FUTURE PERSONAL ATTRIBUTES AND JOB COMPETENCIES NEEDED BY THE TEXAS DEPARTMENT OF STATE HEALTH SERVICES (DSHS), STATE HOSPITAL SECTION, REGISTERED NURSE MANAGERS: A DELPHI STUDY

A Dissertation

by

JOSEPH HARRISON, JR.

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2005

Major Subject: Educational Human Resource Development

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ABSTRACT

Future Personal Attributes and Job Competencies Needed by the Texas Department of State Health Services (DSHS), State Hospital Section, Registered Nurse Managers: A Delphi Study. (August 2005)

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The first purpose of this study was to describe and illustrate a modification of the Delphi technique that was designed to identify future personal attributes and job competencies needed to help update requirements for the year 2006 needed by the Texas Department of State Health Services (DSHS) nursing middle manager, the registered nurse manager, as perceived by the DSHS subject matter experts. The subject matter experts consisted of a group of registered nurses holding leadership positions in the DSHS, State Hospital Section. The second purpose was to determine a consensus of future personal attributes and job competencies developed from the responses of the DSHS subject matter experts. For the last purpose of this study, using the findings of the future personal attributes and job competencies identified through this study, DSHS would have a tool to develop a model to guide hiring decisions and initial training. Additionally, the hiring and initial training model could also serve to

assist in developing a content model for future in-service and continuing education training.

The modified Delphi technique used in this study was comparable to the complete Delphi technique in terms of approach, for example, using a sequence of rounds with chosen experts and objectives to predict future events and to arrive at consensus. For this study, the foremost modification of the Delphi technique consisted of beginning the process with a set of 28 thoroughly selected personal attributes and job competencies clusters that the panel could use as a guide for personal attributes and job competencies selection. These pre-selected personal attributes and job competencies clusters were drawn from various sources including related competency profiles, job descriptions, and synthesized reviews of the literature.

The approach consisted of a 15-member expert panel of 10 nurse managers and 5 chief nurse executives currently working within and representing the 11 facilities of the DSHS, State Hospital Section. The panel members were nominated by the nursing director of the State Hospital Section of the Texas Department of State Health Services. The panel completed three rounds of the Delphi process, identifying 24 personal attributes and job competencies clusters.

DEDICATION

So many times on this journey there were periods of highs and lows, but with my faith in God, I was able to endure. My parents showed me what power we have in faith. One could always believe in something, but it is through faith that we act.

I think of my mother being stricken with rheumatoid arthritis most of her adult life; she would often say, “I want you to become a doctor.” That is always with me. My father worked innumerable hours to keep food on the table. That was dedication and love. I wish they were here to see this in person, but I am sure they will know in their own way that I have completed this journey. I dedicate this dissertation to my parents…

Joseph Harrison Sr.	Willie Mae Harrison
1925 - 1997	1923 - 1974

ACKNOWLEDGEMENTS

It was an enlightening, exciting, and oftentimes struggling journey for us. We had to overcome many challenges of time, deadlines, and family sharing. You, my family, and especially my wife Debra, are given much of the credit for me making it through the past few years. Many thanks for the long hours, weekends away from home, and all the other inconveniences you have endured during the voyage. The help and support you gave are immeasurable.

Oftentimes, you would ask me what I was doing and what did it mean? It was sometimes difficult to explain. That is because many times I felt like a walking example of the Chaos Theory. Edward Lorenz described this as when we make slight changes to a system at one time, and the later behavior of the system may soon become completely different. In other words, as I began to explore Human Resource Development (HRD) from different paradigms such as systems, psychology, economic, and cultural – my way of viewing HRD changed. Consequently, what was once a simple explanation would often become more involved and encompassing. I was becoming more informed about what HRD was about.

I also want to thank my co-workers at the Air Force Personnel Operations Agency for enduring the times of serving as windows of feedback. They are a large part of this success.

Lastly, thanks to my committee, Dr. Walter F. Stenning, Dr. Kenneth E. Paprock, Dr. Ronald D. Zellner, and Dr. Lauren D. Cifuentes. They helped me in capturing the essence of Human Resource Development theory, research, and practice.

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CHAPTER I

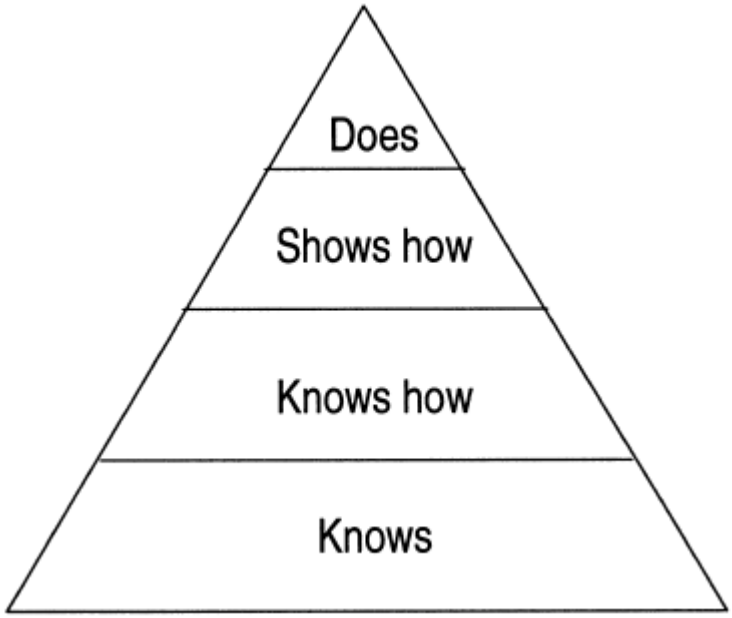
INTRODUCTION TO THE STUDY

On September 1, 2004, the Texas Department of State Health Services was established (Appendix A). The new department combined the missions of the Texas Commission on Alcohol and Drug Abuse, the Texas Department of Health, the mental health services of the Texas Department of Mental Health and Mental Retardation, and the Texas Health Care Information Council (Texas Department of State Health Services [TDSHS], n.d.). The Department of State Health Services (DSHS), as described by the Texas Department of State Health Services, is a better quality than the sum of the legacy agencies. As suggested by the literature, the new organization presents an enormous occasion to advance the health of Texans by bridging the gap of physical health, mental health, and substance abuse services by addressing the health of the whole person. The research also suggested the DSHS nursing middle manager, the registered nurse manager, would also need to advance the personal attribute and competency mix to help facilitate the organization's continued advancement.

Miller's (1990) pyramid portrayal of competence (Figure 1) in the medical profession points toward the ability to do the job as the fundamental area to be considered. However in this arena, DSHS, research suggested it was a combination of task-orientated competence and the behaviorally related competencies that were required to be a successful nurse manager.

The style and format for this dissertation follow that of *The Journal of Educational Research*.

Figure 1. Miller's Pyramid of Competence.



The Nurse Practice Organization Philosophy of Nursing (TDSHS, 2004) stated the following:

> We believe that the roles of nursing in the DSHS State Hospitals service system include: provision of individualized holistic health services through application of the nursing process; provision of education of customers, including consumers of nursing services, agency personnel, the public, and others; fostering professional development; provision of leadership through mediation, liaison, arbitration, role modeling, and mentoring; and, promotion of health through team collaboration, advocacy, and serving as facilitator/coordinator. (para. 3)

The above quote indicated a rapidly changing environment for the registered nurse manager. The traditional skills mix may not be enough for today's demand. The literature additionally suggested that only a short time back, middle managers in healthcare were viewed to be super clinicians willing to represent management. Nurse managers were taking on increased responsibilities over broader competency areas at

an ever-increasing rate. Some even went so far as to suggest that the evolution of the nurse manager was just beginning to expand. Domrose (2004) avowed that statistics from the American Hospital Association show the average vacancy rate for the registered nurse manager in 2000 was 6.5%. The highest rates manifested themselves in the western and southern regions and in urban hospitals. Domrose additionally related that compared to an average vacancy rate of 14% for critical care nurses, the aforementioned rate did not give the impression of an enormous dilemma. But, as explained by Domrose, the average age of nurse managers, 46 years old to 50 years old, placed them closer to retirement than representative staff nurses. Domrose suggested a number of nurse leaders feared there may not be enough competent people to fill in following their exit.

As recent downsizing, mergers, and restructuring abolished a number of management layers, the work had to be absorbed by the managers who remained. Many nurse managers were being asked to (a) supervise more people, (b) be financial gurus, (c) be knowledgeable in communications systems, (d) guarantee the quality of patient care and clinical competence across a range of care, and (e) demonstrate leadership and strategic management skills (Hellinghausen, 1998).

Establishing an organizational performance management system, as suggested by the literature, was a significant undertaking. Caldwell (as cited in Currier, Chan, Berven, Habeck, and Taylor, 2001) suggested that workers were often not effortlessly substituted and that there were economic benefits in viewing employees as treasured resources. According to the theory, resources could be integrated or developed over

time to produce exceptional qualifications that increase competitive advantage (Amit & Schoemaker, as cited in Lichtenstein & Brus, 2001).

Research suggested a positive link between performance and knowledge (Swanson & Holton, 2001). The theoretical framework of this expertise, as suggested by the research, lies in cognitive theories of expertise. Swanson and Holton also reported that the research on expertise theory was continually evolving; there may not be a single way to accomplish these goals. In describing competence models, Swanson and Holton made the distinction between domain knowledge (static knowledge) and task knowledge (action knowledge) – in that expertise was a competence level indicating the ability to accomplish something. Oskamp, Tragter and Lodder (n.d.) referred to this as "knowledge management," and indicated that it referred to piloting the knowledge within the organization in such a way that it contributed most favorably to the realization of organizational goals.

It appeared from the research that effectively managing human capital could help lead to successful job performance and accomplishment of organizational goals. In an agency leader memorandum, Steven R. Cohen, Acting Director for the Office of Personnel Management (OPM), thought one of the questions that agencies should address was: "What skills are currently vital to the accomplishment of the agency's goals and objectives?" (Cohen, 2001, para. 8). "The criticality of a resource depends on its interdependence in the organizing process – if the organization could not function in the absence of the resource…the criticality of that resource is high" (Lichtenstein & Brus, 2001, p. 37).

The U.S. Office of Personnel Management (2003) suggested that top leadership in organizations should understand the need for workforce planning and formally communicate their vision for workforce planning to the organization. The U.S. Department of the Interior (2001) described a key component of workforce planning as the "gap analysis," an assessment of the ability of existing workforce competencies to meet future needs for identifying competency gaps threatening organizational success.

The literature suggested a key ingredient to organizational success was the middle manager. Blumentritt and Hardie (2000), referring to the work of Marshall, Prusak, and Shpilberg, suggested that the middle manager was a significant player in the modern-day world of reduced management power, greater task intricacy, and intense competition. The key to survival and success was better knowledge–knowledge of customers, of processes, of competitors, of technology, and of suppliers. This line of reasoning suggested there was a great need to acquire and transfer knowledge across and through the organizational boundaries. The research suggested that with the changing contemporary world, there was a lack of clear and concise definitions of the competencies required of the middle manager. Research suggested middle managers take in hand all the essential success factors pertaining to management quality (Conference Board of Canada, 2003; Themanager.org, 2003). The middle managers were the people who interpreted and represented the established management policy, thus forming a vital link between reporting managers and their staff (Oregon Department of Fish and Wildlife, 2001). In other words, they were crucial in communicating and tracking the organizational goals and in facilitating the flow of

information up and down. Conference Board of Canada (2003) additionally communicated that middle managers were fundamental to an organization's achievement of goals because they direct both staff and outcome and provide vital links right through the organization, as well as to its customers, both internal and external. Research implied this was not just an American issue, but one that encompassed the international community also. For example, the principal British, French, and German industrial corporations were more and more recruiting higher education graduates (HEGs) for middle management posts, ones traditionally filled through promotion of operatives (Mobus, 2000).

It appeared from the research that the success of the middle manager was a long-standing concern of senior managers. Scheufler (1973) asserted there were four primary areas at the middle management level that, if prudently evaluated, could diminish organizational problems significantly: first, the administration of middle management personnel – the unwillingness of the upper level administration to recognize fully the importance of the position; second, the selection of middle management personnel; third, the role characterization of a middle manager; and fourth, the training of a middle manager. The literature suggested organizations align their key managers and workforce programs with the organization's overall strategy (Johnson, 2003). It appeared that middle manager competencies were a vital component in the successful alignment of workforce programs and organizational performance goals.

The literature suggested that competencies could be organized into two areas: perceived and actual. Lewis and Patterson (1998) emphasized that identifying performance deficiencies objectively was complex and may best be served by program administrators or by professional organizations.

Zemke and Zemke (1999) suggested that competencies ought to be described according to key skills, personal characteristics, and knowledge that assist a worker in successful job performance. Given this understanding, it suggested the middle management vocation, in this case, the registered nurse manager of DSHS, would benefit greatly from a research methodology to assist in the development of identified competencies. Further, contemporary nursing literature focused on the importance of evidence-based practice, practice that was centered on valid and reliable findings of quantifiable research studies (Hunt, 1997).

This study made a case for the application of the Delphi technique to serve this purpose. Sitterly and Duke (1989) described the Delphi technique as a complex methodology that relies on input from a select group of people – subject matter experts – to establish the prime solution to a problem. Generally, as discussed by Sitterly and Duke, participants in the process independently completed a series of questionnaires about the problem or issue. Once the results of the first questionnaire were tabulated, the feedback was provided to the participants along with any additional information on the problem or issue that may have arisen. A second questionnaire was designed and provided to the participants based on the feedback from the first, and this process was repeated until a consensus was achieved. Stahl and Stahl (1991) suggested the Delphi

technique was a diplomatic decision-making technique proficient at giving all participants the same possibility to have their individual input considered and weighed before ultimate decisions were made.

The Delphi technique was often used to assist organizational decision-makers' ability to made effective decisions in situations where there was contradictory or insufficient information (Hasson, Keeney, & McKenna, 2000; van Zolinger & Klaassen, 2003).

Statement of the Problem

The role of the DSHS registered nurse manager was rapidly changing. Healthcare was a business and, like every other business, it needs good management to keep it running smoothly. Research was vital to nursing practice especially in areas such as nurse manager's competencies, where nursing practices continue to grow in complexity and nurses have to assume greater responsibility and accountability. In addition, more and more challenges and problems were being identified that necessitate development of new management practice and guidelines (Lopez, 2003).

The research suggested the registered nurse manager needs a broad breadth of knowledge combined with a strong ethos of multi-disciplinary skills. Domrose (2004) suggested the nursing shortage, past layoffs of middle managers, slashes in education programs, and lack of support in some places for nurse leaders have created a situation what several feared could be a mounting leadership insufficiency unless hospitals and nursing groups took action.

To reach agreement by consensus regarding what was best for middle management would assuredly be a monumental task. It would not be something that could be captured with a single Delphi exercise, whether it be traditional or by my preferred method of electronic application. The area of middle management competencies has constantly changing priorities. The standards and policies needed to create an effective and efficient system could and would be developed and applied differently based on organizational needs. The senior managers in the organization must understand the relationships between middle manager performance and how knowledge management actions and policies would affect the entire organization's chances of success.

Purpose of the Study

The Delphi technique could achieve consensus of subject matter experts without bringing them together face-to-face to establish future competencies and personal attributes for the DSHS registered nurse mangers.

The specific objectives of this study were as follows:

1. Identifying future personal attributes and job competencies required by the DSHS nursing middle manager, the registered nurse manager, as perceived by the DSHS subject matter experts, a group of registered nurses holding leadership positions in the DSHS, State Hospital Section.
2. Determining a consensus of future personal attributes and job competencies derived from the responses of the DSHS subject matter experts.

3. Using the findings of the future personal attributes and job competencies identified through this study, DSHS could develop a model to guide hiring decisions and initial training. Additionally, the hiring and initial training model could serve to assist in developing a content model for future in-service and continuing education training.

Operational Definitions

Competency: An area of knowledge or skill that is critical for producing key outputs. Professional competency involves more than knowledge. Competency includes critical thinking and logical, safe, and evidence-based decision-making (National Board for Certification of School Nurses, 2002; Sanders, 2001).

Cluster: A group of similar things that are close together, sometimes surrounding something. A group of similar things positioned or occurring closely together (*Cambridge Dictionary of American English*, 2004; *Compact Oxford English Dictionary*, 2004)

Competency Cluster: Mastery of a competency cluster will indicate the individual has a comprehension of the related competencies and behaviors that made up the cluster (McRobbie, Webb, Bates, Wright, & Davies, 2001).

Criticality: Relating to or being a state in which or a measurement or point at which some quality, property, or phenomenon suffers a definite change (*Merriam-Webster Online Dictionary*, 2004)

Frequency: The rate at which something occurs over a particular period or in a given sample (*Compact Oxford English Dictionary*, 2004).

Importance: Significance: considerable value, relevance, or interest. High rank: high position, rank, or reputation in society (*Encarta Dictionary*, 2004).

Registered Nurses (RNs): Professional nursing means the performance for compensation of an act that requires substantial specialized judgment and skill, the proper performance of which is based on knowledge and application of the principles of biological, physical, and social science as acquired by a completed course in an approved school of professional nursing. The term does not include acts of medical diagnosis or prescription of therapeutic or corrective measures (Board of Nurse Examiners, 2003).

Registered Nurse Manager: Performs highly advanced and/or managerial nursing work (State of Texas Human Resources, 2003).

Personal Attributes (PA): A personal quality or feature of a person or thing, esp. one that is an important part of its nature (*Cambridge Dictionary of American English*, 2004)

Assumptions

1. The researcher remained impartial in collecting and analyzing the data.
2. Interpretation of data collected accurately reflected that which was intended.
3. Data published on the topics of this study were accurate.
4. The panel members represented leaders in their respective field who were knowledgeable of and committed to the professionalism of the DSHS registered nurse manager.

Limitations

The research suggested that most of the successful Delphi studies have typically been designed around the three-round completion method; this worked well in establishing competency consensus. As with other Delphi studies, the researchers must be cautious with panel member selection. Panelists must represent a broad range of expert stakeholders. As suggested by Richards and Curran (2002), the issue is too complex to explore every conceivable angle and detail within a single study.

Marcinkowsi (2000) offered that while the several rounds of choice intrinsic to the Delphi technique may lead to general agreement among participants, voting could adversely affect the intellectual integrity of the resulting guidelines. Marcinkowsi suggested a few people have alleged that the Delphi technique had a tendency to lead to mediocrity. Additionally, Erickson (as cited by Marcinkowsi, 2000) suggested that a vital consideration in most types of qualitative research was the search for contrary evidence. Erickson proposed that the researcher's failure to present evidence that a purposeful exploration was made for potentially contrary data while in the field setting may leave the researcher vulnerable to allegations of seeking only evidence that supports favorable interpretations.

Implications of the Study

First, this study attempted to add significance to the literature concerning the use of the Delphi technique as a group decision-making tool. The Delphi survey was a group facilitation approach, which was an interactive multi-stage process, intended to modify opinion into group consensus (Hasson et al., 2000). Additionally, the Delphi

could contribute appreciably to the augmentation of knowledge contained by the nursing profession.

Second, this study endeavored to accept the hypothesis that the Delphi technique was a tool that demonstrated how expertise and opinions of individuals who either would not or could not normally cooperate could be brought together to achieve a consensus of opinion when the decisive factors were subjective and not knowledge-based. The study illustrated the Delphi's potency as an instrument that had the ability to recognize the multiplicity of interests involved in such issues, the value of different kinds of front-line expertise, and the attractiveness of proceeding on the basis of a consensus of knowledgeable opinion (Critcher & Gladstone, 1998).

Third, the results of the study could enhance effective decision-making in the DSHS and assist in the development of possible solutions for the establishment of recruiting, selection, and training criteria for the current and future registered nurse managers.

Summary of the Study

Chapter I was an introduction to the study. It stated the problem, identified the purpose of the study, established the operational definitions, and delivered the assumptions and limitations that delineated the study. Chapter II provided a review of the literature relating to the Delphi technique and consensus. Chapter III discussed the methodology used in researching this study. It provided a description of the Delphi research method, the descriptive and frequency statistical methods used for data analysis and reporting. Chapter IV renders a review of the analysis of data and

discussion of results of the research. Chapter V details the summary, conclusions, and recommendations.

CHAPTER II

REVIEW OF THE LITERATURE

The literature asserts that the Delphi technique was a method used in group settings with the primary goal of establishing consensus. It enabled the extent of agreement and disagreement to be identified in a way often not possible by other means (Critcher & Gladstone, 1998). Blow and Sprenkle (2001) discussed using the Delphi methodology to explore common factors across theories. For example, exploring the reality that most successful strategies for system and subsystem enhancement require multifaceted interventions, the Delphi technique appeared exceedingly well designed to draw upon several theories and assimilate them in a unique manner for the purpose of goal management and success (Swanson & Holton, 2001).

The literature suggested the Delphi technique consists of questioning, responses, developing a summary, and providing feedback to gain consensus. The Delphi technique seeks to obtain the most reliable consensus of opinion from a group through a progression of intensive questionnaires interspersed with constrained feedback. The Delphi technique involved recurring questioning of the individuals and avoided direct confrontation between group constituents (Clayton, 1997). The questionnaire was administered over a series of rounds, normally from one to six. Studies using only one round typically incorporated results of a literature review to reach their conclusion.

The Delphi technique, according to Snyder-Halpern, Thompson, and Schaffer (2000), was distinguished from other group data collection processes in three ways: first, anonymity; second, interaction with controlled feedback; and third, statistical group response.

Wissema's study (as cited in Arditi, n.d.) emphasized the significance of the Delphi technique as a monovariable exploration technique for forecasting. Wissema further stated that the Delphi technique as developed made dialogue between experts achievable without allowing certain socially interactive behaviors, as happens during a normal group discussion, but which may impede opinion forming. Baldwin (as cited in Arditi, n.d.) asserted that lacking full scientific knowledge, decision-makers have to rely on their own intuition or on expert opinion. Cornish (as cited in Arditi, n.d.) claimed that the Delphi technique had been widely used to generate forecasts in technology, education, and other fields.

Duffield (as cited in Neiger, Barnes, Thackeray, & Lindman, 2001) suggested the Delphi technique was a recognized practice for acquiring consensus. Studies by Jairath and Weinstein in 1994 and Ziglio in 1996 (as cited in Neiger et al.) suggested the Delphi technique had been used to identify problems, define needs, institute priorities, and identify related solutions.

History and Development

In 1946, RAND (Research and Development) was commissioned to study inter-continental warfare (Arditi, n.d.). The literature stated that the Delphi technique was often considered to be a by-product of defense research. RAND developed the

procedure as a tool for forecasting prospective events using a series of rigorous questionnaires combined with controlled-opinion feedback (Weaver, 1971). The original focus of this first study was to draw on expert opinion from a Soviet strategic planner about optimal U. S. industrial target systems (Linstone & Murray, 2002).

T. J. Gordon and Olaf Helmer (Linstone & Murray, 2002) brought Delphi to the attention of individuals outside the defense community. Ludwig (1997) stated that numerous educators, businesses, governmental agencies, and organizations were now using Delphi techniques.

Conventional vs. Modified Delphi Technique

There generally appeared to be a great deal of melding of ideas between what constitutes conventional vs. modified Delphi. Some researchers described the number of rounds used as modified Delphi. Others used the term to differentiate between the use of paper and pen vs. computer-assisted surveys.

According to Stahl and Stahl (1991), the consensus was accomplished through a series of three or four rounds involving a number of questions on a single topic. Statements regarding a topic were formulated, and the members of a *panel of experts* were asked to respond to each statement in the questionnaire according to their own perceptions and knowledge. Stahl and Stahl reported that the results of the first round of anonymous questioning were summarized and then given back to the participants with the request that they reconsider the appropriateness of their initial responses. On the succeeding rounds, those panel members whose responses deviated from the average value rating score for all members were requested to justify their responses.

The responses from the second round were summarized, given back during a third and sometimes fourth round, and additional responses were elicited. Brooks' study (as cited by Stahl & Stahl, 1991) suggested three rounds were usually sufficient to achieve the level of consensus desired.

Thielsen and Leahy (2001) used a traditional three round Delphi in conjunction with a review of the literature. In Round One, the panelists were asked to identify, using an open-response format, the essential knowledge and skills required for the supervision of counselors. In Round Two, the panelists were asked to rate the importance of each item using a five-point Likert-type scale and to evaluate and edit the items for clarity and to ensure adequacy of coverage. The purpose of the third round of the Delphi Technique was to build group consensus regarding the knowledge and skill items that were most critical for the effective field-based supervision of counselors. Panelists who responded to Round Two were provided with their previous responses, the group mean, and the standard deviation for the 114 original items. The panelists were asked to reevaluate their previous response to each item in light of the mean and standard deviation and were given the option of retaining or changing their previous response.

A modified version, as described by Richards and Curran (2002), was termed the Online Delphi Data-collection (ODD) method. The ODD differed from the normal Delphi procedure in two ways. First, ODD amends the technique in the progression of definition development by using the Internet as the vehicle for information dialogue. Second, each panelist was assigned a respondent number to ensure anonymity, and all

references to individual participants use the assigned numbers. It appeared that a significant factor in this type of modified Delphi was computer system, whatever the choice of system; it must support group communication in either a synchronous or an asynchronous manner.

Wakou, Keim, and Williams (2003) described yet another modified Delphi. The researchers asked the participants to generate the items for consensus rather than respond to items from earlier research. Wakou et al. explained that the idea in this approach was to minimize bias in the results and to determine the attributes and competencies needed today. Delphi Round One included a cover letter and survey, demographic questions, instructions for completion of the Delphi survey, definition of terms, and – most importantly – three open-ended questions.

Round One, the idea generation phase, was the only portion of the research categorized as modified. The two subsequent rounds were typical of traditional methods in the Delphi process.

E-Delphi Approach

Wong (2003) suggested it was useful to recognize how Delphi implementations have been carried out prior to the implementation e-techniques. Wong explained that the traditional process could take months to complete and often entails reminder postcards and telephone calls. In addition, Wong suggested the focus of the experts could become fragmented over time. Wong went on to suggest that because the exercises were conducted with written input, persons talented in written

communications would often have an unfair advantage over those blessed with persuasive oral communications skills.

Chou (2002) proposed that there were only two types of users of the e-Delphi system: (a) the project leader, who managed the study, and (b) expert panel members, who answered the questionnaires. Chou suggested that e-Delphi allows the project leaders to conduct Delphi studies more efficiently and effectively and benefits panel members by allowing them to network directly to the system to record their views.

Halal (2000) explained that researchers at George Washington University (GW) used a form of e-Delphi. GW used an interactive Web site that brought experts together online. The GW study, as described, was a blended method of research. GW used one round of Web data collection and combined it with other data capturing methods such as scanning literature, interviewing authorities, and drawing on other sources to identify emerging trends.

Wong (2003) examined what was referred to as the *e-explosion*. Wong asserts that technology could provide real-time collaborative working conditions for researchers around the world. Wong believed the four round E-DEL+I technique was an electronic real-time enhancement of the Delphi consensus-building methodology.

As Wong (2003) described it, in the first round, the experts completed questionnaires based on their specialized knowledge. The exercise coordinator computed the statistical summary of the first-round inputs and forwarded the feedback to each participant along with a blank questionnaire. The experts reviewed the feedback material and made a second assessment, this time supplying arguments for

positions in the minority in the first round. In the next step, there was a real-time discussion period while the coordinator generated the feedback from the second round of inputs. At the end of the discussion period, a statistical summary and minority arguments from the second round were provided, along with a third blank questionnaire for the third round. In the third round, participants again provided assessments and defenses for minority positions after reviewing the feedback material. A second real-time discussion occurred while the coordinator compiled the statistical summary. The summary, along with a fourth questionnaire, was sent to the participants at the end of the discussion period. In the fourth round, the experts provided their final assessments after reviewing and considering the feedback.

Another alteration in the process by Wong (2003) was that the first round was not conducted in real time. This allowed the participants an opportunity to review the background material.

It appeared some major shortcomings needed to be addressed if using the aforementioned technique. For example, Wong (2003) believed some loss of anonymity would be expected, as the contributors were branded with a written identifier in network communications packages. Wong suggested, in these situations, that the researcher must initiate encryption techniques to help ensure anonymity.

Wong's (2003) research appeared significant. The findings looked as if to demonstrate that the Delphi technique could be completed within a shorter time span than generally thought and real-time discussion sessions could be integrated without forfeiture of anonymity.

What Happens Between Rounds of Delphi

There was very little published research that investigated what happens between the rounds in the Delphi study. Greatorex and Dexter (2000) wrote that most Delphi studies did not report what happened between the rounds; only the consensus reached by the panel was reported. Greatorex and Dexter speculated that whether the agreement resulted from the feedback or whether the members conformed to the majority view was difficult to tell. As described, one approach that could be used to decide if it was the Delphi process that affected the outcome would be to identify the conformist panelists and remove them from the analysis. Linstone and Turoff's study suggested (as cited in Hasson et al., 2000) that such panelists were not really experts. The literature suggested that if there had been a clarification of opinion when the conformists have been removed, then the Halo effect, individuals conforming to the group opinion whether they agreed with the opinion or not, was arguably less likely to be the cause.

Greatorex and Dexter (2000) cited several researchers and proclaimed that a small number of papers had broached the topic, but only in the context of: (a) the optimum number of rounds (Erffmeyer et al.); (b) the reliability (Kastein et al.) of the outcome of a Delphi study; (c) the characteristics (Mulgrave & Ducouldis; Taylor et al.) of the experts, which may influence their behavior; and (d) the stability (Martino; Scheibe et al.) of judgments across rounds. Greatorex and Dexter proposed that such studies had indicated that the interactions between members of the panel and how they

behave between rounds, were complex, and this was an interesting psychological issue for further study.

The original analysis of the exemplar study conducted by Greatorex as cited by Critcher and Gladstone (1998) paid little attention to what was happening between rounds and only considered the consensus in the final round using a decision criterion: a descriptor had reached consensus when the mean percentage of votes for the median level for that descriptor was greater than 88.6%. Critcher and Gladstone (1998) went on to state that looking between rounds not only showed whether any consensus agreement was achieved and what the final opinion was, but whether the consensus agreement existed throughout each round or was only reached in the later rounds as a result of the Delphi process. It appeared that such additional information sheds light on the quality and reliability of the final decision and was likely to lead to better decision-making based on the expert panel's consensus.

Consensus

Stuter (1998) suggested consensus building was based upon utilizing the principle of the Hegelian dialectic of thesis, antithesis, and synthesis. When a group or at least two people reach an agreement or synthesis, the new collective agreement becomes the new thesis. Stuter described reaching this goal as a continual evolution to *oneness of mind*. In other words, consensus was described as solidarity of belief, the collective mind.

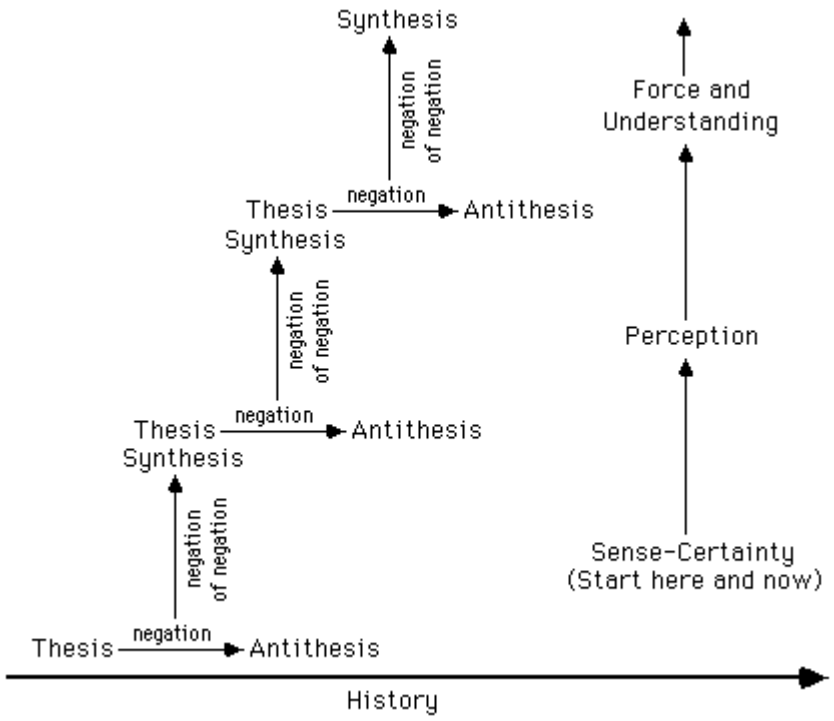
Steinhart (1998), in describing Hegel, stressed the paradoxical nature of consciously attempting to reach consensus. Steinhart related that the mind wants to

know the whole truth, but that it could not think without drawing a distinction. In thesis and antithesis, opinions or views were presented on a subject to establish views and opposing views. Every line of reasoning had a counter-argument, and consciousness could only center on one of these at a time. It, therefore, fixes first on the one, then under pressure fixes second on the other until it finally comes to support the distinction itself. Hegel, as referenced by Steinhart (1998), referred to this as a process of alternation and rest as dialectic. Steinhart stated that dialectical motion was capable of evolving into a far more complicated phenomenon than the example reveals. Steinhart suggested that the mind generally moves from one side of a conflict to another until finally discovering a deeper accord from which the two sides were derived. Dialectical motion travels the three stages: thesis, antithesis, and synthesis.

As the Steinhart (1998) put forward, dialectical motion was a continuous journey liken to climbing stairs; it is the ascent out of the Platonic Cave or amiable fissure (Figure 2). Research indicated that sustainability of the outcome was one of the major factors for consensus building and the decision-making process. Cormick, Dale, Emond, Sigurdson, and Stuart (2003) related that sustainability, by its very character, necessitated a decision-making process that would allow everyone affected by a proposed variation to participate in a meaningful way. Rolf and Goran (2004) viewed the idea of sustainability as one of credibility. Henry A. Kissinger described credibility as the quality, capability, or power to elicit belief: “America’s credibility must not be squandered, especially by its leaders” (Dictionary.com, 2004). The challenge was not so much to create consensus but to strengthen its credibility by elaborating new

relations with its stakeholders, in other words, developing the ability to believe and trust in each other.

Figure 2. The Dialectical Ascent Out of Plato's Cave.



The research suggested the development of consensual agreement was highly influenced by the choice of the negotiation processes. In some instances, the people tasked to build consensus do not have an easy ride. Building consensus could be a painstaking process. As the literature suggested, a major stipulation for consensus building was that there must be an atmosphere of trust and conviction. In other words, there must be a clear faith and honesty among the parties or stakeholders involved in the negotiating process (African News Service, 2004). The literature implied that when

stakeholders agreed to participate in the process of consensus building, it was a strong indication they were prepared to shift from very strong positions and accept the process and outcomes.

According to the work published by the Conflict Research Consortium (1998), consensus building, which was also referred to as collaborative problem solving or collaboration, was in essence a mediation of the conflict between several stakeholders. Usually, the variance involved multiple, complex issues that all seem important to the individual stakeholders. The Conflict Research Consortium additionally stated that consensus building was usually carried out by a mediator or a facilitator. Often the mediator of a consensus building effort moves through a series of steps. These most often include (a) participant identification and/or recruitment, (b) design of the consensus building process to be used, (c) problem definition and/or analysis, (d) identification and evaluation of alternative solutions, (e) decision-making, (f) finalization and approval of the settlement, and (g) implementation.

Lawrence Susskind, Chair of the regional Citizen Advisory Committee of the Boston, Massachusetts, as discussed by Kolb (1994), found that when the various options were discussed abstractly, there were oftentimes a lot of disagreement. But when the options were presented in fairly concrete images, agreement was usually achieved more easily with less conflict.

The literature suggested, without consensus, any settlement reached was likely to unravel. The buy in of the stakeholders was the foundation of sustainability. Consensus building differed from majority rule decision-making in that everyone

involved must agree with the final decision. There was no vote. Consensus was based on cooperation among the stakeholders, but not competition. The idea of the agreed decision was that it answered to the interests of everyone in the group assemblage. Correspondingly, it did not mean that everyone involved would be completely happy with the output. However, it did imply that all group members were willing to accept, support, and implement the outcome and work toward a successful execution. In order for consensus to work at its best, creating an atmosphere of trust and appreciation of different opinions should be included as a group goal. There should be readiness to work through dissimilarity and strive for cooperation (Shearouse, 1993).

Dissimilarity in consensus building ultimately leads to controversy among the members of the group. Controversy was usually present once one person's ideas, information, conclusions, theories, and opinions were incompatible with those of another, and the two seek to reach an accord (Johnson & Johnson, 1994, 1995). Controversies were an inherent aspect of decision-making and consensus building. The literature suggested that if group members got intellectually and emotionally involved in collaborative efforts, controversies would occur no matter what the individuals did.

Decision controversy (Johnson & Johnson, 1994, 1995) was a process that enabled groups to make a well-considered, well-understood, realistic choice among measures aimed at goals every member wished to accomplish. A decision implied that some agreement existed among group members as to which course of action was most desirable for realizing the group's goals.

Johnson and Johnson (1994, 1995) suggested six steps for engaging groups in decision controversy for decision-making. Those steps were:

1. Establishing a cooperative context:

   Group members must clearly perceive that they "sink or swim together."

2. Identifying and defining the problem:

   Examine the discrepancy between what is actually taking place and what they would like to take place.

3. Diagnosing the existence, magnitude, and nature of the problem:

   Valid information must be gathered about the existence of the problem. Then, the information must be thoroughly discussed and analyzed to ensure that all group members understand it.

4. Identifying and analyzing alternative courses of action to solve the problem:

   Several alternative solutions must be identified and considered in order to find the one that would be maximally effective. A common error in decision-making situations was to prematurely decide on the first reasonable alternative that was suggested, referred to as satisfying. What decision-making groups were supposed to do was choose the alternative course of action that maximized their success, referred to as maximizing.

5. Making a decision about which course of action to take to solve the problem: The process decision through consensus.

6. Implementing the solution chosen and evaluating its success in solving the problem: When the group made the decision, the controversy ended and

group members commit themselves to the course of action they have chosen. If the problem was not solved, the procedure is repeated again.

The research suggested one of the major pitfalls of the consensus building process was groupthink. Groupthink was a term describing a type of thinking that could lead group members in a direction of poor decision-making. In the groupthink situation, members of the group attempted to match their opinions to what they considered to be the consensus of the group. Janis (1972) defined groupthink as a model of thinking that people made use of when they were deeply involved in a cohesive in-group. Often the members' striving for harmony supersedes their motivation to realistically appraise alternative courses of action. Borchers (1999) explained that several negative outcomes may result from groupthink. Some of negative outcomes of groupthink include:

1. Examining few alternatives
2. Not being critical of each other's ideas
3. Not examining early alternatives
4. Not seeking expert opinion
5. Being highly selective in gathering information
6. Not having contingency plans

Magid (1997) expressed how people, even with the unlimited supply of information we have available to us today, could still fall victim to groupthink. He suggested that the unlimited information that was available via technological innovations such as the Internet and World Wide Web must be tailored by critical

thinking. People and corporations alike could only benefit from unlimited information access if they remain conscious of outside influences. Magid (1997) provided the Heaven's Gate cult members as an example of this phenomenon. The Heaven's Gate cult members who committed mass suicide were Web programmers, but technology was not the perpetrator in their imprudent effort to die. The similarity between the Heaven's Gate suicide and failed companies was evident in their willingness to forgo critical thinking for unquestioning loyalty to their respective leaders or corporate ideologies.

Another most important concern of building consensus revolves around building an artificial confidence in the outcome. Ross, Greene, and House (1977) referred to this as the *false consensus effect.* As described, the false consensus effect in essence demonstrated the penchant for people to overrate the degree to which others in the group agreed with them. People enthusiastically presumed their own opinions, beliefs, and predilections as being more prevalent in the general population than they really were. The literature suggested the bias was commonly present in a group setting where one assumes the collective opinion of their group matches that of the larger populace. Since the members of a group reach a consensus and rarely encounter those who dispute it, they tend to believe that everybody thinks the same way. The false consensus effect appeared as a problem of overconfidence, a propensity of various people, to overvalue their own abilities, offerings and talents, and tendency toward puffery (Cohan, 2002).

Summary of Literature

To reach agreement by consensus regarding what is best for a given situation would assuredly be a monumental task. It would not be something that could be captured with a single Delphi exercise, whether it be traditional or by my preferred method of electronic application. The standards and policies needed to create an effective and efficient system could and would be developed and applied differently based on organizational needs. The senior managers in organizations must understand the relationships between middle manager performance and how knowledge management actions and policies would affect the entire organization's chances of success.

For this purpose, the Delphi technique was a most viable solution. Its unique ability for rank-ordering individual responses through a series of questionnaire *rounds* by collecting, organizing, and then reducing input by priority consensus was the best possible solution to date. The Delphi technique was a form of decision-making diplomacy capable of giving all expert contributors matching opportunities to have their personal contributions considered and weighed before concluding resolutions were selected (Stahl & Stahl, 1991).

Generally, the research suggested that most of the successful Delphi studies have typically been designed around the three-round completion method; this could work well in establishing competency consensus. As with other Delphi studies, the researchers must be cautious with panel member selection. Panelists must represent a broad range of expert stakeholders. As suggested by Richards and Curran (2002), the

issue was too complex to explore every conceivable angle and detail within a single study. Finding the best possible solutions would be difficult under the current set of circumstances, but the chance of doing so improves if additional studies and open discussions follow one another. As the studies reiterated, it should be recognized that models and tools were dynamic. As suggested by the research, if a middle management competency tool eventually reached a standard, it may be time to revise it yet again.

CHAPTER III

METHODOLOGY

Chapter III discussed the methodology and the manner in which this research was conducted. It provided the basis for which the identification of competencies and personal attributes were collected and analyzed. The chapter provided a discussion of the population and how the sample was obtained for the study, instrumentation used, and the data management and treatment.

Population

A total of 15 professionals served as the panel of experts for this study. Based on the principle of *justice*, the recruitment procedure was designed to help ensure equitable distribution across the population (Privacy/Data Protection Project, 2003). The study participants included representatives from the 11 Texas State Mental Health Facilities and DSHS (Appendix B), State Hospital Section, Nursing Director's Office. The DSHS, State Hospital Section, Nursing Director's Office, requested e-mail addresses, two or more nurse managers, of potential panel members from the Directors of Nursing at the 11 Texas State Mental Health Facilities and DSHS, State Hospital Section, Nursing Director's Office to be e-mailed to the researcher. Additionally, the DSHS, State Hospital Section, Nursing Director's Office, requested the e-mail addresses of potential nurse executive panel members in a separate e-mailing. Once the e-mail addresses were received, the researcher contacted the potential panel members through e-mail with a description of the study process with a panel member contact letter (Appendix C) and an information sheet (Appendix C) that stated that given the

conditions provided, the completion and returning of the form to the researcher indicated consent to participate in the study. Potential panel members were provided with researcher contact information to answer any questions and asked to return the consent to participate form. In order to be selected for the panel, the selection criterion included that all of the participants (a) be registered nurses, (b) work in management, as a nurse manager or nurse executive, and (c) be employed by Texas State Mental Health Facilities. The population selection was designed to get a cross flow of opinions and ideas between the nurse managers and their bosses, the nurse executives. The decision to include only professionals working at Texas State Mental Health Facilities was because programs with different goals and missions require professionals with different characteristics, knowledge, and skills.

A total of 30 potential panelists were initially nominated from the e-mail addresses received by the researcher. There were 19 nurse managers and 11 nurse executives included on the list. All 30 nurses were invited to participate. Out of the initial listing, 17 nurses returned the consent form agreeing to participate in the study. The group included 11 nurse managers and six nurse executives. Two panel members, one nurse manager and one nurse executive decided not to continue participation in the study during the first round. Respondents from the first round became the participants for the second round, and respondents from this round became the participants for the third round.

Panel members were classified, in terms of job function, age, nursing experience, management experience, and gender, based upon the information supplied in the demographic survey (Appendix D).

Research Design

A descriptive design using a three-round modified e-Delphi survey was used to meet the study objectives of:

1. Identifying future personal attributes and job competencies required by the DSHS nursing middle manager, the registered nurse manager, as perceived by the DSHS subject matter experts, a group of registered nurses holding leadership positions in the DSHS, State Hospital Section.
2. Determining a consensus of future personal attributes and job competencies between the responses DSHS subject matter experts.

The e-Delphi study utilized the panel members' e-mail addresses to complete the survey and provide the results to the researcher.

The foundation of the study followed McKillips' 1987 study (as cited in Rockwell, Furgason, and Marx, 2000):

> The Delphi technique was originally used to target future problems and foresee solutions. Part of its success lies in its use of experts in the field in question. By utilizing the knowledge of experts, combining it and redistributing it, the study opens up doors and forces new thought processes to emerge. It also allows for respondents to see how closely they responded to the rest of the field of experts and to justify their train of thought. (para. 17)

Reliability of the Delphi technique was constructed on the formulation of the initial questions, transliterating individual responses, and recording response rates over successive rounds (Crisp, Pelletier, Duffield, Nagy, & Adams, 1997).

The first survey questionnaire explained the issue in general terms with examples and asked the panel members to provide input about the initial set of personal attributes and competencies clusters. Responses from the first survey questionnaire were grouped together through a factor analysis and returned to the panel members in the second round. The researcher identified competencies versus personal attributes from panel members' input based on the operational definitions used in the study. The researcher's identification of competencies versus personal attributes was not shared with the panel members during the course of the study.

Responses from the first round survey questionnaire were grouped together for analysis and returned to the panel members in the second round. Using the information gathered in Round One, the panel members value rated the input provided in three categories: *importance, frequency,* and *criticality* using a numerical scale. The researcher summarized the numerical data input provided for the second survey questionnaire using the mean or average rating as a measure of central tendency.

Second round responses were analyzed, tabulated, and returned to the panel members for the third and final round to be rated based on the feedback of the other panel members. In addition, panel members were also asked to rate each personal attribute and competency cluster with a *yes* or *no* response to question if the competency cluster should be required for entry-level hiring.

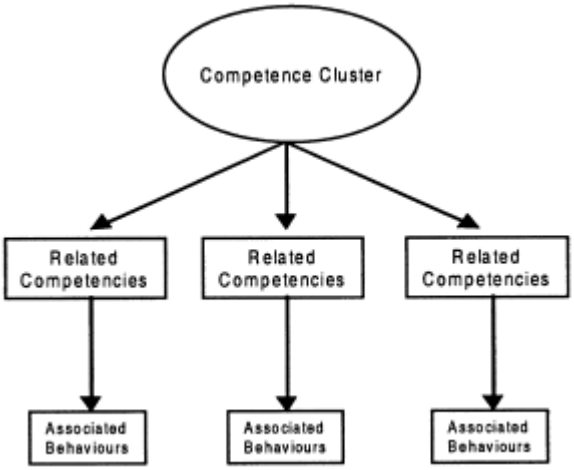
Procedure

For this study, the e-Delphi procedure began with an open-ended survey questionnaire being e-mailed to panel members asking them to identify personal

attributes and competency clusters and provide the reasons for selection of the input (Appendix E). A specific number of personal attributes and competency clusters was not requested from the panel members. Upon the advice of the steering committee members, it was decided to focus on identifying nurse manager personal attributes and competency clusters. The idea of using personal attributes and competency clusters was to help focus the panel members on nurse manager duties as a manager and not the duties of a super clinician. Additionally, it was believed that the use of clusters would help facilitate in keeping the first listing of responses and opinions at a workable rate.

Figure 3 showed that the mastery of a competency cluster would indicate the nurse manager had a comprehension of the related competencies and behaviors that made up the cluster (McRobbie et al., 2001).

Figure 3. Competence Cluster.



In each of the rounds the survey instruments were e-mailed blind copy to all panel members as attachments. This was done because panel members were members

of the same e-mailing group for DSHS, and private e-mail was deemed the most effective way to provide individual surveys to panel members and maintain the anonymity of the individuals involved in the study.

In Round One, an Excel spreadsheet (Appendix D) that included examples of 28 general nurse manager personal attributes and competency clusters developed by the researcher during the literature review was sent to panel members along with an explanation of competency clusters for review (Board of Nurse Examiners for the State of Texas and Texas Board of Vocational Nurse Examiners, 2001; Careersthatgo, 2005; Carroll, Lacey, & Cox, 2004; Nursing Leadership Institute, 2002; Occupational Information Network, n.d.; Office of Personnel Management, 2003; Rossiter, & Stefl, 2004). Panel members were instructed to use the listing of 28 general nurse manager personal attributes and competency clusters as a guide for creating their individual listing.

The first round number of personal attributes and competency clusters provided by the panel members varied per panel member. All panel member surveys were accepted as submitted. Ultimately, 67 separate items were presented to the researcher. In preparation for the second round survey, the responses were combined resulting in 24 individual personal attributes and competency clusters.

In Round Two, each panel member was provided, through a blind e-mail, with the listing of personal attributes and competency clusters and a summary rationale statement generated from the Round One survey responses (Appendix F). The panel members were asked to review the responses generated from Round One of the study

and independently evaluate each response separately for importance, frequency, and criticality and provide any additional rationale they believed necessary. The goal of providing these particular set of instructions was to ensure that the resulting consensus generated from the study would be the most representative of the purpose for using the Delphi technique as the primary research tool – panelists independently generate their ideas and provide answers to the questionnaire and return it to the researcher (Delbecq, Van de Ven, & Gustafson, 1975).

Panel members used a five-point Likert-type scale to indicate their value ratings for three categories: criticality, frequency of occurrence, and importance (Table 1). The first category was defined as criticality**.** *The Merriam-Webster Online Dictionary* (2004) described criticality as relating to or being a state in which or a measurement or point at which some quality, property, or phenomenon suffers a definite change. The second category was frequency of occurrence**.** *The Compact Oxford English Dictionary* (2004) described frequency as the rate at which something occurs over a particular period or in a given sample. The third category was importance. *The Encarta Dictionary* (2004) described importance as significance, considerable value, relevance, or interests (Appendix G).

In the final round survey questionnaire (Appendix H), panel members were asked to independently evaluate each response and rationale of the previous round and provide a value rating for using the same five-point Likert-type scales as before for each area. Based on the survey selections, participants were again asked to provide rationale for their choice. Surprisingly, all panel members provided a value rating, but

not a single panel member elected to use the rationale portion of the survey in this round.

Table 1. DSHS Competency Clusters Five-Point Likert-Type Scale

Rating	Importance	Criticality	Frequency of Occurrence
1	Very Important	Critical	Frequently
2	Important	Very Important	Occasionally
3	Neither Important Nor Unimportant	Reasonably Important	Seldom
4	Unimportant	Somewhat Important	Never
5	Very Unimportant	Not Important	Not Sure

Additionally, in the final round, each panel member was provided an additional spreadsheet, the DSHS Required for Hire Competency Cluster, and was asked to independently evaluate each response by answering either *yes or no* as to if the competency was required before hiring.

In each subsequent round, respondents were asked review their original responses and either retain them or change them based on the rationale and mean scores of all the participants from the previous rounds with the exception of the required for hire rating. The reasoning in support of asking for only one rating for the required for hire category in the final round was because as an individual response, it was deemed as a dichotomous response and not a rating subject to change between

rounds. The answers for the required for hire category were to be displayed as a percentage answer (Appendix I). All of the panel members' responses were aggregated, tabulated and summarized, and returned in each series of rounds.

It was agreed with the DSHS, State Hospital Section, Nursing Director's Office, steering committee members and the researcher that a decision rule would be used to determine a consensus of the panel member response results for the final round with a slight exception of the required for hire rating. All personal attributes and competency clusters responses with a mean of equal to or less than *2 = Important*, for the category of importance, *2 = Very Important*, for the category criticality, and *2 = Occasionally*, for the category of frequency with at least 10 panel members or 66.7% agreeing would be considered consensus of opinion for the purposes of this study. As stated before, the required for hire survey results had a slight exception, because the reporting of responses for this category was *yes* or *no* only, all personal attributes and competency clusters *yes* responses with at least 10 panel members or 66.7% agreeing would also be considered consensus of opinion for the purposes of this study.

Each round was started with an initial e-mail message that described the purpose of the round and gave the panel members directions and instructions for generating and reporting their responses. A Microsoft Word or Excel spreadsheet file, depending on the purpose of the round, was attached to the e-mail message. Panel members were instructed to provide their responses within the attached spreadsheet file and to e-mail the completed spreadsheet file back to the researcher. Approximately one week after the suspense of the first e-mailing for the round, a follow-up e-mail message

was sent to remind panelists to return their survey. A final reminder for the round was sent a week after the first reminder. The e-Delphi, using the e-mail system as the means of communication, was used with the intention of improving the participant response rate to as opposed the traditional U.S. Postal system.

Use of e-mail for data collection had several advantages. The first advantage was the legibility of panel member responses. All responses were electronically typed so additional time was not needed to clarify responses and data did not need to be discarded due to illegibility of panel member handwriting. A second advantage was the ease of data entry. The spreadsheet data could easily be copied and pasted from the returned response file to the central file for aggregation eradicating the need for data entry. This lessened data entry time and reduced errors. A third advantage was the e-mail program also supported tracking of e-mail transmission status and alerted the researcher when an e-mail message was undeliverable due to an incorrect address and this could quickly be corrected (Snyder-Halpern et al., 2000).

Summary of the Methodology

This chapter has described the methodology used for this research. The account included explaining the employed selection of the Delphi panel and the generation of the data used for reporting the research. Fifteen panel members from DSHS classified as nurse managers and nurse executives, representing the 11 Texas State Mental Health Facilities and DSHS, State Hospital Section, Nursing Director's Office, developed the personal attributes and competencies and priorities identified by this study.

CHAPTER IV

ANALYSIS OF DATA

The purpose of this Delphi study was to identify future personal attributes and job competencies required by the DSHS nursing middle manager, the registered nurse manager. Once identified, the study would use the results in an attempt to determine a consensus of future personal attributes and job competencies utilizing the responses of the DSHS subject matter experts. Using the derivative of this study, the future competencies and personal attributes identified, the DSHS could use the results to develop a model to guide critical hiring decisions and initial training of the future nurse managers. Additionally, the hiring and initial training model could serve to assist upper management in developing a content model for future in-service and continuing education training for all nurses employed by DSHS.

Oftentimes, hiring and training represent a major allocation of resources, for example, time, money, technology, and people. The research suggested return-on-investment was critical to continued success of an organization. The future personal attributes and job competencies identified in this study may provide upper management with a resource that would enable them to make informed decisions about the future of the DSHS nursing department.

This chapter first presented the demographic data and then addressed the descriptive and frequency data organized by rounds to address the research question that the Delphi technique could achieve consensus of subject matter experts without bringing them together face-to-face. The majority of the data presented in this chapter

was analyzed using the statistical program SPSS 12.0 for Windows. Analysis included both descriptive and frequency statistical methodology.

DSHS State Hospital Section Panel Member Demographics

The DSHS Delphi panel consisted of 15 members who were classified as:

- Nurse Executive [N=5: 1-Male; 4-Female]
- Nurse Manager [N=10: 3-Male; 7-Female]

The nurse executives comprised 33.3% of the panel total, while the nurse managers represented 66.7% panel. Although the focus of the study was the future personal attributes and future competencies needed by the nurse manager, it was believed that a representation of the nurse executives would help provide an increased comprehensiveness to the study results.

Table 2 provided a description of panel members' years of experience in nursing. A total of eight panel members, 53.3%, reported having 20-29 years of nursing experience. This represented the largest total number of panel members for the categories reported.

Table 2. Years of Experience in Nursing of the Panel Members

Years	Total	Percent
1-9	1	6.7
10-19	6	40.0
20-29	8	53.3

Table 3 displayed years of management experience. The largest percent reported, 53.3%, or a total of eight panel members gave an account of 1-9 years of management experience. The figure appeared to show the panel members were relatively new to management activities as presented in this study. However, 40.0%, nearly half of the panel members reported 10-19 years of experience.

Table 3. Years of Management Experience of the Panel Members

Years	Total	Percent
1-9	8	53.3
10-19	6	40.0
20-29	1	6.7

The highest level of education (Table 4) reported by the panel members was a master's degree. However, the largest total of the panel members, 53.3%, reported the bachelor's degree as their highest level of academic achievement.

Table 4. Highest Level of Education of the Panel Members

Highest Level of Education	Total	Percent
Diploma (Associate's Degree)	5	33.3
Bachelor's Degree	8	53.3
Master's Degree	2	13.3

Table 5 provided information about the ages of the panel members. A total of eight panel members reported their age as between 40-49. This represented the largest total at 53.3%.

Table 5. Age of the Panel Members

Age	Total	Percent
30-39	1	6.7
40-49	8	53.3
50-59	6	40.0

When comparing the panel member demographic data to that of the state of Texas nurse demographic data as reported by the Board of Nurse Examiners for the State of Texas (2004), the most interesting observations of the demographics, as viewed by the researcher, were with the education and the gender statistics. The state of Texas reported 39.0% of total licensed nurses had a bachelor's degree. The study panel members reported 53.3 %. By the same comparison, panel members reported 13.3% had a master's degree, compared to 9.0% of the total licensed nurses reported by The Board of Nurse Examiners for the state of Texas. A total of 1.0% of the total licensed nurses in Texas reported having a doctorate degree, Ph.D. The study panel members did not report having a doctorate degree.

The gender demographics were little more striking (Table 6). Males represented 26.7% of the panel members for the study. On the other hand, only 9.0% of the total licensed nurses in the state of Texas were reported as being male.

Table 6. Gender of the Panel Members

Gender	Total	Percent
Male	4	26.7
Female	11	73.3

Analysis of the Data

Round One

For the first round survey, the panel members were e-mailed an Excel spreadsheet and asked to complete an open-ended survey questionnaire by listing personal attributes and competency clusters they believed were required for a successful nurse manager in the future. They were also provided with the operational definitions for the study and asked to review the example of personal attributes and competency clusters provided in an additional Excel spreadsheet. The panel members were also instructed to feel free to use the examples provided and anything else they thought appropriate.

Although the panel members were provided with the above instructions, two of the panel members were still a small bit confused and needed a little more clarification about what was being asked. Even though, there were only two panel members with

questions, the researcher believed that all of the questions received should be shared with all panel members along with the answers. The sharing of panel member questions and the responses was thought to only enhance the general understanding of the study for all involved. The individual panel member asking the question was provided with a personal response through e-mail. After that, the rest of the panel members were provided with the question and answer through the use of the blind e-mail method.

In the first round survey questionnaire, the number of personal attributes and competency clusters provided by the panel members varied per panel member. The responses included a large number of duplications, but oftentimes had a slightly different rationale for inclusion on the listing. All panel member surveys were accepted as submitted. The panel of experts provided a total of 67 separate response items. Using a factor analysis, the responses were eventually combined resulting in 24 individual personal attributes and competency clusters for the remaining two rounds. The personal attributes and competency clusters were reduced to 24 in order to eliminate duplication and to provide for efficiencies in evaluating, analyzing, and reporting the data identified for each survey round. Round One personal attributes and competency clusters and their associated rationales were displayed in Appendix E.

In addition to the Round One survey question, an Excel demographic spreadsheet was provided to the panel members for completion. All panel members eventually completed the demographic data collection, but some had to be asked again in subsequent rounds. Generally, the panel members who did not report demographics

in the initial questioning, responded the second time. Some panel members even responded more than once, because the demographic questionnaire was attached in subsequent rounds for those who had not completed it earlier.

Round Two

In Round Two, the responses received from the panel members in Round One and after a factor analysis were aggregated and returned to each panel member through a blind e-mail with the listing of personal attributes and competency clusters and a summary rationale statement generated from the survey results. The panel members were provided with three Excel spreadsheets: DSHS Competency Cluster Importance, DSHS Competency Cluster Criticality, and DSHS Competency Cluster Frequency of Occurrence and were asked to please complete each spreadsheet by independently value rating each response using the five-point Likert-type scale.

The DSHS Competency Cluster Criticality returned 16 out of the 24 or 66.7% of personal attributes and competency clusters that would be considered consensus. Out of the 16 personal attributes and competency clusters considered consensus, five or 31.3%, decision-making, perspective, prioritization, effective communication, and ethical principles received the highest rating of 100.0% with a *1 = Critical* or *2 = Very Important* value rating. The 16 personal attributes and competency clusters considered consensus along with the percentage ratings for each one were displayed in Table 7.

Table 7. Personal Attributes and Competencies Meeting/Not Meeting Criteria Considered Consensus – Criticality Round Two (N=15)

Competency Cluster	Responses Meeting/Not Meeting Criteria	Percent
	Meeting Criteria	
Decision-Making	15	100.0
Effective Communication	15	100.0
Ethical Principals	15	100.0
Perspective	15	100.0
Prioritization	15	100.0
Practice Standards	14	93.3
Conflict Resolution	13	86.7
Delegation	13	86.7
Effective Discipline	13	86.7
Effective Staffing Strategies	13	86.7
Organization of Unit Work	13	86.7
Problem Solving	13	86.7
Information Systems	11	73.3
Equanimity	10	66.7
Involvement	10	66.7
Optimism	10	66.7
	Not Meeting Criteria	
Humor	9	60.0
Teaching-Learning Theories	8	53.3
Stress Management	8	53.3
Financial Resource Procurement	7	46.7
Productivity Measures	7	46.7
Research-Based Care Practices	5	33.3
Administrative Theories	3	20.0
Budget Forecasting	1	6.7

Table 8 detailed the value ratings as provided by the panel members. The largest range of value ratings was budget forecasting with a mean of 3.5. Budget forecasting had range value rating of *2 = Very Important* to *5 = Not Important*. The highest mean value rating overall also happened to be budget forecasting. The lowest mean value rating was 1.3; it was shared by both decision-making and effective communication.

Table 8. Descriptive Statistics – Criticality Round Two by Competency

Competency Cluster[a]	Mean	SD
Effective Communication	1.3	0.46
Decision-Making	1.3	0.70
Conflict Resolution	1.3	0.72
Ethical Principals	1.5	0.52
Practice Standards	1.6	0.63
Problem Solving	1.6	0.74
Effective Discipline	1.7	0.72
Perspective	1.7	0.46
Effective Staffing Strategies	1.8	0.68
Prioritization	1.9	0.26
Delegation	2.0	0.53
Information Systems	2.0	0.76
Optimism	2.0	0.85
Involvement	2.1	0.74
Organization of Unit Work	2.3	0.70
Equanimity	2.3	0.59
Stress Management	2.4	1.12
Humor	2.5	1.19
Productivity Measures	2.5	0.64

Table 8 (continued)

Competency Cluster[a]	Mean	SD
Teaching-Learning Theories	2.5	0.52
Financial Resource Procurement	2.6	0.63
Research-Based Care Practices	2.7	0.49
Administrative Theories	3.3	0.80
Budget Forecasting	3.5	0.92

[a]n = 15 for each competency cluster.

The DSHS Competency Cluster Importance returned 22 out of the 24 or 91.7% of personal attributes and competency clusters that would be considered consensus. Out of the 22 personal attributes and competency clusters considered consensus, 17 or 77.3%, conflict resolution, decision-making, delegation, perspective, effective communication, effective discipline, effective staffing strategies, equanimity, ethical principles, financial resource procurement, humor, involvement, optimism, practice standards, prioritization, problem solving, and productivity measures received the highest rating of 100.0% with a *1 = Critical* or *2 = Very Important* value rating. The 22 personal attributes and competency clusters considered consensus along with the percentage ratings for each one were displayed in Table 9.

Table 9. Personal Attributes and Competencies Meeting/Not Meeting Criteria Considered Consensus – Importance Round Two (N=15)

Competency Cluster	Responses Meeting/Not Meeting Criteria	Percent
	Meeting Criteria	
Conflict Resolution	15	100.0
Decision-Making	15	100.0
Delegation	15	100.0
Effective Communication	15	100.0
Effective Discipline	15	100.0
Effective Staffing Strategies	15	100.0
Equanimity	15	100.0
Ethical Principals	15	100.0
Financial Resource Procurement	15	100.0
Humor	15	100.0
Involvement	15	100.0
Optimism	15	100.0
Perspective	15	100.0
Practice Standards	15	100.0
Prioritization	15	100.0
Problem Solving	15	100.0
Productivity Measures	15	100.0
Information Systems	13	86.7
Research-Based Care Practices	13	86.7
Stress Management	13	86.7
Teaching-Learning Theories	11	73.3
Organization of Unit Work	10	66.7
	Not Meeting Criteria	
Budget Forecasting	7	46.7
Administrative Theories	6	40.0

Table 10 detailed the value ratings provided by the panel members' responses. The largest range of value ratings was budget forecasting with a mean value rating of 2.7. Budget forecasting had a range value rating of *2 = Important* to *5 = Very Unimportant*. The highest mean value rating in this category was as also budget forecasting. The lowest mean value rating was 1.0. That distinction was held by decision-making.

Table 10. Descriptive Statistics – Importance Round Two by Competency

Competency Cluster[a]	Mean	SD
Decision-Making	1.0	0.00
Conflict Resolution	1.1	0.35
Effective Communication	1.1	0.35
Problem Solving	1.1	0.35
Ethical Principals	1.3	0.46
Prioritization	1.3	0.49
Humor	1.6	0.51
Optimism	1.6	0.51
Practice Standards	1.6	0.51
Effective Staffing Strategies	1.7	0.49
Equanimity	1.7	0.49
Delegation	1.7	0.49
Effective Discipline	1.7	0.49
Financial Resource Procurement	1.8	0.41
Involvement	1.8	0.41
Stress Management	1.9	0.64
Productivity Measures	1.9	0.26
Information Systems	2.0	0.53
Perspective	2.0	0.53

Table 10 (continued)

Competency Cluster[a]	Mean	SD
Research-Based Care Practices	2.0	0.53
Organization of Unit Work	2.1	0.74
Teaching-Learning Theories	2.1	0.64
Administrative Theories	2.6	0.51
Budget Forecasting	2.7	0.82

[a]n = 15 for each competency cluster.

The DSHS Competency Cluster Frequency of Occurrence returned 23 out of the 24 or 95.8% of personal attributes and competency clusters that would be considered consensus. Out of the 23 personal attributes and competency clusters considered consensus, 20 or 87.0%, conflict resolution, decision-making, delegation, perspective, effective communication, effective staffing strategies, equanimity, ethical principles, humor, information systems, involvement, optimism, organization of work, practice standards, prioritization, problem solving, and productivity measures, research-based care practices, stress management, and teaching-learning Theories received the highest rating of 100.0% with a *1 = Frequently* or *2 = Occasionally* value rating. The 23 personal attributes and competency clusters considered consensus along with the percentage ratings for each one were displayed in Table 11.

Table 11. Personal Attributes and Competencies Meeting/Not Meeting Criteria Considered Consensus – Frequency of Occurrence Round Two (N=15)

Competency Cluster	Responses Meeting/Not Meeting Criteria	Percent
	Meeting Criteria	
Conflict Resolution	15	100.0
Decision-Making	15	100.0
Delegation	15	100.0
Effective Communication	15	100.0
Effective Staffing Strategies	15	100.0
Equanimity	15	100.0
Ethical Principals	15	100.0
Humor	15	100.0
Information Systems	13	100.0
Involvement	15	100.0
Optimism	15	100.0
Organization of Unit Work	10	100.0
Perspective	15	100.0
Practice Standards	15	100.0
Prioritization	15	100.0
Problem Solving	15	100.0
Productivity Measures	15	100.0
Research-Based Care Practices	15	100.0
Stress Management	15	100.0
Teaching-Learning Theories	15	100.0
Effective Discipline	14	93.3
Financial Resource Procurement	14	93.3
Budget Forecasting	11	73.3
	Not Meeting Criteria	
Administrative Theories	8	53.3

Table 12 detailed the value ratings provided by the panel members' responses. The largest range of value ratings was budget forecasting with a mean value rating of 2.3. Budget forecasting had a range value rating of *1 = Frequently* to *5 = Not Sure*. The highest mean value rating was administrative theories with a value rating of 2.5. The lowest mean value rating was 1.0; it was shared by both ethical principles and effective communication.

Table 12. Descriptive Statistics – Frequency of Occurrence Round Two by Competency

Competency Cluster[a]	Mean	SD
Effective Communication	1.0	0.00
Ethical Principals	1.0	0.00
Conflict Resolution	1.1	0.26
Decision-Making	1.1	0.26
Optimism	1.1	0.35
Prioritization	1.1	0.35
Problem Solving	1.2	0.41
Equanimity	1.3	0.46
Involvement	1.3	0.49
Delegation	1.3	0.49
Practice Standards	1.4	0.51
Stress Management	1.5	0.52
Effective Discipline	1.6	0.63
Effective Staffing Strategies	1.6	0.51
Humor	1.6	0.51
Information Systems	1.6	0.51
Productivity Measures	1.6	0.51
Organization of Unit Work	1.7	0.46

Table 12 (continued)

Competency Cluster[a]	Mean	SD
Perspective	1.7	0.46
Teaching-Learning Theories	1.8	0.41
Research-Based Care Practices	1.9	0.26
Financial Resource Procurement	2.0	0.38
Budget Forecasting	2.3	1.18
Administrative Theories	2.5	0.92

[a]n = 15 for each competency cluster.

Round Three

Round Three represented the last round for surveying the panel members. The statistics and any consensus generated in this round would be considered final input. In Round Three, all responses received from the panel members in Round Two were aggregated and were returned to each panel member, through a blind e-mail, with the listing of personal attributes and competency clusters and a summary rationale statement generated from the latest survey results. The panel members were provided with three Excel spreadsheets: DSHS Competency Cluster Importance, DSHS Competency Cluster Criticality, and DSHS Competency Cluster Frequency of Occurrence and asked to please complete each spreadsheet of by independently value rating each response using the five-point Likert-type scale. Additionally, in the final round, each panel member was provided with one added spreadsheet, the DSHS Required for Hire Competency Cluster. Using the DSHS Required for Hire

Competency Cluster, each panel member was asked to independently evaluate each response by answering either *yes* or *no* as to if the personal attribute or competency cluster was required before hiring. Again, using a decision rule, each personal attribute or competency cluster with 10 or more panel members, 66.7%, responding with a *yes*, would be considered consensus for this study.

The DSHS Competency Cluster Importance returned 23 out of the 24 or 95.8% of personal attributes and competency clusters that would be considered consensus. Out of the 23 personal attributes and competency clusters considered consensus, 15 or 65.2%, conflict resolution, decision-making, delegation, effective communication, effective discipline, effective staffing strategies, equanimity, ethical principles, humor, involvement, optimism, practice standards, prioritization, problem solving, and productivity measures received the highest rating of 100.0% with a *1 = Critical* or *2 = Very Important* value rating. The 23 personal attributes and competency clusters considered consensus along with the percentage ratings for each one were displayed in Table 13.

Table 13. Personal Attributes and Competencies Meeting/Not Meeting Criteria Considered Consensus – Importance Round Three (N=15)

Competency Cluster	Responses Meeting/Not Meeting Criteria	Percent
	Meeting Criteria	
Conflict Resolution	15	100.0
Decision-Making	15	100.0
Delegation	15	100.0

Table 13 (continued)

Competency Cluster	Responses Meeting/Not Meeting Criteria	Percent
Effective Communication	15	100.0
Effective Discipline	15	100.0
Effective Staffing Strategies	15	100.0
Equanimity	15	100.0
Ethical Principals	15	100.0
Humor	15	100.0
Involvement	15	100.0
Optimism	15	100.0
Practice Standards	15	100.0
Prioritization	15	100.0
Problem Solving	15	100.0
Productivity Measures	15	100.0
Financial Resource Procurement	14	93.3
Information Systems	13	86.7
Perspective	13	86.7
Research-Based Care Practices	13	86.7
Stress Management	13	86.7
Budget Forecasting	12	80.0
Teaching-Learning Theories	11	73.3
Organization of Unit Work	10	66.7
	Not Meeting Criteria	
Administrative Theories	8	53.3

Table 14 detailed the value ratings as provided by the panel members. The largest range of value ratings was budget forecasting with a mean of 2.2. Budget forecasting had range value rating of *1 = Very Important* to *5 = Very Unimportant*. The

highest mean value rating was administrative theories with 2.47. The lowest mean value rating of 1.1 was bestowed upon decision-making.

Table 14. Descriptive Statistics – Importance Round Three by Competency

Competency Cluster[a]	Mean	SD
Decision-Making	1.1	0.26
Ethical Principals	1.1	0.35
Conflict Resolution	1.2	0.41
Problem Solving	1.2	0.41
Effective Communication	1.3	0.46
Practice Standards	1.3	0.49
Effective Staffing Strategies	1.5	0.52
Effective Discipline	1.6	0.63
Delegation	1.7	0.49
Equanimity	1.7	0.72
Optimism	1.7	0.62
Involvement	1.7	0.49
Prioritization	1.7	0.46
Perspective	1.7	0.46
Information Systems	1.8	0.68
Organization of Unit Work	1.9	0.35
Humor	1.9	0.64
Stress Management	1.9	0.59
Budget Forecasting	2.2	0.94
Productivity Measures	2.2	0.41
Research-Based Care Practices	2.2	0.56
Financial Resource Procurement	2.3	0.46
Teaching-Learning Theories	2.3	0.70
Administrative Theories	2.5	0.74

[a]n = 15 for each competency cluster.

The DSHS Competency Cluster Criticality returned 21 out of the 24 or 87.5% of personal attributes and competency clusters that would be considered consensus. Out of the 21 personal attributes and competency clusters considered consensus, five or 23.8%, effective communication, effective staffing strategies, ethical principles, perspective, and practice standards received the highest rating of 100.0% with a *1 = Critical* or *2 = Very Important* value rating. The 21 personal attributes and competency clusters considered consensus along with the percentage ratings for each one were displayed in Table 15.

Table 15. Personal Attributes and Competencies Meeting/Not Meeting Criteria Considered Consensus – Criticality Round Three (N=15)

Competency Cluster	Responses Meeting/Not Meeting Criteria	Percent
	Meeting Criteria	
Effective Communication	15	100.0
Effective Staffing Strategies	15	100.0
Ethical Principals	15	100.0
Perspective	15	100.0
Practice Standards	15	100.0
Conflict Resolution	14	93.3
Decision-Making	14	93.3
Delegation	14	93.3
Effective Discipline	14	93.3
Prioritization	14	93.3
Problem Solving	14	93.3
Productivity Measures	14	93.3
Research-Based Care Practices	14	93.3
Information Systems	13	86.7

Table 15 (continued)

Competency Cluster	Responses Meeting/Not Meeting Criteria	Percent
Organization of Unit Work	11	86.7
Teaching-Learning Theories	13	86.7
Budget Forecasting	11	73.3
Involvement	11	73.3
Equanimity	10	66.7
Humor	10	66.7
Optimism	10	66.7
Not Meeting Criteria		
Financial Resource Procurement	9	60.0
Stress Management	6	40.0
Administrative Theories	4	26.7

Table 16 detailed the value ratings as provided by the panel members. The largest range of value ratings was shared by budget forecasting with a mean of 3.3, Procurement with a mean of 2.5, humor with a mean of 2.4, and stress management with a mean of 2.3. Budget forecasting had range value rating of *2 = Very Important* to *5 = Not Important*, procurement's range value rating was *1 = Critical* to *4 = Somewhat Important*, humor had range value rating of *1 = Critical* to *4 = Somewhat Important*, and lastly, stress management's value range rating was also *1 = Critical* to *4 = Somewhat Important*. The highest mean value rating was budget forecasting at 3.3. Effective communication garnered the lowest mean value rating of 1.3.

Table 16. Descriptive Statistics – Criticality Round Three by Competency

Competency Cluster[a]	Mean	SD
Effective Communication	1.3	0.46
Decision-Making	1.3	0.62
Conflict Resolution	1.3	0.62
Ethical Principals	1.5	0.52
Practice Standards	1.5	0.52
Effective Discipline	1.5	0.64
Problem Solving	1.5	0.64
Effective Staffing Strategies	1.7	0.49
Perspective	1.7	0.49
Information Systems	1.8	0.68
Prioritization	1.8	0.56
Delegation	1.9	0.52
Equanimity	2.1	0.80
Involvement	2.1	0.70
Organization of Unit Work	2.1	0.46
Optimism	2.1	0.74
Stress Management	2.3	0.98
Humor	2.4	1.12
Financial Resource Procurement	2.5	0.83
Productivity Measures	2.5	0.64
Teaching-Learning Theories	2.6	0.74
Research-Based Care Practices	2.7	0.62
Administrative Theories	3.1	0.83
Budget Forecasting	3.3	0.98

[a]n = 15 for each competency cluster.

The DSHS Competency Cluster Frequency of Occurrence returned 23 out of the 24 or 95.8% of personal attributes and competency clusters that would be considered consensus. Out of the 23 personal attributes and competency clusters considered consensus, 17 or 73.9%, conflict resolution, decision-making, delegation, perspective, effective communication, effective staffing strategies, equanimity, ethical principles, humor, information systems, involvement, optimism, organization of work, practice standards, prioritization, problem solving, and stress management received the highest rating of 100.0% with a *1 = Frequently* or *2 = Occasionally* value rating. The 23 personal attributes and competency clusters considered consensus along with the percentage ratings for each one were displayed in Table 17.

Table 17. Personal Attributes and Competencies Meeting/Not Meeting Criteria Considered Consensus – Frequency of Occurrence Round Three (N=15)

Competency Cluster	Responses Meeting/Not Meeting Criteria	Percent
	Meeting Criteria	
Conflict Resolution	15	100.0
Decision-Making	15	100.0
Delegation	15	100.0
Effective Communication	15	100.0
Effective Staffing Strategies	15	100.0
Equanimity	15	100.0
Ethical Principals	15	100.0
Humor	15	100.0
Involvement	15	100.0
Optimism	15	100.0
Perspective	15	100.0

Table 17 (continued)

Competency Cluster	Responses Meeting/Not Meeting Criteria	Percent
Practice Standards	15	100.0
Prioritization	15	100.0
Problem Solving	15	100.0
Stress Management	15	100.0
Effective Discipline	14	93.3
Information Systems	13	86.7
Productivity Measures	13	86.7
Research-Based Care Practices	13	86.7
Teaching-Learning Theories	13	86.7
Financial Resource Procurement	12	80.0
Budget Forecasting	11	73.3
Organization of Unit Work	10	66.7
	Not Meeting Criteria	
Administrative Theories	8	53.3

Table 18 detailed the value ratings provided by the panel members' responses. The largest range of value ratings was budget forecasting with a mean value rating of 2.4. Budget forecasting had a range value rating of *1 = Frequently* to *5 = Not Sure*. The highest mean value rating was administrative theories with a value rating of 2.5. Effective communication had the lowest mean value rating of 1.0.

Table 18. Descriptive Statistics – Frequency of Occurrence Round Three by Competency

Competency Cluster[a]	Mean	SD
Effective Communication	1.0	0.00
Decision-Making	1.1	0.26
Ethical Principals	1.1	0.26
Problem Solving	1.1	0.35
Practice Standards	1.2	0.41
Conflict Resolution	1.3	0.46
Delegation	1.3	0.46
Equanimity	1.3	0.49
Prioritization	1.3	0.49
Effective Discipline	1.5	0.64
Effective Staffing Strategies	1.5	0.52
Information Systems	1.5	0.52
Involvement	1.5	0.52
Optimism	1.5	0.52
Stress Management	1.6	0.51
Humor	1.7	0.49
Organization of Unit Work	1.8	0.41
Perspective	1.8	0.41
Productivity Measures	1.8	0.68
Teaching-Learning Theories	1.9	0.59
Research-Based Care Practices	2.0	0.53
Financial Resource Procurement	2.1	0.52
Budget Forecasting	2.4	1.12
Administrative Theories	2.5	0.64

[a]n = 15 for each competency cluster.

Comprehensively, when analyzing the DSHS personal attributes and competency clusters' value rating results across the category boundaries of importance, frequency of occurrence, and criticality, the researcher found a similarity in reported selections. Using the study decision rule that at least 10 panel members or 66.7% agreeing on a rating would be considered consensus of opinion, 20 out of 24 or 83.3% of the personal attributes and competency clusters met that requirement. The 20 personal attributes and competency clusters considered consensus along with the percentage ratings for each one were displayed in Table 19.

Table 19. Personal Attributes and Competencies Considered Consensus – Comprehensive Round Three

Competency Cluster	Importance[a]	Criticality[a]	Frequency of Occurrence[a]
Conflict Resolution	1.2	1.3	1.3
Decision-Making	1.1	1.3	1.1
Delegation	1.7	1.9	1.3
Effective Communication	1.3	1.3	1.0
Effective Discipline	1.6	1.5	1.5
Effective Staffing Strategies	1.5	1.7	1.5
Equanimity	1.7	2.1	1.3
Ethical Principals	1.1	1.5	1.1
Humor	1.9	2.4	1.7
Information Systems	1.8	1.8	1.5
Involvement	1.7	2.1	1.5
Optimism	1.7	2.1	1.5
Organization of Unit Work	1.9	2.1	1.8

Table 19 (continued)

Competency Cluster	Importance[a]	Criticality[a]	Frequency of Occurrence[a]
Perspective	1.7	1.7	1.8
Practice Standards	1.3	1.5	1.2
Prioritization	1.7	1.8	1.3
Problem Solving	1.2	1.5	1.1
Productivity Measures	2.2	2.5	1.8
Research-Based Care Practices	2.2	2.7	2.0
Teaching-Learning Theories	2.3	2.6	1.9

[a] = represented the Round Three mean value rating.

The DSHS required for hire competency cluster attempted to develop a consensus of the entry-level personal attributes and competency clusters required of the nurse manager prior to hire. In other words, the nurse manager would have already developed the required set of generic capabilities to a reasonable degree to be hired for the position. Vogt (2005) suggested that generally, job seekers should not expect the employers to treat entry-level job candidates the way the employers of yesteryear did. Before employers would hire someone and expect to lose money on them for 18 months or more while they trained them. The idea was that the employer would get another 20 years out of them as an employee. More recently, as suggested by the literature, employers were leaning toward the idea that a person who stays five years was a long-term employee.

The DSHS Required for Hire Competency Clusters returned 14 out of the 24 or 58.3% of personal attributes and competency clusters that would be considered consensus. Out of the 14 personal attributes and competency clusters considered consensus, 7 or 50.0%, administrative theories, conflict resolution, decision-making, effective communication, effective discipline, ethical principles, and problem solving received the highest rating of 100.0% with a *yes* value rating. The 14 personal attributes and competency clusters considered consensus along with the percentage ratings for each one were displayed in Table 20.

Table 20. Personal Attributes and Competencies Considered Consensus – DSHS Required for Hire Round Three

Competency Cluster	n	Percent
Conflict Resolution	15	100.0
Decision-Making	15	100.0
Effective Communication	15	100.0
Effective Discipline	15	100.0
Ethical Principals	15	100.0
Problem Solving	15	100.0
Effective Staffing Strategies	14	93.3
Equanimity	14	93.3
Information Systems	14	93.3
Optimism	14	93.3
Perspective	14	93.3
Practice Standards	14	93.3
Productivity Measures	13	86.7
Involvement	12	80.0

The 14 personal attributes and competency clusters identified and considered consensus in the category of DSHS Required for Hire Competency Clusters would be considered the minimum entry-level requirements for the position of the future nurse manger. This would suggest the remaining personal attributes and competency clusters could be acquired after hire. Moreover, if the nurse manger candidate possessed more than the 14 minimum entry-level requirements for the position, this would suggest an even better candidate for hire.

Summary of the Data Analysis

This chapter has described the analysis of the data used for this research. The account included examining each of the three rounds and the results provided by the panel members. Round One included the panel members identifying and providing the rationale for the personal attributes and competency clusters used during the subsequent rounds. Round Two was the first attempt at rating the personal attributes and competency clusters in the categories of importance, frequency of occurrence, and criticality. Round Three provided the results for establishing the consensus of panel members for each category. Additionally, a comprehensive consensus was established by combining the ratings of importance, frequency of occurrence, and criticality. The combined ratings displayed the results of the overall consensus rating across category boundaries. There were 20 personal attributes and competency clusters considered consensus when viewing the results comprehensively. Additionally, the panel members provided a consensus of the required for hire category. A total of 58.3% of personal attributes and competency clusters were considered required for hire.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

It had been the researcher's recent experience that the e-Delphi technique possesses many practical attributes as a research tool to acquire a consensus anonymously from expert panel members at a distance. However, it was understood, because of the different geographical locations and cultures of the facilities involved, the standards and policies related to the personal attributes and competency clusters identified in this study to establish an effective and efficient hiring and training system could and would be developed and applied differently based on organizational needs across the state of Texas. Moreover, the e-Delphi technique was very inexpensive, efficient, and expeditious as a method of investigation. When we think of organizational hierarchy and culture, any one or series of meetings, for example, might have produced less willingness to participate (time from work), greater expense (travel), and less likelihood of consensus. With this study, we were able to deliver results in a relatively short period of time and at a modest cost. Generally, the study provided panel members with a substantial review of opinion about how the results might help to ameliorate the problem of hiring and training the DSHS nurse manager of the future.

However, the ease with which the study arrived at a consensus could in some ways be considered misleading. It would be easy to see how some readers could legitimately argue that the revealed consensus was only the lowest common

denominator among the panel members involved. Because of the adopted decision rule to create an operational definition of consensus, any one of the three categories examined could perhaps reveal a different outcome under a differing method of evaluation.

The principle fundamental to the Delphi technique was that the consensus would advance with succeeding rounds of anonymous group reasoning (Hornsby, Smith, & Gupta, 1994). However, the enthusiasm for the Delphi technique did not simply rest on the efficiency with which it accomplished its stated aims. The process may, in certain contexts, be as important as the product. Hornsby et al. (1994) suggested the Delphi technique to be superior to the focus group approach because it allows the greatest degree of anonymity in reaching a group consensus through the unencumbered flow of opinion and ideas without the cultural and bureaucratic hierarchy imposing panel member limits.

The purpose of this study using a descriptive design of a three-round modified e-Delphi survey was used to:

1. Identify future personal attributes and job competencies required by the DSHS nursing middle manager, the registered nurse manager, as perceived by the DSHS subject matter experts, a group of registered nurses holding leadership positions in the DSHS, State Hospital Section.
2. Determine a consensus of future personal attributes and job competencies between the responses DSHS subject matter experts.

Once the panel made the future personal attributes and job competencies recommendations, the panel value rated each in terms of importance, frequency of occurrence, and criticality as to the need of the future nurse manager. The Delphi technique was used as the construction for the group process and the construction for the study. Limited supplies of data related to this research, time, and geographically separated experts were major factors in the selection of the process (Turoff & Hiltz, 1996). Another major factor when dealing with busy professionals, as related by Turoff and Hiltz, was that it matters little what time of the day or night Delphi panel members think of good ideas to incorporate in their response. They could, within the study time limits, fill out a Delphi survey at the time they wish to, or they could go to a computer terminal to add to when they wish. This could be done at whatever point in time the panel member believed he or she had a thought of significance to include in the response to the issues involved.

The findings of this study were derived from the analysis of the panel members' data after the third and final round. The findings were organized around the categories of importance, frequency of occurrence, criticality, and required for hire. Additionally, there would be a comprehensive review of importance, frequency of occurrence, and criticality examining the total consensus.

Frequency of Occurrence

A total 23 out of the 24 or 95.8% of personal attributes and competency clusters were considered consensus using the decision rule of 10 or 66.7% of panel members agreeing with a *1 = Frequently* or *2 = Occasionally* value rating. Out of the 23

personal attributes and competency clusters considered consensus, 17 or 73.9%, conflict resolution, decision-making, delegation, perspective, effective communication, effective staffing strategies, equanimity, ethical principles, humor, information systems, involvement, optimism, organization of work, practice standards, prioritization, problem solving, and stress management received the highest rating of 100.0% with a *1 = Frequently* or *2 = Occasionally* value rating. Administrative Theories was the only personal attribute and competency cluster not considered consensus. The frequency of occurrence category received the highest consensus rating of all with categories with the 23 out 24 rating of personal attributes and competency clusters were considered consensus.

When comparing the results of Round Two to Round Three, the 95.8% of personal attributes and competency clusters considered to be consensus remained the same. However, there was a 14.0% decline from 87.0% to 73.0% of personal attributes and competency clusters receiving a 100.0% rating. Productivity measures, research-based care practices, and teaching-learning theories although still considered consensus, failed to receive a 100.0% rating from the panel members in Round Three.

Importance

The Importance category received the second highest consensus rating among the categories with panel members rating 23 out of the 24 or 95.8% of personal attributes and competency clusters consensus. Out of the 23 personal attributes and competency clusters considered consensus, 15 or 65.2%, conflict resolution, decision-making, delegation, effective communication, effective discipline, effective staffing

strategies, equanimity, ethical principles, humor, involvement, optimism, practice standards, prioritization, problem solving, and productivity measures received the highest rating of 100.0% with a 1 = Critical or 2 = Very Important value rating.

As compared to Round Two, in Round Three, there was an increase in personal attributes and competency clusters that were considered consensus from 22 in Round Two to 23 in Round Three. That represented a 4.1% overall increase from 91.7% to 95.8%. The number of personal attributes and competency clusters receiving a 100.0% consensus value rating decreased from 17 to 15 selected or 77.3 % to 65.2 %. The only personal attributes and competency cluster that was not considered consensus in the final round was administrative theories.

Criticality

The criticality category presented the lowest consensus of the categories returned 21 out of the 24 or 87.5% of personal attributes and competency clusters that were considered consensus. Out of the 21 personal attributes and competency clusters considered consensus, five or 23.8%, effective communication, effective staffing strategies, ethical principles, perspective, and practice standards received the highest rating of 100.0% with a *1 = Critical* or *2 = Very Important* value rating.

Although the criticality category represented the lowest number of personal attributes and competency clusters considered consensus, it displayed the largest change in consensus ratings from Round Two to Round Three. There was a 20.8% increase in consensus rating from 16 to 21 or a 66.7% to 87.5% change. There was also a significant change in the personal attributes and competency clusters rated 100.0%.

Although the number only changed from four in Round Two to five in Round Three, prioritization was deleted and practice standards and effective staffing strategies were added to the listing.

Required for Hire

The required for hire category represented the entry-level personal attributes and competency clusters this study would suggest the DSHS panel members reported as minimum requirements for a newly hired nurse manager. This was a dichotomous structured question with only a *yes* or *no* answer available.

The DSHS required for hire competency clusters returned 14 out of the 24 or 58.3% of personal attributes and competency clusters considered consensus. Out of the 14 personal attributes and competency clusters considered consensus, 7 or 50.0%, administrative theories, conflict resolution, decision-making, effective communication, effective discipline, ethical principles, and problem solving established the highest value rating of 100.0% with a *yes* value rating.

Comprehensive

Comprehensively looking at the personal attributes and competency clusters across the category boundaries of importance, frequency of occurrence, and criticality, the researcher found a similarity in reported selections. Using the study decision rule that at least 10 panel members or 66.7% agreeing on a rating would be considered consensus of opinion, 20 out of 24 or 83.3% of the personal attributes and competency clusters meet that requirement (Appendix J).

Conclusions

This study and its results suggested that the modified e-Delphi Technique could achieve consensus of subject matter experts without bringing them together face-to-face to establish future competencies and personal attributes for the DSHS registered nurse managers.

A major concern of this researcher prior to beginning the study was that the panel would only think of the nurse manager in terms of being a super clinician. The literature had suggested that only a short time back, middle managers in healthcare were viewed as only super clinicians. However, as it appeared demonstrated in this study, nurse managers were taking on increased responsibilities over broader competency areas. The study appeared to show that the non-clinical middle management competency areas such as conflict resolution, decision-making, delegation, effective communication, effective discipline, effective staffing strategies, organization of unit work, productivity measures and information systems were beginning to increase as required skills for the DSHS nurse manager in an ever-increasing rate. Zemke and Zemke (1999) suggested that competencies ought to be described according to key skills, personal characteristics, and knowledge that assist a worker in successful job performance. In other words, as the job requirements change over time, so should the competencies required to successfully perform job change.

It has been this researcher's experience that the changing of job performance requirements and competency requirements has seldom changed synchronously. Oftentimes, the transformation was over a period of several years before management

reacted to the need for adjustment. Again, in this researcher's experience, these types of management practice lead to frustration and decreased productivity with in the work place. The idea of the asynchronous change or adjustment of competencies may very well be hard to control. Management, in this case, the DSHS, would appear to want to make the required changes systematically with a seamless transition. However, these types of internal changes may have been generated by events originating externally to the organization. In other words, the trigger may have been created by environmental stimulus. This suggested the response to entities over which the organization exercises little or no control such as federal or state legislation, social and political upheaval, the actions of competitors, and shifting economic tides and currents (Nickols, 2004).

The DSHS panel members for this study appeared to recognize the need for a change in the competency requirements for the future DSHS nurse mangers. They appeared to have advanced beyond the super clinician thinking of yester years. Research suggested a positive link between performance and knowledge (Swanson & Holton, 2001). It would appear from this study that the DSHS panel members recognized that the evolution of nurse manager competencies was a critical factor to achieving the full potential of knowledge management in support of business performance of the DSHS.

Critcher and Gladstone (1998) stated that looking between rounds not only shows whether any consensus agreement was achieved and what the final opinion was, but whether the consensus agreement existed throughout each round or was only reached in the later rounds as a result of the Delphi process. It appeared that such

additional information sheds light on the quality and reliability of the final decision, and was likely to lead to better decision-making based on the expert panel's consensus.

The DSHS panel members appeared to have demonstrated that a consensus exited throughout each round of this study. Examining the category of frequency of occurrence, the personal attributes and competency clusters considered to be consensus remained the same. The results of Round Two and Round Three both reported that 95.8% of personal attributes and competency clusters were considered consensus. For the category of importance, as compared to Round Two, for Round Three the personal attributes and competency clusters that were considered consensus went from 21 in Round Two to 22 in Round Three. That represented only a 4.2% overall increase from 87.5% to 91.7%. When examining criticality, that category displayed the largest change in consensus ratings from Round Two to Round Three. There was a modest 20.8% increase in consensus ratings; they changed from 16 in Round Two to 21 in Round Three or a 66.7% to 87.5% change.

This study's results appeared in harmony with Critcher and Gladstone's 1998 study in that the consensus agreement existed throughout each round of the Delphi process. This could lead one to believe in the quality and reliability of the final decision. In turn, the study's results would likely to lead to better decision-making based on the expert panel's consensus.

Recommendations

Delphi was a technique utilizing various opinions amongst experts via a series of survey questionnaires. Specific propositions were presented to panel members for

individual rating on a quantity of criteria. Results were collated and fed back to panel members so they could reconsider their opinions in the light of the spread of panel member responses. Eventually, the desired result was to reach a consensus of opinion. This study attempted to develop future personal attributes and competency clusters for the DSHS nurse managers.

DSHS nursing management officials patterning other successful organizations everywhere have determined that it was critical to understand the future personal attributes and competency clusters which were necessary for nurse managers in order to help them attain strategic objectives of the organization. The requirement for an increasingly adaptable workforce and the capability to redefine organizational structures to quickly meet changing short and long-term strategies demonstrated the need for effective competency-based tools and applications (University of Rochester, 1994).

Future Research

The literature suggested the Delphi technique had been primarily used as a tool for planning or forecasting. The results of this study have suggested the Delphi technique was genuinely a powerful method of surveying expert opinion for the DSHS policymakers. The DSHS, as an organization, had stated they were looking for opportunities to improve the health of Texans by bringing together physical health, mental health, and substance abuse services (Texas Department of State Health Services, 2004). They related that their plan was to enhance their services by addressing the health of the *whole* person. This researcher suggested that the Delphi

technique might be used more widely within DSHS to assist them in their quest to maximize their resources and improve the service delivery system. The researcher suggested the DSHS policymakers utilize the Delphi technique to explore other available options, estimate their likely impact, and evaluate their acceptability as courses of action. Additionally, a Delphi study could be conducted to identify any barriers that may have inhibited their efforts to maximize the resources leading to better outcomes for the individuals and communities throughout Texas.

Applying the Findings

This study would appear to suggest that the Delphi technique could contribute appreciably to the augmentation of knowledge contained by the DSHS nursing profession. Research had suggested a key contributor to the success of the healthcare organization was performance management. The Joint Commission on Accreditation of Healthcare Organizations, more commonly referred to as JCAHO, is an independent, not-for-profit organization, established more than 50 years ago. JCAHO is administered by a board that includes physicians, nurses, and consumers. JCAHO's primary mission is to set the standards by which healthcare quality is measured, not only in America, but around the world (Joint Commission on Accreditation of Healthcare Organizations, 2005). JCAHO evaluates healthcare organizations to maintain or earn accreditation. The healthcare organizations must have an extensive onsite review at least once every three years. Performance measurement in healthcare represented not only what was done, but there was strong examination of how well it

was done. JCAHO's goal is to accurately recognize the basis for current performance so that enhanced results could be achieved through attentive improvement actions.

JCAHO (2005) stated that performance measurement could benefit the healthcare organization by providing a statistically valid, data-driven instrument that could generate an incessant flow of performance information. This study appeared to serve this purpose. Research suggested that perhaps the most important trend in people management was the definition of job competencies (Kravetz, 1997). When defined properly, Kravetz believed job competency information could bring together many human resource success activities; they included training, career development, performance measurement, assessment, and employee selection/promotion.

Because of the way the future personal attributes and job competencies categories of importance, criticality, and frequency were studied, it suggested the opportunity to evaluate and develop their application in a multifaceted manner. The future personal attributes and job competencies appeared to be useful in not only the broad range of performance management, but also appeared extremely useful and tailored to situational specific application for the DSHS nurse managers.

Improvements to the Study

The outcomes of this study show that the process of documenting nursing research priorities was essential to building a knowledge base for the nursing practice. A sound basis for practice in DSHS nursing would emerge through research that was significant, pertinent, and essential.

It was important in gaining the participation of a suitable panel for the study. Perhaps, if the study were repeated, the use a stratified sampling technique could be employed. In this type of random sampling technique, the whole population could be first divided into mutually exclusive subgroups or strata and then selected randomly from each stratum. The segments would be based on some predetermined criteria such as geographic location, size of facility or another demographic characteristic such as nursing experience or management activity. The use of this technique would help ensure that the segments would be as heterogeneous as possible. Additionally, the density of samples in each stratum could be proportional to the variance of each hospital organization count in the stratum. This type of design could possibly enhance the maximum precision of the results.

Another area of improvement could revolve around the use of the questionnaire. Because of tight time constraints, the researcher did not pretest the questionnaire. Although the initial questionnaire was developed through a thorough literature review, there may have been more feedback if structured and presented in a different manner. Piloting may be desirable, but it was not essential. This study's questionnaire invited open written comments at the end of each round, but the panel members did not utilize this opportunity after the first round. The balance between specific closed questions and invitations to provide more open-ended commentary may be crucial in any Delphi questionnaire design.

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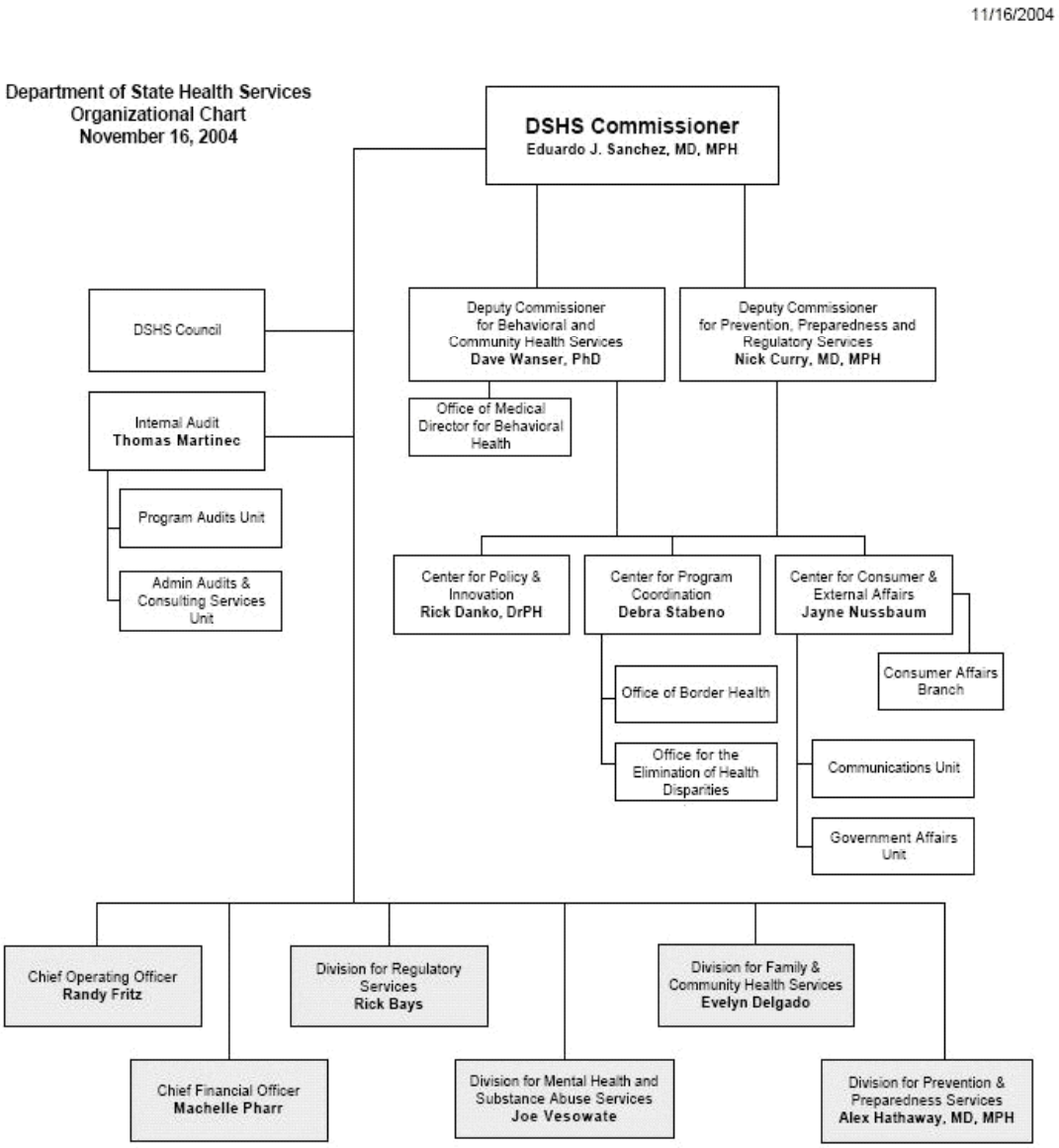
APPENDIX A

TEXAS DEPARTMENT OF STATE HEALTH SERVICES

ORGANIZATION CHART

Texas Department of State Health Services Organizational Chart

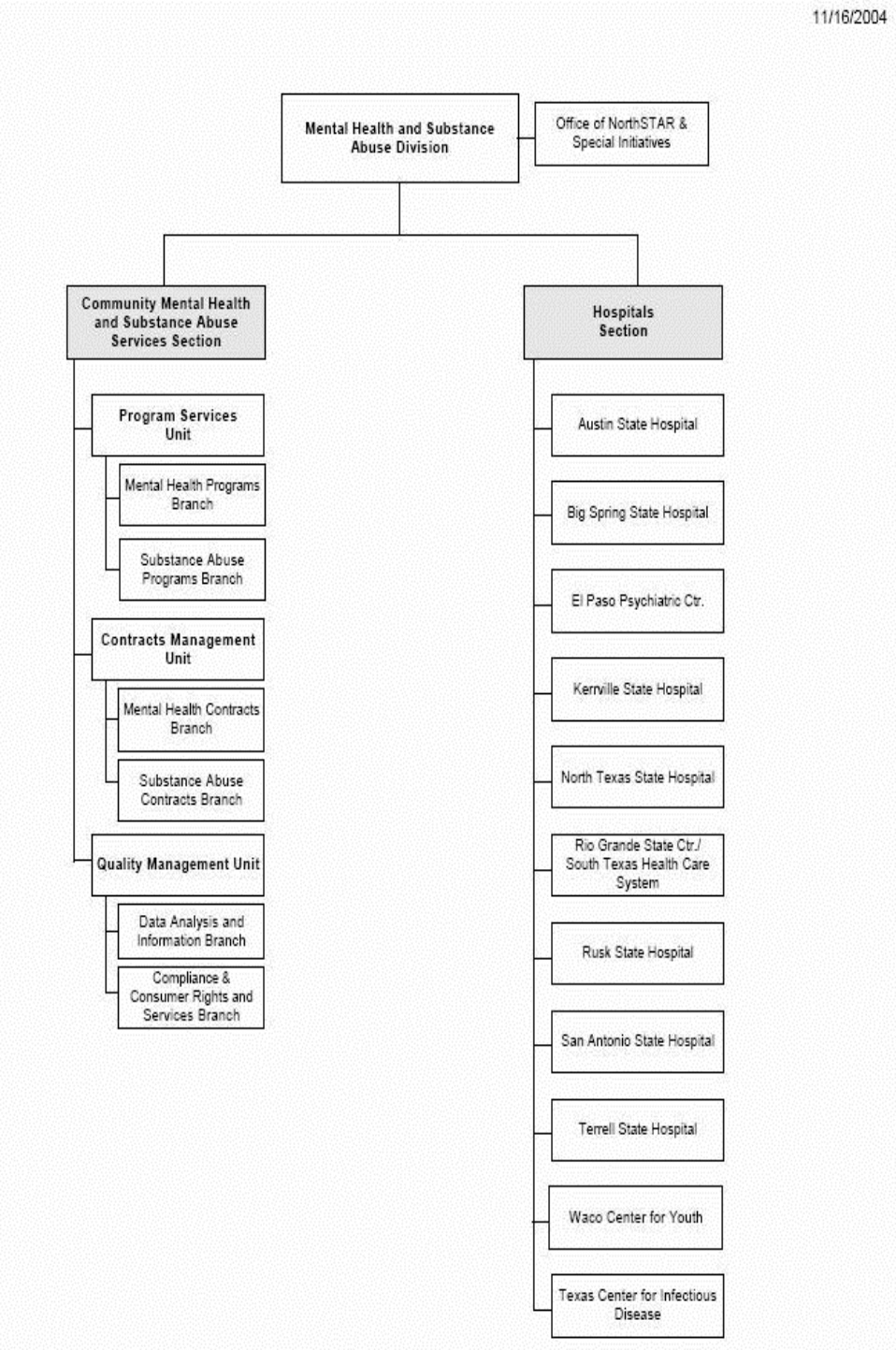


Source: Texas Department of State Health Services Web site (November 2004)

APPENDIX B

TEXAS DEPARTMENT OF STATE HEALTH SERVICES MENTAL HEALTH AND SUBSTANCE ABUSE DIVISION ORGANIZATIONAL CHART

Texas DSHS Mental Health and Substance Abuse Division Organizational Chart



Source: Texas Department of State Health Services Web site (November 2004)

APPENDIX C

CORRESPONDENCE WITH PANEL

INFORMATION SHEET

(Future Personal Attributes and Job Competencies Needed by the Texas Department of State Health Services (DSHS), State Hospital Section, Registered Nurse Managers: A Delphi Study)

DSHS Nursing Director's Office supplied the name and E-mail addresses of potential Nurse Panel members from the 10 Texas State Hospital facilities. The panel will consist of 15 members. Your total time for involvement/participation in the study is estimated to average 120 minutes. You understand that the method of research is survey and the study objectives are understandable to you. You understand that participation in the study is voluntary and all of your responses will be confidential. There is no physical risk involved. Neither your identity nor the identity of your institution will be identified in any public forum. You understand that all interaction between you and other panel members will be coded to maintain anonymity. No identifiers linking you to the study will be included in any sort of report that might be published. Research records will be stored securely and only the principal investigator (PI) and his committee Chairman, Walter Stenning, will have access to the data information. This study is confidential.

Your decision whether or not to participate will not affect your current or future relations with Texas A&M University or the Texas Department of State Health Services. If you decide to participate, you are free to refuse to answer any of the questions that may make you uncomfortable. You could withdraw at any time without your relations with the university, job, benefits, etc., being affected. You could contact Joseph Harrison Jr. at xxxxx@xxxxxxxxx or Walter Stenning at xxxxxxx@xxxxxxxxxxx with any questions about this study.

This research study has been reviewed by the Institutional Review Board - Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, you could contact the Institutional Review Board through Dr. Michael W. Buckley, Director of Research Compliance, Office of Vice President for Research at (xxx) xxx-xxxx (xxxxxxxxxx@xxxxxxxxx)

Given the conditions provided above, your completion and returning of the form to the PI indicates consent to participate in the study.

Please return by E-mail to xxxxx@xxxxxxxxx

Panel Member Initial Contact Letter

MEMORANDUM FOR … DATE

FROM: Joseph Harrison, Jr.
Study Principal Investigator
Ph.D. Candidate, Texas A&M University
xxxxxxxxx@xxxxxxxxxx

SUBJECT: Texas Department of State Health Services (DSHS), State Hospital Section Registered Nurse Managers Future Competencies

REFERENCE: Participant Contact Letter

DSHS, State Hospital Section, Nursing Director's Office, is conducting a study to help determine the future personal attributes and job competencies needed by the DSHS, State Hospital Section Registered Nurse Managers.

You were randomly nominated as a subject matter expert to participate in the study to develop a consensus on what future competencies and personal attributes are required by the DSHS, State Hospital Section, Nurse Managers. I want to thank you for your agreement to participate in the research. All information generated as a result of this research is strictly confidential. **Information that may potentially identify the participants or their institutions will not be included in any public information forum**. Participants will be assigned an individual code to be used in all correspondence and reports.

The research will be conducted using a panel of nurse subject matter experts. The study will consist of three rounds of questions. All responses will be aggregated, tabulated and summarized, and returned in each series of rounds to develop a consensus of opinion.

The object of the study is to develop a consensus of expert opinions.

Please review the attached documents, the consent form, and return it to me by E-mail. Returning the documents will constitute your agreement to participate in the study. If you have any questions, please contact me at xxx-xxx-xxxx or E-mail at xxxxxxx@xxxxxxxxxx

Yours truly,

Joseph Harrison, Jr.
Doctoral Candidate

Panel Member Contact Letter Round One

MEMORANDUM FOR DATE

FROM: Joseph Harrison, Jr.
Study Principal Investigator
Ph.D. Candidate, Texas A&M University
xxxxxx@xxxxxxxxx

SUBJECT: Texas Department of State Health Services (DSHS), State Hospital Section Registered Nurse Managers Future Competencies

DSHS, State Hospital Section, Nursing Director's Office, is conducting a study to determine the future personal attributes and job competencies needed by the DSHS, State Hospital Section, Registered Nurse Managers. Using the findings of the study, a model could be developed to guide DSHS hiring decisions and initial training. Additionally, the model could serve to assist in developing a content model for future in-service and continuing education training. The study will consist of three rounds of questions. All responses will be aggregated, tabulated and summarized, and returned in each series of rounds.

Prior research has indicated the nurse manager is responsible for overall planning, organization, direction, and evaluation of patient care activities. Additionally, there is staff development, interaction with physicians, role modeling, strengthening their subordinated staff, working more independently within the frames of their management position, problem solving, management, leadership, and fiscal activities.

For the first round, you will be asked to complete an Excel spreadsheet and list competencies and personal attributes you believe are required for a successful Nurse Manager. For each response, please provide your reasons for the selection.

Operational Definitions:

Competency -- An area of knowledge or skill that is critical for producing key outputs. Professional competency involves more than knowledge. Competency includes critical thinking and logical, safe, and evidence-based decision making (National Board for Certification of School Nurses, 2002; Sanders, 2001).

Cluster -- A group of similar things that are close together, sometimes surrounding something. A group of similar things positioned or occurring closely together (Cambridge Dictionary of American English, 2004; Compact Oxford English Dictionary, 2004)

Panel Member Contact Letter Round One - Continued

Competency cluster -- Mastery of a competency cluster will indicate the individual has a comprehension of the related competencies and behaviors that makes up the cluster (McRobbie, Webb, Bates, Wright, and Davies, 2001).

Criticality -- Relating to or being a state in which or a measurement or point at which some quality, property, or phenomenon suffers a definite change (Merriam-Webster Online Dictionary, 2004)

Frequency -- The rate at which something occurs over a particular period or in a given sample (Compact Oxford English Dictionary, 2004).

Importance -- Significance: considerable value, relevance, or interest. High rank: high position, rank, or reputation in society (Encarta Dictionary, 2004).

Registered Nurses (RNs) -- *Professional nursing* means the performance for compensation of an act that requires substantial specialized judgment and skill, the proper performance of which is based on knowledge and application of the principles of biological, physical, and social science as acquired by a completed course in an approved school of professional nursing. The term does not include acts of medical diagnosis or prescription of therapeutic or corrective measures (Board of Nurse Examiners, 2003).

Registered Nurse Manager -- Performs highly advanced and/or managerial nursing work (State of Texas Human Resources, 2003).

Personal Attributes (PA) -- A personal quality or feature of a person or thing, esp. one that is an important part of its nature (Cambridge Dictionary of American English, 2004)

I know you are extremely busy at this time, but please take a few minutes to review the information sheet. This is your opportunity to provide feedback and help shape the face of the future of DSHS. Your perception of competencies and personal attributes are important. Your prompt attention to this survey is appreciated.

I am a Ph.D. candidate acting as an independent agent for data collection. All individual answers will be kept confidential and the information provided in this study will be consolidated and reported as group statistics. Please complete the attached spreadsheet and E-mail it back to me.

Please return your completed information to me by E-mail at xxxxx@xxxxxxxx. Please refer any questions and return all correspondence to the E-mail address provided with a subject title of DSHS study. Thank you for your time and participation.

Yours truly,

Joseph Harrison, Jr.

Panel Member Contact E-Mail Round One

Dear Participants,

I recently had a meeting with my major professor and committee members. During the meeting, it was decided that we should try to identify Nurse Manager competency clusters. The mastery of a competency cluster will mean the nurse had a mastery of everything that made up the cluster. I have attached an Excel spreadsheet that includes examples of competency clusters gathered during a literature review.

In addition to the competency cluster example, I have attached an Excel data collection spreadsheet and a demographic spreadsheet for your input. Please complete the data collection and demographic spreadsheets and return them to me by E-mail. Please review the example of competency cluster spreadsheet and feel free to use the examples provided and anything else you may think of. Once the data are collected, I will provide the data to you for your input. Thank you for your support. I think we will have a great outcome.

Once again, I know people are busy. Thanks for your input.

Joseph Harrison Jr.
Phone xxx-xxx-xxxx

APPENDIX D

ROUND ONE SURVEY INSTRUMENT

ROUND ONE SURVEY

Future Personal Attributes and Job Competencies Needed by the DSHS, State Hospital Section Registered Nurse Manager (Competency Clusters)	
Competency Cluster Description	**Reason for Selection**

COMPETENCY CLUSTERS EXAMPLE ROUND ONE

Competency Cluster Examples
Administrative theories
Budget forecasting
Care planning
Classification systems
Conflict resolution
Cost–benefit analysis
Decision-making
Delegation
Effective communication
Effective discipline
Effective staffing strategies
Ethical principles
Financial resource monitoring
Financial resource procurement
Humour
Information systems
Nursing theories
Optimism
Organization of unit work
Political processes
Practice standards
Problem solving
Productivity measures
Research process
Research-based care practices
Stress management
Teaching–learning theories

DEMOGRAPHIC SURVEY

Demographic Data DSHS, State Hospital Section Registered Nurse Managers Study			
	Demographic data	**Demographic data Input**	
	Gender		
	Age		
	Highest Level of Education		
	Years of Experience in Nursing		
	Years of Experience in Management		

APPENDIX E

ROUND ONE SURVEY RESPONSES AND RATIONALE

Round One Survey Responses

Future Personal Attributes and Job Competencies Needed by the DSHS, State Hospital Section Registered Nurse Managers (Competency Clusters)

Competency Cluster Description	Reason for Selection
Administrative Theories	The transition into a mid or upper management position would be easier if there was more information provided on Administrative Theories.
Budget Forecasting	Most have had little budget experience until the NM level. Money is always a factor.
Conflict Resolution	Must deal with this weekly: The workplace stress creates conflict, Nurse/doctor; nurse/nurse; nurse/subordinate staff; MHW/MHW; nurse/other department, etc. There is an almost constant need for this at the NM level. A large part of the day is utilizing this skill.
Decision-Making	The nursing staff depend on the manager to make decisions. An effective manager is able to utilize their frame of reference & knowledge base to help them digest infromation in a way that it can be formulated into a decision. Need for decisions regarding pt care, staff problems with flexibility yet decisiveness and sound judgement. Many decisions are made at this level with a huge amount of autonomy.
Delegation	The job is too big for one person to do all that is demanded. Must be able to delegate in order to do the job. Effective delegation is critical to being an effective NM.
Effective Communication	NM's must communicate effectively with superiors and subordinates in order to do their job.Verbal communication is frequently garbled as it cascades down to lower level staff. Written communication must be written so it is clear to the lowest level of staff that it effects. Needs to be diplomatic.
Effective discipline	Know how to use discipline to improve a person's work behavior and encourage team building. All significant disciplinary issues are taken care of at the NM level. With HR's re-vamping, it is even a bigger issue because on-site HR support will not be available in the near future.
Effective Staffing Strategies	Flexible & effective staffing strategies; DSHS will continue to work with less staff as money for MH decreases in TX
Equanimity	The ability to remain calm in tough circumstances gives staff confidence in themselves and you.
Ethical principals	You must have a high standard for yourself and expect no less from your coworkers and expect the best and do not settle for less. This should already be evident before someone is given a supervisory position. A cursory knowledge of ethics is pivital! Standards, staffing, decision making, problem solving & conflict resolution all underpinned by ethical principles.
Financial Resource Procurement	There is competition for all resources. Because nursing services is the largest department it is frequently seen as the place to balance the budget. Must be able to give convincing rationale for preserving or increasing financial resources for nursing in order to recruit and retain quality nurses.
Humor	Very important to your mental and physical well being and ability to lead and take orders. You must be able to unwind, relax, and laugh. If you do not have a positive attitude you will soon burn out with all the daily problems you encounter. Important for dealing with the stress as well as helping others deal with stressful times and situations

Round One Survey Responses - Continued

Information systems	Pulling and analyzing data; with so much on the computer now, NM must be computer literate. Can increase productivity.
Involvement	Visiting with the staff in their work environment pays dividends.
Optimism	Have to be able to inspire others to share the programs vision. That is very difficult even with an optimistic approach. Nursing is continuously changing.
Organization of unit work	This is important, but each unit runs so differently--even within the guidelines of the same policies and procedures.
Perspective	The ability to recognize the relative significance of challenges keeps molehills from becoming mountains.
Practice Standards	Fundamental knowledge of standards is essential.
Prioritization	Must be able to determine where to put your greatest energy. Related to delegation in that lesser tasks can be delegated.
Problem solving	A cousin to Conflict Resolution. Must be able to problem solve, manage stress and utilize conflict resolution skills. Critical for leading, assessing, and care of your unit/department. When done effectively it can built a cohesive team.
Productivity measures	This is critical to being able to measure goals and objectives and performance indicators. Awareness of how to make the best use out of limited resources including limited staff.
Research-based care practices	Need ability to learn and apply latest research in MH care i.e. reducing incidents of restraints
Stress management	Stress management is extremely important and every manager has to have an effective means for reducing and managing stress. Pivital skill…If one cannot manage their own stress then it would be difficult to help others manage theirs.
Teaching-learning theories	Necessary to share information with all levels of staff to improve pt. care.

APPENDIX F

ROUND TWO SURVEY INSTRUMENT

Round Two Survey E-mail

Dear Participants,

All responses received have been aggregated and are returned for your rating input.

For this round there are three (3) spreadsheets. Please complete each of three (3) attached Excel spreadsheets (**DSHS Competency Cluster Importance, DSHS Competency Cluster Criticality, and DSHS Competency Cluster Frequency of Occurrence)** by independently rating each response using the following scale:

DSHS Competency Cluster Importance
1 = Very important
2 = Important
3 = Neither important nor unimportant
4 = Unimportant
5 = Very unimportant.

DSHS Competency Cluster Criticality
1 = Critical
2 = Very Important
3 = Reasonably Important
4 =Somewhat Important
5 = Not Important

DSHS Competency Cluster Frequency of Occurrence
1 = Frequently
2 = Occasionally
3 = Seldom
4 = Never
5 = Not Sure

In addition to the competency cluster spreadsheets, I have attached a demographic spreadsheet for your input. I did not receive one from everyone. If you did not complete the demographic data sheet, please complete it with this round. It is very important to the study. Please return the completed spreadsheets to me using E-mail by Saturday.

We are almost complete. Once this data are collected, I will provide the aggregated data to you for our final round input as we have done before. Thank you for your support. I think we will have a great outcome.

Once again, I know people are busy. Thanks for your input.

Round Two Survey E-mail (Continued)

If you have any questions after reading the information provided, please feel free to contact me by E-mail at xxxxx@xxxxxxxxxx with a subject title of **DSHS study** or at my home number of xxx-xxx-xxxx. Thank you.

Joseph Harrison, Jr.

Frequency of Occurrence

Future Personal Attributes and Job Competencies Needed by the DSHS, State Hospital Section Registered Nurse Managers
(Competency Clusters Rating for Frequency of Occurrence)

Rating	Competency Cluster Description	Previous Reasons for Selection
	Administrative Theories	The transition into a mid or upper management position would be easier if there was more information provided on Administrative Theories.
	Budget Forecasting	Most have had little budget experience until the NM level. Money is always a factor
	Conflict Resolution	Must deal with this weekly: The workplace stress creates conflict, Nurse/doctor; nurse/nurse; nurse/subordinate staff; MHW/MHW; nurse/other department, etc. There is an almost constant need for this at the NM level. A large part of the day is utilizing this skill.
	Decision-Making	The nursing staff depend on the manager to make decisions. An effective manager is able to utilize their frame of reference & knowledge base to help them digest infromation in a way that it can be formulated into a decision. Need for decisions regarding pt care, staff problems with flexibility yet decisiveness and sound judgement. Many decisions are made at this level with a huge amount of autonomy.
	Delegation	The job is too big for one person to do all that is demanded. Must be able to delegate in order to do the job. Effective delegation is critical to being an effective NM.
	Effective Communication	NM's must communicate effectively with superiors and subordinates in order to do their job.Verbal communication is frequently garbled as it cascades down to lower level staff. Written communication must be written so it is clear to the lowest level of staff that it effects. Needs to be diplomatic.
	Effective discipline	Know how to use discipline to improve a person's work behavior and encourage team building. All significant disciplinary issues are taken care of at the NM level. With HR's re-vamping, it is even a bigger issue because on-site HR support will not be available in the near future.
	Effective Staffing Strategies	Flexible & effective staffing strategies; DSHS will continue to work with less staff as money for MH decreases in TX
	Equanimity	The ability to remain calm in tough circumstances gives staff confidence in themselves and you.
	Ethical principals	You must have a high standard for yourself and expect no less from your coworkers and expect the best and do not settle for less. This should already be evident before someone is given a supervisory position. A cursory knowledge of ethics is pivital! Standards, staffing, decision making, problem solving & conflict resolution all underpinned by ethical principles.
	Financial Resource Procurement	There is competition for all resources. Because nursing services is the largest department it is frequently seen as the place to balance the budget. Must be able to give convincing rationale for preserving or increasing financial resources for nursing in order to recruit and retain quality nurses.
	Humor	Very important to your mental and physical well being and ability to lead and take orders. You must be able to unwind, relax, and laugh. If you do not have a positive attitude you will soon burn out with all the daily problems you encounter. Important for dealing with the stress as well as helping others deal with stressful times and situations

Frequency of Occurrence - Continued

	Information systems	Pulling and analyzing data; with so much on the computer now, NM must be computer literate. Can increase productivity.
	Involvement	Visiting with the staff in their work environment pays dividends.
	Optimism	Have to be able to inspire others to share the programs vision. That is very difficult even with an optimistic approach. Nursing is continuously changing.
	Organization of unit work	This is important, but each unit runs so differently--even within the guidelines of the same policies and procedures.
	Perspective	The ability to recognize the relative significance of challenges keeps molehills from becoming mountains.
	Practice Standards	Fundamental knowledge of standards is essential.
	Prioritization	Must be able to determine where to put your greatest energy. Related to delegation in that lesser tasks can be delegated.
	Problem solving	A cousin to Conflict Resolution. Must be able to problem solve, manage stress and utilize conflict resolution skills. Critical for leading, assessing, and care of your unit/department. When done effectively it can built a cohesive team.
	Productivity measures	This is critical to being able to measure goals and objectives and performance indicators. Awareness of how to make the best use out of limited resources including limited staff.
	Research-based care practices	Need ability to learn and apply latest research in MH care i.e. reducing incidents of restraints
	Stress management	Stress management is extremely important and every manager has to have an effective means for reducing and managing stress. Pivital skill…If one cannot manage their own stress then it would be difficult to help others manage theirs.
	Teaching-learning theories	Necessary to share information with all levels of staff to improve pt care.

Importance

Future Personal Attributes and Job Competencies Needed by the DSHS, State Hospital Section Registered Nurse Managers
(**Competency Clusters Rating for Importance**)

Rating	Competency Cluster Description	Previous Reasons for Selection
	Administrative Theories	The transition into a mid or upper management position would be easier if there was more information provided on Administrative Theories.
	Budget Forecasting	Most have had little budget experience until the NM level. Money is always a factor
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Importance – Continued

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	Teaching-learning theories	Necessary to share information with all levels of staff to improve pt care.

Criticality

Future Personal Attributes and Job Competencies Needed by the DSHS, State Hospital Section Registered Nurse Managers
(**Competency Clusters Rating for Criticality**)

Rating	Competency Cluster Description	Previous Reasons for Selection
	Administrative Theories	The transition into a mid or upper management position would be easier if there was more information provided on Administrative Theories.
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Criticality - Continued

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	Stress management	Stress management is extremely important and every manager has to have an effective means for reducing and managing stress. Pivital skill. . .If one cannot manage their own stress then it would be difficult to help others manage theirs.
	Teaching-learning theories	Necessary to share information with all levels of staff to improve pt care.

Source: Texas Department of State Health Services Web site (November 2004)

APPENDIX G

ROUND TWO PANEL MEMBER RESPONSES

Panel Member Responses Importance by Competency

	Administrative Theories	Budget Forecasting	Conflict Resolution	Decision-Making	Delegation	Effective Communication	Effective Discipline	Effective Staffing Strategies
A1	3	2	1	1	1	1	2	2
A2	2	5	1	1	2	1	2	1
A3	3	3	1	1	2	1	2	2
A4	3	3	1	1	2	2	2	2
A5	2	2	1	1	2	1	1	1
M1	2	2	1	1	1	1	1	2
M2	3	3	1	1	2	1	2	2
M3	3	2	1	1	2	2	2	1
M4	2	2	1	1	1	1	1	1
M5	3	3	2	1	2	1	2	2
M6	3	3	1	1	2	1	2	2
M7	2	2	2	1	1	1	1	2
M8	3	3	1	1	2	1	2	2
M9	2	2	1	1	1	1	1	1
M10	3	3	1	1	2	1	2	2
Mean	2.60	2.67	1.13	1.00	1.67	1.13	1.67	1.67
SD	0.51	0.82	0.35	0.00	0.49	0.35	0.49	0.49

Panel Member Responses Importance by Competency -Continued

	Equanimity	Ethical principals	Financial Resource Procurement	Humor	Information systems	Involvement	Optimism	Organization of unit work
A1	2	2	2	2	2	2	2	3
A2	2	1	2	2	2	2	2	2
A3	2	1	2	2	2	2	2	2
A4	2	2	2	2	2	2	2	3
A5	2	2	2	2	2	2	1	2
M1	1	2	2	1	3	1	1	1
M2	1	1	1	1	2	2	1	3
M3	2	1	2	1	2	2	2	2
M4	2	1	2	2	2	1	1	1
M5	2	1	2	2	3	2	2	3
M6	2	1	2	2	2	2	2	2
M7	1	1	2	1	1	2	2	2
M8	1	1	1	1	2	2	1	3
M9	1	1	1	1	1	1	1	1
M10	2	1	2	2	2	2	2	2
Mean	1.67	1.27	1.80	1.60	2.00	1.80	1.60	2.13
SD	0.49	0.46	0.41	0.51	0.53	0.41	0.51	0.74

Panel Member Responses Importance by Competency -Continued

	Perspective	Practice Standards	Prioritization	Problem solving	Productivity measures	Research-based care practices	Stress management	Teaching-learning theories
A1	2	2	1	1	2	2	2	3
A2	2	1	1	1	2	2	3	1
A3	2	2	1	1	2	2	2	2
A4	3	2	1	1	2	2	2	3
A5	1	2	1	2	2	2	2	2
M1	2	2	2	1	2	3	1	3
M2	2	1	2	1	2	2	1	2
M3	2	1	2	2	2	2	2	2
M4	2	2	1	1	2	1	2	1
M5	3	2	1	1	2	3	3	3
M6	2	2	1	1	2	2	2	2
M7	2	1	2	1	2	2	2	2
M8	2	1	2	1	2	2	1	2
M9	1	1	1	1	1	1	1	2
M10	2	2	1	1	2	2	2	2
Mean	2.00	1.60	1.33	1.13	1.93	2.00	1.87	2.13
SD	0.53	0.51	0.49	0.35	0.26	0.53	0.64	0.64

Panel Member Responses Importance by Panel Member

	A1	A2	A3	A4	A5
Administrative Theories	3	2	3	3	2
Budget Forecasting	2	5	3	3	2
Conflict Resolution	1	1	1	1	1
Decision-Making	1	1	1	1	1
Delegation	1	2	2	2	2
Effective Communication	1	1	1	2	1
Effective Discipline	2	2	2	2	1
Effective Staffing Strategies	2	1	2	2	1
Equanimity	2	2	2	2	2
Ethical principals	2	1	1	2	2
Financial Resource Procurement	2	2	2	2	2
Humor	2	2	2	2	2
Information systems	2	2	2	2	2
Involvement	2	2	2	2	2
Optimism	2	2	2	2	1
Organization of unit work	3	2	2	3	2
Perspective	2	2	2	3	1
Practice Standards	2	1	2	2	2
Prioritization	1	1	1	1	1
Problem solving	1	1	1	1	2
Productivity measures	2	2	2	2	2
Research-based care practices	2	2	2	2	2
Stress management	2	3	2	2	2
Teaching-learning theories	3	1	2	3	2

Panel Member Responses Importance by Panel Member - Continued

	M1	M2	M3	M4	M5
Administrative Theories	2	3	3	2	3
Budget Forecasting	2	3	2	2	3
Conflict Resolution	1	1	1	1	2
Decision-Making	1	1	1	1	1
Delegation	1	2	2	1	2
Effective Communication	1	1	2	1	1
Effective Discipline	1	2	2	1	2
Effective Staffing Strategies	2	2	1	1	2
Equanimity	1	1	2	2	2
Ethical principals	2	1	1	1	1
Financial Resource Procurement	2	1	2	2	2
Humor	1	1	1	2	2
Information systems	3	2	2	2	3
Involvement	1	2	2	1	2
Optimism	1	1	2	1	2
Organization of unit work	1	3	2	1	3
Perspective	2	2	2	2	3
Practice Standards	2	1	1	2	2
Prioritization	2	2	2	1	1
Problem solving	1	1	2	1	1
Productivity measures	2	2	2	2	2
Research-based care practices	3	2	2	1	3
Stress management	1	1	2	2	3
Teaching-learning theories	3	2	2	1	3

Panel Member Responses Importance by Panel Member - Continued

	M6	M7	M8	M9	M10
Administrative Theories	3	2	3	2	3
Budget Forecasting	3	2	3	2	3
Conflict Resolution	1	2	1	1	1
Decision-Making	1	1	1	1	1
Delegation	2	1	2	1	2
Effective Communication	1	1	1	1	1
Effective Discipline	2	1	2	1	2
Effective Staffing Strategies	2	2	2	1	2
Equanimity	2	1	1	1	2
Ethical principals	1	1	1	1	1
Financial Resource Procurement	2	2	1	1	2
Humor	2	1	1	1	2
Information systems	2	1	2	1	2
Involvement	2	2	2	1	2
Optimism	2	2	1	1	2
Organization of unit work	2	2	3	1	2
Perspective	2	2	2	1	2
Practice Standards	2	1	1	1	2
Prioritization	1	2	2	1	1
Problem solving	1	1	1	1	1
Productivity measures	2	2	2	1	2
Research-based care practices	2	2	2	1	2
Stress management	2	2	1	1	2
Teaching-learning theories	2	2	2	2	2

Panel Member Responses Criticality by Competency

	Administrative Theories	Budget Forecasting	Conflict Resolution	Decision-Making	Delegation	Effective Communication	Effective Discipline	Effective Staffing Strategies
A1	4	3	1	1	2	2	2	2
A2	2	5	1	1	2	1	2	1
A3	4	4	1	1	3	1	3	3
A4	4	3	1	1	2	2	2	2
A5	3	3	3	3	2	1	1	1
M1	3	3	1	1	2	2	1	2
M2	3	3	1	1	2	1	2	2
M3	4	5	1	1	1	1	1	2
M4	3	3	1	1	2	1	1	1
M5	3	3	3	3	2	1	1	1
M6	4	3	1	1	2	2	2	2
M7	2	3	1	1	2	1	1	2
M8	4	4	1	1	3	1	3	3
M9	2	2	2	1	2	1	2	1
M10	4	5	1	1	1	1	1	2
Mean	3.27	3.47	1.33	1.27	2.00	1.27	1.67	1.80
SD	0.80	0.92	0.72	0.70	0.53	0.46	0.72	0.68

Panel Member Responses Criticality by Competency - Continued

	Equanimity	Ethical principals	Financial Resource Procurement	Humor	Information systems	Involvement	Optimism	Organization of unit work
A1	3	2	2	3	2	3	3	2
A2	3	1	4	4	3	3	3	2
A3	2	1	3	1	3	2	1	4
A4	3	2	3	4	2	3	3	2
A5	2	2	3	4	1	1	1	2
M1	2	2	2	2	3	2	2	2
M2	3	2	3	3	2	3	3	2
M3	2	1	2	1	2	2	2	2
M4	2	1	3	2	2	1	2	2
M5	2	2	3	4	1	1	1	2
M6	3	2	2	3	2	3	3	2
M7	1	1	2	2	1	2	2	2
M8	2	1	3	1	3	2	1	4
M9	2	1	2	2	1	2	1	2
M10	2	1	2	1	2	2	2	2
Mean	2.27	1.47	2.60	2.47	2.00	2.13	2.00	2.27
SD	0.59	0.52	0.63	1.19	0.76	0.74	0.85	0.70

Panel Member Responses Criticality by Competency - Continued

	Perspective	Practice Standards	Prioritization	Problem solving	Productivity measures	Research-based care practices	Stress management	Teaching-learning theories
A1	2	2	2	1	2	3	3	3
A2	2	1	2	1	3	3	4	2
A3	2	1	2	1	3	3	1	2
A4	2	2	2	2	3	3	3	3
A5	1	2	2	3	3	3	4	3
M1	2	3	2	2	3	3	1	3
M2	2	2	2	2	3	3	3	3
M3	2	1	2	2	2	2	2	2
M4	2	2	1	1	2	2	2	2
M5	1	2	2	3	3	3	4	3
M6	2	2	2	1	2	3	3	3
M7	1	1	2	1	2	2	2	2
M8	2	1	2	1	3	3	1	2
M9	1	1	2	1	1	2	1	2
M10	2	1	2	2	2	2	2	2
Mean	1.73	1.60	1.93	1.60	2.47	2.67	2.40	2.47
SD	0.46	0.63	0.26	0.74	0.64	0.49	1.12	0.52

Panel Member Responses Criticality by Panel Member

	A1	A2	A3	A4	A5
Administrative Theories	4	2	4	4	3
Budget Forecasting	3	5	4	3	3
Conflict Resolution	1	1	1	1	3
Decision-Making	1	1	1	1	3
Delegation	2	2	3	2	2
Effective Communication	2	1	1	2	1
Effective Discipline	2	2	3	2	1
Effective Staffing Strategies	2	1	3	2	1
Equanimity	3	3	2	3	2
Ethical principals	2	1	1	2	2
Financial Resource Procurement	2	4	3	3	3
Humor	3	4	1	4	4
Information systems	2	3	3	2	1
Involvement	3	3	2	3	1
Optimism	3	3	1	3	1
Organization of unit work	2	2	4	2	2
Perspective	2	2	2	2	1
Practice Standards	2	1	1	2	2
Prioritization	2	2	2	2	2
Problem solving	1	1	1	2	3
Productivity measures	2	3	3	3	3
Research-based care practices	3	3	3	3	3
Stress management	3	4	1	3	4
Teaching-learning theories	3	2	2	3	3

Panel Member Responses Criticality by Panel Member - Continued

	M1	M2	M3	M4	M5
Administrative Theories	3	3	4	3	3
Budget Forecasting	3	3	5	3	3
Conflict Resolution	1	1	1	1	3
Decision-Making	1	1	1	1	3
Delegation	2	2	1	2	2
Effective Communication	2	1	1	1	1
Effective Discipline	1	2	1	1	1
Effective Staffing Strategies	2	2	2	1	1
Equanimity	2	3	2	2	2
Ethical principals	2	2	1	1	2
Financial Resource Procurement	2	3	2	3	3
Humor	2	3	1	2	4
Information systems	3	2	2	2	1
Involvement	2	3	2	1	1
Optimism	2	3	2	2	1
Organization of unit work	2	2	2	2	2
Perspective	2	2	2	2	1
Practice Standards	3	2	1	2	2
Prioritization	2	2	2	1	2
Problem solving	2	2	2	1	3
Productivity measures	3	3	2	2	3
Research-based care practices	3	3	2	2	3
Stress management	1	3	2	2	4
Teaching-learning theories	3	3	2	2	3

Panel Member Responses Criticality by Panel Member - Continued

	M6	M7	M8	M9	M10
Administrative Theories	4	2	4	2	4
Budget Forecasting	3	3	4	2	5
Conflict Resolution	1	1	1	2	1
Decision-Making	1	1	1	1	1
Delegation	2	2	3	2	1
Effective Communication	2	1	1	1	1
Effective Discipline	2	1	3	2	1
Effective Staffing Strategies	2	2	3	1	2
Equanimity	3	1	2	2	2
Ethical principals	2	1	1	1	1
Financial Resource Procurement	2	2	3	2	2
Humor	3	2	1	2	1
Information systems	2	1	3	1	2
Involvement	3	2	2	2	2
Optimism	3	2	1	1	2
Organization of unit work	2	2	4	2	2
Perspective	2	1	2	1	2
Practice Standards	2	1	1	1	1
Prioritization	2	2	2	2	2
Problem solving	1	1	1	1	2
Productivity measures	2	2	3	1	2
Research-based care practices	3	2	3	2	2
Stress management	3	2	1	1	2
Teaching-learning theories	3	2	2	2	2

Panel Member Responses Frequency of Occurrence by Competency

	Administrative Theories	Budget Forecasting	Conflict Resolution	Decision-Making	Delegation	Effective Communication	Effective Discipline	Effective Staffing Strategies
A1	3	2	1	1	1	1	2	2
A2	2	4	1	1	2	1	2	1
A3	3	2	1	1	1	1	2	2
A4	3	2	1	1	1	1	2	2
A5	1	1	1	1	1	1	1	1
M1	2	2	1	1	1	1	1	1
M2	2	4	1	1	2	1	1	2
M3	4	5	1	1	1	1	1	2
M4	1	1	1	1	1	1	1	2
M5	3	2	1	1	1	1	2	2
M6	4	3	1	1	2	1	2	2
M7	2	1	1	2	1	1	1	1
M8	3	2	1	1	2	1	3	2
M9	2	2	2	1	2	1	2	1
M10	2	2	1	1	1	1	1	1
Mean	2.47	2.33	1.07	1.07	1.33	1.00	1.60	1.60
SD	0.92	1.18	0.26	0.26	0.49	0.00	0.63	0.51

Panel Member Responses Frequency of Occurrence by Competency - Continued

	Equanimity	Ethical principals	Financial Resource Procurement	Humor	Information systems	Involvement	Optimism	Organization of unit work
A1	1	1	2	1	1	1	1	2
A2	1	1	2	2	2	1	1	1
A3	1	1	2	2	2	1	1	2
A4	1	1	2	1	1	1	1	2
A5	1	1	2	1	1	1	1	1
M1	1	1	2	1	2	2	1	1
M2	2	1	2	2	2	1	1	2
M3	2	1	2	1	2	2	2	2
M4	2	1	1	2	2	1	1	2
M5	1	1	2	1	1	1	1	2
M6	1	1	2	2	2	1	1	2
M7	1	1	2	2	1	2	2	2
M8	1	1	3	2	2	2	1	2
M9	2	1	2	2	1	1	1	1
M10	1	1	2	2	2	2	1	2
Mean	1.27	1.00	2.00	1.60	1.60	1.33	1.13	1.73
SD	0.46	0.00	0.38	0.51	0.51	0.49	0.35	0.46

Panel Member Responses Frequency of Occurrence by Competency – Continued

	Perspective	Practice Standards	Prioritization	Problem solving	Productivity measures	Research-based care practices	Stress management	Teaching-learning theories
A1	2	2	1	1	1	2	2	2
A2	1	1	1	1	2	2	2	1
A3	2	1	1	1	2	2	2	2
A4	2	2	1	1	1	2	2	2
A5	1	1	1	1	1	2	2	2
M1	2	2	1	1	2	2	1	2
M2	2	2	1	2	2	2	1	2
M3	2	1	2	2	2	2	2	2
M4	1	1	1	1	1	1	1	2
M5	2	2	1	1	1	2	2	2
M6	2	2	1	1	2	2	2	1
M7	2	1	1	2	1	2	1	1
M8	2	1	2	1	2	2	1	2
M9	1	1	1	1	2	2	1	2
M10	2	1	1	1	2	2	1	2
Mean	1.73	1.40	1.13	1.20	1.60	1.93	1.53	1.80
SD	0.46	0.51	0.35	0.41	0.51	0.26	0.52	0.41

Panel Member Responses Frequency of Occurrence by Panel Member

	A1	A2	A3	A4	A5
Administrative Theories	3	2	3	3	1
Budget Forecasting	2	4	2	2	1
Conflict Resolution	1	1	1	1	1
Decision-Making	1	1	1	1	1
Delegation	1	2	1	1	1
Effective Communication	1	1	1	1	1
Effective Discipline	2	2	2	2	1
Effective Staffing Strategies	2	1	2	2	1
Equanimity	1	1	1	1	1
Ethical principals	1	1	1	1	1
Financial Resource Procurement	2	2	2	2	2
Humor	1	2	2	1	1
Information systems	1	2	2	1	1
Involvement	1	1	1	1	1
Optimism	1	1	1	1	1
Organization of unit work	2	1	2	2	1
Perspective	2	1	2	2	1
Practice Standards	2	1	1	2	1
Prioritization	1	1	1	1	1
Problem solving	1	1	1	1	1
Productivity measures	1	2	2	1	1
Research-based care practices	2	2	2	2	2
Stress management	2	2	2	2	2
Teaching-learning theories	2	1	2	2	2

Panel Member Responses Frequency of Occurrence by Panel Member - Continued

	M1	M2	M3	M4	M5
Administrative Theories	2	2	4	1	3
Budget Forecasting	2	4	5	1	2
Conflict Resolution	1	1	1	1	1
Decision-Making	1	1	1	1	1
Delegation	1	2	1	1	1
Effective Communication	1	1	1	1	1
Effective Discipline	1	1	1	1	2
Effective Staffing Strategies	1	2	2	2	2
Equanimity	1	2	2	2	1
Ethical principals	1	1	1	1	1
Financial Resource Procurement	2	2	2	1	2
Humor	1	2	1	2	1
Information systems	2	2	2	2	1
Involvement	2	1	2	1	1
Optimism	1	1	2	1	1
Organization of unit work	1	2	2	2	2
Perspective	2	2	2	1	2
Practice Standards	2	2	1	1	2
Prioritization	1	1	2	1	1
Problem solving	1	2	2	1	1
Productivity measures	2	2	2	1	1
Research-based care practices	2	2	2	1	2
Stress management	1	1	2	1	2
Teaching-learning theories	2	2	2	2	2

Panel Member Responses Frequency of Occurrence by Panel Member - Continued

	M6	M7	M8	M9	M10
Administrative Theories	4	2	3	2	2
Budget Forecasting	3	1	2	2	2
Conflict Resolution	1	1	1	2	1
Decision-Making	1	2	1	1	1
Delegation	2	1	2	2	1
Effective Communication	1	1	1	1	1
Effective Discipline	2	1	3	2	1
Effective Staffing Strategies	2	1	2	1	1
Equanimity	1	1	1	2	1
Ethical principals	1	1	1	1	1
Financial Resource Procurement	2	2	3	2	2
Humor	2	2	2	2	2
Information systems	2	1	2	1	2
Involvement	1	2	2	1	2
Optimism	1	2	1	1	1
Organization of unit work	2	2	2	1	2
Perspective	2	2	2	1	2
Practice Standards	2	1	1	1	1
Prioritization	1	1	2	1	1
Problem solving	1	2	1	1	1
Productivity measures	2	1	2	2	2
Research-based care practices	2	2	2	2	2
Stress management	2	1	1	1	1
Teaching-learning theories	1	1	2	2	2

APPENDIX H

ROUND THREE SURVEY INSTRUMENT

Round Three Survey E-mail

Dear Participants,

The study is entering the last phase, round three (3). All responses received in the previous rounds have been aggregated and are returned for your rating input. Each category has the average rating received through the second round. The rating is listed under the column titled ***Previous Rating***.

There are four (4) spreadsheets. For round three (3), please review the average rating score. After reviewing the average ratings and comments, please complete the three (3) the attached Excel spreadsheets (DSHS **Competency Cluster Importance, DSHS Competency Cluster Criticality, and DSHS Competency Cluster Frequency of Occurrence)** by independently rating each response and adding any comments in the reason for selection column using the following scale:

DSHS Competency Cluster Importance
1 = Very important
2 = Important
3 = Neither important nor unimportant
4 = Unimportant
5 = Very unimportant.

DSHS Competency Cluster Criticality
1 = Critical
2 = Very Important
3 = Reasonably Important
4 =Somewhat Important
5 = Not Important

DSHS Competency Cluster Frequency of Occurrence
1 = Frequently
2 = Occasionally
3 = Seldom
4 = Never
5 = Not Sure

In addition, please complete the **DSHS Required for Hire Competency Cluster** spreadsheet by clicking either (**Yes or No**) as to if the competency is required before hiring. Also, I have attached a demographic spreadsheet for your input. <u>If you did not complete the demographic data sheet before, please complete it with this round.</u> It is very important to the study. Please return the completed spreadsheets to me using E-mail by Saturday.

Round Three Survey E-mail - Continued

We are almost complete. Thank you for your support. I know we will have a great outcome. Once again, I know people are busy, thanks for your input.

If you have any questions after reading the information provided, please feel free to contact me by E-mail at xxxxx@xxxxxxxx with a subject title of **DSHS study** or at my home number of xxx-xxx-xxxx. Thank you.

Joseph Harrison, Jr.

Frequency of Occurrence

Future Personal Attributes and Job Competencies Needed by the DSHS, State Hospital Section Registered Nurse Managers
(**Competency Clusters Rating for Frequency of Occurrence**)

Rating	Previous Rating	Competency Cluster Description	Previous Reasons for Selection	Reason for Selection
	2.467	Administrative Theories	The transition into a mid or upper management position would be easier if there was more information provided on Administrative Theories.	
	2.333	Budget Forecasting	Most have had little budget experience until the NM level. Money is always a factor	
	1.200	Conflict Resolution	Must deal with this weekly: The workplace stress creates conflict, Nurse/doctor; nurse/nurse; nurse/subordinate staff; MHW/MHW; nurse/other department, etc. There is an almost constant need for this at the NM level. A large part of the day is utilizing this skill.	
	1.133	Decision-Making	The nursing staff depend on the manager to make decisions. An effective manager is able to utilize their frame of reference & knowledge base to help them digest infromation in a way that it can be formulated into a decision. Need for decisions regarding pt care, staff problems with flexibility yet decisiveness and sound judgement. Many decisions are made at this level with a huge amount of autonomy.	
	1.267	Delegation	The job is too big for one person to do all that is demanded. Must be able to delegate in order to do the job. Effective delegation is critical to being an effective NM.	
	1.000	Effective Communication	NM's must communicate effectively with superiors and subordinates in order to do their job.Verbal communication is frequently garbled as it cascades down to lower level staff. Written communication must be written so it is clear to the lowest level of staff that it effects. Needs to be diplomatic.	
	1.800	Effective discipline	Know how to use discipline to improve a person's work behavior and encourage team building. All significant disciplinary issues are taken care of at the NM level. With HR's re-vamping, it is even a bigger issue because on-site HR support will not be available in the near future.	
	1.667	Effective Staffing Strategies	Flexible & effective staffing strategies; DSHS will continue to work with less staff as money for MH decreases in TX	
	1.333	Equanimity	The ability to remain calm in tough circumstances gives staff confidence in themselves and you.	
	1.000	Ethical principals	You must have a high standard for yourself and expect no less from your coworkers and expect the best and do not settle for less. This should already be evident before someone is given a supervisory position. A cursory knowledge of ethics is pivital! Standards, staffing, decision making, problem solving & conflict resolution all underpinned by ethical principles.	
	2.133	Financial Resource Procurement	There is competition for all resources. Because nursing services is the largest department it is frequently seen as the place to balance the budget. Must be able to give convincing rationale for preserving or increasing financial resources for nursing in order to recruit and retain quality nurses.	
	1.667	Humor	Very important to your mental and physical well being and ability to lead and take orders. You must be able to unwind, relax, and laugh. If you do not have a positive attitude you will soon burn out with all the daily problems you encounter. Important for dealing with the stress as well as helping others deal with stressful times and situations	

Frequency of Occurrence - Continued

	1.667	Information systems	Pulling and analyzing data; with so much on the computer now, NM must be computer literate. Can increase productivity.	
	1.333	Involvement	Visiting with the staff in their work environment pays dividends.	
	1.200	Optimism	Have to be able to inspire others to share the programs vision. That is very difficult even with an optimistic approach. Nursing is continuously changing.	
	1.733	Organization of unit work	This is important, but each unit runs so differently--even within the guidelines of the same policies and procedures.	
	1.733	Perspective	The ability to recognize the relative significance of challenges keeps molehills from becoming mountains.	
	1.333	Practice Standards	Fundamental knowledge of standards is essential.	
	1.267	Prioritization	Must be able to determine where to put your greatest energy. Related to delegation in that lesser tasks can be delegated.	
	1.133	Problem solving	A cousin to Conflict Resolution. Must be able to problem solve, manage stress and utilize conflict resolution skills. Critical for leading, assessing, and care of your unit/department. When done effectively it can built a cohesive team.	
	1.600	Productivity measures	This is critical to being able to measure goals and objectives and performance indicators. Awareness of how to make the best use out of limited resources including limited staff.	
	1.933	Research-based care practices	need ability to learn and apply latest research in MH care i.e. reducing incidents of restraints	
	1.600	Stress management	Stress management is extremely important and every manager has to have an effective means for reducing and managing stress. Pivital skill…If one cannot manage their own stress then it would be difficult to help others manage theirs.	
	1.867	Teaching-learning theories	Necessary to share information with all levels of staff to improve pt care.	

Importance

Future Personal Attributes and Job Competencies Needed by theDSHS, State Hospital Section Registered Nurse Managers
(Competency Clusters Rating for Importance)

Previous Rating	Competency Cluster Description	Previous Reasons Provided for Selection	Reason for Selection
2.600	Administrative Theories	The transition into a mid or upper management position would be easier if there was more information provided on Administrative Theories.	
2.667	Budget Forecasting	Most have had little budget experience until the NM level. Money is always a factor	
1.133	Conflict Resolution	Must deal with this weekly: The workplace stress creates conflict, Nurse/doctor; nurse/nurse; nurse/subordinate staff; MHW/MHW; nurse/other department, etc. There is an almost constant need for this at the NM level. A large part of the day is utilizing this skill.	
1.000	Decision-Making	The nursing staff depend on the manager to make decisions. An effective manager is able to utilize their frame of reference & knowledge base to help them digest infromation in a way that it can be formulated into a decision. Need for decisions regarding pt care, staff problems with flexibility yet decisiveness and sound judgement. Many decisions are made at this level with a huge amount of autonomy.	
1.667	Delegation	The job is too big for one person to do all that is demanded. Must be able to delegate in order to do the job. Effective delegation is critical to being an effective NM.	
1.133	Effective Communication	NM's must communicate effectively with superiors and subordinates in order to do their job.Verbal communication is frequently garbled as it cascades down to lower level staff. Written communication must be written so it is clear to the lowest level of staff that it effects. Needs to be diplomatic.	
1.667	Effective discipline	Know how to use discipline to improve a person's work behavior and encourage team building. All significant disciplinary issues are taken care of at the NM level. With HR's re-vamping, it is even a bigger issue because on-site HR support will not be available in the near future.	
1.667	Effective Staffing Strategies	Flexible & effective staffing strategies; DSHS will continue to work with less staff as money for MH decreases in TX	
1.667	Equanimity	The ability to remain calm in tough circumstances gives staff confidence in themselves and you.	
1.267	Ethical principals	You must have a high standard for yourself and expect no less from your coworkers and expect the best and do not settle for less. This should already be evident before someone is given a supervisory position. A cursory knowledge of ethics is pivital! Standards, staffing, decision making, problem solving & conflict resolution all underpinned by ethical principles.	
1.800	Financial Resource Procurement	There is competition for all resources. Because nursing services is the largest department it is frequently seen as the place to balance the budget. Must be able to give convincing rationale for preserving or increasing financial resources for nursing in order to recruit and retain quality nurses.	
1.600	Humor	Very important to your mental and physical well being and ability to lead and take orders. You must be able to unwind, relax, and laugh. If you do not have a positive attitude you will soon burn out with all the daily problems you encounter. Important for dealing with the stress as well as helping others deal with stressful times and situations	

Importance - Continued

	2.000	Information systems	Pulling and analyzing data; with so much on the computer now, NM must be computer literate. Can increase productivity.	
	1.800	Involvement	Visiting with the staff in their work environment pays dividends.	
	1.600	Optimism	Have to be able to inspire others to share the programs vision. That is very difficult even with an optimistic approach. Nursing is continuously changing.	
	2.133	Organization of unit work	This is important, but each unit runs so differently--even within the guidelines of the same policies and procedures.	
	2.000	Perspective	The ability to recognize the relative significance of challenges keeps molehills from becoming mountains.	
	1.600	Practice Standards	Fundamental knowledge of standards is essential.	
	1.333	Prioritization	Must be able to determine where to put your greatest energy. Related to delegation in that lesser tasks can be delegated.	
	1.133	Problem solving	A cousin to Conflict Resolution. Must be able to problem solve, manage stress and utilize conflict resolution skills. Critical for leading, assessing, and care of your unit/department. When done effectively it can built a cohesive team.	
	1.933	Productivity measures	This is critical to being able to measure goals and objectives and performance indicators. Awareness of how to make the best use out of limited resources including limited staff.	
	2.000	Research-based care practices	need ability to learn and apply latest research in MH care i.e. reducing incidents of restraints	
	1.867	Stress management	Stress management is extremely important and every manager has to have an effective means for reducing and managing stress. Pivital skill…If one cannot manage their own stress then it would be difficult to help others manage theirs.	
	2.133	Teaching-learning theories	Necessary to share information with all levels of staff to improve pt care.	

Criticality

Future Personal Attributes and Job Competencies Needed by the DSHS, State Hospital Section Registered Nurse Managers
(**Competency Clusters Rating for Criticality**)

Rating	Previous Rating	Competency Cluster Description	Previous Reasons Provided for Selection	Reason for Selection
	3.267	Administrative Theories	The transition into a mid or upper management position would be easier if there was more information provided on Administrative Theories.	
	3.467	Budget Forecasting	Most have had little budget experience until the NM level. Money is always a factor	
	1.333	Conflict Resolution	Must deal with this weekly: The workplace stress creates conflict, Nurse/doctor; nurse/nurse; nurse/subordinate staff; MHW/MHW; nurse/other department, etc. There is an almost constant need for this at the NM level. A large part of the day is utilizing this skill.	
	1.267	Decision-Making	The nursing staff depend on the manager to make decisions. An effective manager is able to utilize their frame of reference & knowledge base to help them digest infromation in a way that it can be formulated into a decision. Need for decisions regarding pt care, staff problems with flexibility yet decisiveness and sound judgement. Many decisions are made at this level with a huge amount of autonomy.	
	2.000	Delegation	The job is too big for one person to do all that is demanded. Must be able to delegate in order to do the job. Effective delegation is critical to being an effective NM.	
	1.267	Effective Communication	NM's must communicate effectively with superiors and subordinates in order to do their job.Verbal communication is frequently garbled as it cascades down to lower level staff. Written communication must be written so it is clear to the lowest level of staff that it effects. Needs to be diplomatic.	
	1.667	Effective discipline	Know how to use discipline to improve a person's work behavior and encourage team building. All significant disciplinary issues are taken care of at the NM level. With HR's re-vamping, it is even a bigger issue because on-site HR support will not be available in the near future.	
	1.800	Effective Staffing Strategies	Flexible & effective staffing strategies; DSHS will continue to work with less staff as money for MH decreases in TX	
	2.267	Equanimity	The ability to remain calm in tough circumstances gives staff confidence in themselves and you.	
	1.467	Ethical principals	You must have a high standard for yourself and expect no less from your coworkers and expect the best and do not settle for less. This should already be evident before someone is given a supervisory position. A cursory knowledge of ethics is pivital! Standards, staffing, decision making, problem solving & conflict resolution all underpinned by ethical principles.	
	2.600	Financial Resource Procurement	There is competition for all resources. Because nursing services is the largest department it is frequently seen as the place to balance the budget. Must be able to give convincing rationale for preserving or increasing financial resources for nursing in order to recruit and retain quality nurses.	
	2.467	Humor	Very important to your mental and physical well being and ability to lead and take orders. You must be able to unwind, relax, and laugh. If you do not have a positive attitude you will soon burn out with all the daily problems you encounter. Important for dealing with the stress as well as helping others deal with stressful times and situations	

Criticality - Continued

	2.000	Information systems	Pulling and analyzing data; with so much on the computer now, NM must be computer literate. Can increase productivity.	
	2.133	Involvement	Visiting with the staff in their work environment pays dividends.	
	2.000	Optimism	Have to be able to inspire others to share the programs vision. That is very difficult even with an optimistic approach. Nursing is continuously changing.	
	2.267	Organization of unit work	This is important, but each unit runs so differently--even within the guidelines of the same policies and procedures.	
	1.733	Perspective	The ability to recognize the relative significance of challenges keeps molehills from becoming mountains.	
	1.600	Practice Standards	Fundamental knowledge of standards is essential.	
	1.933	Prioritization	Must be able to determine where to put your greatest energy. Related to delegation in that lesser tasks can be delegated.	
	1.600	Problem solving	A cousin to Conflict Resolution. Must be able to problem solve, manage stress and utilize conflict resolution skills. Critical for leading, assessing, and care of your unit/department. When done effectively it can built a cohesive team.	
	2.467	Productivity measures	This is critical to being able to measure goals and objectives and performance indicators. Awareness of how to make the best use out of limited resources including limited staff.	
	2.667	Research-based care practices	need ability to learn and apply latest research in MH care i.e. reducing incidents of restraints	
	2.400	Stress management	Stress management is extremely important and every manager has to have an effective means for reducing and managing stress. Pivital skill…If one cannot manage their own stress then it would be difficult to help others manage theirs.	
	2.467	Teaching-learning theories	Necessary to share information with all levels of staff to improve pt care.	

Required For Hire

Future Personal Attributes and Job Competencies Needed by the DSHS, State Hospital Section Registered Nurse Managers
(**Competency Clusters Rating Required for Hire**)

Required for Hire	Competency Cluster Description	Previous Reasons Provided for Selection
	Administrative Theories	The transition into a mid or upper management position would be easier if there was more information provided on Administrative Theories.
	Budget Forecasting	Most have had little budget experience until the NM level. Money is always a factor
	Conflict Resolution	Must deal with this weekly: The workplace stress creates conflict, Nurse/doctor; nurse/nurse; nurse/subordinate staff; MHW/MHW; nurse/other department, etc. There is an almost constant need for this at the NM level. A large part of the day is utilizing this skill.
	Decision-Making	The nursing staff depend on the manager to make decisions. An effective manager is able to utilize their frame of reference & knowledge base to help them digest infromation in a way that it can be formulated into a decision. Need for decisions regarding pt care, staff problems with flexibility yet decisiveness and sound judgement. Many decisions are made at this level with a huge amount of autonomy.
	Delegation	The job is too big for one person to do all that is demanded. Must be able to delegate in order to do the job. Effective delegation is critical to being an effective NM.
	Effective Communication	NM's must communicate effectively with superiors and subordinates in order to do their job.Verbal communication is frequently garbled as it cascades down to lower level staff. Written communication must be written so it is clear to the lowest level of staff that it effects. Needs to be diplomatic.
	Effective discipline	Know how to use discipline to improve a person's work behavior and encourage team building. All significant disciplinary issues are taken care of at the NM level. With HR's re-vamping, it is even a bigger issue because on-site HR support will not be available in the near future.
	Effective Staffing Strategies	Flexible & effective staffing strategies; DSHS will continue to work with less staff as money for MH decreases in TX
	Equanimity	The ability to remain calm in tough circumstances gives staff confidence in themselves and you.
	Ethical principals	You must have a high standard for yourself and expect no less from your coworkers and expect the best and do not settle for less. This should already be evident before someone is given a supervisory position. A cursory knowledge of ethics is pivital! Standards, staffing, decision making, problem solving & conflict resolution all underpinned by ethical principles.
	Financial Resource Procurement	There is competition for all resources. Because nursing services is the largest department it is frequently seen as the place to balance the budget. Must be able to give convincing rationale for preserving or increasing financial resources for nursing in order to recruit and retain quality nurses.
	Humor	Very important to your mental and physical well being and ability to lead and take orders. You must be able to unwind, relax, and laugh. If you do not have a positive attitude you will soon burn out with all the daily problems you encounter. Important for dealing with the stress as well as helping others deal with stressful times and situations

Required For Hire - Continued

	Information systems	Pulling and analyzing data; with so much on the computer now, NM must be computer literate. Can increase productivity.
	Involvement	Visiting with the staff in their work environment pays dividends.
	Optimism	Have to be able to inspire others to share the programs vision. That is very difficult even with an optimistic approach. Nursing is continuously changing.
	Organization of unit work	This is important, but each unit runs so differently--even within the guidelines of the same policies and procedures.
	Perspective	The ability to recognize the relative significance of challenges keeps molehills from becoming mountains.
	Practice Standards	Fundamental knowledge of standards is essential.
	Prioritization	Must be able to determine where to put your greatest energy. Related to delegation in that lesser tasks can be delegated.
	Problem solving	A cousin to Conflict Resolution. Must be able to problem solve, manage stress and utilize conflict resolution skills. Critical for leading, assessing, and care of your unit/department. When done effectively it can built a cohesive team.
	Productivity measures	This is critical to being able to measure goals and objectives and performance indicators. Awareness of how to make the best use out of limited resources including limited staff.
	Research-based care practices	need ability to learn and apply latest research in MH care i.e. reducing incidents of restraints
	Stress management	Stress management is extremely important and every manager has to have an effective means for reducing and managing stress. Pivital skill... If one cannot manage their own stress then it would be difficult to help others manage theirs.
	Teaching-learning theories	Necessary to share information with all levels of staff to improve pt care.

APPENDIX I

ROUND THREE PANEL MEMBER RESPONSES

Panel Member Responses Importance by Competency

	Administrative Theories	Budget Forecasting	Conflict Resolution	Decision-Making	Delegation	Effective Communication	Effective Discipline
A1	4	2	1	1	2	2	2
A2	2	5	1	1	2	1	2
A3	3	1	1	1	2	1	1
A4	3	2	1	1	2	2	2
A5	2	2	1	2	2	2	1
M1	2	2	1	1	1	1	1
M2	2	3	2	1	2	1	2
M3	3	2	1	1	2	2	2
M4	1	1	1	1	1	1	1
M5	3	2	1	1	2	1	3
M6	3	3	1	1	2	1	2
M7	2	2	2	1	1	1	1
M8	3	2	1	1	2	1	2
M9	2	2	1	1	1	1	1
M10	2	2	2	1	1	1	1
Mean	2.47	2.20	1.20	1.07	1.67	1.27	1.60
SD	0.74	0.94	0.41	0.26	0.49	0.46	0.63

Panel Member Responses Importance by Competency - Continued

	Effective Staffing Strategies	Equanimity	Ethical principals	Financial Resource Procurement	Humor	Information systems	Involvement	Optimism	Organization of unit work
A1	2	3	1	3	3	3	2	3	2
A2	1	2	1	2	2	2	2	2	2
A3	1	2	1	2	2	2	2	2	2
A4	1	3	1	3	3	2	2	2	2
A5	1	1	2	2	2	1	1	2	2
M1	2	1	2	2	2	3	1	1	2
M2	1	2	1	3	2	2	1	1	2
M3	1	2	1	2	1	2	2	2	2
M4	1	2	1	2	2	1	2	1	1
M5	2	1	1	3	2	2	2	1	2
M6	2	2	1	2	2	2	2	2	2
M7	2	1	1	2	1	1	2	2	2
M8	2	1	1	2	1	2	1	1	2
M9	1	1	1	2	2	1	1	1	1
M10	2	1	1	2	1	1	2	2	2
Mean	1.47	1.67	1.13	2.27	1.87	1.80	1.67	1.67	1.87
SD	0.52	0.72	0.35	0.46	0.64	0.68	0.49	0.62	0.35

Panel Member Responses Importance by Competency - Continued

	Perspective	Practice Standards	Prioritization	Problem solving	Productivity measures	Research-based care practices	Stress management	Teaching-learning theories
A1	2	2	2	1	3	3	2	4
A2	2	1	1	1	2	2	3	1
A3	1	1	2	1	2	3	2	3
A4	2	1	2	1	3	3	2	3
A5	1	2	2	2	2	2	2	2
M1	2	2	2	1	3	2	1	3
M2	2	1	2	2	2	3	3	2
M3	2	1	2	2	2	2	2	2
M4	1	2	1	1	2	2	2	2
M5	2	1	2	1	2	2	1	2
M6	2	2	1	1	2	2	2	2
M7	2	1	2	1	2	2	2	2
M8	2	1	1	1	2	2	2	2
M9	1	1	2	1	2	1	1	2
M10	2	1	2	1	2	2	2	2
Mean	1.73	1.33	1.73	1.20	2.20	2.20	1.93	2.27
SD	0.46	0.49	0.46	0.41	0.41	0.56	0.59	0.70

Panel Member Responses Importance by Panel Member

	A1	A2	A3	A4	A5
Administrative Theories	4	2	3	3	2
Budget Forecasting	2	5	1	2	2
Conflict Resolution	1	1	1	1	1
Decision-Making	1	1	1	1	2
Delegation	2	2	2	2	2
Effective Communication	2	1	1	2	2
Effective Discipline	2	2	1	2	1
Effective Staffing Strategies	2	1	1	1	1
Equanimity	3	2	2	3	1
Ethical principals	1	1	1	1	2
Financial Resource Procurement	3	2	2	3	2
Humor	3	2	2	3	2
Information systems	3	2	2	2	1
Involvement	2	2	2	2	1
Optimism	3	2	2	2	2
Organization of unit work	2	2	2	2	2
Perspective	2	2	1	2	1
Practice Standards	2	1	1	1	2
Prioritization	2	1	2	2	2
Problem solving	1	1	1	1	2
Productivity measures	3	2	2	3	2
Research-based care practices	3	2	3	3	2
Stress management	2	3	2	2	2
Teaching-learning theories	4	1	3	3	2

Panel Member Responses Importance by Panel Member - Continued

	M1	M2	M3	M4	M5
Administrative Theories	2	2	3	1	3
Budget Forecasting	2	3	2	1	2
Conflict Resolution	1	2	1	1	1
Decision-Making	1	1	1	1	1
Delegation	1	2	2	1	2
Effective Communication	1	1	2	1	1
Effective Discipline	1	2	2	1	3
Effective Staffing Strategies	2	1	1	1	2
Equanimity	1	2	2	2	1
Ethical principals	2	1	1	1	1
Financial Resource Procurement	2	3	2	2	3
Humor	2	2	1	2	2
Information systems	3	2	2	1	2
Involvement	1	1	2	2	2
Optimism	1	1	2	1	1
Organization of unit work	2	2	2	1	2
Perspective	2	2	2	1	2
Practice Standards	2	1	1	2	1
Prioritization	2	2	2	1	2
Problem solving	1	2	2	1	1
Productivity measures	3	2	2	2	2
Research-based care practices	2	3	2	2	2
Stress management	1	3	2	2	1
Teaching-learning theories	3	2	2	2	2

Panel Member Responses Importance by Panel Member - Continued

	M6	M7	M8	M9	M10
Administrative Theories	3	2	3	2	2
Budget Forecasting	3	2	2	2	2
Conflict Resolution	1	2	1	1	2
Decision-Making	1	1	1	1	1
Delegation	2	1	2	1	1
Effective Communication	1	1	1	1	1
Effective Discipline	2	1	2	1	1
Effective Staffing Strategies	2	2	2	1	2
Equanimity	2	1	1	1	1
Ethical principals	1	1	1	1	1
Financial Resource Procurement	2	2	2	2	2
Humor	2	1	1	2	1
Information systems	2	1	2	1	1
Involvement	2	2	1	1	2
Optimism	2	2	1	1	2
Organization of unit work	2	2	2	1	2
Perspective	2	2	2	1	2
Practice Standards	2	1	1	1	1
Prioritization	1	2	1	2	2
Problem solving	1	1	1	1	1
Productivity measures	2	2	2	2	2
Research-based care practices	2	2	2	1	2
Stress management	2	2	2	1	2
Teaching-learning theories	2	2	2	2	2

Panel Member Responses Criticality by Competency

	Administrative Theories	Budget Forecasting	Conflict Resolution	Decision-Making	Delegation	Effective Communication
A1	4	4	1	1	1	2
A2	2	5	1	1	2	1
A3	3	3	1	2	2	1
A4	4	3	1	1	2	2
A5	4	3	2	2	3	1
M1	3	3	1	2	2	2
M2	2	3	2	1	2	1
M3	4	5	1	1	1	1
M4	2	2	1	1	2	1
M5	3	3	3	3	2	1
M6	4	3	1	1	2	2
M7	2	3	1	1	2	1
M8	3	3	1	1	2	1
M9	3	2	2	1	2	1
M10	4	5	1	1	1	1
Mean	3.13	3.33	1.33	1.33	1.87	1.27
SD	0.83	0.98	0.62	0.62	0.52	0.46

Panel Member Responses Criticality by Competency - Continued

	Effective Discipline	Effective Staffing Strategies	Equanimity	Ethical principals	Financial Resource Procurement	Humor	Information systems	Involvement	Optimism	Organization of unit work
A1	2	2	3	2	4	4	3	3	3	2
A2	2	1	3	1	4	4	3	3	3	2
A3	3	2	3	2	1	2	2	2	3	3
A4	2	2	3	2	3	4	2	3	3	2
A5	1	1	2	2	2	2	1	1	2	2
M1	1	2	1	2	2	2	2	2	2	2
M2	2	1	2	1	3	2	2	2	2	2
M3	1	2	2	1	2	1	2	2	2	2
M4	1	1	2	1	2	2	1	2	2	1
M5	1	1	2	2	3	4	1	1	1	2
M6	2	2	3	2	2	3	2	3	3	2
M7	1	2	1	1	2	2	1	2	2	2
M8	2	2	1	1	3	1	2	2	1	3
M9	1	2	1	1	2	2	1	1	1	2
M10	1	2	2	1	2	1	2	2	2	2
Mean	1.53	1.67	2.07	1.47	2.47	2.40	1.80	2.07	2.13	2.07
SD	0.64	0.49	0.80	0.52	0.83	1.12	0.68	0.70	0.74	0.46

Panel Member Responses Criticality by Competency - Continued

	Perspective	Practice Standards	Prioritization	Problem solving	Productivity measures	Research-based care practices	Stress management	Teaching-learning theories
A1	2	2	2	1	4	4	3	4
A2	2	1	2	1	3	3	4	2
A3	2	1	3	2	2	3	2	4
A4	2	2	2	2	3	3	3	3
A5	1	2	1	2	3	3	2	3
M1	2	2	1	2	3	3	1	3
M2	1	1	2	1	2	3	3	2
M3	2	1	2	2	2	2	2	2
M4	2	2	1	1	2	2	2	2
M5	1	2	2	3	3	3	4	3
M6	2	2	2	1	2	3	3	3
M7	1	1	2	1	2	2	2	2
M8	2	1	2	1	3	2	1	2
M9	1	1	1	1	2	2	1	2
M10	2	1	2	2	2	2	2	2
Mean	1.67	1.47	1.80	1.53	2.53	2.67	2.33	2.60
SD	0.49	0.52	0.56	0.64	0.64	0.62	0.98	0.74

Panel Member Responses Criticality by Panel Member

	A1	A2	A3	A4	A5
Administrative Theories	4	2	3	4	4
Budget Forecasting	4	5	3	3	3
Conflict Resolution	1	1	1	1	2
Decision-Making	1	1	2	1	2
Delegation	1	2	2	2	3
Effective Communication	2	1	1	2	1
Effective Discipline	2	2	3	2	1
Effective Staffing Strategies	2	1	2	2	1
Equanimity	3	3	3	3	2
Ethical principals	2	1	2	2	2
Financial Resource Procurement	4	4	1	3	2
Humor	4	4	2	4	2
Information systems	3	3	2	2	1
Involvement	3	3	2	3	1
Optimism	3	3	3	3	2
Organization of unit work	2	2	3	2	2
Perspective	2	2	2	2	1
Practice Standards	2	1	1	2	2
Prioritization	2	2	3	2	1
Problem solving	1	1	2	2	2
Productivity measures	4	3	2	3	3
Research-based care practices	4	3	3	3	3
Stress management	3	4	2	3	2
Teaching-learning theories	4	2	4	3	3

Panel Member Responses Criticality by Panel Member - Continued

	M1	M2	M3	M4	M5
Administrative Theories	3	2	4	2	3
Budget Forecasting	3	3	5	2	3
Conflict Resolution	1	2	1	1	3
Decision-Making	2	1	1	1	3
Delegation	2	2	1	2	2
Effective Communication	2	1	1	1	1
Effective Discipline	1	2	1	1	1
Effective Staffing Strategies	2	1	2	1	1
Equanimity	1	2	2	2	2
Ethical principals	2	1	1	1	2
Financial Resource Procurement	2	3	2	2	3
Humor	2	2	1	2	4
Information systems	2	2	2	1	1
Involvement	2	2	2	2	1
Optimism	2	2	2	2	1
Organization of unit work	2	2	2	1	2
Perspective	2	1	2	2	1
Practice Standards	2	1	1	2	2
Prioritization	1	2	2	1	2
Problem solving	2	1	2	1	3
Productivity measures	3	2	2	2	3
Research-based care practices	3	3	2	2	3
Stress management	1	3	2	2	4
Teaching-learning theories	3	2	2	2	3

Panel Member Responses Criticality by Panel Member - Continued

	M6	M7	M8	M9	M10
Administrative Theories	4	2	3	3	4
Budget Forecasting	3	3	3	2	5
Conflict Resolution	1	1	1	2	1
Decision-Making	1	1	1	1	1
Delegation	2	2	2	2	1
Effective Communication	2	1	1	1	1
Effective Discipline	2	1	2	1	1
Effective Staffing Strategies	2	2	2	2	2
Equanimity	3	1	1	1	2
Ethical principals	2	1	1	1	1
Financial Resource Procurement	2	2	3	2	2
Humor	3	2	1	2	1
Information systems	2	1	2	1	2
Involvement	3	2	2	1	2
Optimism	3	2	1	1	2
Organization of unit work	2	2	3	2	2
Perspective	2	1	2	1	2
Practice Standards	2	1	1	1	1
Prioritization	2	2	2	1	2
Problem solving	1	1	1	1	2
Productivity measures	2	2	3	2	2
Research-based care practices	3	2	2	2	2
Stress management	3	2	1	1	2
Teaching-learning theories	3	2	2	2	2

Panel Member Responses Frequency of Occurrence by Competency

	Administrative Theories	Budget Forecasting	Conflict Resolution	Decision-Making	Delegation	Effective Communication	Effective Discipline	Effective Staffing Strategies
A1	3	2	1	1	1	1	1	1
A2	2	4	1	1	2	1	2	1
A3	2	2	1	1	1	1	1	1
A4	3	2	2	1	1	1	2	2
A5	3	2	1	1	1	1	1	1
M1	2	2	1	1	1	1	1	2
M2	2	3	2	1	2	1	2	1
M3	4	5	1	1	1	1	1	2
M4	2	1	1	1	1	1	1	1
M5	3	2	1	1	2	1	3	2
M6	3	4	1	1	1	1	2	2
M7	2	1	1	2	1	1	1	1
M8	3	2	1	1	2	1	2	2
M9	2	2	2	1	1	1	1	1
M10	2	2	2	1	1	1	1	2
Mean	2.53	2.40	1.27	1.07	1.27	1.00	1.47	1.47
SD	0.64	1.12	0.46	0.26	0.46	0.00	0.64	0.52

Panel Member Responses Frequency of Occurrence by Competency - Continued

	Equanimity	Ethical principals	Financial Resource Procurement	Humor	Information systems	Involvement	Optimism	Organization of unit work
A1	2	1	2	2	2	2	2	2
A2	1	1	2	2	2	1	1	1
A3	1	1	2	2	1	2	2	2
A4	2	1	2	2	2	1	2	2
A5	2	2	2	2	1	1	2	1
M1	1	1	2	1	2	1	1	2
M2	2	1	3	1	1	1	1	2
M3	2	1	2	1	2	2	2	2
M4	1	1	1	2	1	1	1	2
M5	1	1	3	2	2	2	1	2
M6	1	1	3	2	2	2	1	2
M7	1	1	2	2	1	2	2	2
M8	1	1	2	1	1	1	1	2
M9	1	1	2	2	1	1	1	1
M10	1	1	2	1	1	2	2	2
Mean	1.33	1.07	2.13	1.67	1.47	1.47	1.47	1.80
SD	0.49	0.26	0.52	0.49	0.52	0.52	0.52	0.41

Panel Member Responses Frequency of Occurrence by Competency - Continued

	Perspective	Practice Standards	Prioritization	Problem solving	Productivity measures	Research-based care practices	Stress management	Teaching-learning theories
A1	2	2	2	1	3	3	2	3
A2	1	1	1	1	2	2	2	1
A3	2	1	2	1	3	2	1	3
A4	2	2	1	1	1	2	2	2
A5	2	2	1	1	2	3	2	2
M1	1	1	1	1	1	2	1	2
M2	2	1	1	1	2	2	2	1
M3	2	1	2	2	2	2	2	2
M4	2	1	1	1	1	1	2	2
M5	2	1	2	1	2	2	1	2
M6	2	1	1	1	2	2	2	2
M7	2	1	1	2	1	2	1	1
M8	2	1	1	1	2	2	1	2
M9	1	1	1	1	1	1	1	2
M10	2	1	2	1	2	2	2	2
Mean	1.80	1.20	1.33	1.13	1.80	2.00	1.60	1.93
SD	0.41	0.41	0.49	0.35	0.68	0.53	0.51	0.59

Panel Member Responses Frequency of Occurrence by Panel Member

	A1	A2	A3	A4	A5
Administrative Theories	3	2	2	3	3
Budget Forecasting	2	4	2	2	2
Conflict Resolution	1	1	1	2	1
Decision-Making	1	1	1	1	1
Delegation	1	2	1	1	1
Effective Communication	1	1	1	1	1
Effective Discipline	1	2	1	2	1
Effective Staffing Strategies	1	1	1	2	1
Equanimity	2	1	1	2	2
Ethical principals	1	1	1	1	2
Financial Resource Procurement	2	2	2	2	2
Humor	2	2	2	2	2
Information systems	2	2	1	2	1
Involvement	2	1	2	1	1
Optimism	2	1	2	2	2
Organization of unit work	2	1	2	2	1
Perspective	2	1	2	2	2
Practice Standards	2	1	1	2	2
Prioritization	2	1	2	1	1
Problem solving	1	1	1	1	1
Productivity measures	3	2	3	1	2
Research-based care practices	3	2	2	2	3
Stress management	2	2	1	2	2
Teaching-learning theories	3	1	3	2	2

Panel Member Responses Frequency of Occurrence by Panel Member - Continued

	M1	M2	M3	M4	M5
Administrative Theories	2	2	4	2	3
Budget Forecasting	2	3	5	1	2
Conflict Resolution	1	2	1	1	1
Decision-Making	1	1	1	1	1
Delegation	1	2	1	1	2
Effective Communication	1	1	1	1	1
Effective Discipline	1	2	1	1	3
Effective Staffing Strategies	2	1	2	1	2
Equanimity	1	2	2	1	1
Ethical principals	1	1	1	1	1
Financial Resource Procurement	2	3	2	1	3
Humor	1	1	1	2	2
Information systems	2	1	2	1	2
Involvement	1	1	2	1	2
Optimism	1	1	2	1	1
Organization of unit work	2	2	2	2	2
Perspective	1	2	2	2	2
Practice Standards	1	1	1	1	1
Prioritization	1	1	2	1	2
Problem solving	1	1	2	1	1
Productivity measures	1	2	2	1	2
Research-based care practices	2	2	2	1	2
Stress management	1	2	2	2	1
Teaching-learning theories	2	1	2	2	2

Panel Member Responses Frequency of Occurrence by Panel Member - Continued

	M6	M7	M8	M9	M10
Administrative Theories	3	2	3	2	2
Budget Forecasting	4	1	2	2	2
Conflict Resolution	1	1	1	2	2
Decision-Making	1	2	1	1	1
Delegation	1	1	2	1	1
Effective Communication	1	1	1	1	1
Effective Discipline	2	1	2	1	1
Effective Staffing Strategies	2	1	2	1	2
Equanimity	1	1	1	1	1
Ethical principals	1	1	1	1	1
Financial Resource Procurement	3	2	2	2	2
Humor	2	2	1	2	1
Information systems	2	1	1	1	1
Involvement	2	2	1	1	2
Optimism	1	2	1	1	2
Organization of unit work	2	2	2	1	2
Perspective	2	2	2	1	2
Practice Standards	1	1	1	1	1
Prioritization	1	1	1	1	2
Problem solving	1	2	1	1	1
Productivity measures	2	1	2	1	2
Research-based care practices	2	2	2	1	2
Stress management	2	1	1	1	2
Teaching-learning theories	2	1	2	2	2

Panel Member Responses Required for Hire by Competency

	Administrative Theories	Budget Forecasting	Conflict Resolution	Decision-Making	Delegation	Effective Communication	Effective Discipline	Effective Staffing Strategies
A1	No	No	Yes	Yes	Yes	Yes	Yes	No
A2	No	No	Yes	Yes	No	Yes	Yes	Yes
A3	No	No	Yes	Yes	Yes	Yes	Yes	Yes
A4	No	No	Yes	Yes	No	Yes	Yes	Yes
A5	No	No	Yes	Yes	No	Yes	Yes	Yes
M1	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M2	No	No	Yes	Yes	No	Yes	Yes	Yes
M3	No	No	Yes	Yes	Yes	Yes	Yes	Yes
M4	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M5	No	No	Yes	Yes	No	Yes	Yes	Yes
M6	No	No	Yes	Yes	No	Yes	Yes	Yes
M7	No	No	Yes	Yes	No	Yes	Yes	Yes
M8	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M9	No	No	Yes	Yes	Yes	Yes	Yes	Yes
M10	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Percent Yes	0%	20%	100%	100%	53%	100%	100%	93%
Number of Yes	0	3	15	15	8	15	15	14

Panel Member Responses Required for Hire by Competency - Continued

	Equanimity	Ethical principals	Financial Resource Procurement	Humor	Information systems	Involvement	Optimism	Organization of unit work
A1	No	Yes	No	No	No	Yes	No	Yes
A2	Yes	Yes	No	No	Yes	Yes	Yes	No
A3	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
A4	Yes	Yes	No	No	Yes	Yes	Yes	No
A5	Yes	Yes	No	No	Yes	Yes	Yes	No
M1	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
M2	Yes	Yes	No	No	Yes	Yes	Yes	No
M3	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
M4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M5	Yes	Yes	No	No	Yes	Yes	Yes	No
M6	Yes	Yes	No	No	Yes	No	Yes	No
M7	Yes	Yes	No	Yes	Yes	Yes	Yes	No
M8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M9	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
M10	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Percent Yes	93%	100%	27%	53%	93%	80%	93%	53%
Number of Yes	14	15	4	8	14	12	14	8

Panel Member Responses Required for Hire by Competency - Continued

	Perspective	Practice Standards	Prioritization	Problem solving	Productivity measures	Research-based care practices	Stress management	Teaching-learning theories
A1	No	No	Yes	Yes	No	No	No	No
A2	Yes	Yes	No	Yes	No	No	No	No
A3	Yes	Yes	Yes	Yes	No	No	Yes	No
A4	Yes	Yes	No	Yes	No	No	No	No
A5	Yes	Yes	No	Yes	No	No	No	No
M1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M2	Yes	Yes	No	Yes	No	No	No	No
M3	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
M4	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
M5	Yes	Yes	No	Yes	No	No	No	No
M6	Yes	Yes	No	Yes	No	No	No	No
M7	Yes	Yes	No	Yes	No	No	No	No
M8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
M9	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
M10	Yes	Yes	Yes	Yes	No	No	Yes	No
Percent Yes	93%	93%	53%	100%	27%	20%	47%	33%
Number of Yes	14	14	8	15	4	3	7	5

Panel Member Responses Required for Hire by Panel Member

	A1	A2	A3	A4	A5
Administrative Theories	No	No	No	No	No
Budget Forecasting	No	No	No	No	No
Conflict Resolution	Yes	Yes	Yes	Yes	Yes
Decision-Making	Yes	Yes	Yes	Yes	Yes
Delegation	Yes	No	Yes	No	No
Effective Communication	Yes	Yes	Yes	Yes	Yes
Effective Discipline	Yes	Yes	Yes	Yes	Yes
Effective Staffing Strategies	No	Yes	Yes	Yes	Yes
Equanimity	No	Yes	Yes	Yes	Yes
Ethical principals	Yes	Yes	Yes	Yes	Yes
Financial Resource Procurement	No	No	Yes	No	No
Humor	No	No	Yes	No	No
Information systems	No	Yes	Yes	Yes	Yes
Involvement	Yes	Yes	No	Yes	Yes
Optimism	No	Yes	Yes	Yes	Yes
Organization of unit work	Yes	No	Yes	No	No
Perspective	No	Yes	Yes	Yes	Yes
Practice Standards	No	Yes	Yes	Yes	Yes
Prioritization	Yes	No	Yes	No	No
Problem solving	Yes	Yes	Yes	Yes	Yes
Productivity measures	No	No	No	No	No
Research-based care practices	No	No	No	No	No
Stress management	No	No	Yes	No	No
Teaching-learning theories	No	No	No	No	No

Panel Member Responses Required for Hire by Panel Member - Continued

	M1	M2	M3	M4	M5
Administrative Theories	No	No	No	No	No
Budget Forecasting	Yes	No	No	Yes	No
Conflict Resolution	Yes	Yes	Yes	Yes	Yes
Decision-Making	Yes	Yes	Yes	Yes	Yes
Delegation	Yes	No	Yes	Yes	No
Effective Communication	Yes	Yes	Yes	Yes	Yes
Effective Discipline	Yes	Yes	Yes	Yes	Yes
Effective Staffing Strategies	Yes	Yes	Yes	Yes	Yes
Equanimity	Yes	Yes	Yes	Yes	Yes
Ethical principals	Yes	Yes	Yes	Yes	Yes
Financial Resource Procurement	No	No	No	Yes	No
Humor	Yes	No	Yes	Yes	No
Information systems	Yes	Yes	Yes	Yes	Yes
Involvement	Yes	Yes	Yes	Yes	Yes
Optimism	Yes	Yes	Yes	Yes	Yes
Organization of unit work	Yes	No	Yes	Yes	No
Perspective	Yes	Yes	Yes	Yes	Yes
Practice Standards	Yes	Yes	Yes	Yes	Yes
Prioritization	Yes	No	Yes	Yes	No
Problem solving	Yes	Yes	Yes	Yes	Yes
Productivity measures	Yes	No	Yes	No	No
Research-based care practices	Yes	No	No	Yes	No
Stress management	Yes	No	Yes	Yes	No
Teaching-learning theories	Yes	No	Yes	Yes	No

Panel Member Responses Required for Hire by Panel Member

	M6	M7	M8	M9	M10
Administrative Theories	No	No	No	No	No
Budget Forecasting	No	No	Yes	No	No
Conflict Resolution	Yes	Yes	Yes	Yes	Yes
Decision-Making	Yes	Yes	Yes	Yes	Yes
Delegation	No	No	Yes	Yes	Yes
Effective Communication	Yes	Yes	Yes	Yes	Yes
Effective Discipline	Yes	Yes	Yes	Yes	Yes
Effective Staffing Strategies	Yes	Yes	Yes	Yes	Yes
Equanimity	Yes	Yes	Yes	Yes	Yes
Ethical principals	Yes	Yes	Yes	Yes	Yes
Financial Resource Procurement	No	No	Yes	No	Yes
Humor	No	Yes	Yes	Yes	Yes
Information systems	Yes	Yes	Yes	Yes	Yes
Involvement	No	Yes	Yes	Yes	No
Optimism	Yes	Yes	Yes	Yes	Yes
Organization of unit work	No	No	Yes	Yes	Yes
Perspective	Yes	Yes	Yes	Yes	Yes
Practice Standards	Yes	Yes	Yes	Yes	Yes
Prioritization	No	No	Yes	Yes	Yes
Problem solving	Yes	Yes	Yes	Yes	Yes
Productivity measures	No	No	Yes	Yes	No
Research-based care practices	No	No	Yes	No	No
Stress management	No	No	Yes	Yes	Yes
Teaching-learning theories	No	No	Yes	Yes	No

APPENDIX J

COMPETENCY AND PERSONAL ATTRIBUTE MEAN RATINGS

Mean Rating for Importance Round Two and Round Three

	R2	R3	Average
Administrative Theories	2.47	2.47	2.47
Budget Forecasting	2.33	2.20	2.27
Conflict Resolution	1.20	1.20	1.20
Decision-Making	1.13	1.07	1.10
Delegation	1.27	1.67	1.47
Effective Communication	1.00	1.27	1.13
Effective Discipline	1.80	1.60	1.70
Effective Staffing Strategies	1.67	1.47	1.57
Equanimity	1.33	1.67	1.50
Ethical principals	1.00	1.13	1.07
Financial Resource Procurement	2.13	2.27	2.20
Humor	1.67	1.87	1.77
Information systems	1.67	1.80	1.73
Involvement	1.33	1.67	1.50
Optimism	1.20	1.67	1.43
Organization of unit work	1.73	1.87	1.80
Perspective	1.73	1.73	1.73
Practice Standards	1.33	1.33	1.33
Prioritization	1.27	1.73	1.50
Problem solving	1.13	1.20	1.17
Productivity measures	1.60	2.20	1.90
Research-based care practices	1.93	2.20	2.07
Stress management	1.60	1.93	1.77
Teaching-learning theories	1.87	2.27	2.07

Mean Rating for Criticality Round Two and Round Three

	R2	R3	Average
Administrative Theories	3.27	3.13	3.20
Budget Forecasting	3.47	3.33	3.40
Conflict Resolution	1.33	1.33	1.33
Decision-Making	1.27	1.33	1.30
Delegation	2.00	1.87	1.93
Effective Communication	1.27	1.27	1.27
Effective Discipline	1.67	1.53	1.60
Effective Staffing Strategies	1.80	1.67	1.73
Equanimity	2.27	2.07	2.17
Ethical principals	1.47	1.47	1.47
Financial Resource Procurement	2.60	2.47	2.53
Humor	2.47	2.40	2.43
Information systems	2.00	1.80	1.90
Involvement	2.13	2.07	2.10
Optimism	2.00	2.13	2.07
Organization of unit work	2.27	2.07	2.17
Perspective	1.73	1.67	1.70
Practice Standards	1.60	1.47	1.53
Prioritization	1.93	1.80	1.87
Problem solving	1.60	1.53	1.57
Productivity measures	2.47	2.53	2.50
Research-based care practices	2.67	2.67	2.67
Stress management	2.40	2.33	2.37
Teaching-learning theories	2.47	2.60	2.53

Mean Rating for Frequency Round Two and Round Three

	R2	R3	Average
Administrative Theories	2.47	2.53	2.50
Budget Forecasting	2.33	2.40	2.37
Conflict Resolution	1.07	1.27	1.17
Decision-Making	1.07	1.07	1.07
Delegation	1.33	1.27	1.30
Effective Communication	1.00	1.00	1.00
Effective Discipline	1.60	1.47	1.53
Effective Staffing Strategies	1.60	1.47	1.53
Equanimity	1.27	1.33	1.30
Ethical principals	1.00	1.07	1.03
Financial Resource Procurement	2.00	2.13	2.07
Humor	1.60	1.67	1.63
Information systems	1.60	1.47	1.53
Involvement	1.33	1.47	1.40
Optimism	1.13	1.47	1.30
Organization of unit work	1.73	1.80	1.77
Perspective	1.73	1.80	1.77
Practice Standards	1.40	1.20	1.30
Prioritization	1.13	1.33	1.23
Problem solving	1.20	1.13	1.17
Productivity measures	1.60	1.80	1.70
Research-based care practices	1.93	2.00	1.97
Stress management	1.53	1.60	1.57
Teaching-learning theories	1.80	1.93	1.87

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