed nursing homes in Iowa, and IAHSA represents almost all of the not-for-profit nursing homes in Iowa. Anecdotally, nursing homes in Iowa, and therefore, nursing home employees, belong to either IHCA or IAHSA (or perhaps to both). Most licensed nursing home administrators attend conferences sponsored by these two associations to gain continuing education credits and learn new information about the operation of long-term care facilities. The researcher setup at an exhibitor's booth

at both conferences, whereby participation was invited through announcements and enclosures in the conference packets.

The results were then mailed back to the administrators with an invitation to contact the researcher for a verbal explanation of the materials. Demographic information was collected from the students, administrators, and the Department of Public Health list of licensed nursing home administrators (2001). Participants were allowed to complete the MBTI® only once for this study, as either a student or as an administrator, therefore assuring that samples were independent of one another.

Data Collection

Instrument

Data were collected using a closed-ended survey instrument called the Myers-Briggs Type Indicator®. This tool was chosen because of popularity, familiarity, flexibility in multiple applications, and reliability and validity. The 93-item, self-report questionnaire MBTI® Form M is considered the current standard form to use.(Myers et al, 1998). In the ethics of MBTI® administration, results are to be verified by the participant during a guided interpretation meeting. It is through the verification process that individuals confirm the accuracy of their reported types. Hammer and Yeakley (1987) found that reported type as measured by the MBTI® and "true" type as indicated by follow-up interviews were in agreement 85% of the time. A face-to-face interpretation was not conducted in the current study, but each participant's results were mailed back, along with a booklet, *Descriptions of the 16 Types* (Lawrence, 1998), and two type reports by Martin (1997). Participants were invited to contact the researcher for a thorough interpretation via telephone.

Each item on Form M correlates to a dichotomy, either Extraversion (E)-Introversion (I); Sensing (S)- Intuition (N); Thinking (T)-Feeling (F); or Judging (J)- Perceiving (P). The responses are scored, sorting the individual into one category on each dichotomy (Myers et al., 1998). This provides the individual with a four-letter reported type. Macdaid (as cited in Provost & Anchors, 2003) explained:

> Type theory holds that there is a definite and clear difference in the characteristics of people on either side of the midpoint, not a small incremental change. This difference is a sudden and dramatic qualitative change analogous to a phase change in chemistry. For example, an element may change from a gas to a liquid; but once it crosses that line it has very different properties. (p. 415)

The combinations of these 4 categories of preferences create 16 distinct types. Myers et al. (1998) stated:

> An excellent way to begin to understand whole types and particular combinations of preferences is to become familiar with the type table, which presents the 16 types in a logical relationship. There is much to be learned from type tables; they show the frequencies of types in groups of people that have characteristics in common: for example, the same occupation, college major, avocation, management philosophy, or communication style. (p. 36).

The MBTI® has a long history of being used in research, especially in population comparisons (Hammer, 1996; Myers et al., 1998). O'Brien (1985) described the MBTI® as one of the "best designed and most thoroughly validated psychometric instruments around" (p. 60). The MBTI® Manual provides results of many tests for validity and reliability. Harvey (1998, as cited in Myers et al., 1998) recognized that researchers have preferred the split-half method to test internal consistency, but with very small sample sizes. This has created results "which appear at first glance to be diconcertingly low" (p. 7). However, in Carskdon's (1982) meta-analysis of over 100,000 subjects, the split half reliability is good (.84).. Harvey and Murry (1994) identified a coefficient alpha value of .85 for the MBTI.

Tischler (1994) contended that the MBTI® items do indeed measure the four MBTI® scales effectively. Johnson's (1992) findings that "test-retest correlation coefficients for the MBTI® preference scales were high except for the Thinking-Feeling preference scale. The stability of 4-letter MBTI® type designations was substantially higher than reported elsewhere" (p. 58). This was supported by Devito (1985), who found test-retest reliability coefficients from various studies ranging from .48 to .87.

Validity studies also support the use of the MBTI® instrument (; Harker, Reynierse, & Kromisin, 1996; Messick, 1995; Vargo, McCarley, & Carskadon, 1986). Harris, Kelley, and Coleman (1984) compared the MBTI® profiles of 125 freshman medical students to their profiles in the senior year. No significant changes were found, with the percent of agreement in each MBTI® category being 75%, 76%, 69%, and 83%. Seventy-five percent of the students changed on no more than one preference dimension (Tiberio, cited in Hammer, 1996, p. 152). Harvey (cited in Hammer, 1996) summarizd, "a great deal of correlational evidence that bears on convergent and discriminant validity has been reported; overall, this evidence is generally quite supportive of the MBTI®" (p. 16).

Data Analysis

Descriptive statistics of the two populations were generated and crosstabulations were conducted to provide indicators of similarities and differences and tests for general association of the variables. The results were compared using various combinations of the four preferences, E-I, S-N, T-F, and J-P. Extraversion (E) and Introversion (I) recognize where a person gathers and expends energy. Sensing (S) and Intuition (N) recognize how a

person takes in information. Thinking (T) and Feeling (F) recognize how a person comes to a decision. Judging (J) and Perceiving (P) recognize how a person structures his or her life. The status of the participant, either student or administrator, was coded as student = 0 and administrator = 1. Then the data were coded as nominal variables on each of the four preference categories. For example, the Extraversion-Introversion preference category were coded as Extraversion (E) = 0 and Introversion (I) = 1. Variables were created to make comparisons based on the sixteen-cell type table, including creating categories for each of the sixteen MBTI® types, plus categories for each of the four rows and four columns. Finally, variables were created to compare pairs of preferences, such as the E-I and J-P combination.

The Chi-square statistic was selected because "the test 'works' even when distributions are skewed, variability is dramatically different among samples, and scale points are far from equal intervals" (Abrami et al., 2001, p. 512). The Chi-square value compares the expected frequencies versus the observed frequencies of nominal variables. It addresses whether or not there is a significant difference between the expected and the observed frequencies. The Chi-square statistic can also be used when the sample sizes of the compared populations are not equal.

There are three assumptions upon which the Chi-square analysis is based: random selection, independent observations, and expected frequencies equal to five or more. The impact of decisions made for this research is addressed in the Limitations section of this chapter.

A statistical analysis used by many researchers investigating MBTI® type characteristics is called the Selection Ratio Type Table (SRTT) computer program. The limitation to the SRTT program is that it does not enable the researcher to enter data on a

case-by-case basis, which limits the comparisons that can be performed. This drawback is the main reason the SRTT was not used to analyze these data, and the Statistical Package for the Social Sciences was selected.

A pilot study was conducted during Summer, 2003. It compared one year of DMACC Health Care Administration students ($n = 19$) to licensed nursing home administrators working for a long-term care company ($n = 43$). Significant ($p < .05$) differences were found when comparing the two groups on the Sensing-Intuitive dichotomy and the Thinking-Feeling dichotomy, as well as combinations of the S-N and T-F dichotomies. Due to the sample sizes, however, many of the expected cell sizes ($n<5$) were too small to be considered conclusive. Abrami et al. (2001) stated, "The sample size of each group can affect Type I and Type II error rates. In certain situations, five is the minimum group sample size" (p. 513).

The Iowa State University Human Subjects in Research form was completed as part of the pilot project study. It was approved by the ISU Human Subjects in Research Committee on July 2, 2003.

Assumptions

Five underlying assumptions were made in this study. First, it was assumed the students enrolled in the DMACC Health Care Administration program have done so because they are interested in completing State of Iowa requirements to become licensed nursing home administrators. Second, it was assumed that the administrators are successful administrators, fulfilling their nursing home administrator role well and to the benefit of both the facilities and the residents in which they are in charge. Third, it was assumed that

participants completed the survey tool objectively. Fourth, it was assumed that type characteristics provide measures of psychological type differences. Finally, a normal distribution of the responses was assumed for drawing conclusions from the data.

Limitations

There are many limitations that may have affected the outcome of this study. First, the tool used was the MBTI® Form M, a 93-item questionnaire that is considered to be the standard form of the instrument. These 93 questions cannot possibly capture the complexity of each individual's personality and, therefore, cannot provide a total explanation of the choices of the participants. Form M is also a self-reporting tool that can be influenced greatly by the participant's mood at the time of completing the questionnaire. Many factors influence the accuracy of a self-report, including mood, setting, and understanding of the terms (Myers et al., 1998, p. 120). These items are considered during the interpretation; however, accuracy always lies with the respondent. The mere experience of being asked to complete the MBTI® as either a "student" or as a "nursing home administrator" may have influenced responses to the items.

Next, the verification process is meant to confirm the accuracy of the participant's scores. However, the verification process accepted for this study was one of exception; that is, the participant communicated to the researcher for a more detailed understanding of the printed and mailed materials. If no such communication occurred, then the reported type was accepted and used for this study.

The method of convenience sampling has inherent limitations. First, "there is no precise way of generalizing from the sample to any type of population" (McMillan &

Schumacher, 1997, p. 169). Second, convenience sampling runs the risk of being biased because "volunteers differ from non-volunteers in important ways" (p. 172). This means that the findings from this study can be generalized only to the DMACC Health Care Administration students and the licensed nursing home administrators who participated in the study. McMillan and Schumacher (1997) also explained, "Although we need to be very wary of convenience samples, often they provide the only possibility for research. Also, the primary purpose for the research may not be to generalize but to better understand relationships that may exist" (p. 169).

The sample size may also cause concern due to comparisons on a 16-cell Chi square analysis of a cross-tabulation table. Abrami, Cholmsky, and Gordon (2001) stated, "The Chi-square statistic may be inaccurate when the expected frequencies for any category or cell are 5 or lower. More precisely, for single degree-of-freedom tests, the expected cell frequencies should be 10" (p. 10). Anticipating this minimum, a sample size of 80 - 160 nursing home administrators and 80 - 160 students was the goal. This study succeeded in gathering data from 108 administrators and 40 students.

Additionally, the inherent question being pursued is, "What makes a good nursing home administrator?" This study did not address the subjective "good" component; rather, it focused on those who are licensed and working as a nursing home administrator. While these individuals were employed, there has been no investigation into the quality of each administrator's skills. Along these same lines, simply because one type might be found more frequently, this does not suggest that another type cannot be successful, nor does the study recommend who should or should not pursue nursing home administration. Carskadon

(1984) stated, "Some types may be more frequently drawn to certain careers than other types, however ... 'minority' types are just as likely to perform well as other types are" (p. 20).

There are also many different types of nursing facilities, such as rural or urban, small or large, varying levels of resident health care needs, individual or corporate, etc. It is anticipated that many different types of leaders can be effective or even required to meet the diverse leadership needs of these various facilities. Perhaps a comparison of students to convenience-sampled licensed nursing home administrators does not provide an overview of who can be, or who should be, leading Iowa's numerous and multi-faceted nursing homes.

CHAPTER 4. ANALYSIS OF DATA

The purpose of this chapter is to present the analysis of the data collected during this study. Students and practitioners of nursing home administration were compared using MBTI® type preferences as variables. The groups were independent of one another. There were no missing cases for any of the MBTI® variables, although there were some missing cases from the demographic information. For each comparison, the null hypothesis stated: There is no difference between the two groups.

Population and Sample

The student sample consisted of 40 students enrolled in the DMACC Health Care Administration program during the Fall semesters of 2002 and 2003 (see Table 1). These students completed the MBTI® as part of a required management class. There were 11 males (27.5%) and 29 (72.5%) females in the student sample. The ages ranged from 19 years to 57 years, with mean = 38.4 years and median = 39 years. All of the students included in the study indicated that they intended to pursue licensure and work in some administrative capacity in long-term care.

Table 1. Demographic variables of the study

	N	Gender	Age	Years licensed
Students	40	Males = 11 Females = 29	Average=38.4 years Range = 19-57 years Median=39 years	
Administrators	108	Males=45 Female=60	Average=46.6 Range=24-73 Median=47.5	Average=11.3 years Range=1-32 years Median=9 years

The administrator sample consisted of 108 licensed nursing home administrators who completed the MBTI® as part of company training, or through attendance at a professional workshop sponsored by DMACC Health Care Administration, or during either of the two trade association conferences, or from response to an advertised request for volunteers in the DMACC Health Care Administration newsletter. The nursing home administrator sample consisted of 45 (41.7%) male and 60 (55.6%) female, with 3 missing cases, participants. The administrator ages ranged from 24 years to 73 years. The mean age = 46.6 years, and the median age = 47.5 years. This sample of administrators has been licensed an average of 11.3 years, with a licensure range of 1 year to 32 years. The median years of licensure = 9. The administrator sample has characteristics similar to those of the data collected by McGinnis (2002) and Murphy (2002) about Iowa nursing home administrators. McGinnis (2003, p. 23) found a gender distribution of 41% male and 59% female in her study, and an age range of 23-59 years.

Efforts were made to encourage participation by licensed administrators who were working as administrators, but, in the interest of collecting a larger sample size, licensed administrators who are not working as the licensed administrator of record were not precluded from participation. Administrator status, working or not, was not collected for this study.

Analysis

A crosstabulation comparison was run using SPSS 9.0. A crosstabulation is useful when analyzing nominal data. Krathwohl (1998) explained the benefit of crosstabulations:

> In experimental research, researchers might want to tabulate participants' reactions on the dependent variable separately for each value of the

> independent variable such as the treatment group and the control group. An examination of the crosstabulated data might help one begin to explore and understand whether the independent variable had an effect on the dependent variable. In correlational research, crosstabulation is also used to represent the values of the outcome measure separately for different values of the predictor variable. Here too, crosstabulation helps one begin to explore and understand whether there is a relationship between the predictor variable and outcome variable. (p. 68)

Green, Salkind, and Akey (2000) explained the assumptions of crosstabulations, or contingency tables:

> A contingency table analysis has two assumptions. First, the observations for a two-way table are independent of each other. To meet this assumption, studies should be designed to prevent dependency in the data. If this assumption is violated, the test is likely to yield inaccurate results. Assumption two: A two-way contingency table analyses yield a test statistic that is approximately distributed as a Chi-square when the sample size is relatively large. The size of the expected cell frequencies rather than the total sample size should be examined. For tables with 2 rows and 2 columns, there is little reason to worry if all the expected frequencies are greater than or equal to 5. For large tables, if more than 20% of the cells have expected frequencies that are less than 5, you should be concerned about the validity of the results. (p. 346)

SPSS also provides information on effect sizes, and the phi coefficient is reported as part of the data analysis. Sheskin (2000) noted, "Effect size is a value that indicates the percentage of variability on a dependent variable that can be attributed to variation on the independent variable" (p. 30). "The phi ranges in value from –1 to +1. Values close to 0 indicate a very weak relationship and values close to 1 indicate a very strong relationship. Traditionally, phi's of .10, .30, and .50 represent small, medium, and large effect sizes, respectively" (Green et al., p. 347). Phi statistics are given for each comparison.

Finally, lambda results are shared. The SPSS manual (1999) describes lambda as having a "range from 0 to 1, where 0 means that knowledge of the independent variable (status of student or administrator) is no help in predicting the dependent variable, and 1

means that knowing the independent variable perfectly identifies the categories of the dependent variable" (p. 73). The lambda number identifies the reduction in error. The p-value indicates the significance of the reduction. The reduction can be large and not be found significant; and a reduction can be small and still be significant. The reduction number tells you how important the independent variable is to the compared variable, whether or not it is significant.

Extraversion – Introversion

In the first comparison, the health care administration students and licensed nursing home administrators were compared on the Extraversion (E) – Introversion (I) dichotomy (see Table 2 and Figure 2). The dichotomy was split half and half for the total sample, with 74 (E) and 73 (I) responses. This was mimicked in each sample , where 21 students were Extraverts and 19 students were Introverts. It was very close to the expected of 20.1 (E) and 19.9 (I) for the students in each preference. In the administrator category, 53 were E's and 55 were I's. This was also close to the expected numbers of 54 (E) and 54 (I) for each dichotomy. Type literature has reported that studies reflect 49.3% E's and 50.7 % I's in the general population (Martin, 2003), although McCaulley's (1978) health care administrator study found 60% Extraverts.

The Pearson Chi-square value = .137, with 1 degree of freedom and *p*-value = .711. This is supported by the low adjusted residual (.4, -.4). The null hypothesis is not rejected, leading to the conclusion that there is no significant difference between students and licensed nursing home administrators based on the E-I dichotomy.

	Extravert	Introvert
Student		
Actual	21	19
Expected	20.1	19.9
Percentage	52.5%	47.5%
Adj. Residual	.4	-.4
Administrator		
Actual	53	55
Expected	54	54
Percentage	49.5%	50.5%
Adj. Residual	-.4	.4

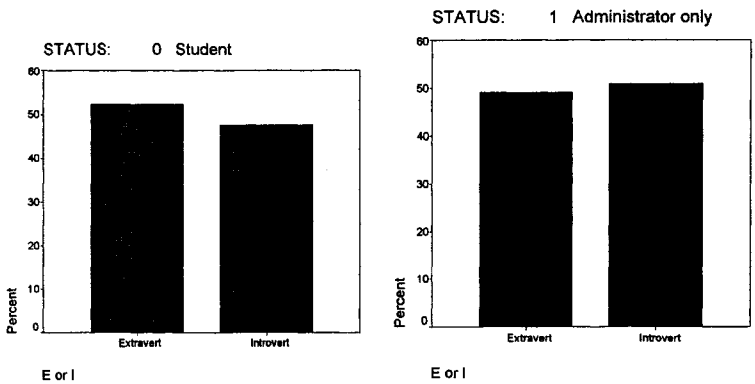

Table 2 and Figure 2. Student-Administrator comparison on E-I preference

Phi = .030, reflecting a small effect and a weak relationship between status and E-I preference. Lambda is also very small (symmetric = .018) for this comparison of status (student or administrator) and E-I. This means that these variables result in only a <2% reduction in error, indicating that they are not important to each other, and, in fact, have very little impact on one another.

Sensing – Intuition

The next comparison was based on the Sensing (S) – Intuition (N) dichotomy (see Table 3 and Figure 3). The total sample reflects a 50.7% (S) and 49.3% (N) split, and the

	Sensing	Intuition
Student		
Actual	16	24
Expected	20.3	19.7
Percentage	40%	60%
Adj. Residual	-1.6	1.6
Administrator		
Actual	59	49
Expected	54.7	53.3
Percentage	54.6%	45.4%
Adjusted Residual	1.6	-1.6

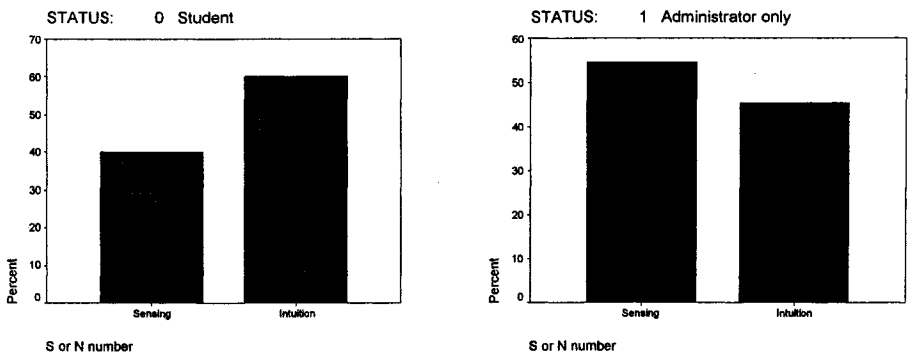

Table 3 and Figure 3. Student-Administrator comparison on S-N dichotomy

expected counts equal the observed frequencies of 75 (S) and 73 (N). The student population is split 40% (S) and 60% (N), with fewer S students than expected, 16 observed compared to 20.4 expected, and more N students than expected, 24 observed compared to 19.6 expected. The data on the administrator population found more observed S outcomes, 59, in comparison to the expected 54.7, and fewer observed N outcomes, 49, in comparison to the expected 53.3. This reflects a 54.6% (S) and 45.4% (N) split for administrators. While the differences are interesting, they are not statistically significant. Type studies anticipate that 66-74% of the population will be Sensing, while 26-34% will be Intuitive (Martin, 2003),

although McCaulley's (1978) health care administrator study identified 60% with Intuitive preferences. There are fewer Sensing participants and more Intuitive participants in this study than in the general population. There are more Sensing administrators and fewer Intuitive administrators than in the 1978 study of health care administrators.

The Pearson Chi-square = 2.499, with 1 degree of freedom and *p*-value = .114. The null hypothesis is not rejected. This is supported by the low adjusted residual values of 1.6 and –1.6. The phi coefficient = -.130, with *p*-value = .114. This means that there is a small effect size, or a minimal relationship between status (student or administrator) and S-N preferences that is not significant. The lambda symmetric value = .071 is also small, again indicating that these two variables have very little impact on one another.

Thinking – Feeling

The third comparison was based on the Thinking (T) and Feeling (F) dichotomy. The total population observed counts and expected counts matched, with 68 of each for Thinking and 80 of each for Feeling. This was a split of 45.9% (T) and 54.1% (F). However, the student and administrator populations do not reflect the distribution of the total (see Table 4 and Figure 4). The student population was split, with 13 (32.5%) Thinking (T) and 27 (67.5%) Feeling. The administrator population was split more evenly, with 55 (50.9%) Thinking (T) and 53 (49.1%) Feeling (F) (see Table 4a and 4b). There were significantly more Feeling students than Thinking students when compared to the split of the nursing home administrators.

	Thinking	Feeling
Student		
Actual	13	27
Expected	18.4	21.6
Percentage	32.5%	67.5%
Adj. Residual	-2.0	2.0
Administrator		
Actual	55	53
Expected	49.6	58.4
Percentage	50.9%	49.1%
Adjusted Residual	2.0	-2.0

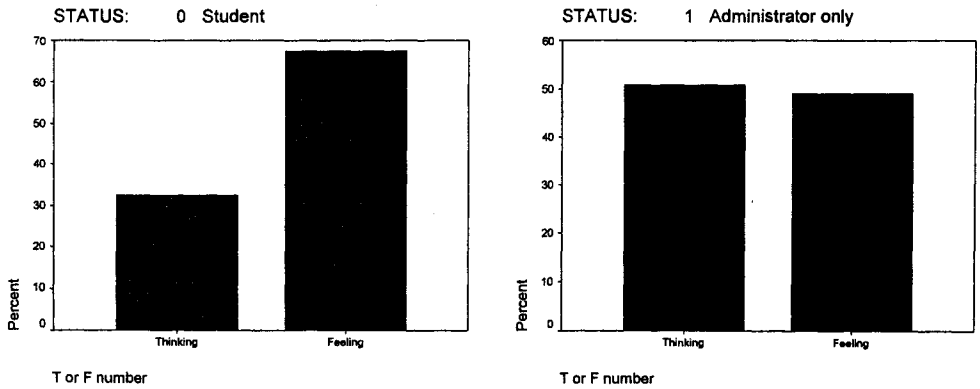

Table 4 and 4. Student-Administrator Comparison on T-F dichotomy

The Pearson Chi-square = 4.184, with 1 degree of freedom and *p*-value = .041. This finding is significant, and the null hypothesis is thus rejected, leading to the conclusion that the student population is different than the administrator population on the T-F dichotomy. Again, this is supported by the higher adjusted residual values of 2.0 and –2.0. Type literature anticipates that 40-50% of the general population will prefer Thinking, and 50-60% will prefer Feeling (Martin, 1996). McCaulley's (1978) study of nursing home administrators identified 62% who preferred Feeling. In this study, students were more likely than administrators to score themselves as Feeling preference. The administrator

population is weighted more heavily to the Thinking preference, but the administrators more closely reflect the general population.

The phi coefficient for the crosstabulation of status with the T-F comparison = -.164, with *p*-value = .046. This indicates a significant, but small, relationship between the two variables. The Lambda value for T-F dependent = .019, with *p*-value = .847. This indicates that there is a < 2% reduction in error in predicting the T-F variable when status is known. This reduction in error is not significant.

The T-F dichotomy is the only one of the four MBTI® parts that has shown a gender difference (see Table 5 and Figure 5). The Center for Applications of Psychological Type (Martin, 2003) estimated that 75.5% of females in the general population will show a preference for Feeling, and that 56.5% of males in the general population will show a preference for Thinking. Even though the differences between students and administrators were significant on the TF dichotomy, it must be questioned whether or not this significance is related to gender. Crosstabulations were run using the status and T-F variables, while controlling for gender.

These percentages reflect CAPT's 2003 database. The 1998 Manual reflects that in a national sample of 1478 participants and using Form M, there are 44% Feeling males (or 55% Thinkers), and 76% Feeling women (or 24% female Thinkers) (p. 157).

When controlling in both groups for gender, there were no significant differences in the student population. However, there is a significant difference (*p*-value = .004) in the administrator population, between the thinking and feeling preferences. The Pearson's Chi-square = 8.258 and Cramer's V = .280.

Gender		Thinking	Feeling
Male students	Actual	6	5
	Expected	7.1	3.9
	Percentage	54.5%	45.5%
	Adj. Residual	-.8	.8
Female students	Actual	7	22
	Expected	9.8	19.2
	Percentage	24.1%	75.9%
	Adj. Residual	-1.3	1.3
Male administrators	Actual	30	15
	Expected	28.9	16.1
	Percentage	66.7%	33.3%
	Adj. Residual	.8	-.8
Female administrators	Actual	23	37
	Expected	20.2	39.8
	Percentage	38.3%	61.7%
	Adj. Residual	1.3	-1.3

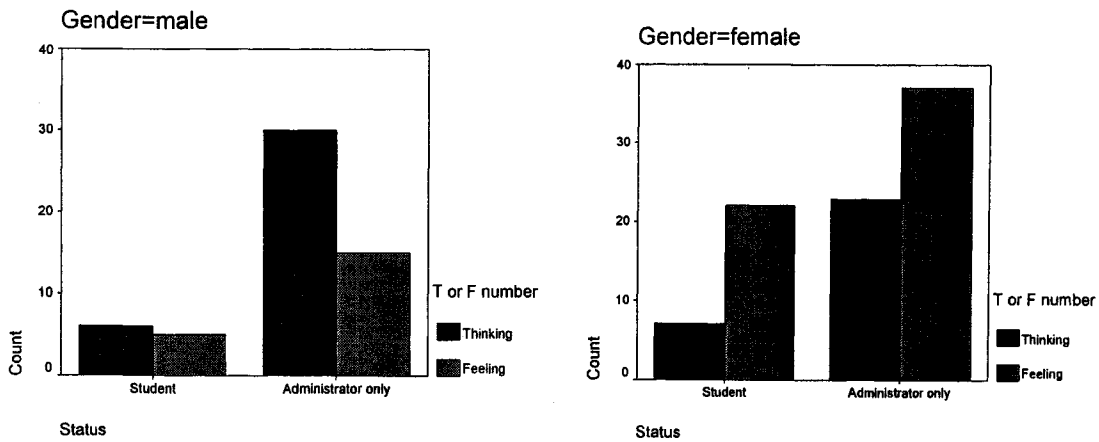

Table 5 and Figure 5. Gender differences between students and administrators in the T-F dichotomy

These findings call for a regression model to be estimated to determine whether status (as student or administrator) or gender have a greater impact on anticipating T-F preference. The findings of the logistic regression support that gender counts more than status when determining (predicting) a preference for T or F.

Judging – Perceiving

The fourth comparison of the health care administration students and the licensed working nursing home administrators was based on the Judging (J) – Perceiving (P) dichotomy (see Table 6 and Figure 6). All response categories were very close to the expected value. The total population found that the observed and the expected counts matched, with 77 Judging participants and 71 Perceiving participants. This was illustrated again in both the student and the administrator populations. Of the students, 55% were (J) and 45% were (P). Observed counts were close to the expected counts for the student population, with 22 observed and 20.8 expected for (J), and 18 observed and 19.2 expected for (P). The administrator population was also evenly split, with 50.9% (J) and 49.1% (P). The observed 55 (J) was slightly below the 56.2 expected, and the 53 observed (P) was slightly above the 51.8 expected.

This reflects other Type studies. For example, Martin (1996) anticipated 55-60% "J" preferences and 40-45% "P" preferences. McCaulley (1978), however, found 70% Judging (J) types in her study of health care administrators, and Shewchuck and O'Connor (1995) found 63% TJ combinations. For this comparison, Pearson Chi-square = .194, with 1 degree of freedom and *p*-value = .660. The adjusted residual values are small, .4 and -.4. There is

	Judging	Perceiving
Student		
Actual	22	18
Expected	20.8	19.2
Percentage	55%	45%
Adj. Residual	.4	-.4
Administrator		
Actual	55	53
Expected	56.2	51.8
Percentage	50.9%	49.1%
Adjusted Residual	-.4	.4

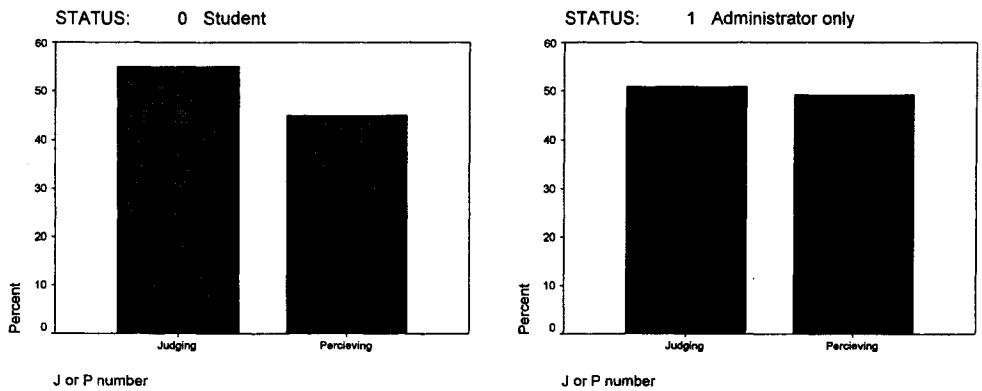

Table 6 and Figure 6. Student-Administrator comparison on J-P dichotomy

no significant difference between students and administrators on the J-P dichotomy. The null hypothesis is not rejected.

The phi coefficient for the crosstabulation of status with J-P = .036, with *p*-value = .660, indicating a very small effect that is not significant. The lambda value when J-P is dependent = 0, indicating that status has no impact on J-P preferences and is not significant.

Type table comparisons

The students and administrators were also compared using their score distributions on a type table in five different ways. First, using the columns of the type table, results were compared on ST, SF, NF, and NT combinations. Then, using the rows of the type table, results were compared on IJ, IP, EP, and EJ combinations. A comparison was also made using the four quadrants of the type table: IS, IN, ES, and EN. Next, the combinations of SJ, SP, NP, and NJ were compared. Finally, each type was compared using whole type, or all four letters. Crosstabulations were used again, although the expected cell values occasionally are below 5, thus violating one of the assumptions, which must be considered in interpreting results. Additionally, "if the Pearson Chi-square test has more than 1 degree of freedom, it is an omnibus test which evaluates the significant of an overall hypothesis containing multiple sub-hypotheses" (Green et al., 2000, p. 349). In addition, while the Pearson Chi coefficient is appropriate for nominal dichotomous variables in a 2×2 comparison, the "Cramer's V coefficient is the appropriate measure of association for crosstabulations larger than 2×2" (Hinkle, Wiersma, & Jurs, 1998, p. 557).

Columns

The first comparison using the type table was along the columns, or combinations of ST, SF, NF, and NT (see Table 7 and Figure 7). The columns of the type table are combinations of the four mental functions (Myers et al., 1998, pp. 40-43). They include ST, the practical and matter-of-fact types; SF, the sympathetic and friendly types; NF, the enthusiastic and insightful types; and NT, the logical and ingenious types.

	ST	SF	NF	NT
Student				
Actual	6	10	17	7
Expected	12.4	7.8	13.8	5.9
Percentage	15%	25.0%	42.5%	17.5%
Adj. Residual	-2.6	1.0	1.3	.5
Administrator				
Actual	40	19	34	15
Expected	33.6	21.2	37.2	16.1
Percentage	37.4%	17.8%	30.8%	14.0%
Adjusted Residual	2.6	-1.0	-1.3	-.5

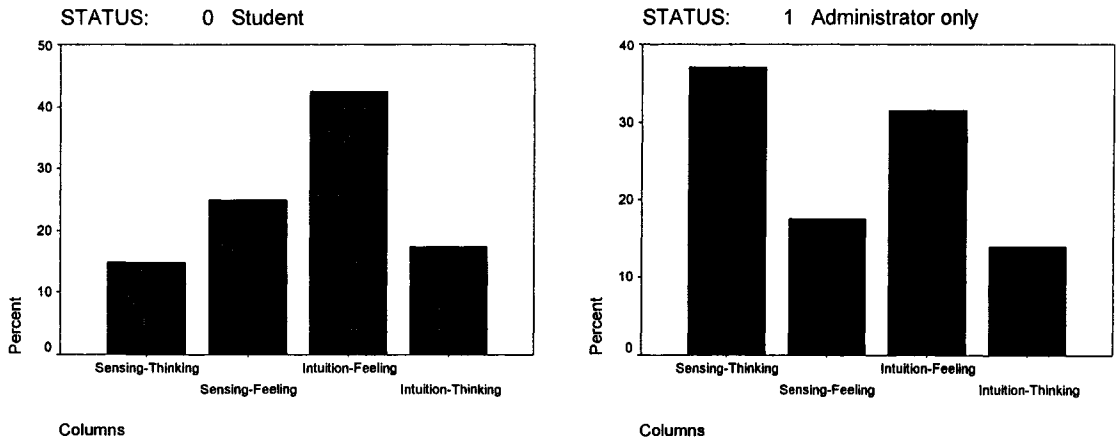

Table 7 and Figure 7. Student-Administrator comparison using columns

For the student population, 6 students were in the ST column, where 12.4 were expected, providing an adjusted residual of –2.6. Next, 10 students were in the SF column, whereas 7.8 were expected, providing an adjusted residual of 1.0. The NF column contained 17 students, more than the 13.8 expected, providing an adjusted residual of 1.3. There were 7 students in the NT column, closely matching the 5.9 expected. For the administrator sample, 40 were found in the ST column, more than the 33.6 expected, with an adjusted residual of 2.6. The observed 19 administrators in the SF column was close to the 21.2 expected. There were 34 observed administrators in the NF column, less than the 37.2 expected. Finally, there were 15 observed administrators in the NT column, closely

matching the 16.1 expected. The Pearson Chi-square = 6.663, with 3 degrees of freedom and *p*-value = .083. This is not significant, and the null hypothesis is not rejected for this comparison. The student population is not significantly different from the administrator population based on the columns comparison.

The Cramer's V for the crosstabulation of status with columns = .212, with *p*-value = .083. This reflects a small effect between the two variables that is not significant. Lambda = .044 also provides an indication of very small association, with *p*-value = .485. This reflects a non-significant reduction in error of 4.4% when the status is known.

Rows

The next comparison was based on the differences among rows on the type table (see Table 8 and Figure 8). The observed values were close to the expected values for all of the rows for both students and administrators. The Pearson Chi-square = .408, with 3 degrees of freedom and *p*-value = .938. The adjusted residual values on this comparison are all small (ranging from -.7 to .7), indicating similar populations. The null hypothesis is not rejected, and it is concluded that the students and administrators are not different on the comparison of rows.

The Cramer's V value for the crosstabulation of status with rows = .053, with *p*-value = .938. This is a small effect size, or a small relationship between status and rows, and it is not statistically significant. Lambda = zero when the rows are the dependent variable, which indicates no association between status and rows.

	IJ	IP	EP	EJ
Student				
Actual	12	7	11	10
Expected	11.4	8.4	10.8	9.5
Percentage	30.0%	17.5%	27.5%	25.0%
Adj. Residual	.3	-.6	.1	.2
Administrator				
Actual	30	24	29	25
Expected	30.6	22.6	29.2	25.5
Percentage	27.8%	22.2%	26.9%	23.1%
Adjusted Residual	-.3	.6	-.1	-.2

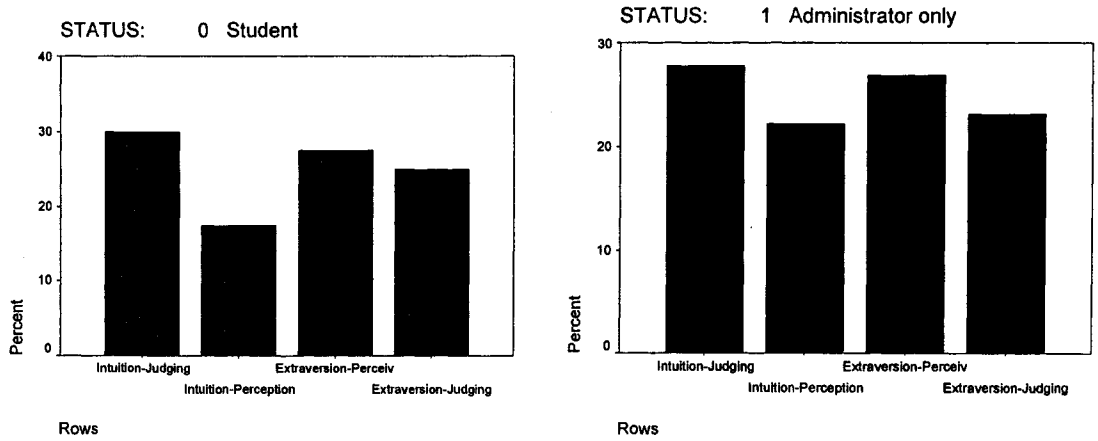

Table 8 and Figure 8. Student-Administrator comparison using rows

Quadrants

Next, students and administrators were compared based on the four quadrants of the type table (Table 9 and Figure 9). The quadrants "combine the functions of perception (Sensing and Intuition) with the Extraverted or Introverted attitude. IS combinations are called thoughtful realists, and they like to test ideas to see whether they are supported by facts. IN combinations are called the thoughtful innovators, and are interested in knowledge for its own sake, as well as ideas, theory, and depth of understanding. ES combinations are called the action-oriented realists, and are the most practical of all types. They learn best

	IS	IN	ES	EN
Student				
Actual	11	8	4	17
Expected	11.6	8.1	8.4	11.9
Percentage	27.5%	20.0%	10.0%	42.5%
Adj. Residual	-.3	.1	-2.0	2.0
Administrator				
Actual	32	22	27	27
Expected	31.4	21.9	22.6	32.1
Percentage	29.9%	19.6%	25%	25%
Adjusted Residual	.3	-.1	2.0	-2.0

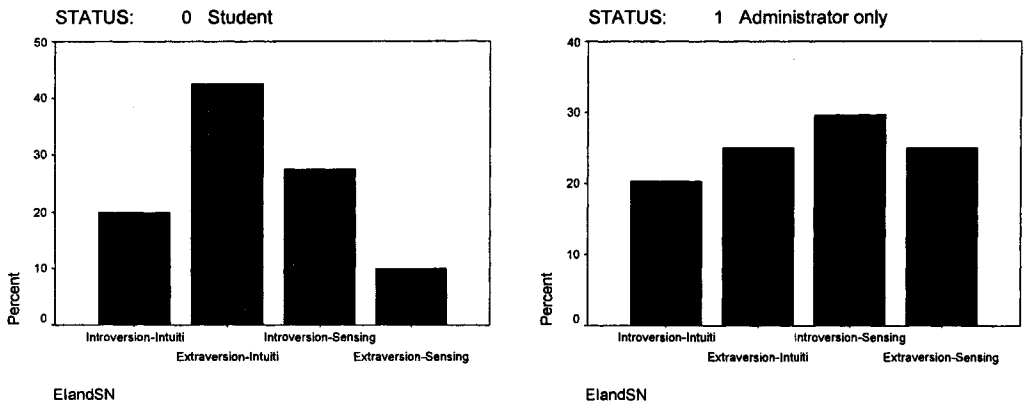

Table 9 and Figure 9. Student-Administrator comparison using quadrants

when useful applications are obvious. Finally, EN combinations are called the action-oriented innovators and are considered change-agents. They see possibilities as challenges to make something happen" (Myers et al., 1998, pp. 55-57).

Of the students, 27.5% were found in the IS quadrant, with the observed frequency (11) nearly matching the expected frequency (11.6); 20% were in the IN quadrant, with the 8 observed cases again nearly matching the 8.1 expected; 10% were in the ES quadrant, where the 4 observed cases was less than the 8.4 expected; and 42.5% were in the EN quadrant, with the observed 17 students greater than the 11.9 expected. Of the administrators, on the

other hand, 29.6% were in the IS category, and 20.4% in the IN category. Both the IS and IN frequencies closely matched the expected numbers: 25% of the administrators were in the ES category, where the 27 observed cases was greater than the 22.6 expected; 25% of the administrators were in the EN category, where the 27 observed cases was less than the 32.1 expected count.

The Pearson's Chi-square = 6.190 with 3 degrees of freedom and *p*-value = .103. This finding is not significant, and the null hypothesis is not rejected. The student and administrator populations are not different when compared using quadrants. Cramer's V = .205, with *p*-value = .103, a small effect that is not significant. Lambda = .035, with *p*-value = .514 when quadrants are the dependent variable. There is almost no association between the two variables.

Temperaments

Myers et al. (1998) described the effects of combinations of the Perception function and Orientations to the outer world, Sensing or Intuition, with either Judging or Perceiving. SJ combinations reflect the "realistic decision-makers," or "those who are organized, dependable, conservative, and seek order in their environment" (pp. 48-49). SP combinations are called the "adaptable realists." SPs "tend to seek new experiences in the present moment and are curious about the world around them. They adapt to situations as they arise and are good observers of the immediate situation" (pp. 49-50). NP combinations are called the "adaptable innovators." "They seek the challenge of the unknown and adapt to new possibilities as they arise. They are unconventional spirits who hate to be fenced in" (pp. 50-51). NJs are the "visionary decision makers" who "strive to accomplish the goals of

their inner vision and are driving, persistent, and determined. They can be charismatic leaders who attract dedicated followers" (pp. 51-52).

The student-administrator comparison of perception and orientations to the outer world is shown in Table 10 and Figure 10. Of the students, 32.5% sorted themselves into the SJ category, with 13 observed and 13 expected; only 3 students were categorized in the SP category, where 7.3 were expected, accounting for only 7.5% of the student population; 15 students sorted themselves into the NP category, more than the 11.9 expected and equaling 37.5% of the total student population, and 22.5% of the students were found in the NJ category, with 9 observed and 7.8 expected.

Of the administrators, 32.4% were found in the SJ category, with the observed 35 matching the 35 expected; the SP category found 24 observed administrators, more than the 19.7 expected, accounting for 22.2% of all of the administrators; 29 administrators were observed in the NP category, less than the 32.1 expected, and accounting for 26.9% of all the administrators; 20 administrators were found in the NJ category, slightly less than the 21.2 expected and equaling 18.5% of the total.

The Pearson Chi-square for this comparison = 4.817, with 3 degrees of freedom, and *p*-value = .186. The findings suggest that there is not significant difference between the student population and the administrator population on the S-N and J-P combination or temperaments. The null hypothesis is not rejected.

	SJ	SP	NP	NJ
Student				
Actual	13	3	15	9
Expected	13	7.3	11.9	7.8
Percentage	32.5%	7.5%	37.5%	22.5%
Adj. Residual	0	-2.1	1.3	.5
Administrator				
Actual	35	24	29	20
Expected	35	19.7	32.1	21.2
Percentage	32.4%	22.2%	26.9%	18.5%
Adjusted Residual	0	2.1	-1.3	-.5

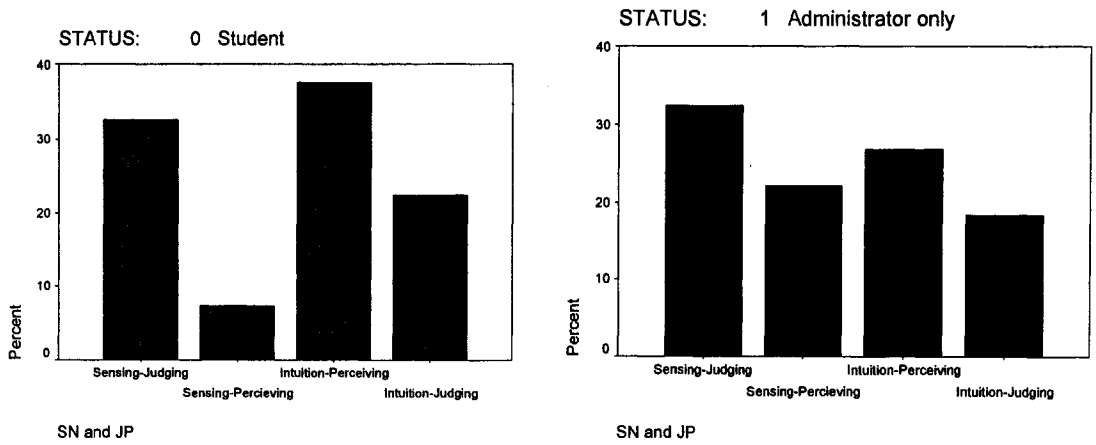

Table 10 and Figure 10. Student-Administrator comparison of perception and orientations to the outer world

The Cramer's V for the crosstabulation of status with S-N&J-P = .180, with *p*-value = .186. This is a small effect size that is not statistically significant. Lambda =.014, with *p*-value = .705, where S-N&J-P are dependent on student or administrator status. This means that where status is known, there is approximately 1% reduction in error in predicting the S-N&J-P variable. This reduction is not statistically significant.

TF and JP

Myers et al. (1998) described the effects of combinations of Judgment and Orientations to the outer world: TJ, TP, FP, and FJ. TJs are the "logical decision makers" (p. 52). They are "tough-minded, executive, analytical, and instrumental leaders" (p. 52). TPs are the "adaptable thinkers" (p. 53). They are "objective, skeptical, observant, and curious" (p. 53). FPs are known as the "gentle types" (p. 54) and are described as "adaptable, affiliative harmony seekers who are concerned with the human aspects of problems" (p. 54). Finally, the FJs are called the "benevolent administrators" (p. 54). They are "observant about people and their needs and are often expressive leaders. They expend energy trying to make people happy and bringing harmony into relationships" (p. 54).

The student-administrator comparison of judgment and orientations to the outer world is shown in Table 11 and Figure 11. Of the students, 22.5% sorted themselves into the TJ category, with the 9 observed being slightly less than the 12.2 expected; 10% were in the TP category, with the 4 observed again falling slightly under the expected 6.5 count; 35% fell in the FP category, with the 14 observed being greater than the 12.2 expected; 32.5% sorted themselves into the FJ category, with the 13 observed being greater than the expected 9.2.

Of the administrators, 33.3% fell into the TJ category, with the 36 observed being greater than the 32.8 expected; 18.5% were TPs, with the 20 observed being greater than the 17.5 expected; 28.7% were FPs, with the 31 observed being very close to the 32.8 expected; 19.4% of the administrators were in the FJ category, where the observed 21 was less than the expected 24.8. The findings of this study are still below Shewchuk and O'Connor (1995) findings, where 63% of their sample of 522 health care executives preferred Thinking – Judging..

	TJ	TP	FP	FJ
Student				
Actual	9	4	14	13
Expected	12.2	6.5	12.2	9.2
Percentage	22.5%	10.0%	35.0%	32.5%
Adj. Residual	-1.3	-1.2	.7	1.7
Administrator				
Actual	36	20	31	21
Expected	32.8	17.5	32.8	24.8
Percentage	33.3%	18.5%	28.7%	19.4%
Adjusted Residual	1.3	1.2	-.7	-1.7

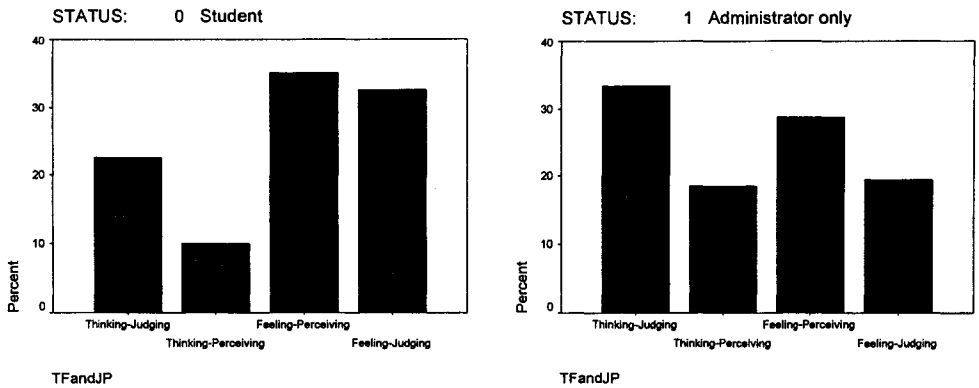

Table 11 and Figure 11. Student-Administrator comparison of judgment and orientations to the outer world

The Pearson Chi-square for this comparison = 4.979, with 3 degrees of freedom and *p*-value = .173. This finding is not significant, so the null hypothesis is not rejected. The Cramer's V for the crosstabulation of status with T-F&J-P = .183, with *p*-value = .173. This is a small to moderate effect size and is not statistically significant. Lambda = .035, with *p*-value = .295, where T-F&J-P is dependent on student or administrator status. This means that where status is known, there is an almost 3.5% reduction in error in predicting the T-F&J-P variable. This reduction is not statistically significant.

Whole type

The final comparison provides a view of the student and administrator distribution across the entire 16 types (see Table 12 and Figure 12). This provides an opportunity to discuss descriptive statistics. However, 62.5% of the cells have an expected value of less than 5, and, therefore, analysis is not recommended.

The most frequent student types are: ENFP (20%), ISFJ (15%), ENFJ (12.5%), and INFP (10%). The most frequent administrator types are: ENFP (15%), ISTJ (13%), and ESTJ (12.1%). It is interesting to note that 12 of the 16 types are represented in the student sample, and the administrator sample has representatives in all 16 cells of the type table.

The Pearson Chi-square = 25.985, with 15 degrees of freedom, where $p = .038$. This suggests at least one significant difference between students and practitioners when compared using whole type. The results from ISFJ show adjusted residuals of –2.4 and 2.4, indicating that the students and administrators are significantly different on this type.

The Cramer's V for the crosstabulation of status with whole type = .419, with p-value = .038. This is a moderate effect size and is statistically significant. Lambda = .024, with p-value = .413, where whole type is dependent on student or administrator status. This is a very small reduction in error and is not significant.

Summary

This chapter provided the analysis for this study. In summary, students and practitioners of nursing home administration were compared using MBTI® type characteristics. The two groups were found to be significantly different on two comparisons, T-F and whole type. The TF difference was suspected as having a gender bias, and further

Table 12. Student-Administrator comparison using whole type

(a)

	ISTJ	ISFJ	INFJ	INTJ	ISTP	ISFP	INFP	INTP
Student								
Actual	3	6	0	3	1	2	4	0
Expected	4.6	2.7	2.2	1.9	1.9	2.7	2.7	1.4
Percentage	7.5%	15.0%	0%	7.5%	2.5%	5.0%	10.0%	0%
Adj. Residual	-.9	2.4	-1.8	1.0	-.8	-.5	1.0	-1.4
Administrator								
Actual	14	4	8	4	6	8	6	5
Expected	12.4	7.3	5.8	5.1	5.1	7.3	7.3	3.6
Percentage	13.0%	3.7%	7.4%	3.7%	5.6%	7.4%	5.6%	4.6%
Adjusted Residual	.9	-2.4	1.8	-1.0	.8	.5	-1.0	1.4
	ESTP	ESFP	ENFP	ENTP	ESTJ	ESFJ	ENFJ	ENTJ
Student								
Actual	0	0	8	3	2	2	5	1
Expected	1.9	.8	6.5	1.4	4.1	1.6	2.4	1.4
Percentage	0%	0%	20.0%	7.5%	5%	5.0%	12.5%	2.5%
Adj. Residual	-1.6	-.1.1	.8	1.7	-1.3	.4	2.0	-.4
Administrator								
Actual	7	3	16	2	13	4	4	4
Expected	5.1	2.2	17.5	3.6	10.9	4.4	6.6	3.6
Percentage	6.5%	2.8%	15.0%	1.9%	12%	3.7%	3.7%	3.7%
Adjusted Residual	1.6	1.1	-.8	-1.7	1.3	-.4	-2.0	.4

(b)

ISTJ S (7.5%) A (13%)	ISFJ S (15%) A (3.7%)	INFJ S (0%) A (7.4%)	INTJ S (7.5%) A (3.7%)
ISTP S (2.5%) A (5.6%)	ISFP S (5.0%) A (7.4%)	INFP S (10.0%) A (5.6%)	INTP S (0%) A (4.7%)
ESTP S (0%) A (6.5%)	ESFP S (0%) A (2.8%)	ENFP S (20%) A (15%)	ENTP S (7.5%) A (1.9%)
ESTJ S (5.0%) A (12.1%)	ESFJ S (5%) A (3.7%)	ENFJ S (12.5%) A (3.7%)	ENTJ S (2.5%) A (3.7%)

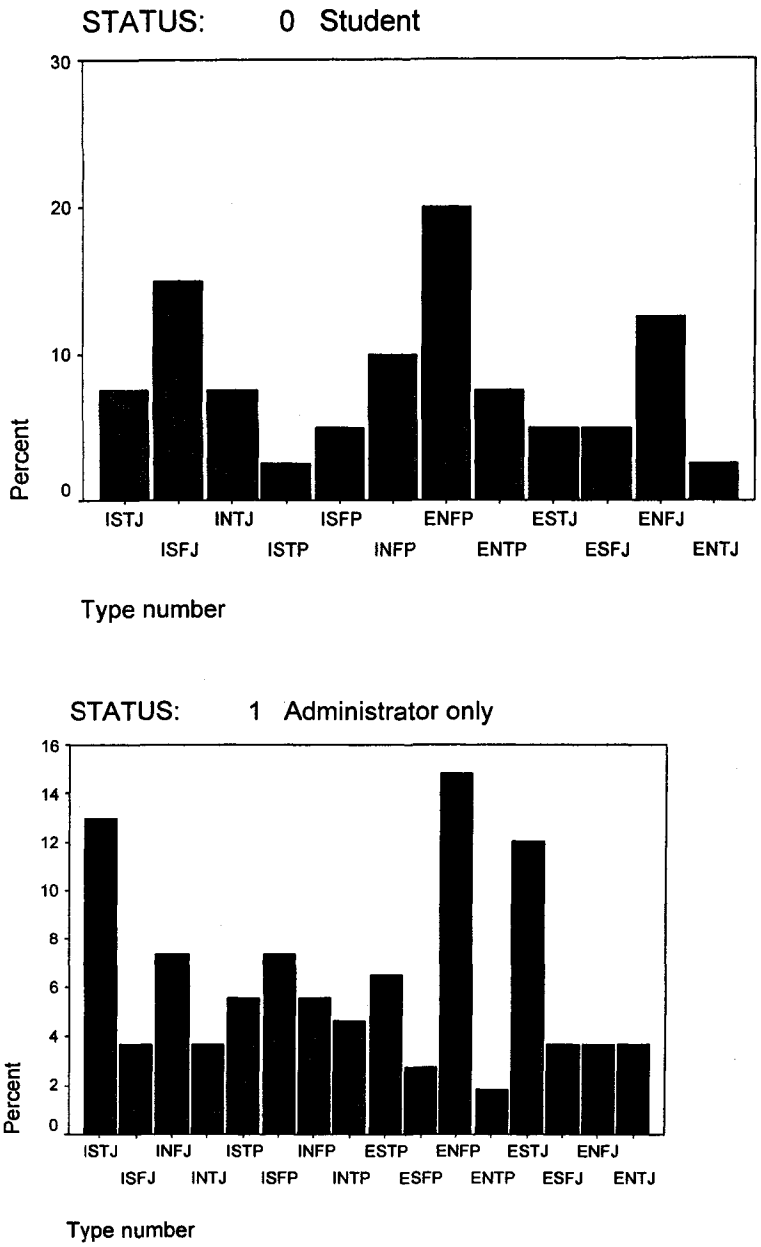

Figure 12. Student-Administrator comparison using whole type

analysis found that this was in fact the case. Gender is a better predictor of whether or not there is a T or F preference, and gender and status can successfully predict those with an F preference 75% of the time.

Next, whole type pointed to a significant difference on the ISFJ type. There are more ISFJ types represented in the student sample than in the administrator sample. All types were represented in the administrator sample, indicating an occupation that requires many varying talents.

CHAPTER 5. SUMMARY, RECOMMENDATIONS, AND CONCLUSION

This chapter addresses the implications of the findings and propose changes in the DMACC Health Care Administration program based on this study. Suggestions for further study are also provided.

Summary

DMACC Health Care Administration is attracting more females than males to the program by a ratio of 3:1. This is presumably because students who pursue administration courses at DMACC currently have worked in long-term care facilities where the majority of employees are female (McGinnis, 2003). This gender ratio diminishes in the administrator sample to 3 females for every 2 males. These findings suggest that nursing home administration attracts and employs many females. The nursing home administrator position enables women to move into upper management positions, however, not at the same rate that they are attracted to the educational program. DMACC appears to provide an opportunity for women who need to supplement their education with specific health care administration knowledge. Perhaps men have already met specific health care administration knowledge through their first bachelor's degree and a lifelong pursuit of upper administration positions, versus females who entered health care as nurses or department heads who realized later they wanted to pursue upper administration. The gender issues suggested by this study warrant further investigation to better understand what about the profession attracts females and males, and who completes this career goal to become a licensed nursing home administrator.

Students averaged 38 years of age, and administrators averaged 46 years of age with licensure an average of 11 years. This suggests that the sampled group of administrators was

Students averaged 38 years of age, and administrators averaged 46 years of age with licensure an average of 11 years. This suggests that the sampled group of administrators was slightly younger than the current group of students when they completed their education. This age-creep echoes the findings of McGinnis (2003), who studied Iowa administrators and found that the nursing home administration profession is not attracting younger individuals. This may or may not be the direct result of the bachelor's degree requirement, especially when the majority of DMACC Health Care Administration students already have, and always have had, previously earned bachelor's degrees. The findings suggest that DMACC could tap a younger student population through attempts to attract students who do not hold a previous bachelor's degree. For example, focusing advertising efforts to raise awareness of the two-plus-two degree programs as well as the numerous official articulations between its program and other colleges.

Facility owners and governing boards may want to consider the age creep as an opportunity to evaluate their educational policies. McGinnis (2003) found a high intent to leave the profession in the next 10 to 15 years (McGinnis, 2003) and now would be a prime opportunity to invest in scholarships that would encourage department heads and ambitious employees to pursue with licensure requirements. Nursing facilities often have policies to reimburse employees for nursing education, but infrequently do facilities encourage and reimburse for health care administration education. If facility owners and governing boards would embrace the changes anticipated by the age-creep and encourage and finance education for their employees, then the crisis caused by administrator turnover (retirement or otherwise) would be minimized.

Beyond the demographics, there were two findings of importance. First, there was a statistically significant difference between the student and the administrator groups on the Thinking-Feeling dichotomy. Students were 2/3 Feeling and 1/3 Thinking, whereas the administrators were ½ Feeling and ½ Thinking. The student population had more Feeling types and fewer Thinking types than the general population. However, this sample also had more females than males. Because females favor the Feeling preference and males favor the Thinking preference (Myers et al., 1998), gender must be considered as a variable.

It was discovered that if the individual was a female student, then 75% of the time she preferred Feeling. When the individual was a female administrator, she preferred to base her decisions on the human value, or the Feeling preference, 62% of the time. Obviously, the DMACC program attracted more Feeling females than actually become administrators. When the individual was a male student, then 55% of the time he preferred to base his decisions on logical, objective information, or the Thinking preference. When the individual was a male administrator, 67% of the time he preferred the Thinking preference. The DMACC program attracted more males with a Feeling preference than actually become administrators. This raises a few questions. What is happening to the high percentage of Feeling individuals? Are they becoming disheartened about their ability to positively impact the elderly residents in long-term care facilities? Are they discouraged at the mire of regulatory oversight that mandates tasks concerned with "technical versus human aspects of problems?" (Myers et al., 1998, p. 25). Does the Thinking preference that "relies on impartiality and neutrality with respect to the personal desires and values of both the decision maker and the people who may be affected by the decision" (Myers et al., 1998, p. 24) enable the individual to manage the stress of the position and find job satisfaction (Mullen, 1985)?

This information provides some clarity for DMACC in recruitment and retention strategies. First, DMACC attracts more Feeling females and Feeling males to the educational program than actually go on to become licensed, working nursing home administrators. Curriculum should be evaluated to equip students with self-understanding of the strengths and potential weaknesses to the Feeling preference in relation to the objective, logical, and legally defensible decisions the nursing home administrator is required to make. An increased comfort with risk-taking and being able to connect difficult management decisions to the human value of resident care would improve completion of the program and achievement of licensure goals. In other words, to succeed as a nursing home administrator, it is not enough to have the desire to improve the lives of long-term care residents. One must also have skill in objective decision-making and application of principles of justice and fairness in a way that does not emotionally strain the decision-maker. In addition, recruitment efforts directed at men and women who prefer to base their decisions using the Thinking, or logical, characteristics might attract more individuals who would complete and find employment in nursing home administration.

Perhaps Feeling students are attracted to the health care administration educational program because they are motivated to impact resident care, yet find through their exposure that the administration component is very objective and logical and they choose selectively to end their pursuit of administration. Perhaps people who prefer to base their decisions on impartiality and neutrality, characteristics of the Thinking preference, choose to not enter health care administration because they are not attracted to the idea of a perceived "touchy-feely" environment when, in actuality, their Thinking preference is a natural fit for the objective and logical decisions faced by licensed nursing home administrators. Literature

could be developed to better advertise the actual job duties and to remove misperceptions about the day-to-day tasks of the licensed nursing home administrator.

The second significant finding was identified using the type table. First, the most frequent type for both students and administrators was ENFP. Twenty percent of the students were ENFP, and 15% of the administrators reported ENFP types. Myers (1998) describes the ENFP as:

> Warmly enthusiastic and imaginative. See life as full of possibilities. Make connections between events and information very quickly, and confidently proceed based on the patterns they see. Want a lot of affirmation from others, and readily give appreciation and support. Spontaneous and flexible, they often rely on their ability to improvise and their verbal fluency. (p. 13)

ENFP's are innovators, initiating projects and directing great energy into getting them underway. Long-term care provides many opportunities for innovative change – in meeting regulatory requirements, changing customer wants and needs, changing staffing patterns, and providing quality care with minimal expense to the customer.

The second most common type for students is ISFJ , whereas the second most common type for administrators is ISTJ. This is a fascinating departure from the most frequently found type. For students, ISFJ is opposite ENFP on three of the four dichotomies, and for administrators, ISTJ is opposite ENFP on all four dichotomies! The ISFJ category accounted for 15% of the student population, compared to only 4% of the administrator population. Myers (1998) described the ISFJ:

> Quiet, friendly, responsible, and conscientious. Committed and steady in meeting their obligations. Thorough, painstaking, and accurate. Loyal, considerate, notice and remember specifics about people who are important to them, concerned with how others feel. Strive to create an orderly and harmonious environment at work and at home. (p. 13)

Perhaps the administrator responsibilities create too much stress for those with ISFJ preferences. The ISFJ types are committed to completing their obligations, and the demands of 24 hours/7 days a week nursing home administrator position create obligations that never end. ISFJ types also expect that others will take their job responsibilities seriously, and in the long-term care environment where high turnover and lack of available staff often impact what jobs get completed creates an opportunity for ISFJs to martyr themselves and subsequently burn out. ISFJ types also prefer to avoid conflict. Long-term care administrators are constantly faced with conflict from mediating issues that arise between staff and staff; staff and residents; resident and resident; family and staff; and family and resident. Harmony, one of the values of the ISFJ, is found infrequently in all corners of the individual nursing home. Since the domain of the nursing home administrator is everything under the roof of one or more physical structures, housing many residents and staff, it is likely that, on any given day, there is discord in that domain. Finally, ISFJ types are "vulnerable to stress associated with the rapidly changing workplace" (Myers et al., 1998, p. 68). It makes sense that ISFJ types are attracted to health care education because of the desire to enhance the lives of so many elderly residents; and the MBTI® framework provides us with an explanation as to why this type might self-select out of the position of nursing home administration.

The second most common type of administrator is ISTJ, accounting for 13% of the administrators, versus 7.5% of the students in this survey. This type is exactly opposite the most frequently found administrator type, ENFP, which accounted for 15% of the administrator sample. Myers (1998) described the ISTJ as:

> Quiet, serious, earn success by thoroughness and dependability. Practical, matter-of-fact, realistic, and responsible. Decide logically what should be done and work toward it steadily, regardless of distractions. Take pleasure in making everything orderly and organized-their work, their home, their life. Value traditions and loyalty. (p. 13)

The ISTJ may find that the world of health care delivery in the nursing home administrator position speaks to their desire to make order out of chaos. The tasks of the nursing home administrator, such as establishing and maintaining systems for resident care, staffing, equipment, and supplies may provide a great deal of job satisfaction for the ISTJ.

The third most frequent type for administrators was ESTJ accounting for 13% of the administrators and only 7.5% of the students. The ESTJ is described by Myers (1998) as follows:

> Practical, realistic, matter-of-fact. Decisive, quickly move to implement decisions. Organize projects and people to get things done, focus on getting results in the most efficient way possible. Take care of routine details. Have a clear set of logical standards, systematically follow them, and want others to also. Forceful in implementing their plans. (p. 13)

This type shares the STJ preferences with the ISTJ type. The characteristics of the ESTJ embrace practicality, organization, and efficient results. Customers, residents, family members, staff, owners/boards, legislators, and surveyors all demand and reward these characteristics. McCaulley (1978) anticipated that "leadership activities requiring attention to detail are expected to attract SJ types" and "task-oriented leaders are expected to have more TJ types" (p. 111). The high percentages of STJ is not surprising in light of other studies that have found both SJ and TJ leaders in health care executive positions (McCaulley, 1978; Shewchuck & O'Connor, 1995).

The most frequent types for students and administrators are listed in Table 13. For the students, four types represent almost 60% of the student sample. Of these four types,

Table 13. Most frequent types for students and administrators: Whole types and common denominators of the most frequently found types

(a)

Students	ENFP 20% (NF) 20%	ISFJ 15%	ENFJ 12.5% (NF) 12.5%	INFP 10% (NF) 10%	57.5% (NF) 42.5%

(b)

Administrators	ENFP 15%	ISTJ 13% (STJ) 13%	ESTJ 12% (STJ) 12%	40% (STJ) 25%

three of the types share a preference for NF, accounting for greater than 40% of the student sample versus 31% of the administrator . The NF combination is called the "Idealist" (Kiersey & Bates, 1978) who "prefer cooperative interactions with a focus on ethics and morality...and have a relative disinterest in the technical aspects of their work" (Myers et al., 1998, p. 61). Nursing home administrators must deal with very specific regulations and reimbursement equations as a means of operating a viable care facility. This aspect may cause some NF types to self-select out of the career.

Administrators had three most frequent types representing 40% of the administrator sample. Of these three types, the STJ preferences accounted for 25% of the total sample. Again, the interesting finding is that the most frequently found type, ENFP, is directly opposite of the second most frequently found type, ISTJ. What leads to the success of each of these opposite types in long-term care facilities? Using the MBTI® as a framework for understanding, it suggests that two uniquely different environments exist in long-term care.

One environment promotes the ENFP, the flexible idea manager whose identity is the "catalyst" (Isachsen & Berens, 1996, p. 1), whereas another environment promotes the ISTJ, the task-oriented "inspector" (p. 1), or the similar ESTJ, the "supervisor" (p. 1).

These discrepancies call for further research regarding person-organizational fit in the long-term care setting. The question that immediately must be asked is, "Does the ownership of the facility correlate with these opposite attractions?" For example, do not-for-profit, community-owned facilities provide an environment where the ENFP can flourish? Do for-profit, individually owned facilities provide an environment where the ISTJ can flourish? Understanding the organizational structure, flow of authority, and the supporting department heads would be triggered in a study addressing this question. For example, many not-for-profit, community-owned facilities are structured in such a way that the administrator is responsible for strategic planning regarding future goals of the facility. These facilities typically also employ an assistant administrator who may fulfill the role of the detail-oriented, day-to-day manager in the facility operations. In contrast, for-profit, individually-owned facilities would not need to employ an administrator who emphasizes strategic-planning regarding future goals because the owner would fill that role. Instead, the for-profit, individually-owned facilities would need to hire a detail-oriented, day-to-day manager to oversee the operation of the facility. Understanding the relationship of MBTI® types and organizational structure would equip owners and governing boards with an understanding of what they believe they are asking of administrators, versus what they actually expect from their administrators. This knowledge would also allow administrators to inquire about organizational structure and expectations during an interview process.

The primary goal of this study was to compare students and practitioners of nursing home administration using the MBTI® types in an effort to illuminate declining numbers of nursing home administrator candidates. The results of this study suggest that there is some self-selection of types who pursue health care administration education and those who persist to attain the vocational goal of becoming licensed nursing home administrators. ENFPs both are attracted to the educational program and persist to completion. ISFJs are attracted to the educational component, but they are not becoming licensed at the same rate that they are taking classes. ISTJs are found in the administrator population at twice the rate they are found in the student population. These type comparisons reflect differences in motivators, values, strengths, frustrations, role perception, conflict resolution, and driving forces (Isachsen & Berens, 1996; Kummerow, Barger, & Kirby, 1997; Myers et al., 1998).

Students preferred Feeling at a greater rate than was found in the administrator sample, but further investigation revealed that this may be related more closely to gender. There were more females to males in the student population than in the administrator population, however, findings do suggest that licensed female administrators prefer Thinking at a higher rate than female students.

While type does not explain student or administrator choices, it is does provide a framework to understand each of the populations. Using this framework, recommendations for action can be created. First, DMACC would benefit from a tracking mechanism that collects data regarding motivation and satisfiers from students in the program. Then, students should be tracked from enrollment through five years to provide information about attraction, retention, and persistence to career goal. What types enroll and persist to academic program completion? What types enroll and persist to vocational goal attainment?

What types do not, and why? In addition, since students typically come from prior positions (McGinnis, 2003) in long-term care facilities (i.e. nursing, social work, activities, etc.), a study that compares type based on previous profession would provide additional perspectives on the student and administrator populations.

Recommendations

Recommendations are made for DMACC educators and employers of nursing home administrators, with suggestions for further research. These suggestions are intended to assist in recruitment and retention of both students and administrators.

1. The gender issues warrant further investigation to better understand what about the profession attracts females and males, and who completes this career goals to become a licensed nursing home administrator.
2. A study addressing type, prior professions of students, and motivators for enrolling in the DMACC Health Care Administration program, and compare this to those who persist to completion of their vocational goals, would inform the program coordinators decisions regarding student developmental needs in the program. It would also provide the nursing home administrator profession with an understanding of the history of those attracted to the profession.
3. DMACC should attempt to attract students who do not hold a previous bachelor's degree. For example, focusing advertising efforts to raise awareness of the two-plus-two degree programs.
4. The high percentage of Feeling students and introduce strategies to help these students persist to completion of goals warrant further investigation. DMACC should

focus efforts to equip students with self-understanding of the strengths and potential weaknesses to the Feeling preference in relation to the objective, logical, and legally defensible decision the nursing home administrator is required to make.

5. The high percentage of Thinking administrators warrants further investigation. Efforts focused in recruiting students who prefer to base decisions on logical, objective data, particularly females with this preference. For example, literature that conveys the true job tasks of the position, and the success of females in this successful position can be created and distributed.
6. DMACC should develop a tracking mechanism that collects data regarding motivation and satisfiers from students in the program, as well as longevity tracking to provide information about attraction, retention, and persistence to career goal.
7. Create curricular experiences that utilize type theory to meet the needs of many types of students. This can be done through encouraging program coordinators and instructors to understand type theory and utilize teaching techniques that meet a wide range of learning styles.
8. DMACC should implement a system to track student developmental decision-making so that the program can adapt to students who are interested in health care administration education, yet through their exposure to the program realize that they do not want to pursue licensure.
9. Further research should include an investigation of administrators who are perceived to be successful. Type theory can illuminate the characteristics that contribute to successful leadership and, therefore, effective and efficient care for residents in nursing facilities.

10. Further investigate the findings of the most frequent and opposing types, such as cause of the two opposite types being the most populous and the effects of these types on their environments as well as the effects of their environments on individual motivators, satisfiers, and feelings of success.
11. Facility owners and governing boards should evaluate their educational policies and encourage current employees to become licensed nursing home administrators.
12. The Iowa Board of Examiners for Nursing Home Administrators should consider developing a system for tracking individuals who submit an application for licensure. If the Board determines the program of study for each individual that does not include a requirement for a completed academic program, then the Board takes on the responsibility for being the agency that assuredly has contact with each person interested in the profession and the most logical location for collecting data on this population.
13. The nursing home administrators would benefit from an understanding of their type, of the most frequent types in the profession, and how their type can help explain person-organization congruence through understanding motivators, satisfiers, and stressors. This understanding can influence communications with employers, supervisors, employees, residents, and other consumers. A study that investigated job satisfaction as it related to an adminsitrator's MBTI® type can identify job environments that are satisfying and stressful for particular types. This can inform attraction, retention, and turnover in the nursing home administrator position.

Conclusion

In conclusion, the art of nursing home administration is "... a careful choreography of limited resources to meet the mandates of many people and agencies who have different views and priorities, and all of whom can cause you great personal and professional pain while thoroughly enjoying working with the frail, elderly, and disabled residents for whom they have accepted responsibility" (Ringgenberg, 2002, p. 3). Who would want this job? The findings of this study illuminate that the role of the nursing home administrator attracts many females and males and, in fact, employs all 16 MBTI® types. McCaulley's (1978) opinion that "all MBTI® types can achieve high levels of professional performance" (p. 138) is supported by this current research, while questions still loom regarding impact of gender and person-organizational fit based on the curious success of opposing MBTI® types.

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