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HOW DO LEADERSHIP PRACTICES INFLUENCE NURSING FACILITY EMPLOYEE SATISFACTION? : A MULTI-LEVEL STRUCTURAL EQUATION MODEL ANALYSIS OF LONG TERM CARE QUALITY LEADERSHIP PRACTICES

by

Douglas M. Olson

A thesis submitted in partial fulfillment
of the requirements for the degree of

Doctor of Philosophy in Health Services
Research, Policy and Administration

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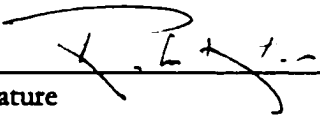
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Graduate School

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Abstract

This study synthesizes literature on leadership research from both leadership theories and the field of quality management to develop and measure leadership as a multi-dimensional construct consisting of four practices: focused visionary, supporting change, effective communication, and a visible presence in the organization. These four practices are hypothesized to affect the outcome of employee satisfaction through the quality management practices of strategic planning, process management, and human resource practices. The model tested in this research posits that leadership practices and quality management practices affect employee satisfaction hierarchically, from the strategic level (focused visionary leadership and strategic planning) to the operational level (supporting change and process management) to the tactical level (effective communication and human resource practices), with visibility in the organization being the leadership practice and human resource practices being the quality management practice that directly affects satisfaction. Data to test this model were collected from 65 nursing facilities in Minnesota that belong to either of two long term care corporations collaborating in this study. The results of the model using structural equation analyses supported some, but not all of the hypothesized relationships. The overall hierarchical nature of the effects of leadership practices and quality management practices was

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demonstrated, with the exception that visible leadership did not statistically appear to affect employee satisfaction. Rather, effective leadership communication was directly related to both human resource practices and satisfaction. Further analyses splitting the respondents into management, professional nursing, and nursing assistant groups showed very similar results with the "Quality Leadership Practices Path" model. However, the path leading from the leadership practice of supporting change to the quality management practice of process management is weaker for nursing assistants compared to managers and professional nurses. In addition, the path linking effective communication to satisfaction was statistically significant for both nursing groups but not for managers, although a chi-square difference test for comparing path equality did not achieve statistical significance at the .05 level for this difference. These results help both researchers and practitioners better understand the ways in which different leadership practices work through quality management practices to affect employee satisfaction.

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INTRODUCTION

This research conceptualizes leadership practices as a multi-dimensional construct and tests whether there are differential effects of these practices on quality management practices and employee satisfaction in nursing facilities. Research over the years has developed a variety of models and theories available for consultants, practitioners and researchers. This plenitude also sets up one of the fundamental problems: the question of whether to choose among them or to combine aspects of each. Each of the competing models has its proponents and critics, and each has its set of strengths and weakness (Bass, 1990). But leadership in the quality management field has been largely treated as a uni-dimensional construct. The best approach might well be a combination of models and theories and to use a flexible approach for specific business fields and situations (Clark and Clark, 1990). There is a need for contextual consideration of the specific environment and goals in order to determine the best combination of leadership practices. Specific practices may be more or less effective depending on the environment and the goals. This research will advance a psychometrically sound model of leadership practices for influencing the quality management practices and employee satisfaction (goal) of a nursing facility (environment).

The quality management field has received mixed reviews from both academics and the industry. Yet the development of theory and testing of Deming's philosophy and other quality management principles is relatively recent in the quality movement. Recent work (Anderson, et. al 1995, Flynn, et. al 1994, Shortell 1994 and Meyer, 1998) has begun to develop

psychometrically sound ways to measure quality management impact. One of the consistent findings in the research has been that leadership does influence quality practices. Yet, leadership is treated as a uni-dimensional construct.

The *first specific aim* of this study is to propose a multi-dimensional treatment of the leadership construct applicable to quality management practices in a long-term care setting. Nursing facilities as service organizations are unique in that their focus is the human interaction of providing care to primarily elderly residents over extended periods of time, typically several months to several years. Facilities tend to be smaller than other industries, and have a flatter organizational structure. To date, there is little knowledge about the impact of leadership on the quality environment of a nursing facility.

The *second specific aim* of this study is to posit and test a path model that focuses on the influence of leadership practices on nursing facility employee satisfaction through quality management practices in these settings. Specifically tested is the impact of the leadership practices, defined as focused visionary, supporting change, communication and visibility, on the quality management practices of strategic planning, process management, and human resource practices. In turn, the direct and indirect effects of these leadership and quality management practices on the satisfaction of employees is investigated.

The *third specific aim* of this study is to test this model at three different staff levels in the facility: leadership and management, professional nursing and front line nursing. A limitation of previous research in the field of quality

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management has been the use of limited samples relying on an averaging of responses or an informant approach. This study will enable us to test the goodness of fit for the proposed model, because it uses all responses along with further breaking down the responses by occupational groups. This will advance our knowledge of perceptions of varying staff members across organizational levels.

This research will contribute to the study of leadership, its specific effect on quality management practices and outcomes, and its application to the field of long term care. Leadership practices specific to influencing quality management practices in nursing facilities will be articulated and measured with this study. Furthermore, this will be one of the first efforts at measuring the impact of leadership on the actual outcome of employee satisfaction. A third significant practical application of the results will be informing the field of long term care on the future training and selection of leadership personnel in nursing facilities. Although there are other areas to emphasize for the improvement of nursing facilities the influence of improved leadership is clearly a positive step.

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BACKGROUND

This literature review focuses on the following areas. First, a description is given of the current quality management practices of long-term care. Secondly, the review explores the state of the field of quality management theory. Third, the framework of leadership research and the currently advanced leadership practices will be provided as a context for this study.

Quality Assurance and Quality Management in Long-Term Care: Quality assurance (QA) practices in long-term care are similar to those that were found in industry prior to the introduction of quality management principles: designated QA staff have responsibility for ensuring quality, the focus is on studying individuals to compare their performance to specified standards to judge whether the standards have been met, and the output typically has been used by managers to make decisions. This practice is reinforced by the regulatory environment, in which state inspectors impose sanctions and cite deficiencies when standards are not met. However, regulators are recognizing the limited usefulness of traditional quality inspections by health departments (Hatzell, Halverson, and Kaluzny, 1996), and states are beginning to explore new approaches for quality partnerships with providers (Smith, Cotter, and Rossiter, 1996).

One of the difficulties in moving away from the QA model is that it is much more difficult to define quality in long-term care compared to industries such as manufacturing (Sainfort, Ramsay, Ferreira, and Mezghani, 1994). Its definition is difficult in that it encompasses aspects of health, personal, and social care over a long time frame to residents with very different prognoses and physical and mental status (Kane and Kane, 1988). Definitions of quality are also complicated in nursing homes because of the distinctions between quality of care and quality of life. Because many residents will be in the nursing

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home the rest of their lives, their quality of life is related to their sense of well-being, satisfaction with life and feelings of autonomy.

The traditional healthcare quality paradigm of structure-process-outcome (Donabedian, 1980) has been used to define quality assessment criteria in long-term care, although the testing of this framework did not occur until recently. Ramsay et al. (1995) used the Minimum Data Set (MDS) to define process and outcome facility-level quality indicators that are risk-adjusted. They used these indicators in a path model of structure (licensed and unlicensed staff, licensed therapists, and expenditures), process (general drug use, daily use of physical restraints, poor restorative practices, and poor care planning), and outcome (constrained mobility and function, poor skin integrity, sub-optimal outcomes) to test the strengths of the relationships between these constructs. They found a lack of fit in their model, suggesting that alternative nursing home quality paradigms should be explored. The field of quality management represents a viable option for the nursing home industry to explore new models.

Such an understanding of alternative quality paradigms is crucial in the long-term care industry where a litany of quality problems have plagued the industry since the passage of Medicare and Medicaid in the 1960's (Kane and Kane, 1988). Extensive federal and state regulations have been put into place to assure minimum quality standards, making the long-term care industry one of the most highly regulated industries in the U.S. (Castle, Zinn, Brannon, and Mor, 1997). Landmark federal legislation was passed in 1987 (U.S. Congress, 1987) in response to the indictment of nursing home quality in the 1986 Institute of Medicine report (IOM, 1986). It mandated minimum training and competency testing for nursing assistants, state-level ombudsman programs to investigate resident complaints about nursing homes, equal quality of services to all residents regardless of payment source, and a review of each nursing

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home resident upon admission and at least annually thereafter using a mandated standardized Resident Assessment Instrument (RAI), including a Minimum Data Set (MDS) of quality of care information collected on each resident that is uniform throughout the long-term care industry.

A regulatory approach to quality assurance produces a reactive climate that does not guarantee a change in behavior at the nursing home level: "if regulation is relied on as the sole method for promoting the patients' interest in nursing homes, then the probability of success is not great" (Nyman and Geyer, 1989). Even the Institute of Medicine (1986) acknowledged that regulation alone will not solve quality problems in long-term care. The IOM report recognizes that facility leadership must reinforce and facilitate the front-line nursing assistants' motivation and job performance on a daily basis if high quality care is to be delivered. Because 80 to 90% of care provided to nursing home residents is given by nursing assistants (Smyer, Brannon and Cohn, 1992), the way in which they carry out their duties profoundly impacts the quality of life and clinical care of the residents (Shaughnessy, 1989). This high touch element of the nursing facility environment encourages the consideration of front line staff effectiveness and satisfaction. The underlying driving forces of this staff phenomenon can be traced back to leadership and quality management practices, and ultimately affects the perceptions of the nursing facility residents. The movement to a proactive quality management philosophy is cited as a necessary change to improve the delivery system in health care (Hatzell, Halverson, and Kaluzny, 1996). This argument for a change in philosophy supports this study's use of established quality management practices as mediating variables in the proposed model.

Many nursing homes are trying to move beyond the regulatory quality assurance model of deterrence/compliance toward a proactive framework that

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incorporates quality management principles. Castle et al. (1997) for example, cite a 1995 study in which 30% of nursing homes in 10 states indicated that they had implemented quality management practices, and another 35% had plans to do so within the next year. Nevertheless, the nursing home industry faces many challenges in adopting a quality management strategy. Historically, this industry has had few incentives to compete on the basis of providing a higher standard of care since occupancy rates were uniformly high regardless of quality. However, this situation has changed in recent years as substitutes for nursing home care, including assisted living facilities, home health care, and board and care homes, are creating a more competitive environment.

Many nursing homes are in the early stages of developing the technical skills needed for implementing quality management practices. For example, trade organizations, such as the American Health Care Association (1998) and the American Association of Homes and Services for the Aging (1998) provide computerized data bases for a fee that allow nursing homes to input their own Minimum Data Set (MDS) data and gain access to peer nursing home data to benchmark their quality of care. The MDS has been used to provide data-driven quality of care measures in quality improvement efforts in nursing homes (Zimmerman, et al. 1995). While this is heading in the right direction, the data are limited in scope to quality of care indicators that can be derived from the MDS. A more comprehensive evaluation of the interrelationship between leadership, quality management practices and performance outcomes should be empirically studied. Such a study should integrate the prescriptions of the past learnings of practice with the Baldrige criteria and a Balanced Scorecard approach to performance outcomes. This use of outcomes is extremely valuable, but does little to identify the driving forces or processes within the facilities.

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The collective characteristics of nursing facilities make them different from business and hospital settings. First, they are generally small organizations with an average bed capacity and employee base of approximately 100. Second, these facilities have relatively flat organizational structures. A typical structure includes three to five organizational levels between leadership and actual care delivery. This flat structure also creates the daily or regular contact for staff with on-site leadership. Service delivery and consequently staff work areas are in one concentrated setting, which also promotes the routine interactions between staff and leadership. Third, the service focus is very high touch and human interaction oriented. This type of environment, which drives the facilities' labor intensive nature, helps emphasize the importance of organizational processes. Framing organizational processes using leadership and quality management practices that are posited to influence employee satisfaction is a logical approach.

Proposition #1: Quality management is an appropriate organizational framework for studying a long-term care facility.

The dynamics and relationship of organizational processes in the long-term care field is a research void. One study looked at correlation effects between leadership and health department deficiencies in nursing facilities. The findings of this study were that a gerontological nursing background of the administrator had a significant positive result. The limitation of this study is that it looked only at the administrator demographic information and used simple correlation tests with little additional support (Singh, Amidon, Shi, and Samuels, 1996). Dimant's case study (1991) found that improvements were driven by a quality management process that involved residents and families, developed a team approach to care, and significantly changed human resource management and development, especially for improving the motivation and

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satisfaction of the nursing assistants. Structured data was an important building block for measuring performance, but it was the internal quality management process that drove the improvements. There is a great need in the long-term care industry for empirical studies to understand how to link leadership with quality management practices to affect organizational performance outcomes and change at the nursing home level.

Leadership and Quality Management Literature:

The early leaders of the quality management movement have always emphasized the importance of leadership as a driving force of quality process results. Deming's fourteen points include two principles aimed directly at the leadership role in an organization. Creating a constancy of purpose" and the "commitment of top management" are both focused on leadership practices important to effective implementation of a quality program (Deming, 1986). Juran highlighted top management commitment as critical to the successful adoption of his trilogy of quality planning, quality control and quality improvement (Juran, 1992). Crosby specifically addressed the importance of the determination and focus of leadership to adopt a TQM culture, under-girded by their understanding of the process (Crosby, 1979).

Anderson et al. (1994) provide a theory of quality management based on Deming's 14 points, other quality advocates, and the Baldrige award. The theory posits seven concepts underlying quality management and their interrelationships. Measures of the concepts were operationalized and statistically tested for reliability, and their interrelationships were tested using path analysis (Anderson, Rungtusanatham, Schroeder, and Devaraj; 1995), and are illustrated in Figure 1 below.

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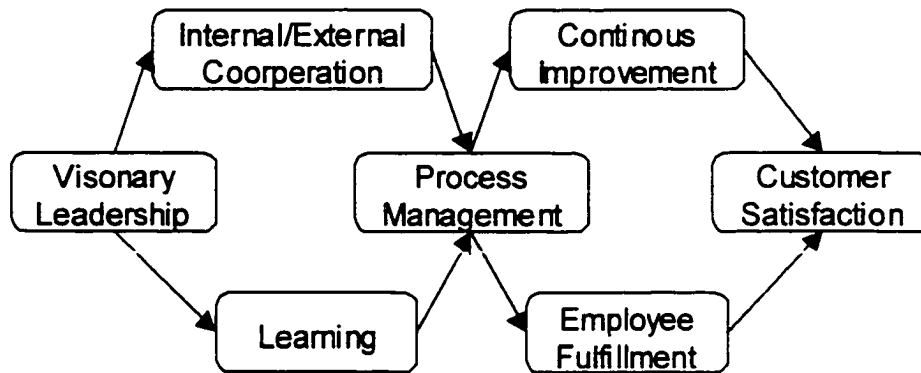
Figure 1: Deming Path Analytic Quality Model

Visionary leadership had strong positive influence on cooperation and organizational learning. Cooperation positively influenced process management, which in turn affected continuous improvement and employee fulfillment. They also identified potential direct effects of visionary leadership, cooperation, and learning to both continuous improvement and employee fulfillment. They cite the strong direct effect of employee fulfillment on customer satisfaction. Their study provides strong empirical evidence for the theory of performance improvement in long-term care organizations proposed in this research, particularly in the two areas, visionary leadership and employee fulfillment, that were specifically cited by the IOM study (1986) as being crucial to improving quality in long term care. This study used a limited set of respondents representing three different types of employees to derive an average plant respondent score.

Studies of quality management implementation in hospitals have also documented the significant, positive role that top management leadership plays in promoting clinical involvement in continuous quality improvement efforts (Weiner et al., 1997). Shortell et al. (1995) developed a reliable and valid scale to assess organizational culture and quality improvement implementation in

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hospitals. They found that a participative, flexible organizational culture was significantly associated with implementation of continuous quality improvement, which in turn was positively associated with greater perceived patient outcomes and human resource development. Larger hospitals were found to have more difficulty in implementation because of their culture and lower degree of flexibility compared to smaller hospitals. These findings suggest that contextual issues affect an organization's ability to implement quality management practices. This study used an informant approach as a means for collecting data to represent the organizational phenomenon.

The sophistication with which the implementation of quality management practices are measured continues to develop. As cited above, both Anderson et al. and Shortell et al. developed measures that they assessed for reliability and validity. Anderson et al. drew upon measures from a study on World-Class Manufacturing (Flynn et al., 1994), while Shortell et al. drew from published measures of organizational culture (Zammuto and Krakower, 1991) and quality implementation scales based on the Baldrige Award (U.S. Chamber of Commerce, 1993). Other work by Saraph et al. (1989), Flynn et al. (1995), Ahire et al. (1996), and Black and Porter (1996) provide additional examples of methods for identifying measures (e.g. literature review and various methods of expert informant interviews) as well as increasingly sophisticated methods for statistically assessing reliability and validity. Regardless of methods used, all highlight their measurement overlap and nonredundancy as compared with Baldrige criteria.

The link between quality management practices and performance outcomes has been documented in the literature. Shortell et al. (1995), for example, found significant relationships between quality improvement and clinical efficiency, while Anderson et al. (1995) found significant relationships between employee

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fulfillment and perceived customer satisfaction. Flynn et al. (1995) studied the relationships of specific quality management practices to quality performance in order to determine what management practices should be emphasized when implementing quality management programs. They found that different core quality management practices lead to success in different dimensions of quality. Product design process was important in determining market perceptions of quality, while process flow management and statistical control/feedback contributed to the physical quality of the product. Although these studies are not focused on a health care setting, they do provide support for the importance of investigating the links between quality management practices and outcomes.

Meyer (1998) has empirically tested the causal linkages between the Baldrige criteria in community hospitals across the country. She found that leadership had a direct causal influence on the system, and inferred an indirect causal influence on the results. This study further explored the within-system and system-to-outcome relationships, and provided one of the first comprehensive evaluations of the Baldrige criteria in a health care setting, as shown in Figure 2 below:
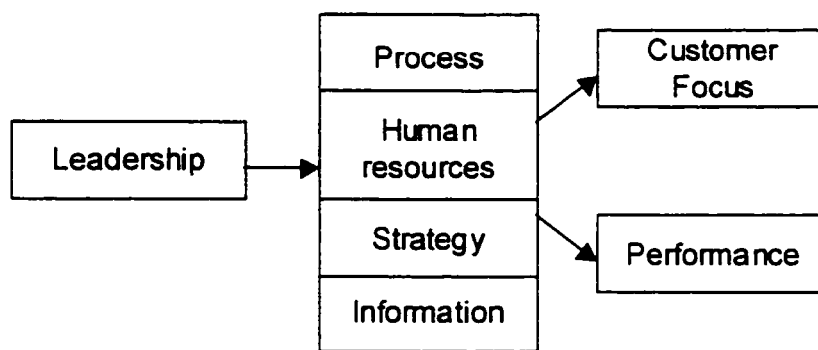
Figure 2: Baldrige Health Care Criteria Model

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One of the limitations of the study is that it is based on the perception of one individual reporting on the quality management program of the hospital using an informant approach. This research improves on that approach by obtaining multi-level perspectives and additionally expands the treatment of leadership.

Proposition #2: Leadership is an important driver of quality management practices and outcomes.

This study's research draws upon a subset of the framework put forward by the Baldrige criteria and other empirical studies to better understand outcome measures and their relationships. This includes the notion of a limited set of measures that tie to the organization's goals and establishes a cause-and-effect network to better understand the relationship between the performance drivers and the outcomes. As mentioned earlier, quality management practices, including the provision of some context for leadership, are the most appropriate framework to analyze organizational processes in the long-term care setting.

Three streams of empirical work in quality leadership literature are relevant for this research. First, we build on studies that have developed and tested theories of the relationships between quality leadership constructs. Second, to develop a survey to assess quality management practices in long-term care, we draw upon studies that have developed and statistically tested measures of quality management practices that incorporate indicators from the Baldrige framework. Finally, we must attempt to integrate research that has investigated the link between quality management practices and performance outcomes.

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Leadership Theory Framework:

The field of leadership study is vast, and filled with a variety of approaches and perspectives. The contribution of Jago (1982) provides a framework for the field of leadership study and an overall foundation that can serve as a springboard for the proposed treatment of the leadership construct in this study. Jago defines leadership as both a process and a property. The process is the use of noncoercive influence to direct and coordinate the activities of the members of an organized group toward the accomplishment of goals or objectives. As a property, leadership is the set of qualities or characteristics attributed to those who are perceived as successful in employing such influence (Jago, 1982). This means that leadership can describe the person (what they possess) as well as acts (or what they do). Leadership is displayed through the interaction between people, and necessarily implies a complement, "followers." Jago also asserts that leadership can be both formal and informal and does not necessarily have to be one designated individual

The difference between leadership and management is also important when exploring an appropriate approach. Managers are interested in coping with the complexity of the organizations. Leadership, however, is more interested in coping with change (Kotter, 1990). Management is associated with control and supervision elements, in contrast to leadership, which influences the culture and direction of an organization. Jago clearly distinguishes between leadership and supervision in terms of influence processes. Supervision, as well as management, depends on a more formal structure or system to influence people. Leadership is the influence of groups or persons, often utilizing informal interpersonal practices. The leadership constructs developed for this study follow this definition of leadership.

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Jago describes leadership as an evolving dynamic process and categorizes its perspectives in a two-by-two matrix including the following theoretical groups. *Universal theories* encompass theories that assume that the situation does not impact the way a leader functions. They propose that there exists a "one best way" to lead. These universal theories include trait and behavior theories. Trait theorists look at leadership as driven by relatively stable characteristics of people, distributed throughout the population. This is a focus driven by an inherent property. Behavior theorists propose that leadership is displayed by the observable actions of people, derived from an external viewpoint. The other axis on Jago's matrix is *contingent theories*, which focus on the fact that leadership depends on the situation. A brief narrative further describing this matrix of categorizing leadership theories follows.

Type I perspectives: The search for universal leadership traits treats leadership as a second level construct made up of fundamental traits distinguishing individuals. These include abilities, as well as physical, personality, and social characteristics. Success at uncovering these relationships in empirical research was weak. Attempting to define effectiveness was noted as one problem. Research tended to move to more of a comparative approach between groups, leaders and followers. Although this line of research fell along the wayside, to some degree it did spark a new approach advanced by Calder (1977) called attribution leadership theory. Attribution leadership theory suggests that leadership is a trait or disposition, but it exists only within the eyes of others, especially followers. Important to this theory is the implicit leadership theory of the observers. Charismatic leadership (House, 1977) would also fall into this category, although it is less a theory and more a type of leadership. Transformational leadership (Bass, 1985) has been an extension of this same line of thinking. Transformational leadership comprises performance that includes: broadening and elevating the interests of subordinates, generating

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support of their subordinates for the organizational mission and goals, and motivating subordinates to consider the good of the organization beyond their own self-interests (Burns, 1978). This contemporary theory does straddle dimensions of Type I and II perspectives due to its focus on leadership behaviors.

Type II perspectives: Leadership styles theories focusing on how leaders behave when interacting with followers fit this typology. These researchers concentrate on dimensions and effectiveness of the leaders looking for an optimal leadership style. Dimensions put forward included consideration and initiating (Fleishman, 1951; Fleishman, Harris, and Burtt, 1955; Halpin and Winer, 1952; Halpin, 1957), autocratic and democratic (Tanebaum and Schmidt, 1958; Heller and Yuki, 1969). Both of these dual dimensional areas have produced only mixed results. An assumption in this category is that leadership style drives the outcomes of the organization, an assumption that has been challenged by empirical studies. Leadership styles theory has the predisposed limiting framework of focusing on individuals rather than organizational leadership, due to their history of studying personal behaviors.

There is a great deal of real world difficulty in distinguishing between traits and behaviors. This research proposes to collapse these two categories into one domain, to avoid being caught up in the ongoing debate between psychologists and behaviorists. For this study we accept that traits may be learned behaviors and behaviors may be driven by inherent traits. An example to illustrate this point would be the area of communication: one could argue that a person with verbal fluency and an enthusiastic and sociable personality would be an effective communicator, a description often characterized as a leadership behavior. The important point is that these two independently classified theories interact in the real world; it is difficult to tease out their origin beyond

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the approach of in-depth individual-level analysis. Contributions from both trait and behavior theories schools are combined to look at leadership practices. This research is interested more on the impact of the practices and less about the origin. There is other innovative research available to help explain and manipulate on an individual level those origins and concerns, for example the relationship between personality and TQM implementation (Krumweide, Sheu, and Lavelle, 1998). For this research we will call these traits and/or behaviors "leadership practices."

Type III perspectives: Research concerned with specifying a set of conditions under which certain leadership traits are effective fits this category. Fielder's (1967, 1977) contingency model is put forward as an example of this approach. Although we will not use the Type III leadership perspectives in our research their intuitive nature may help us as we explore relationships of leadership practices with conditions of QM process components emphasized in each organization.

Type IV perspectives: This type of research theory assumes that leadership depends on the situation and defines leadership in terms of behaviors. Three theories are placed in this typology: path-goal theory, an operant conditioning perspective, and the Vroom/Yetton decision-making model. Path-Goal theory (Evans, 1968; House, 1971) looks at the impact leaders can have on motivating as well as satisfying the needs of followers. Leadership behavior is expressed in terms of a leader's influence in clarifying the paths or route followers travel toward work and personal goal attainment. It has two propositions. First, the leader behavior is acceptable and satisfying to subordinates to the extent that they see it as either a source of satisfaction or as instrumental to future satisfaction. Second, the behavior complements the environment of subordinates by providing the coaching, guidance, support and rewards

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necessary for effective performance. It is classified as a contingency theory because the effectiveness of leadership behaviors depends on characteristics of the subordinates and the environment (Filey, House and Kerr, 1976). Research has concentrated on two hypotheses about leader behavior: initiating structure and leadership consideration, and the impact on satisfaction in different environments. The focus of this approach is on diagnosing the leadership situation and rules for matching appropriate behaviors to the situation. Contributions of goal theory are used to help frame the contextual element of the model for this study. This study will tease out the hypothesized leadership practices that may impact employee satisfaction in the nursing facility

Operant conditioning prescriptive, a theory derived from Skinnerian learning theory (Skinner, 1969), looks at the impact of rewards and punishments on reinforcement of follower behaviors. Results focusing on rewards have been better than those focused on punitive behavior. A contemporary theory of leadership, transactional leadership, has some parallels to the operant conditioning perspective. Transactional leadership suggests that leaders must engage in a transaction with their staff. This exchange is based on clarifying subordinate requirements and considering what they will receive if they fulfill these requirements. This theory does entail a focus on leadership behavior (Deets and Morano, 1986).

Last of the Type IV theories, the Vroom/Yetton (1973) perspective concentrates on the behavior of designated leaders encountering a specific decision-making situation. They use three classes of outcomes as factors for the effectiveness of decisions - quality, acceptance, and time - to construct a taxonomy of available decision processes. Generally, there has been little empirical real world testing of this theory.

Table 1 below serves as an overview of the different types of leadership research put forward by Jago.

	Universal	Situational
Trait	*Type I:* Attribution, Charismatic, Transformational	*Type III:* Fielder's Contigency,
Behavior	*Type II:* Leadership styles	*Type IV:* Path-Goal, Operant Conditioning, Vroom/Yetton

Table 1: Jago's Leadership Matrix

Based on the derived practices, context, and situation of this research we need to draw upon past leadership approaches and elements of general attribution and path-goal theory to assist in framing the conceptual model. Attribution theory helps conceptually connect the importance of organizational experience espoused by proponents of leadership practices. The benefits this approach offers to our model is that we are able to evaluate different exhibited leadership practices and their relationship to the descriptive typology of the specific organization in reference to their quality management practices.

This research proposes to consider this groundbreaking work of Jago, describing the leadership research field, as a reference to evaluate the context and typology of the organizations and an appropriate leadership research approach. For this research, the leadership practices (contributions of Type I & II) focused on improving the quality management practices (Type IV,

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specifically path-goal theory) will be tested in a nursing facility context (the situation). This theoretical approach posits that there is a fundamental set of leadership practices for a defined situation. The situation in the case of this study is framed by incorporating a quality management philosophy in a nursing facility setting.

> Proposition #3: Utilizing a leadership practices approach within a context of quality management fits this service field application.

One of the strengths of incorporating this approach to studying leadership is the context of our study design and population. The organizations we are studying are all alike in their sponsorship, employee make-up, service goals and setting. One of our contentions is that for a unique organizational field with a specific goal in mind there may be a best set of leadership practices. Our study population allows us to explore this approach. The homogeneity assumption of our study population is based on a number of different factors. First, all the organizations participating are nursing facilities located in Minnesota, all are non-profit, parts of Lutheran-sponsored corporations, and have the same type of employees. An additional important assumption we are making with this research is that employees with similar preferences and personalities are drawn to the caring profession. Based on these assumptions, we can also further apply the path-goal theory of leadership to incorporate various elements of our model. Based on this theoretical foundation, a set of leadership practices is developed utilizing the following conditions: 1) Consideration of the unique environment of nursing facilities, which responds to the universal vs. situational axis of Jago's framework. The research approach taken in this study suggests that different environments have different leadership needs; 2) Incorporating the knowledge and applications of quality management, which corresponds to Type IV research; the hypothesis of this research is that the goals of leadership

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are affected by the context of the posited organizational framework, in this case quality management; 3) Furthermore, that the quality management framework employed in this study is well suited to the environment (nursing facilities) and goals (employee satisfaction); 4) a strong grounding in existing leadership theory and research, which is guided by Jago's overall framework. This researcher firmly believes that although the four-compartment table does a good job of classifying past research, it is too limiting to suggest that these are the only four ways to study leadership. This research suggests that utilizing a combination of these past approaches to frame an appropriate research strategy is a helpful approach. These conditions will help us evaluate existing leadership measurement approaches and then develop and refine the potential leadership practices for this study. The end result will be a set of leadership practices fine-tuned for the context and the environment of nursing facilities.

Relevant Leadership Practice Instruments:

There is a plethora of leadership scales and surveys available for people interested in using an existing instrument for their management or research need (See Bass and Stodgill's Handbook of Leadership, or Ken and Miriam Clark's Measures of Leadership, both published in 1990). The challenge for this application was to find an instrument specifically developed to measure the influence of leadership on quality management practices in a nursing facility setting, or one that would come close to measuring that relationship. An instrument was not found that would take into account the specific goal of finding out how leadership practices influence quality nor the context of the organizational setting of the nursing facility. On the other hand, it was necessary to search for the currently accepted and empirically tested survey tools of leadership to ensure that the constructs identified for this application were reasonably on target with past development of leadership instruments.

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A number of measures were focused on managerial practices, psychological orientations or levels of management and leadership. One of the more widely accepted measures of managerial effectiveness was developed by Yukl, Wall and Lepsinger(1990) and contains 13 components. Their Managerial Practices Survey is a broad-based application of all types of managers, and not focused on specific leadership needs. The Campbell Work Orientations Survey developed by David Campbell (1990) uses a battery of psychological assessment inventories as a strategy for focusing on people's work interests and orientations. He uses a sophisticated group of surveys to refine the practical applications and results. This work is more grounded in consideration of personality and traits. Sashkin and Burke (1990) approach levels of leadership in research directed at organizational leadership. They put forward a set of ten scales attempting to integrate personality characteristics, organizational context, and behavior. These scales have been developed using a broad view and not necessarily focused on situation. All of these measures proved helpful in setting the stage for the development of our leadership constructs, but seem to be too complex and exhaustive for our use.

The two instruments chosen to review and use as a comparison for our hypothesized leadership practices are the Bass and Avolio Multi-Factor Leadership Questionnaire (1985), and the Posner and Kouzes Leadership Practices Inventory (1997). They are two of the most commonly used and cited instruments in the field. They are also relatively condensed and are closely related to our proposed application focusing on leadership practices.

The Multi-Factor Leadership Questionnaire was originally designed to capture the basic elements of transformational leadership, which included in the original version charisma, individualized consideration and intellectual

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stimulation, along with some transactional leadership behaviors such as contingent reinforcement. The construct of inspirational leadership was later added and the construct of charisma modified to idealized influence. Our interest is in the transformational constructs put forward by the authors based on some promise that transformational leadership, in a less idealized and more pragmatic sense, may help guide the development of our leadership practices constructs. Numerous research studies have validated these scales which are largely focused on the leader and leadership, with the person level dominating their approach.

Posner and Kouzes developed the Leadership Practices Inventory by surveying and testing the instruments with middle and senior managers across the country. Their five practices include the following: challenging the process, inspiring a shared vision, enabling others to act, modeling the way, and encouraging the heart. Challenging the process has leaders searching for opportunities to change the status quo. Inspiring a shared vision is concentrated on envisioning a future. Enabling others to act deals with fostering collaboration and building teams. Modeling the way focuses on treatment of people and the way goals should be pursued. Lastly, encouraging the heart recognizes contributions and celebrates accomplishments. Posner seems to have a stronger focus on leader-follower relationships, and may be one of the best comparisons for this work.

The leadership research perspective we are taking collapses the trait and behavior schools of past leadership research into one domain, and calls these 'leadership practices.' Based on the contextual situation of this research we will draw upon the path-goal theory to assist in framing our conceptual model. The benefit this approach offers to our model is that we are able to evaluate different exhibited leadership practices and their relationship to the descriptive quality management practices of the specific organization. This research

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proposes to use Jago's framework describing the leadership studies typology while considering the context (e.g. high relationship) and typology (e.g. flat organizational structure) of the organizations.

Table 2: Summary of Relevant Leadership Measurement Instruments

Measurement	Definition	Description	Comment
Managerial Practices Survey (Yukl, Wall, and Lepsinger, 1990)	Managerial behaviors that are relevant to managerial effectiveness	Consists of eleven managerial practice areas	Promoted as applicable to all types of managers, and does not differentiate between leaders and managers
Campbell Work Orientations Survey (Campbell)	Managers' styles or qualities contribute to their success	Use of four psychological assessment tools to reflect an individual's work orientation	Primarily a tool focusing on an individual's leadership potential
Leader Behavior Questionnaire Sashkin and Burke)	Exceptional executive characteristics, or leadership behaviors	Consists of ten scales attempting to integrate personality, broad organizational context and behavior	Good theoretical framework, yet attempting to consider the totality of this information makes it too complex and general in nature
Multi-Factor Leadership Questionnaire (Bass and Avolio)	Foundation of leadership is based on transformational qualities	This tool incorporates transformational and transactional factors, along with other validating organizational outcomes	Good empirical extension of developed transformational leadership, applicability dependent on one's acceptance of this approach
Leadership Practices Inventory (Kouzes and Posner)	Focus is on what leaders do when they are leading	Developed five leadership practices	Most developed tool focusing on general leadership practices. Most similar to this application.

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Proposition #4: Leadership practices are multi-dimensional.

The following reference points are used to advocate for the importance of understanding the distinct nursing facility leadership practices. First, the review of quality leadership literature promotes our acceptance of the evidence of leadership's impact on the TQM environment of an organization. Second, the lack of multi-dimensional leadership research on quality practices, including the Baldrige framework, currently is a research gap. Third, the paucity of specific long-term care leadership research encourages our exploration. Lastly, industry and provider feedback is used in the conceptual framework and as we shape and refine our focus and tools.

As noted earlier in the literature review, the founders of the quality management movement experienced the importance of leadership's focus, commitment, and understanding of quality. Anderson, et al, received expert feedback, which further elaborated on leadership practices; these included clarity of vision, long-range orientation, planning organizational change, coaching management style, and participative change. Evans and Lindsey (1996) put forward five necessary responsibilities of leadership, which included strategic vision, setting high expectations, personal commitment or involvement, integration of quality values and sustaining the environment. Lastly, the experience and wisdom of two South African quality consultants McLagan and Nel (1996), the Co-Directors of the Democracy and Work Institute framed a new style of leadership for genuine quality. They propose that leaders should: 1) transform themselves, 2) create direct relationships with employees, 3) support change, 4) become a focused visionary, 5) disseminate information, and 6) support a new definition of participative leadership.

Input from both the corporations and participating nursing facilities was sought to provide a contextual grounding for the environment of this study.

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The consensus of leadership surveys of these organizations at a variety of levels when asked what characteristics influence the quality environment the most or promote change management in their facility produced the following results. The areas highlighted most frequently were good communication and visionary skills. The next set of practices commonly noted included: serving as a visible role model, caring about residents and staff, visibility, access to staff, coaching, enthusiasm, motivation, listening skills, persistence, embracing change, and fairness or respect.

Most quality management research that includes leadership treats it as a one-dimensional construct. We propose exploring leadership as a multi-dimensional construct and provide a rationale for each indicator, supported by the literature and feedback from the participating providers. Related to leadership, five distinct constructs are developed: visionary skills, supporting change, communication, visibility and an understanding of quality management practices. This last construct, an understanding of quality management principles, will not be advanced in this study due to its non-practice characteristics and the exploratory nature of the measure.

These indicators will be an expansion of established leadership measures to those in quality management literature and the Baldrige criteria. Quality management literature has investigated the effect of leadership on quality management practices, but has treated it as uni-dimensional. The Baldrige criteria ask the critical question about how leaders provide "effective" leadership. The leadership system component of the assessment criteria requests a description of the practices of leaders and provides an example of important areas to consider, yet falls short of identifying the most important practices. This research posits that leadership practices, as a multi-dimensional construct, will differentially affect outcomes through differential effects on quality management practices.

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<u>Proposed Leadership Practices</u>: These five proposed leadership practices (which were developed for a larger study from which the data for this research are drawn) are each listed in the following section beginning with some initial background, including literature citations, before the italicized foundation concept. The proposed leadership practice that influences the quality practices of an organization is listed in italics along with a corresponding definition.

Visionary Leadership: Visionary leadership has been cited as an influential style in promoting an organizational change environment not only by the Baldrige criteria, but by many others, including the recently developed transformational leadership model (Bass, 1985; Drucker, 1990; Quinn, 1988). Visionary leadership is widely supported in the literature (Bass, 1985; Collins and Porras, 1995; Gaster 1991) with focused visionary defined as the leader(s) a) setting the agenda for the future, or steering the organization b) recognizing and embracing change, and c) establishing or setting the future purpose of the organization. *Focused visionary is defined for this study as setting the future agenda or purpose for the organization.* This practice is very consistent with the mainstream quality management literature that has attempted to examine the impact of leadership on the quality management environment of an organization. A unique quality management element of scale development for this study is the introduction of the concept of being 'focused.' This attempts to capture the added element of not having too many different directions or purposes being championed at one time (Easton, 1990).

Supporting Change by Coaching: The concept of supporting change by coaching, embodied by the behaviors of sponsorship, interest and support, encouraged innovation in companies (Kanter, 1983). Supporting change by coaching is found in the literature (Kanter, 1983; Blanchard, 1995; Harvey, 1995; Peters, 1996; Caldwell, 1993) with supporting change defined as a) encourages learning and growth, and recognizes individuality (development), b)

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identifies and/or spots talent who can add value (recruiting and selecting), and c) using ability to put teams together. The focus that is being put forward in this context is the change agent and development concepts of this area. *Supporting change is defined for this study as encouraging individual growth and learning, and organizational innovation.* The concepts of supportive behavior are also a core element of path-goal theory (House, 1977). This is considered the appropriate thrust due to the limitations of the staff pool available imposed by the current long term care labor environment. Yet, as a leadership practice, this is not new thinking, and items are generally refined for our context.

Effective Communication: The employee's perception of top management's concern and caring, communicated via statements or policies, strongly influenced their commitment to the organization (Eisenberger, et.al, 1986). Positive perceptions of organizational support led to employees' sense of well-being, and ultimately translated to innovation and pro-social behavior (Eisenberger, Fasolo, & Davis-LaMastor, 1990). The area of communication requires further analysis and investigation based on its impact on the work setting. Communication is cited in the literature (Eisenberger, 1986; Eisenberger, et.al. 1990; Bovet, 1994; Capowski, 1994; Kouzes and Posner, 1996) with effective communication defined as a) motivating and empowering message, (inspiring) b) informing about strategic direction or future, (where are we going?) c) two-way interaction within all levels of the organization, (doing the right thing, establishing trust). *Effective communication is defined for this study as motivating communication and creating a climate of sharing information with everyone.* Within this industry, sharing information with staff increases their comfort, thereby enhancing their work and producing better care. The Baldrige criteria illustrate the importance of this point with their emphasis on communication in the leadership section (see Malcom Baldrige 1.1a(2) Note 1,2).

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Visible Presence/Personal Involvement of Management: Literature suggests that guidance and good feelings in a work setting maximize personal and organizational outcomes (Kerr and Jermier, 1978). Our own experience and the 'Management by Walking Around' trend encouraged by many organizations further solidify this indicator of personal involvement. Resident and nursing assistant focus groups have also further validated this construct for this organizational context. Personal involvement/visibility is supported in the general management and in the empirical literature (Drucker, 1996; Kouzes and Posner, 1996; Kerr, Jermier, 1978; Singh, et.al., 1996; Yearout, 1996; Capowski, 1994) with visible presence defined as a common way of role modeling for an identified need, and thereby providing support via the behavior. a) internal visibility -acquiring and solidifying support for visionary notions, and b) public visibility - managing external relationships. This notion of visibility has been refined from a previously expanded concept including role modeling, largely due to the clarity of measurement of this concept in long term care. *Visible presence is defined for this study as providing support with visible behavior and practices throughout the organization.* The environment in a long term care setting is very compact, and staff have daily or regular access to contact with leadership. Therefore, our measure will focus on internal visibility as a reflection of this leadership practice.

These last two practices, communication and visibility, are especially relevant to the goals and context (quality management) and the environment (nursing facility) of this study. These practices are not seen in this form in the general universal leadership literature.

TQM Orientation: Lastly, a fifth element of leadership needs to be noted, although not examined. The lack of an orientation toward and understanding of the TQM process is articulated as the one universal shortcoming of Western managers as compared to the Japenese tradition of quality (Easton, 1990).

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Understanding of TQM is noted by the founding fathers of quality and other quality literature (Easton, 1990; Waldman and Terri, 1998) as an awareness and internal acceptance of principles. This construct may be inherent and is not strictly a practice, but behavior is shaped by beliefs. The spirit of organizational change and improving the environment starts with a core attitude of leadership. Once again. this is consistent with many philosophies and writings of quality management, and does deserve some future attention.

Proposition #5: Quality management has specific leadership practices.

The first four leadership practices used for this study are developed as extensions to the existing leadership construct in the parent study and used as variables for the latent variable of leadership. Each of these areas has multiple items as indicators. Where does that put us within the general leadership research constructs of practices? As noted in the literature review, two of the most closely associated approaches for this study and currently most accepted standards for leadership research are Bass and Avolio, and Kouzes and Posner. A table highlighting the potential similarities is summarized below:

Table 3: Comparison with Guiding Leadership Practice Typologies

General Leadership (Posner & Kouzes)	Transformational Leadership (Bass & Avolio)	Quality LTC Leadership (Olson)
Challenging the Process	Intellectual Stimulation	Understanding the quality commitment
Inspiring a Shared Vision	Charisma	Focused visionary
Enabling Others to Act	Individualized Consideration	Supporting change
Modeling the Way		Visible presence
Encouraging the Heart	Inspirational Leadership	Communication

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This comparison generally satisfies the demands of staying within the learnings of past years of leadership research yet fine tuning our constructs for our specific need. Our main interest is leadership practices associated with influencing quality practices in a nursing facility setting. We have additionally adapted the items used for each construct for the study population, the long-term care staff. As mentioned earlier, this study will not include an examination of the construct associated with an understanding of quality management principles, due to its non-practice characteristics. Additionally, this construct has been excluded due to its exploratory nature and the fact that not all levels of the organization measured this construct. The four remaining practices put forward in this study are arguably more pragmatic and straightforward than anything used to date in the health services setting. As previously mentioned the visible presence and communication practices are two good examples of fine tuned practices for this study. This study is the first attempt to consider the context and goal of quality management within the long term care environment.

<u>Summary</u>

The overall conceptual model for this study is consistent with the 1998 Baldrige criteria, which stress the role of leadership, quality management areas and quality performance indicators in quality improvement efforts (1998). The theory of performance improvement for nursing facilities is supported by Anderson et al. (1994) applying the theory of quality management underlying the Deming management method. This theory, previously described in the literature review, posits and has shown empirically that leadership drives quality management within organizations.

The work of Meyer (1998) using the Baldrige criteria has also shown evidence that the construct of leadership influences quality management processes.

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Meyer used an aggregate measure of a hospital's leadership system to test influence on the quality system, both in an aggregate quality management form and on independent Baldrige-defined quality management practices. Her findings revealed a positive influence of leadership on all of these variables. Leadership is the first and an essential component of the Baldrige criteria and a primary emphasis of the proposed causal model in this study.

Based on the fact that there is little empirical data explaining the relationships between these Baldrige-defined quality management practices, this research will propose an organizational continuum. The quality practices of organizational systems will be viewed in terms of higher to lower order processes. The degree of organizational order is defined in terms of scope, impact and organizational complexity. The processes could also be described as strategic, operational and tactical in a higher to lower order continuum. The mediating quality management practice areas identified in our model will be treated with this framework in mind. This same higher to lower order framework will be applied to the role of the defined leadership practices. The ordering of leadership and quality practices influences the conceptual model development. A logical, heirarchical relationship between these areas is extended, and their proposed relationships experienced in the facility examined at multiple levels.

The examination of this model at three different levels in the facility–leadership and management, professional nursing and front line nursing staff– provides important new insights to the leadership research field. Although it may seem obvious that different roles within organizations have different needs or perspectives related to leadership very little research has examined this phenomenon. A limitation of previous research in the field of leadership and quality management has been the use of limited samples relying primarily on an individual subject (leader) and followers or an informant approach. This study will enable us to test the goodness of fit for the proposed model with varying

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roles clustered in independent responses within these defined groups. Each leadership practice's degree of importance is hypothesized to vary depending on the staff role. The practical example is that nursing assistants and administrators may have very different perspectives on important leadership practices within their facility. Researchers in these fields have not investigated this multi-level perspective in any depth. Many individuals experience the organizational phenomenon of leadership practices, and this study posits that those experiences are shaped by their roles. This approach will advance our knowledge of perceptions of varying staff members across varying organizational levels.

In summary, the gaps this research proposes to fill in the current quality literature are the following: 1) expand treatment of leadership to explore it as a multi-dimensional construct, and 2) avoid the limitations of a small sample or informant approach with a fuller sample representing multiple levels of the organization. The ability to test the different perceptions within the organization with a specified model will expand our understanding of organizational dynamics of quality leadership and practices. Furthermore, the model put forward by this study will expand knowledge in the following areas: 1) empirically explore the relationship between leadership and the outcome of employee satisfaction and 2) provide an in-depth investigation of key practices of on-site leadership in this high touch, human service field of long-term care at the nursing facility level.

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METHODOLOGY

Research Design

This specific study uses a non-experimental cross-sectional approach to test hypothesized relationships of the impact of leadership practices on quality management practices and employee satisfaction. Three different levels of staff based on their organizational roles are used to test the model: management, professional nursing staff, and front-line nursing assistant staff. Within each level, the unit of analysis for this study is the individual respondent.

The specific research questions we are interested in are:

1. Does the measurement model suggest that the proposed leadership practices are a multi-dimensional construct?

2. What are the effects of these leadership practices on employee satisfaction considering the mediating effects of quality management practices?

3. Do the causal models differ between management, professional nursing staff and nursing assistants?

Data are collected from 65 Minnesota nursing facilities that are all part of either Good Samaritan Society or Ebenezer Social Ministries corporations. Both corporations are non-profit, Lutheran sponsored health systems that provide the same range of service. These similarities are helpful to our research design, which assumes a certain amount of homogeneity among the nursing facilities. We worked with 44 Good Samaritan facilities and 21 Ebenezer Social Ministries facilities. As mentioned, the unit of analysis for our study is the individual employee at each of three levels within these nursing facilities. The sample size will vary as described in the study population section by type of respondent. These respondent categories will include 1) management, 2) professional nursing staff and 3) nursing assistants.

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Study populations

Employees were surveyed with the Organizational Quality Survey, a survey developed by the research team of a National Science Foundation project to study performance improvement in nursing facilities, to assess leadership practices, quality management practices, and perceived outcome of employee satisfaction in the facility (Appendix A). The management group had 748 estimated eligible respondents and 628 actual responses for an 84% response rate. Professional nurses had 1501 estimated eligible respondents and 569 actual responses for a 38% response rate. Lastly, nursing assistants had 2789 estimated eligible respondents and 1024 actual response for a 37% response rate (see Appendix B). To look for response bias we explored the differences in the distributions of item responses between facilities with response rates over 30% and those with response rates under 30%. There were no correlations between items attenuated by response rate when reviewing scatter diagrams. Therefore, it appears that the differential response rates are not resulting in facility level response bias. It should be noted most organizational research is conducted using an informant approach with only a few respondents, and our sample sizes are all a great deal larger than that approach.

Survey Development

Organizational Quality Survey overview

The initial framework and logic behind the survey was based on the Baldrige criteria and the work of Anderson, et. al. (1995), Meyer (1998), Shortell (1995) and others. The leadership practices and their corresponding scales were developed using the existing literature, leadership surveys, focus group feedback, a review of existing instruments, and soliciting feedback from an expert panel. Members of the expert panel include: Tom Stofac, Vice

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President of Fairview Health Systems; Bill Kubat, Vice President for the Good Samaritan Society; Nancy Thompson, Vice-President of Organizational Performance for Ebenezer Society; John Anderson, Professor at the University of Minnesota; Mary Rehwaldt, Advocacy Center for Long-Term Care; Robert Kane, Professor at the University of Minnesota; Bill Bednarcyk, Human Resources Consultant; Sandra Potthoff, Associate Professor at the University of Minnesota; Joel Brown, Leadership Consultant; Colleen Cooper, Medical Director, Minnesota Department of Health; and Ralph Arnott, a Business Quality Leader

The quality management practices serving as constructs for this survey are defined as the main areas describing the variables in our overall model for the parent study. These include leadership, information management, strategic planning, human resource practices, customer focus, process management, and various measures of outcome perceptions.

Leadership: comprised four practices including focused visionary, supporting change, communication, and a visible presence.

The multi-dimensional construct of quality management practices developed in the survey is comprised of strategic management, process management, human resource practices, information management, and customer focus. The last two practices, information management and customer focus, are not being used in this study. The Baldrige criteria served as a framework for our quality management practices. Each of these constructs is further described with specific dimensions.

Strategic management: comprised both development and deployment items. Both of these areas are based largely on the Baldrige criteria and yet have proved to be very difficult to distinguish based on empirical analysis in this study. The 'relative' stability of nursing facilities at the time of this study

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supports our inclusion of the strategic management area in our model. The climate in the nursing facility environment is one that is not changing so rapidly as to make strategic planning obsolete, yet changes in the market are occurring on a regular basis making it imperative to pay attention and plan ahead.

Process management has been expanded by the research team to include the dimensions of learning, operational (design and delivery), and evaluation. This expansion, beyond the Baldrige criteria of design and delivery, attempts to take into account the culture of the organizations with learning as a dimension and to incorporate a Plan-Do-Check-Act philosophy with the inclusion of an evaluation dimension. The impact this area has on the overall functions and operations makes it imperative to include in this model. This is especially true based on the high service focus of the facilities. The nature of these organizational types inherently has many system practices affecting human interactions and processes guided by such things as policies and routines ultimately affecting work actions and behavior.

Human resource practices have been expanded by our research team, along with utilizing advice from industrial relations experts, to include numerous areas often found in employee climate surveys. The rationale for this expansion is due to the high touch nature of the long-term care field, which consequently raises the importance of the staff contribution to quality. The dimensions underlying human resource practices include supervision, empowerment, job design, coordination, education and orientation, and safety and working conditions. We arrived at these dimensions after reviewing existing employee climate survey instruments and surveying the general human resource literature. Based on our dependent variable being employee satisfaction this quality management practice is obviously an important construct to include in our model.

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Information management initial underlying dimensions included structure, selection of data, comparative reviews and use of data. One dimension that may have an impact on employee satisfaction is the use of information, but we believe this is captured in the process management section. Information is also depicted as an underlying organizational practice by the Baldrige criteria. Customer focus of the organization was originally made up of two dimensions, knowledge and relationships. Once again, these dimensions parallel the Baldrige criteria. This area is most closely associated with customer satisfaction. As mentioned these last two practices are not used in this study.

Lastly, the research team developed a section measuring overall employee satisfaction and various outcome perceptions. This section used existing provider surveys and other quality management surveys (Meyer, 1998) to measure these areas. The employee satisfaction measure is used in this study.

Completed evaluation and scaling of all of these areas, along with specific discussions, is included in the results following specific Aim #1.

Initial survey construction

Based on the proposed conceptual model, this study specifically focuses on the sections in the NSF organizational quality survey related to leadership practices, quality practices (strategic planning, process management and human resources) and overall staff satisfaction. A listing of the empirical and/or conceptual sources for each question derivation reinforces the validity of these items (see Appendix C) and provides further understanding of the development of dimensions. See Appendix A for a copy of the organizational quality surveys.

Each theoretical construct, prior to the pre testing and pilot site testing, initially consisted of eight to twelve items. The oversight committee, research team,

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and representatives from both corporations reviewed these items to arrive at the best six to eight items to measure the proposed dimensions. This process centered on asking respondents to weight the importance of the question to a particular area or construct, and using this initial feedback to refine the initial draft of questions. Their feedback was used to assess content and the face validity of items. Content validity refers to the adequacy of the content of the construct being reflected in the items (Nunnally and Bernstein, 1994). Face validity is the appropriateness of the items measuring the construct, often evaluated by a group of experts (Nunnally and Bernstein, 1994). The research team used these criteria to eliminate questions, which did not fit the notion of the construct, appeared irrelevant, were not pertinent to our context or were just plain confusing. Individuals rated the importance of the question to the corresponding construct using a seven-point scale. The results of various individuals and groups were tabulated into a simple average score, and this information was used as a reference when making decisions to drop items. The remaining items were used for pre-testing and pilot testing the survey.

Pre-testing the survey

The survey was pre-tested to identify and address potential refinements. The people used to pre-test the instrument included a variety of management and service staff across four different facilities. One of the biggest challenges for the Organizational Quality Survey was making the language comprehensible to various levels of staff taking the survey. The feedback from the nursing assistants was especially helpful to simplify or tone down the language. Second, the length of this initial draft survey was shortened by at least a third based on the pre-testing and pilot test results. Third, survey administration was simplified based on comments from the pilot sites.

Prior to the pilot site testing, we had at least six items per dimension under each broader construct. The surveys were pilot tested in four facilities, including two from each corporation using both urban and rural settings. The protocol and survey administration that was to be followed in all the facilities was also used, and feedback on the effectiveness of this procedure was solicited in personal interviews with the lead contact for the pilot sites.

A number of factors were considered when reviewing the measurement analyses. The reliability of the areas and constructs was assessed using Cronbach's alpha, a measure of the internal consistency of a scale. Cronbach's alpha is based on the average correlation among items in a scale with a correction that adjusts for the number of items in the scale (Nunnally and Bernstein, 1994). This was done by broad quality management area, such as strategic planning, and then further done by construct, such as development and deployment. SPSS was used to do these tests. The construct results ranged from .796 to .901 with an average of approximately .85, well above the suggested minimum value of .7 (Nunnally and Bernstein, 1994).

Confirmatory factor analysis was used with all of the multi-dimensional areas of the survey. Confirmatory factor analysis is a technique in which items and relationships defining factors are specified a priori, and uses a fitting approach with a previously identified theoretical model. Strong factor loadings of items help establish convergent validity. Overall fit was assessed using Chi-square statistics and goodness of fit measures (e.g. RMSEA). Lastly, discriminant validity was evaluated with a goal of keeping construct inter-correlation under .8 (Fornell and Larcker, 1981). LISREL 8.3 software was used to analyze the staff surveys, which provided a reasonable sample size to support some

preliminary confirmatory factor analyses. These measurement steps were repeated with the actual survey data in Specific Aim #1.

The sample size from the staff pilot data was 182. Exploratory factor analysis was also run using SPSS with the management survey as an additional point of reference information. The previously discussed techniques were used to focus and refine survey items under each theoretical construct down to approximately three to four items.

Staff and volunteers assisted employees with English as a second language with completing the survey. To minimize any potential response bias they used explicit survey assistance instructions (Appendix D). Reverse coding is used with approximately 10% of the items to avoid response drift. The pilot sites critiqued these approaches and methods.

Summary of constructs used for this study

As a point of reference, table 4 below gives a nominal definition of each construct in this study. All of these constructs are measured with items found in the organizational quality survey.

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Table 4: Summary of constructs used for this study

	Constructs	Definition
Leadership Practices	Focused Visionary	Setting the future agenda or purpose for the organization
	Supporting change	Encouraging individual growth and learning, and organizational innovation
	Leadership's communication	Motivating communication and creating a climate of sharing information with everyone
	Leadership's visible presence	Providing support with visible behavior and practices throughout the organization
Quality Mgmt Practices	Strategic Planning	Development of organizational direction and deployment of action plans
	Process management	Focus on the set of practices emphasizing organizational actions at a systems level
	Human resource practices	Organizational development and utilization of staff, along with the impact of the work environment and climate
Outcome	Employee satisfaction	Overall feelings and perception of staff members about the work atmosphere and culture

* Each of the above constructs are measured using 3 to 4 items with a simple 5 point Likert scale comprised of: 1) Not at all 2) Rarely 3) Sometimes 4) Usually 5) Always. This scale assesses the level of frequency or degree that each item occurs in a facility as perceived by the respondent.

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Pilot test results

Listed below are the specific questions used within the leadership constructs for this study, along with the corresponding Cronbach's alphas for the pilot tests. Items with an asterisk have been modified and were not included in the reliability analysis. Additionally, Table 5 displays quality management practices proposed for this study, along with their corresponding dimensions and an aggregate average reliability across dimensions within these practices based on the pilot site data. The specific treatment of each of these variables is also specified by investigating their behavior with the pilot site data, and is further discussed in the proposed analysis sections. Finally, employee satisfaction measures are listed along with their respective Cronbach's alpha.

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Constructs	Items	Alpha
Focused Visionary	L1. Our key leadership staff sets the direction for our facility L2. Our facility has a vision which has been the focus of our energies L3. All employees support the vision of this facility L4. Our leadership staff has a clear set of priorities*	0.796
Supporting Change	L11. Our leadership staff encourages learning and growth L12. Our leadership staff encourages staff to take on new initiatives L13. Our leadership staff is willing to take risks* L14. Our leadereship staff ensures that employees adhere to agreed upon standards	0.810
Communication	L15. Our leadership staff listens to employees. L16. Our leadership staff places a priority on communication with employees.* L17. Our leadership staff is approachable. L18. Our leadership staff is honest.	0.863
Visible	L5. Our leadership staff is visible in our facility. L6. Our leadership staff knows the names of employees. L7. Our leadership staff knows the names of residents. L8. Our leadership staff displays a sense of caring when walking around the facility.*	0.850
Strategic Planning	Development & deployment dimensions	0.901
Process Management	Learning, design, delivery & evaluation dimensions	0.878
HR Practices	Supervision, empowerment, job design, coordination, education and safety dimensions	0.828
Employee Satisfaction	P1. I would recommend this facility as a good place to work. P2. This facility cares about the well-being of its staff. P3. I find my work satisfying and fulfilling.	0.868

Table 5: Pilot reliability test results

The alphas reported in the pilot data are all well above the .7 recommended by Nunnally. The alphas reported for strategic planning, process management and human resource practices are an average of the construct results.

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The leadership section also provided cueing of all respondents to give their responses with the targeted leadership group in mind. This was accomplished by 1) directions at the beginning of this survey section providing a clear leadership definition, 2) using language that had been field tested for each group, and 3) providing concrete examples of roles in the facility. Two focus groups were conducted to clarify who respondents saw as leaders in their organizations. These were done following the actual administration of the survey to verify that respondents had the right persons or group in mind. Participants were asked to describe the leadership persons or group they thought of when filling out the survey or when asked the specific items verbally. All of the responses were focusing on the on-site leadership within their respective facility, and mentioned only a few key roles. None of the respondents mentioned individuals who were in a corporate role, which was a concern of the research team. When specifically asked about this corporate leadership influence at the end of the focus group, participants confirmed their lack of perceived influence. The focus groups comprised a variety of staff roles and were held at a nursing facility location representing each corporation participating in this study.

Identifying the leadership group in each of these facilities was also done with the actual survey administration. The reasons included clearly delineating one of the respondent groups to potentially examine and also to serve as confirmation of the referent group for this study's leadership practices section. Most research has taken one of two approaches. The first is to specifically name the Administrator or Director of Nursing as the leadership of the facility. A second approach would be to include the entire management group, which is often referred to as the "department heads." We believe neither of these approaches is satisfactory, and that the actual answer for who represents the

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leadership of a facility may be someplace in between these extremes of past research. This assumption has been substantiated by corporate feedback and facility feedback during an informal leadership forum, as well as the experience of the research oversight committee. We have approached this problem in two different ways.

First, as mentioned above in the survey development section, we provided a definition and example of leadership to cue respondents to think in the same terms about the facility leadership. Secondly, an approach to actually identify the facility specific leadership group was developed using the following steps. (This approach was only used with the management staff in their survey, based on the assumption that they serve as a good informant source). Step one, as part of the demographic section of the organizational quality survey, each member of the management group was asked to identify their own position. We reinforced confidentiality in this section to encourage honest responses throughout the survey. The value of having this information from each respondent is that we can use his or her actual responses for the subsequently identified leadership group. Step two, we asked each management respondent to evaluate the leadership influence of his or her peers. This gives us an internal assessment of the core leadership group within the facility. Step three, we ask the management respondents to self-identify their own perceived leadership role. Although, this may be less reliable than the perception of others, it can be used to further support inclusion or exclusion decisions. Criteria to include roles in the leadership group were based on at least 75% of the respondents ranking a role as a very or extremely influential leader and an aggregated self identity score of 12 or more. These rules allowed us to analyze the data in a variety of ways, including paying attention to any emerging leadership group patterns.

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Results of this approach yielded the following summary results:

1) Leadership is generally comprised of a very few key individuals within a facility, 2-3 individuals on average;

2) Administrators were included all of the time, except for one location;

3) Directors of Nursing roles were included much of the time;

4) A few roles were included on a limited basis

5) A majority of roles were not included at all in this leadership group.

* See Appendix E for additional results

The above information was used as an initial guide for inclusion or exclusion decisions. This approach could have allowed partitioning of the entire management group to allow for model evaluation across both a leadership and management group. However, the results of this approach yielded a group of 86 influential leaders identified, which was not large enough to test the proposed model on this subset of identified leaders. A decision was made to use the entire management group as one population to test the proposed model with the understanding that the identified leaders perspectives would be in this set of responses. Therefore, the entire management group, including these influential leaders, was used to test the model as one occupational group. Nonetheless, these results provide assurance that the administrator and director of nursing were the right examples to use for cueing respondents. These results inform future research to consider these two critical roles, the administrator and director of nursing, in the development of any research approaches. The results also have their own set of practice implications. For instance, the historical use of the director of nursing title probably should be re-evaluated.

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Data Sources

The primary data source is the Organizational Quality Survey. This survey was developed as part of a larger study funded in 1998 by the National Science Foundation to explore performance improvement in nursing facilities. Each nursing facility surveyed its management and staff using the organizational quality survey. These surveys were developed to measure the level of quality management practices of a number of defined areas using the Baldrige criteria as a framework, including leadership, quality management practices and some specific outcomes. There is a separate parallel survey for management and staff to complete.

The management staff, commonly referred to as the department heads, completed the management survey. The remaining staff members took the 'staff' Organizational Quality Survey, and their roles are identified in the initial demographic section, which allows us to identify the sub-population of professional and non-professional nursing staff. These groups are also used to test the proposed path model. The items, representing the constructs identified in the model, are found in both versions of the organizational quality surveys, and these identical items will be used for all the analysis.

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The following is a summary of methodological approaches to be used answering the questions proposed as specific aims.

For specific aim #1, a measurement model is used to assess the reliability and validity of the indicators for the theoretical constructs utilizing a confirmatory factor analysis technique. The characteristics of the items and constructs are also reported and examined to assist in the construction of various scales. An important area to be aware of is that some theoretical constructs are first order constructs (are directly linked to indicators) and some are second order constructs (are only indirectly linked to observable indicators). Visual examples are illustrated below in Figure 3:
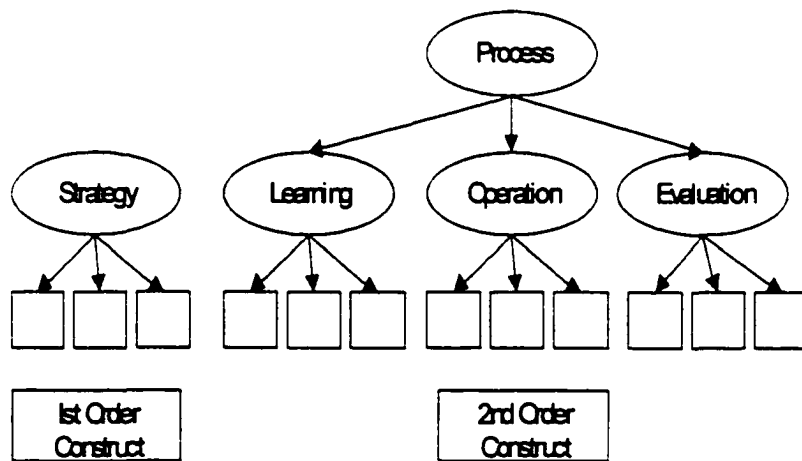
Figure 3: First and Second Order Constructs

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Specific approaches to measures for testing the goodness of fit for structural equation models is achieved by primarily using the RMSEA as a fit statistic. The rationale for using this measure rather than the chi-square is that it attempts to take into consideration the parsimony of models (Browne and Cudeck, 1993). Furthermore, the RMSEA takes into account the proposed model being in the early development phase (gives an approximate versus perfect fit) and the sample size. No measure is perfect and that there is some debate about the nature of these measures (Hayduk and Glaser, 2000; and Steiger, 2000). One of the more credible fit indexes, the comparative fit index (CFI) is also reported for additional support. The CFI modifies the more common Normed Fit Index by subtracting the degrees of freedom for each model from the respective chi-square (yielding estimates of noncentrality parameters). The CFI is truncated to fall in the range from 0 to 1. CFI values close to 1 indicate a very good fit (Bentler, 1990).

The Chi-square statistic incorporates no penalty for model complexity and will tend to favor models with many parameters. In comparing two nested models, the chi-square will never favor the simpler model. Steiger and Lind (1980) suggested compensating for the effect of model complexity by dividing the minimum of the fitting function by the number of degrees of freedom for testing the model. Taking the square root of the resulting ratio gives the population "root mean square error of approximation", called RMS by Steiger and Lind, and RMSEA by Browne and Cudeck (1993).

The general rule of thumb noted by Browne and Cudeck, in 1993 is "Practical experience has made us feel that a value of the RMSEA of about .05 or less would indicate a close fit of the model in relation to the degrees of freedom. This figure is based on subjective judgment. It cannot be regarded as infallible or correct, but it is more reasonable than the requirement of exact fit with the

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RMSEA = 0.0. We are also of the opinion that a value of about 0.08 or less for the RMSEA would indicate a reasonable error of approximation and would not want to employ a model with a RMSEA greater than 0.1."

Therefore, a structural equation model is considered to be a plausible explanation of reality if the Confirmatory Fit Index (CFI) is close to 1 and the Root Mean Square Error of Approximation (RMSEA) is below or near .08 (the lower the better). Although, care needs to be taken about general statements citing specific cut-offs to establish good fit (Brown and Cudeck, 1993; Raykov and Widman, 1995; Steiger, 2000).

For specific aim #2, when evaluating our structural model the methodological approach used is structural equation modeling (SEM) for three primary reasons (Maruyama, 1998):

1. SEM has the ability to handle both the structural and measurement models.
2. Full information maximum likelihood estimation is efficient.
3. SEM produces an overall measure of fit.
4. Incorporating measurement error into analysis is straightforward.

A logical conceptual framework is required to strengthen cause and effect relationships proposed in any model. Overall, SEM fits the nature of the model and data proposed in this study.

T-tests are used to evaluate path coefficients in the models using a .05 significance level which is a t score greater than 1.96. This measure is derived by using the following formula; $T = ß1/se(ß1)$, where $ß1 = $ estimated slope coefficient. For a two tailed test, we used the general rule of T values being greater than 1.96 to reject the null hypothesis and justify a significant relationship between the two constructs (Weisberg, 1985).

Lastly, for specific aim #3 we test paths across population groups. To test for possible similarities and differences between the three comparison groups, the chi-square differences test is used to estimate the model with the equality constraint on a path and then look at the change in chi-square using two groups at a time (e.g., Arbuckle and Wothke, 1999). The resulting change in chi-square allows an evaluation of the difference in the path coefficient between these two groups using a .05 significance level which is a chi-square change greater than 3.84. The other estimates in that model are a bit different than they were in the unconstrained model. The chi-square differences test is a common application with SEM (Arbuckle and Wothke, 1999; Rigdon et. al. 1998; and Maryuma, 1998).

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SPECIFIC AIM #1

The first specific aim tests the multi-dimensional nature of long term care leadership as applied to quality management practices.

Specific Aim #1:
> Test whether leadership practices proposed actually are a multi-dimensional construct.

Analysis of Specific Aim #1

Confirmatory factor analysis is used with all four of the proposed leadership practices and their corresponding items. Confirmatory factor analysis is a technique in which items and relationships defining factors are specified a priori, and uses a fitting approach with a previously identified theoretical model. Confirmatory factor analysis is one type of a latent variable structural equation model (Maruyama, 1998). This is an appropriate strategy based on the original construct development work done this past year, and the initial results of the pilot data analysis. Development and validity of the items are documented, along with the pilot test results. The same factors used to assess the pilot data are considered once again when conducting these analyses. The same measures to assess the overall fit of the measurement model included the following: Chi-square statistics; goodness of fit measures using the root mean square error of approximation, (RMSEA) and the comparative fit index(CFI). A goal of strong factor loadings of standardized items; and keeping construct inter-correlation under .8 strengthens the argument that they are independent dimensions. Yet, it is also recognized that these constructs are sub-dimensions of a more general construct and thus must be highly correlated. Additionally, as part of the study's overall measurement assessment process discriminant

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validity was assessed with the actual data by testing the hypothesis that the inter-construct correlation is one. Being able to reject the hypothesis that the inter-construct correlation is one demonstrates discriminant validity (Baggozzi, 1980). These items are also further tested for their reliability as part of the analyses of the actual data.

A visual depiction of the measurement model relationship we will be examining for leadership is presented below in Figure 4:
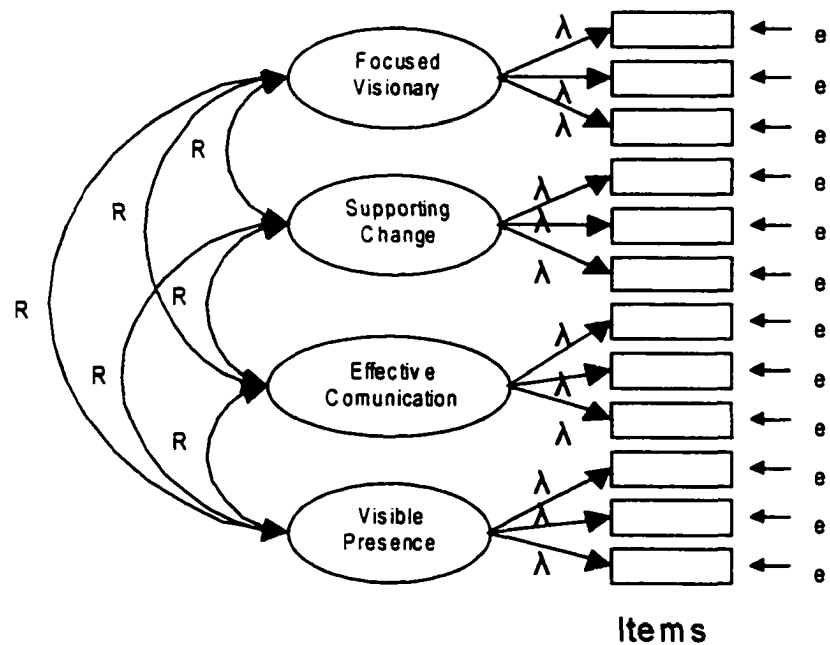
Figure 4: Measurement Model

Initially, this analysis considered using the aggregate responses of the study populations to confirm the proposed leadership practices. This measurement model analysis is also done with all three levels of the data to confirm the

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clarity of understanding between the various groups being used to test the model for the leadership practices. An initial discussion of the observed results is shared after the leadership practices reliability and confirmatory factor analysis models.

Following the leadership practices section, the analysis and results of the additional quality management practice and employee satisfaction measurement models are reported. An informant approach was used with the other measurement constructs when running the confirmatory factor analysis to insure the most knowledgeable group was used to confirm measurement items. For instance, the management group was analyzed to insure that the strategic management is appropriately scaled for the study population. Table 6 below highlights this approach:

Area	Group	Rationale for Group
Leadership	Aggregate and all groups	Interested in effect of each practice across the organization
Strategic management	Management	Closest to the operation of this actual practice
Process management	Professional Nurses	This group is in the middle or crossroads of organizational actions
Human resource practices	Professional Nurses and Nursing Assitants	This measure is most expereinced by these groups
Satisfaction	Aggregate	This measure affects all groups

Table 6: Respondent Group Rationale

Responses from management, professional nurses, and nursing assistants to the Organizational Quality Survey (OQS) are used to develop measurement models and ultimately test the conceptual models. The OQS measures for each of the areas outlined in the conceptual model consist of three to four questions. Questions within the practice scales and satisfaction scales are based on a 1 to 5 Likert Scale with possible responses ranging from "Not at all" to "Always."

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Definitions, alpha reliabilities, means, standard deviations and confirmatory factor analysis will be given for each area. Lastly, any comments regarding how the measurement may have changed from the pilot tests and any initial observations follow this quantitative information.

Results for Specific Aim #1

Table 7: Leadership Scale Definitions, Questions, and Characteristics

Item	Scale - definition	Alph	N	Mean	S. D.
	Focused Visionary - setting the future agenda or purpose for the organization	0.85	2124	14.58	3.01
L1	Our leadership staff sets the direction for our facility		2193	3.93	0.86
L2	Our facility has a vision which has been the focus of our energies		2180	3.70	0.96
L3	All employees support the vision of this facility		2166	3.31	0.87
L4	Our leadership staff has a clear set of priorities		2177	3.64	0.95
	Supporting Change - encouraging individual growth and learning, and organizational innovation	0.86	2115	14.71	3.18
L11	Our leadership staff encourages learning and growth		2190	3.92	0.93
L12	Our leadership staff encourages staff to take on new initiatives		2187	3.67	0.98
L13	Our leadership staff is willing to take risks		2144	3.34	1.01
L14	Our leadership staff ensures that employees adhere to agreed upon standards		2173	3.76	0.89
	Communication - motivating communication and creating a climate of sharing information with everyone	0.92	2135	14.78	3.64
L15	Our leadership staff listens to employees		2191	3.52	1.03
L16	Our leadership staff places a priority on communication with employees		2182	3.48	1.04
L17	Our leadership staff is approachable		2188	3.82	0.98
L18	Our leadership staff is honest		2171	3.92	0.99
	Visible Presence - providing support with visible behavior and practices throughout the organization	0.85	2098	16.36	2.98
L5	Our leadership staff is visible in our facility		2170	3.92	0.95
L6	Our leadership staff knows the names of employees		2182	4.15	0.86
L7	Our leadership staff knows the names of residents		2153	4.21	0.87
L8	Our leadership staff displays a sense of caring when walking around the facility		2185	4.06	0.90

The alpha scores for each of these constructs are high, .85, .86, .92 and .85 reflecting good internal consistency of the scales. These scores were calculated using the unstandardized data set. The visible presence scale is skewed towards

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the upper range, which is one of the problems in the analysis of this construct in the model. This biases the significance results for the t-test because of the violation of normal theory.

Chi Square = 1208.756
DF = 98
CFI = .948
RMSEA = .071
p-value = .000

Figure 5   Leadership constructs – aggregate model

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Figure 6   Leadership constructs – management model

Chi Square = 435.196
DF = 98

CFI = .939
RMSEA = .078
p-value = .000

Figure 7   Leadership constructs – professional nursing model

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Chi Square = 569.899
DF = 98
CFI = .954
RMSEA = .069
p-value = .000

Figure 8   Leadership constructs – nursing assistant model

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The overall consistency and fit of the leadership measurement models with each of the groups is satisfactory beginning with the aggregate data model (see Figure 5) with a RMSEA of .071. Overall, the leadership practices inter-construct correlation increases as the groups move down the formal leadership hierarchy of the organization. This makes sense, as it is more difficult for persons further removed from their actual practice to differentiate them. The RMSEAs are .071, for the management group (see Figure 6), and .078 and .069, for the professional nursing and nursing assistants groups (see Figures 7 and 8), and CFIs are all above .93, which in this case helps indicate good fit.

Additional measurement models results

The following scales are used in the overall model testing the impact of leadership practices on satisfaction. Their results are reported in the same sequence of analysis as above, although a variety of informant groups were used for the confirmatory factor analyses.

Table 8: Strategic Management Definitions, Questions, and Characteristics

Item	Scale - definition	Alph	N	Mean	S. D.
	Strategic management - development of organizational direction and deployment of action plans	0.92	2074	16.91	4.11
S3	Our department heads take time to plan for improving the quality of services		2163	3.73	0.92
S4	This facility does a good job prioritizing goals		2175	3.50	0.97
S5	Facility plans are turned into specific activities for each department		2125	3.44	0.93
S7	The specific actions required to meet facility goals are clearly communicated to staff		2161	3.32	1.00
S8	Our leadership staff takes responsibility for results based on the facility's plans and goals.		2146	3.60	0.95

Figure 9   Strategic management – management model

Strategic Management Constructs -- Management Group

Chi Square = 29.102
DF = 5
p-value = .000
CFI = .998
RMSEA = .088
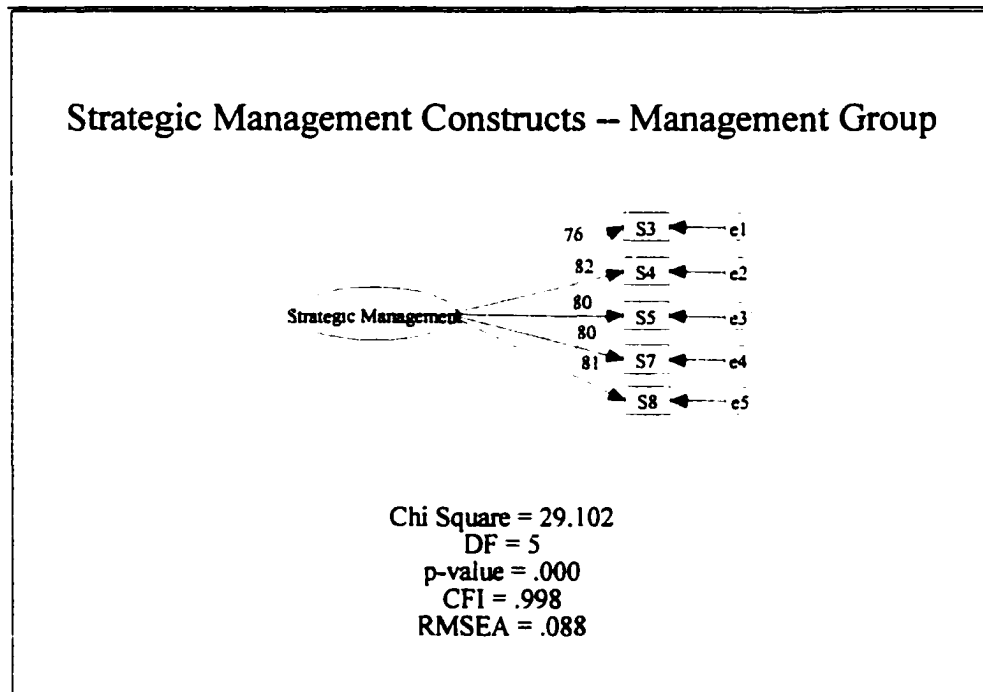
Strategic management has been consolidated into one construct due to the inability, from a theoretical and measurement standpoint, to differentiate between the Baldrige constructs of development and deployment. As was previously stated, the management group was used for the confirmatory factor analysis due to their proximity in the organization to the actual implementation of strategic planning activity. The inter-construct relationships were never measured below .95. This problem of high correlation was also experienced with the pilot data. The reliability of .92 is a good indicator of the internal consistency of the scale. The RMSEA of .088 and CFI of .998 provide evidence that the overall fit of the model is acceptable, although not good.

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Table 9: Process Management Definitions, Questions, and Characteristics

Item	Scale	Alpha	N	Mean	S. D.
	Process management - focus on the set of practices emphasizing organizational actions at a systems level				
	Learning - continually expanding the organization's capacity to create its future (Senge, 1990)	0.85	2132	10.96	2.48
M1	The climate of this facility encourages new ideas		2155	3.50	0.93
M2	We are encouraged to develop innovative ways to deliver resident care and services		2156	3.65	0.96
M3	There is a commitment to education and training in this facility		2177	3.82	0.94
	Operational - design and delivery of internal systems to support organizational goals and plans	0.83	2076	10.72	2.30
M8	This facility uses interdepartmental teams to solve problems		2140	3.60	0.92
M9	Service staff activeley particpate in quality improvement efforts in this facility.		2115	3.56	0.87
M10	Service performance standards are understood by all departments.		2128	3.55	0.87
	Evaluation - determination of the quality of care and services by appraisal and study	0.86	2032	11.46	2.48
M14	We measure the performance of our care and services.		2082	3.75	0.87
M17	A system to monitor quality is in place in this facility		2086	3.82	1.00
M18	Our facility continously evaluates our care and services to change the future care and services		2119	3.87	0.93

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Process Mgmt Scales -- Professional Nursing

Chi Square = 91.688
DF = 24
CFI = .996
RMSEA = .070
p-value = .000
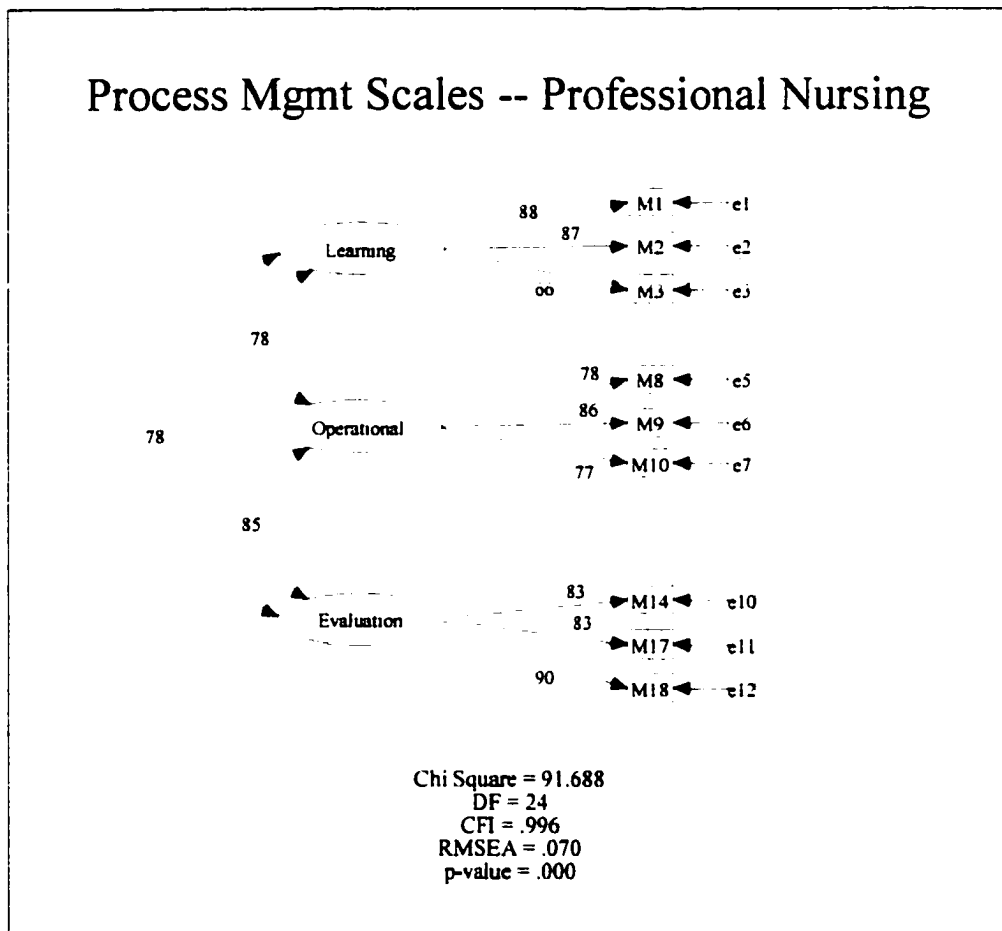
Figure 10   Process management – professional nursing model

As previously mentioned, process management has been constructed utilizing three constructs, learning, operational, and evaluation. Professional nursing was used as the informant group because their organizational role is at a critical system implementation level. Learning sets the stage for internal action within the organization. The operational construct combines the Baldrige elements of design and delivery, which, both from a theoretical and measurement standpoint, are unable to be differentiated in both the pilot and actual data. Evaluation is focused on the determination of quality of service. The .85, .83,

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and .86 reliabilities reported are good. The RMSEA of .070 indicates a reasonably good fitting model. This practice was very difficult to construct, and both the Baldrige and ISO 9000 frameworks were not completely satisfactory.

Table 10: Human Resources Definitions, Questions, and Characteristics

Item	Scale	Alph	N	Mean	S. D.
	Human resources - organizational development and utilization of staff, along with the impact of the work environment and climate				
	Supervision - managerial action ensuring that work processes support organizational plans and processes	0.88	2148	15.67	3.32
H1	My immediate supervisor(s) responds to concerns in a timely manner.		2187	3.88	0.92
H2	My immediate supervisor(s) gives constructive suggestions to improve		2173	3.71	1.03
H3	My immediate supervisor(s) is open to suggestions.		2190	3.92	0.99
H4	My immediate supervisor(s) treats me fairly.		2175	4.13	0.91
	Empowerment - practices that enable staff to exercise appropriate discretion and decision making	0.87	2144	14.87	3.63
H5	I have the opportunity to make independent decisions in this facility.		2188	3.90	0.97
H6	I am encouraged to think of better ways of doing things.		2187	4.01	0.98
H7	I have the opportunity to participate in decision making.		2174	3.57	1.11
H8	I participate in planning care and services in this facility.		2176	3.38	1.22
	Job Design - work structures designed to create flexibility and facilitate patient-focused processes	0.81	2138	10.19	2.57
H10	The staffing levels in this facility negatively affect resident care.		2184	3.13	1.06
H11	My job duties allow me enough time to do my job properly.		2170	3.48	0.94
H12	The work assignments are well planned in my department/facility.		2177	3.59	1.02
	Coordination - practices that facilitate harmonious functioning across departments and work units	0.84	2129	14.64	3.13
H13	Good communication exists between departments.		2186	3.67	0.91
H14	Good communication exists between shifts.		2174	3.78	0.95
H15	My department/facility works as a team in providing good care to		2184	3.74	0.98
H16	Resident care is coordinated with all departments.		2183	3.45	0.96
	Education and Training - practices that meet the ongoing knowledge needs of staff and help develop a high performance workplace	0.84	2129	14.64	3.13
H17	The orientation and training program prepares employees to do their		2197	3.67	0.91
H18	My job allows me to develop new knowledge and skills.		2197	3.78	0.95
H19	This facility supports the career development of staff.		2144	3.74	0.98

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Chi Square = 371.884
DF = 142
CFI = .963

RMSEA = .053
p-value = .000

Figure 11 Human resources – professional nurses model

Figure 12 Human resources – nursing assistants

.79 H1 ◄ e1
.76 H2 ◄ e2
.86 H3 ◄ e3
.78 H4 ◄ e4

Supervision

.72 H5 ◄ e5
.78 H6 ◄ e6
.86 H7 ◄ e7
.69 H8 ◄ e8

Empowerment

.71 H10 ◄ e9
.78 H11 ◄ e10
.83 H12 ◄ e11

Job Design

.82 H13 ◄ e12
.77 H14 ◄ e13
.75 H15 ◄ e14
.76 H16 ◄ e15

Communication

.67 H17 ◄ e16
.78 H18 ◄ e17
.81 H19 ◄ e18
.81 H20 ◄ e19

Education

.75
.65
.70
.61
.69 .62
.66 .85
.82
.80

Chi Square = 570.897

DF = 142

CFI = .963

RMSEA = .054

p-value = .000

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Professional nurses and nursing assistants are used to construct the human resource scales based on the fact that these groups are both assumed to be impacted by human resource practices. The constructs used include supervision, empowerment, job design, coordination and education, which all have reliabilities above .8. The interconstruct correlation between the models used with group varies to some degree, but generally supports the separate constructs. These models both fit well with RMSEAs of .053 and .054 and CFI's of .963.

Table 11: Satisfaction Scale Definitions, Questions, and Characteristics

Item	Scale - definition	Alpha	N	Mean	S. D.
	Satisfaction - overall feelings and perception of staff members about the work atmosphere and culture	0.89	2151	11.29	2.88
P1	I would recommend this facility as a good place to work.		2192	3.89	0.98
P2	This facility cares about the well-being of its staff.		2165	3.80	1.11
P3	I find my work satisfying and fulfilling.		2181	3.59	1.08

Figure 13 Satisfaction – aggregate model
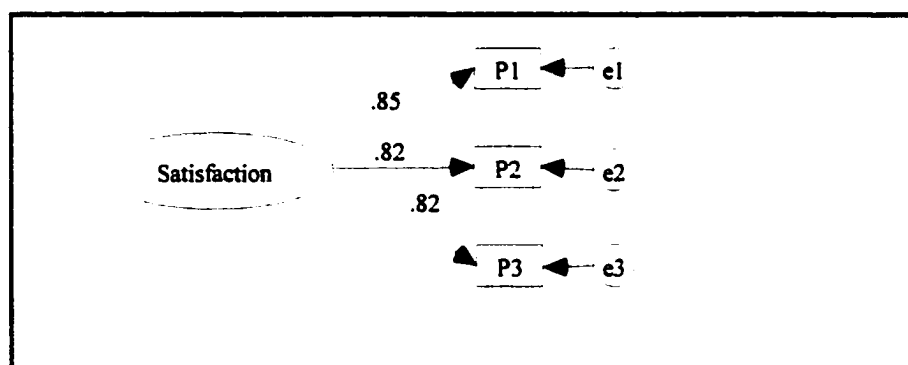
Lastly, the aggregate data is used to construct the measure of satisfaction based on using this variable being experienced by all staff. This model is a just identified model with zero degrees of freedom, and therefore the overall results of a chi-square of 0, and no reported RMSEA or p-value. The reliability of .89 and factor weights of .85, .82 and .82 are good results.

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SPECIFIC AIM #2

The second specific aim is to put forward a structural equation model focusing on the relationship between leadership and employee satisfaction in a nursing facility. This serves as Specific Aim #2:

> ➤ Test the relationships proposed in a path model explaining the impact these leadership practices have on employee satisfaction considering the mediating effects of quality management practices.

Conceptual Model Specific Aim #2

The specific path model for this study will focus on three key extensions to the existing literature. First, the model will treat leadership as a multi-dimensional construct. Second, the theoretical construction of previous models will guide the development of a path model that hypothesizes the relationship between these leadership practices, quality management practices, and the specific nursing facility outcome of employee satisfaction. This dependent variable, employee satisfaction, is a key outcome in the high touch environment of long-term care organizations, as well as in the quality management literature. It was also chosen based on its importance as a delivery outcome, potential interrelationship with resident care satisfaction and the interests of the providers. We will be able to suggest a correspondence of leadership practices to employee satisfaction as an extension of leader-follower relationships. Third, the model will include as mediating variables specific elements of quality management practices hypothesized to be most influential on our dependent variable.

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Hypotheses flowing from leadership practices will suggest a hierarchical relationship with quality management (QM) practices of an organization. This relationship is based on higher or lower order organizational functions or processes. For example, the higher order leadership practice of being a focused visionary requires greater organizational support and understanding, as opposed to that of providing a visible presence which involves less organizational complexity and forethought, and may be considered a lower order practice. The quality management practices chosen to help explain the relationship between leadership practices and employee satisfaction will follow this same framework. Therefore, strategic planning, which requires greater organizational understanding is considered a higher order process as compared to process management and human resources. Process management, which is viewed to encompass all of the organization's functions, including human resources, is considered for this model a higher ordered process as compared to human resources. These mediating quality management practices can be described as strategic, operational and tactical in a higher to lower order view. The higher order practices that require greater organizational support and understanding, such as focused visionary leadership and strategic planning, are posited to be the highest order practices and have a direct path or relationship in our model. This same relationship also holds true as we move vertically down our model.

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Figure 14: Quality Leadership Practices Path Model

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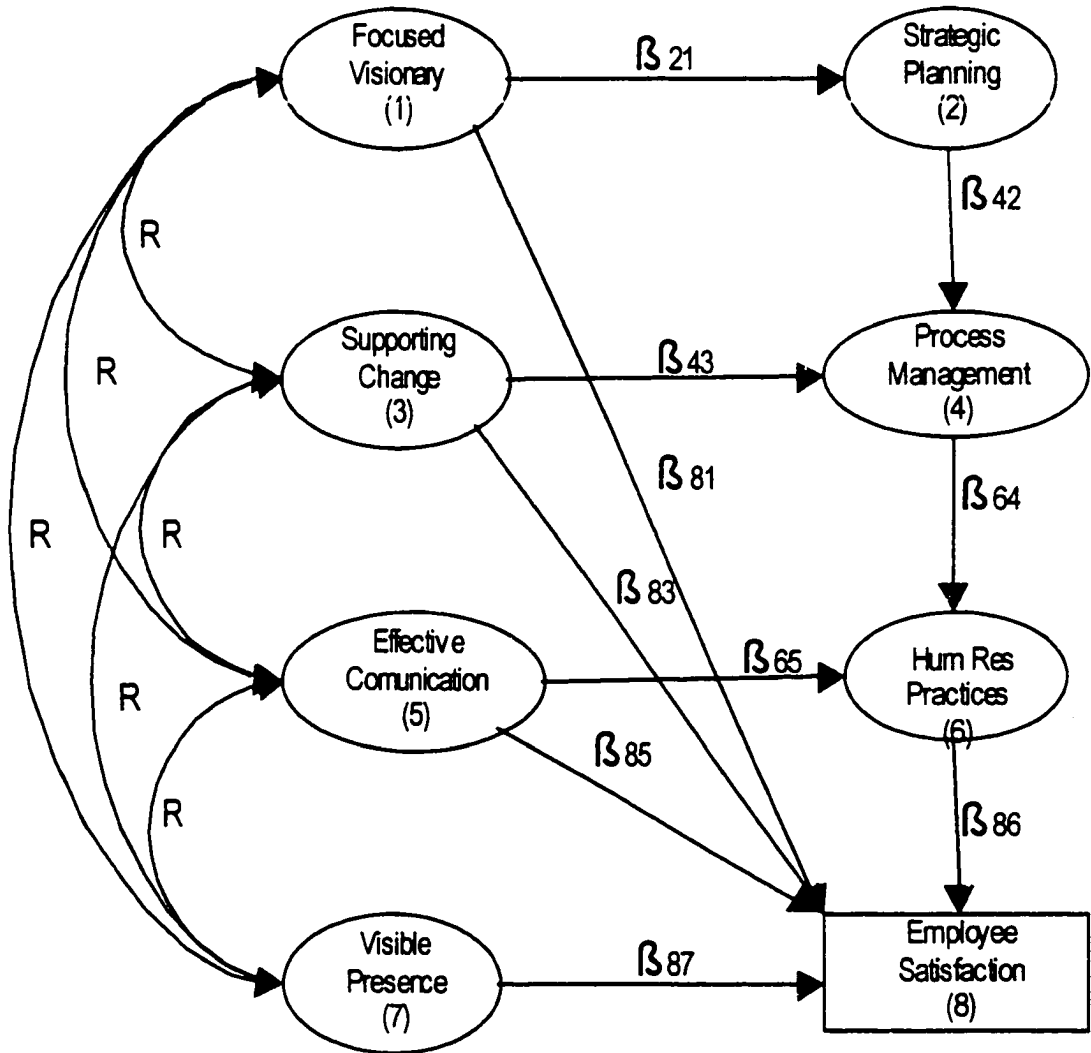
The specific hypotheses for this path model are the following:

Hypothesis 1 (Path β21): The greater the focused visionary skills of leadership perceived by staff the greater the strategic planning efforts of the organization. This hypothesis draws on the key relationships of the Baldrige criteria focusing on organizational direction efforts between leadership and strategic planning (Baldrige Health Care Criteria, 1998). Further, the constructs put forward in the quality management teachings of Deming and Juran also support this relationship (Deming, 1986 and Juran, 1987, 1988). Therein, much of the quality management research has focused on the visionary component of leadership helping set the direction for the organization. Finally, Bass has also put forward the importance of this connection in his development of the transformational leadership model (Bass 1985).

Hypothesis 2 (Path β 42): The greater the strategic planning efforts of the organization the greater the process management of the organization. The macro direction and guidance of an organization found in strategic planning is posited to be directly tied to the actual internal design and delivery of internal operations or processes of the organization. Development and deployment of planning efforts have an influence on the design and delivery of the process management components of an organization. Action plans derived from strategic planning are a driving force for internal systems. This is the intersection between the external forces of the environment taken into strategic consideration and intertwined with the internal process mechanisms of an organization. The strategic planning efforts of the facilities in this study are deemed even more important than in the general management literature (Dean and Bowen, 1994), due to the relatively stable long term care market.

Hypothesis 3 (Path β 43): The greater the perceptions of leadership supporting change the greater the process management of the organization.

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Leadership's encouragement and sponsorship of change agent practices influences the climate and culture of an organization. This learning and growth is encouraged by effective leadership and is evidenced through the learning dimension in the process management area. Kanter has found evidence to suggest that internal innovation in companies is experienced through elements of management's support for change. These elements are expressed in the development of our leadership items for this study, such as encouraging staff to take on new initiatives. Innovation is considered to be a reflection of the promotion of organizational change in a company. Support of change by leadership is also connected to the process management dimension of evaluation by ensuring adherence to standards. The popular management literature also widely supports this hypothesized relationship (Peters, 1996).

Hypothesis 4 (Path ß 64): The greater the process management of the organization the greater the human resources practices of the organization. The internal processes of an organization affect the specific human resource practices of an organization. This is posited by taking the natural next step from internal organizational influence to the individual working within the processes of the organization, expressed as a human resource practice. I will give a few examples that will help illustrate this assumption by using specific dimensions that are part of each of these quality management areas. First, learning, one of the process management dimensions is posited to create an organizational culture that would influence the training and education of employees, a human resource practice dimension. Second, process design has a direct impact on the human resource dimension of job design. It is recognized that process management and human resource practices, especially regarding job design, are closely intertwined (Hackman and Oldham, 1971, 1976) in the manner they influence the work experience of employees. Third, process management delivery, which is stated as how the organization's service delivery

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processes are managed or improved, is posited to have an influence on multiple dimensions of human resource practices, including supervision and coordination. A direct relationship between processes and employee fulfillment is supported in the quality management practices theoretical construction and empirical testing work of Anderson, et.al (1995). This hypothesis proposes that the mediating human resource practice variables are a significant component of this relationship. Process management is a core component of quality management theory, plays a central function in the Baldrige criteria, but has not been developed in general management research.

Hypothesis 5 (Path ß 65): The more effective the communication practices of leadership are perceived to be by staff, the greater the HR practices of the organization. This hypothesis is centered on the organizational impact of leadership communication practices filtering into the culture of the multi-dimensional construct of HR departmental and organizational effectiveness. Coordination, one dimension of human resource practices is the most obvious example of a developed human resource practice influenced by effective leadership communication. The construct of coordination along with empowerment also fits well with Shortell's findings related to a participative culture that is conducive to a quality improvement environment and fosters positive outcomes (Shortell, et.al., 1995). The effectiveness of communication practices is evaluated by focusing on how staff perceive the extent of two way interaction. This is posited to set an overall tone that directly impacts how people work together. This brings us back to the propositions that communication has the most direct bearing on the work climate, and consequently the human resource practice environment.

Hypothesis 6 (Path ß 86): The better the HR practices of the organization as perceived by staff, the greater the employee satisfaction of the organization. The conceptual models of quality management and the Baldrige criteria both

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identify the HR process as a precursor to employee satisfaction (Baldrige Health Care Criteria, 1998). This makes intuitive sense—the more clear and effective the departmental and organizational job requirements and demands experienced by employees, the more satisfied they will be with their work. This hypothesis fits well with the qualitative findings of Dimant related to HR practices and employee satisfaction, and the numerous other studies in the health care human resource literature (Pilfer, 1997; Anderson and Haslam, 1991; Robertson, Herth and Cummings, 1994; Brannon, et.al. 1988; Claudill & Patrick, 1992).

Hypothesis 7 (Path β 81): The greater the focused visionary skills of leadership as perceived by staff the greater the employee satisfaction of the organization. Organizations that have focused visionary leaders that set the direction for the facility and maintain a clear set of priorities instill a sense of stability in staff. Staff appreciates and respects leaders that have a consistency in their actions and values. This consistency translates to a universal belief in the goals and values of the organization, and commitment to those goals and values (Mowday, Steers and Porter; 1979). This hypothesis posits that organizational commitment instilled by the consistency of leadership's focus leads to increased staff satisfaction.

Hypothesis 8 (Path β 83): The greater the perception that leadership supports change the greater the employee satisfaction of the organization. The elements of supporting change involve the individual and the organization. On an organizational level aspects of supporting change focus on the culture and climate of the organization experienced through the process management area. On an individual level supporting change involves showing an interest in staff by encouraging them to develop and grow in their job. People experience leadership practices that support change in a personal way by supporting employees viewed as change agents. Research has shown that a supervisor's

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interest in the aspirations of an employee is a positive factor influencing job satisfaction (Ross, 1997).

Hypothesis 9 (Path ß 85): The more staff perceives leadership as communicating effectively the greater the employee satisfaction of the organization. The intuitive nature of this hypothesis emphasizes the perception of staff that care and concern of leadership is expressed via communication with them. This can be stated: "if leadership cares enough about me to keep me informed, I feel better about my job." This is also a hypothesis that may be especially characteristic of the long-term care environment due to the small size of organizations (Barry, 1996), flat organizational structure and high human service focus. The focus groups conducted with staff as part of the survey development process for this study supported these notions. There is additional evidence outside of this industry that communication is a powerful factor related to job satisfaction (Pincus, 1986; Vinnicombe, 1984). Clearly, this is a relationship that has been consistently shown in the literature (King, Lahiff, & Hatfield; 1988).

Hypothesis 10 (Path ß 87): The more staff perceive leadership to be personally involved and visible the greater the employee satisfaction of the organization. The intuitive nature of this hypothesis emphasizes the staff perception that leadership care and concern is expressed via personal contact with them. The propositions follow a logical progression of "if leadership cares enough about me to know who I am, I feel better about the value of my job". This hypothesis may be especially unique to the long-term care environment as a result of the high human service focus and flat organizational structure. Empirically, Kerr and Jermier have provided a limited foundation to support this idea (Kerr and Jermier, 1978). In a health care context, research has pointed to the crucial relationship between a nurse executive and their immediate manager to motivation and satisfaction (Niehoff, Enz, & Grover,

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1990). The nursing assistant focus group used for initial construct and item refinement also strongly supported this hypothesis.

Analysis of Specific Aim #2

The model is a recursive model and the data collection is cross sectional in nature. This cross-sectional design poses some problems of endogeneity. To overcome this challenge we have to look to previous research and the logic of our model and corresponding hypotheses.

This study considers specific leadership and quality management practices to be multi-dimensional. We are focusing interest in the three main components of our theory framework, leadership, quality practices and the outcome of satisfaction. As previously mentioned, structural equation modeling (SEM) will be used with the variables. This application is appropriate for this analysis, rather than path analysis, because SEM employs simultaneous equations method using both regression and factor analysis. This model aggregates the items underlying each latent variable into factor scores, which can be used to estimate our main construct variables for this study. Based on the decision to use this methodology, the previously mentioned smaller leadership group size is not large enough to be analyzed employing this approach.

An attempt has been made to keep the hypothesized model at a manageable level by focusing on leadership and the identified main relationships to support the applicability of the results in the future. The 'main' influencing paths are depicted and will be tested. Testing of the model will include the organizational sub-populations of management, professional nursing staff and nursing assistants.

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The specific paths are listed as the following equations (where f stands for the function and E stands for the error term:

- Strategic planning = f (focused visionary) + E

- Process management = f (supporting change + strategic planning) + E

- Human resource practices = f (communication + process management) + E

- Employee Satisfaction = f (visible presence + communication + supporting change + focused visionary + HR practices) + E

The relationships of leadership practices directly to employee satisfaction along with the mediating effects of the quality management practices will be specified to test the model using structural equation modeling techniques available with the AMOS program.

Using the structural equation method, coefficients are generated for each of the proposed pathways in our conceptual model. Unstandardized estimates of these paths utilizing covariance matrices are used as inputs, for our later analysis between groups. It is difficult to compare accurately correlations across groups, due to correlations removing differences in the standard deviation (Thurstone, 1959).

We evaluate the significance of the paths using a .05 significance level, which is a t score greater than 1.96 to reject the null hypothesis and justify a significant relationship between the two constructs (Weisberg, 1985). We are also able to assess the goodness of fit measures of the models provided by the AMOS program.

The leadership practices in this model are treated as exogenous latent constructs, using a first order factor approach. Quality management practices, strategic planning, process management, and human resource practices are all

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endogenous variables, and are first or second order factor constructs. These quality management practices are composed of specific dimensions measured with multiple items. We are interested in the broad constructs of the quality management practices. The dimensions used for this study are consistent for all paths and levels of analysis. One limitation this poses for our study is that broader constructs tend to minimize relational impact, due to aggregation of dimensions and items. As stated earlier, the dependent variable or outcome for this model is employee satisfaction, and is also a single order factor and is measured using the latent variable approach.

A visual depiction of the full structural and measurement model relationship we will be examining is presented below in Figure 15:
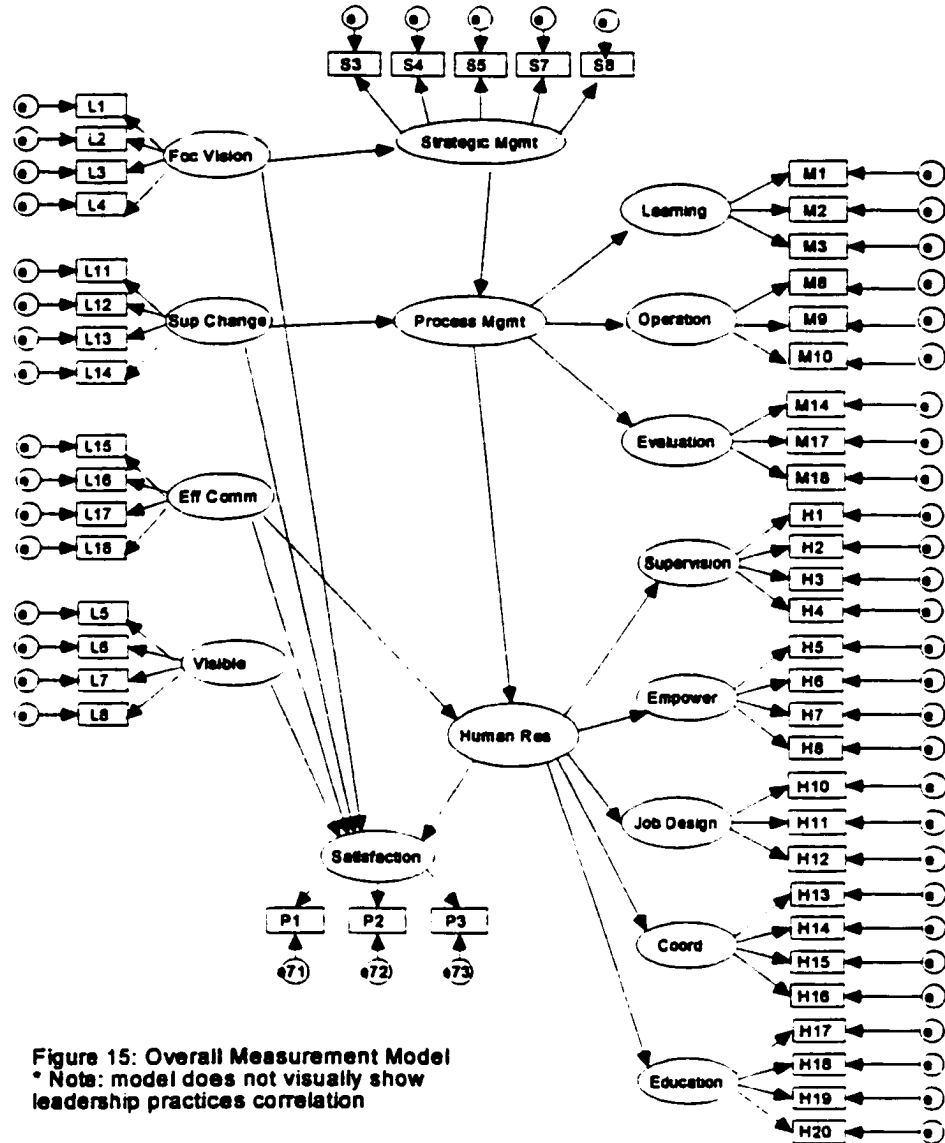
Figure 15: Overall Measurement Model
* Note: model does not visually show
leadership practices correlation

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This model will be tested after controlling for any facility effects. Facility effects were examined by running simple ANOVA and looking for the magnitude of facility effects on individual items. Facility effects explained 10-20% of total variation in item response for staff. Corporate effects were much more negligible at approximately 0-2% of the items. This study has drawn from two very similar homogenous corporations and any expected variability is at the facility level. The approach taken to control for these potential-moderating effects is centering the individual data around a group (facility) mean (Bryk and Raudenbush, 1992). This takes into account the facility effect and standardizes the variables using SPSS. These newly standardized variables are used to test the structural model.

Model results

The representation of the test results for each population is depicted in the next few pages. First, the responses from the full sample of respondents were used to test the model for the overall fit.

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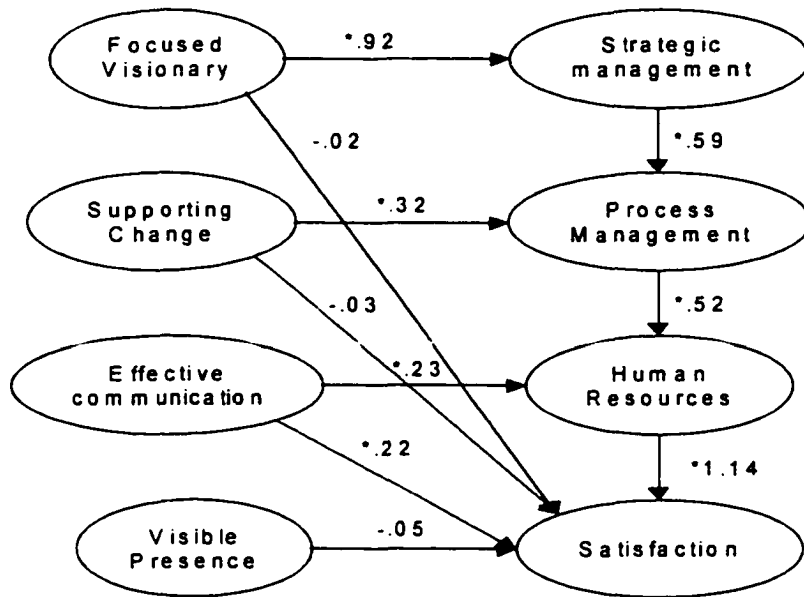
*Significant at the .05 level

Figure 16: Aggregate Model

(see Appendix F for full measurement results)

Chi-Square = 6808.75

DF = 1250

RMSEA = .045

CFI = .93

The results of running this initial aggregate model (see Figure 16) indicate that with an RMSEA of .045 the model fits the data well, although not all the paths are significant. Specifically, the paths from the leadership practices of focused visionary, support of change and visible presence directly to employee satisfaction are not statistically significant at a .05 level. Effective communication is the only direct leadership practice to satisfaction that is statistically significant. The strength of the remaining coefficients from the leadership practices to the quality practices and between each of the quality practices is significant. The relationship between human resource practices and satisfaction clearly emphasizes the driving force this is for people in their jobs.

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*Significant at the .05 level
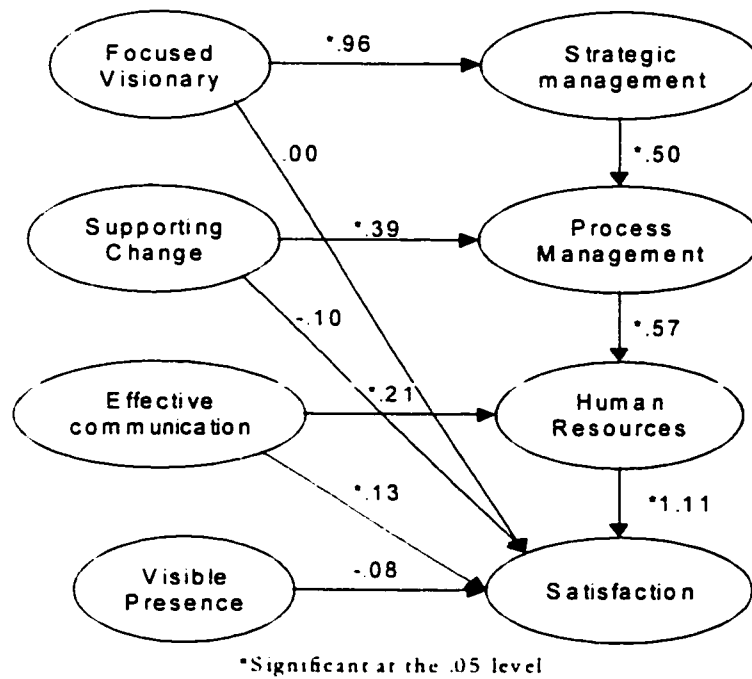
Figure 17: Management Model

(see Appendix G for full measurement results)

Chi-Square = 3169.591

DF = 1250

RMSEA = .049

CFI = .911

The next step is to run the model on the different sub-populations to examine the overall fit and path strengths for each occupational group. The results from the management group (see Figure 17) do not differ from the aggregate model, and therefore begin to build evidence for disaffirming the direct relationship between the three leadership practice paths to employee satisfaction not statistically significant. Of note is that the strength of the coefficient between communication and satisfaction is not as strong as in the overall model. The rest of the coefficients in the model support the remaining hypothesized relationships. The RMSEA of .049 and CFI of .911 are good measure of fit.

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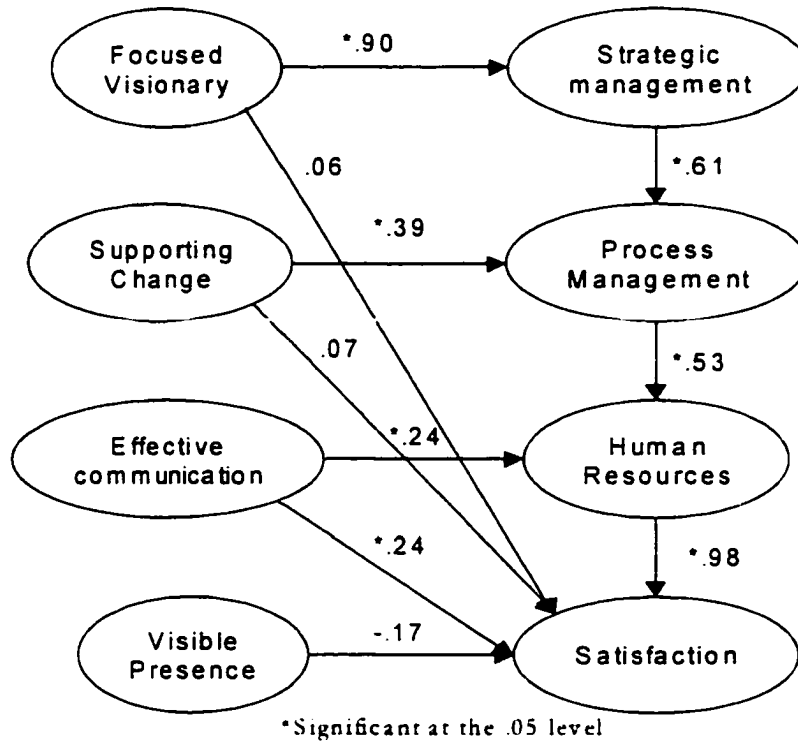
Figure 18: Professional Nursing Model

(see Appendix H for full measurement results)

Chi-Square = 2950.115

DF = 1250

RMSEA = .049

CFI = .92

For the professional nursing group (see Figure 18), results are again generally consistent with those of the aggregate model further supporting the conclusions previously made for the management group. The fit measures are good with an RMSEA of .049 and CFI of .92. Lastly, we move on to the final population of nursing assistants.

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Focused Visionary

*.92 → Strategic management

.09

Supporting Change

*.21 → Process Management

*.63

-.12

Effective communication

*.21 → Human Resources

*.56

*.15

Visible Presence

.03 → Satisfaction

*1.10

*Significant at the .05 level
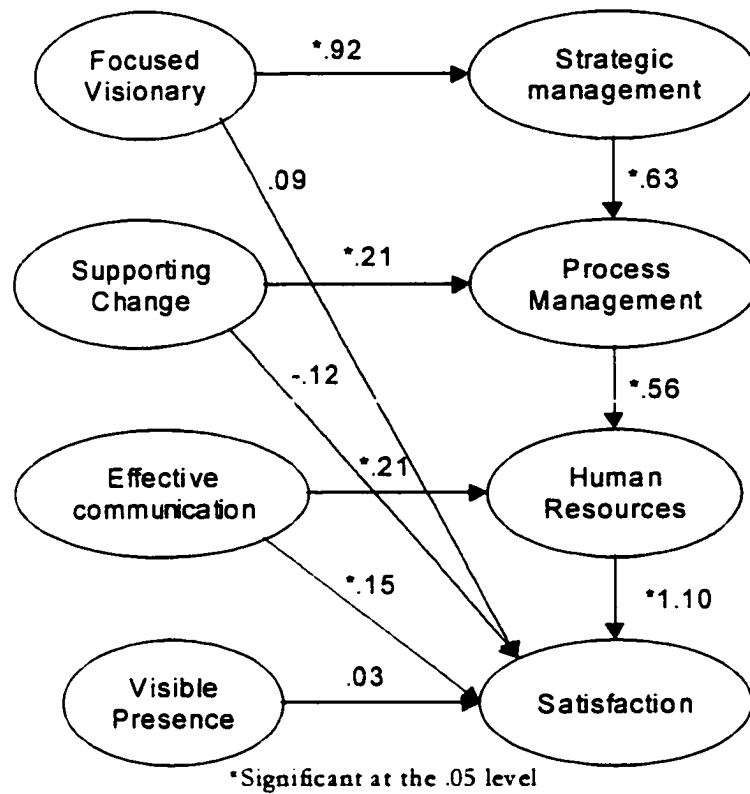
Figure 19: Nursing Assistants Model

(see Appendix I for full measurement results)

Chi-Square = 3679.264

DF = 1250

RMSEA = .044

CFI = .94

The nursing assistant data fit the model well (see Figure 19 with an RMSEA of .044 and CFI of .94) and demonstrates statistical significance in the same path mentioned earlier from leadership communication to satisfaction as was the management and professional nursing models. The remaining coefficients that are significant mirror the previous models.

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The measures for the paths hypothesized in the original model are summarized in Table 12 below:

Table 12: T-scores reported for the three sub-groups (>1.96 is significant at the .05 level)

	Aggregate	Management	Professional Nursing	Nursing Assistant	
B_{21} FV→SM	35.94	17.06	18.05	25.46	All significant
B_{43} SC→PM	11.61	8.11	6.61	5.06	All significant
B_{65} EC→HR	15.74	6.64	7.46	9.94	All significant
B_{42} SM→PM	23.49	11.11	13.48	15.88	All significant
B_{64} PM→HR	23.97	11.72	12.15	16.87	All significant
B_{86} HR→Sat	17.38	9.22	8.19	11.86	All significant
B_{81} FV→Sat	-.28	.01	.58	.86	All insignificant
B_{83} SC→Sat	-.48	-1.28	.65	-1.125	All insignificant
B_{85} EC→Sat	5.34	2.01	2.35	2.417	All significant
B_{87} VP→Sat	-1.26	-1.22	-1.88	.377	All insignificant

Model comparison results

It can be concluded from these data that the leadership practices focused visionary (FV), supporting change (SC), and effective communication (EC) work through the organizational practices specified in the model. Furthermore, they support the relationship described between the quality management practices — strategic management (SM), process management (PM), and

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human resource (HR) -- in the model. Finally they show that the only leadership practice that has a consistent direct significant effect on employee satisfaction (Sat) is communication, along with the direct modeled effect of human resource practices.

The insignificance results of the leadership practices focused visionary and supporting change, directly to satisfaction is a result that seems rational considering the higher order functioning of these practices. A more surprising result is the lack of significance for visibility (VP) directly on satisfaction. This in part can be explained by this construct's high positive distribution of responses causing a skewing of the data. The skewing of the responses, prompted an investigation of this construct as a necessary but not sufficient condition. The further analysis of this practice using this assumption proved futile. The approach taken was to split the data set in half. This was based on the distribution of the visible presence responses, and then tested the model absent of this construct. No significant changes were seen between the two resulting models. The lack of correlation does not disprove the importance of a visible presence in this setting. One could potentially hypothesize that this is a universal characteristic or a hygiene factor in this particular sample.

Overall, the consistency of the results strongly support the construction of an alternative refined model to be used for further analysis in specific aim #3, which focuses on testing the coefficient behavior of the different groups. The original postulations of hierarchical coefficient effects based on role will not be able to be fully tested utilizing this alternative model, although any significant differences between groups will be evaluated and discussed.

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Alternative model results

Once again, the visual representation of the test results for each population is depicted in the next few pages.
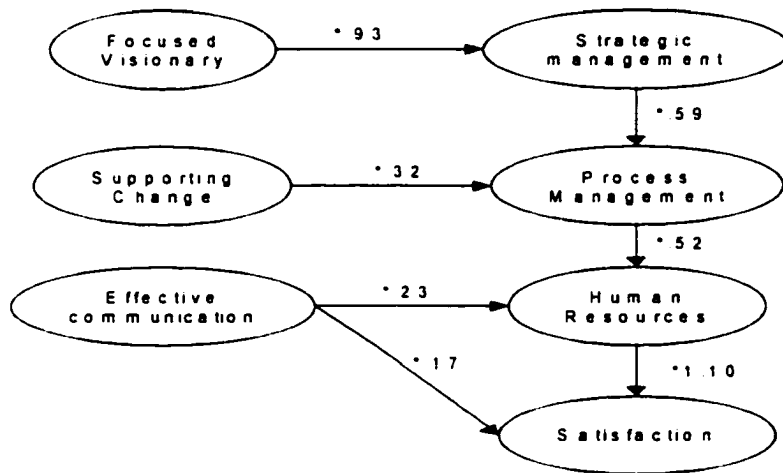
*Significant at the 05 level

Figure 20: Aggregate Model

see Appendix I for full measurement results

Chi-Square = 5808.19

DF = 1062

RMSEA = 0.45

CFI = 9.3

First, the aggregate data were used to test the alternative model (see Figure 20) to assess the overall fit. The .045 RMSEA confirms a good fitting model, and all the paths are statistically significant. Obviously, based on the fact that this model was derived from our original results and initial conclusions this type of fit is to be expected. We are even more interested in the sub population models and resulting analysis.

Focused
Visionary

*.96

Strategic
management

*.51

Supporting
Change

*.39

Process
Management

*.57

Effective
communication

*.21

Human
Resources

.06

*1.01

Satisfaction

*Significant at the .05 level
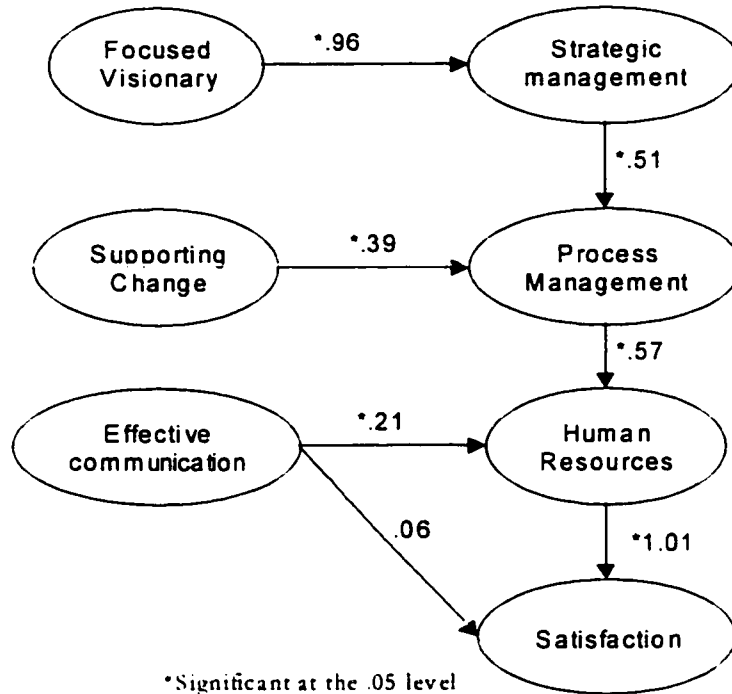
Figure 21: Management Model

(see Appendix K for full measurement results)

Chi-Square = 2774.783

DF = 1062

RMSEA = .051

CFI = .916

First, the management group (see Figure 21) is run with the alternative model.
The overall fit is good with an RMSEA of .051 and most of the paths are
statistically significant. One interesting observation is that the management staff
does not attribute statistically significant importance to the direct relationship
between communication and satisfaction.

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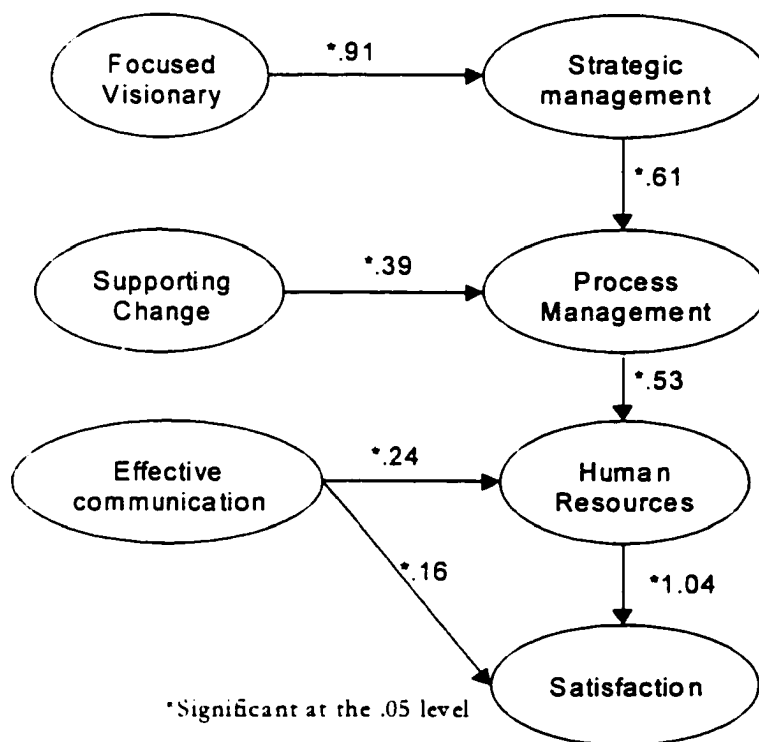
Figure 22: Professional Nursing Model

(see Appendix L for full measurement results)

Chi-Square = 2479.384

DF = 1062

RMSEA = .048

CFI = .93

The next group tested on the model is the professional nursing staff (see Figure 22), and throughout the model they have significant pathways. Initially, their path coefficient between leadership communication and satisfaction is slightly stronger than the other groups. Their middle management relationship with leadership and more direct contact with management may logically explain this relationship.
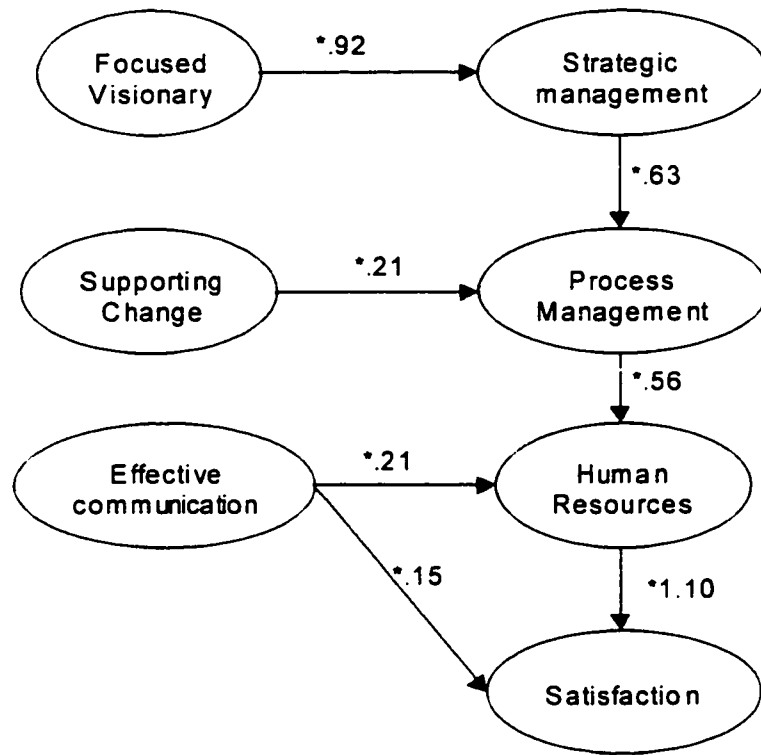
*Significant at the .05 level

Figure 23: Nursing Assistant Model

(see Appendix M for full measurement results)

Chi-Square = 3105.496

DF = 1062

RMSEA = .043

CFI = .94

Once again, all of the pathways are supported in this alternative model testing for attributions made by nursing assistants (see Figure 23). A couple of interesting points are the coefficients directly to satisfaction. The pathway from communication to satisfaction is significant, but not nearly as strong compared to the direct relationship between human resources and satisfaction. The path between supporting change and process management is notably less than the other groups.

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A summary of all the T-scores for the alternative model proposed is summarized in the table below:

Table 13: T-scores reported for the aggregate and the three groups (>1.96 is significant at the .05 level)

	Aggregate	Mgmt	Profess Nursing	Nursing Assist	
B_{21} FV→SM	35.79	17.01	18.02	25.36	All significant
B_{43} SC→PM	11.63	8.00	6.62	5.013	All significant
B_{65} EC→HR	15.74	6.57	7.47	9.96	All significant
B_{85} EC→Sat	5.36	1.14	2.43	3.19	All significant, except Mgmt
B_{42} SM→PM	23.33	11.17	13.36	15.83	All significant
B_{64} PM→HR	23.89	11.70	12.09	16.88	All significant
B_{86} HR→Sat	20.13	10.76	9.85	13.90	All significant

This clearly shows that the leadership practices, focused visionary (FV), supporting change (SC), and effective communication (EC) work through the organizational practices specified in this alternative model. Furthermore, the paths between strategic management (SM), process management (PM), human resource (HR) practices and employee satisfaction (Sat) are all still consistently significant. All of these observations are very consistent with the original model proposed. Lastly, the only leadership practice that has a significant effect on employee satisfaction is communication. This is true for professional nurses and nursing assistants. Management does not attribute importance to this direct effect.

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Overall, the alternative model for explaining leadership practices, utilizing a quality management practice framework, shows that the impact on satisfaction fits all the populations very well. The RMSEA's for the models are all very close to or below .05. This new "quality leadership practices" path model is used to test for differences between groups.

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SPECIFIC AIM #3

This study tested the proposed conceptual path model on three different populations. We use individual responses from each of these groups in an inter-organizational approach, aggregating like groups over the 68 organizations to examine any relationships that may be related to occupation or role within the organization. This serves as Specific Aim # 3:

> Do the causal models differ between management, professional nursing staff and nursing assistants?

The survey responses testing the proposed leadership and quality practices path model with this study employed the following groups; 1) individuals identified as leadership or management responses, and subsets of the staff surveys, specifically 2) the professional nursing and 3) nursing assistant roles or vocations.

Conceptual framework for specific aim #3

For the purposes of this analysis, these three groups are the most important to use for the following reasons.

> The management group basically is the department head group of an organization. This group is responsible for the overall day to day operational quality of the facility, and the primary leadership and management functions.

> The professional nursing staff is very influential in the direction and delivery of service, and plays a key role in the implementation of quality practices.

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➤ The nursing assistant group, which is the largest service group in the facility, is relatively homogenous, and has a big impact on a daily basis on the resident's perception of service quality.

This particular study is limited to these groups of respondents, rather than all job categories, in order to avoid additional complexity, yet maintain the necessary depth within the organization and allow for multi-level comparative perspectives. The specific groups were chosen based on their perceived development as occupational communities within this setting. Within these groups, persons have relatively homogenous roles and frequent interaction. Based on principles found in role theory, these similarities in job duties, frequent interactions, and formal structures, along with the professional occupational community all contribute to a socialization process. This understanding is an important foundation when presuming a certain amount of homogeneity within these groups, and also will be a contributing element to help justify different perspectives on the importance of certain practices (Hardy and Conway, 1988).

An additional value of our research design utilizing multi-level perspectives allows the incorporation of an attribution perspective, as previously mentioned, to the results obtained from staff members to complement our analysis and results based on leadership self-reporting perspectives. This research incorporates the potentially unique perspectives of the organization's followers on leadership practices, and any subtle influence on their overall perception of the QM environment of the organization. An assumption imperative to this research is that, across all levels of the organization, the predominant type of control influencing perspectives and behavior is one of normative control, more implicitly experienced by individuals.

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When constructing a model incorporating multiple organizational views attribution theory's general framework is used in part. This theory has four propositions. First, a person must observe a behavior and then, if it is important or relevant to them they will be motivated to attribute this outcome to some cause or causes. Second, information cues aid in making these attributions concerning causality. These information cues consist of elements of distinctiveness, consistency, and commonality (Kelley, 1979). Third, an internal (a person or yourself) or external (context or situation) attribution is made concerning the cause of the behavior. Some assumptions made in the construction of this study's model are contrary to this step. These internal and external attributions are pre-established or set. Internal attributions presume to reflect a "person's" leadership practices, and the context and situation, quality management practices in a nursing facility drive the external attributions. Fourth, the reaction to the behavior shapes a response or perspective. This framework helps explain some of the dynamics of the individual perspectives and responses within our model (Cummings and Dunham, 1990).

Our primary application treats each individual within a group as an independent response representing the same organizational phenomena. We will run the tests of the model using each of the separate sub-populations across all organizations, and then analyze the similarities and differences between the groups. The subgroups previously identified include management, professional nursing staff and nursing assistants. These groups are subsystems within the larger system of the nursing facility. Using information in this manner to test the model supports our assumption that different parts or groups of the organization will have a slightly different perspective on areas of importance. This approach is taken rather than just aggregating the respondents. These results help inform decision making about the appropriate strategy to arrive at an overall nursing facility measurement model and

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enlighten future organizational quality management research. This further analyses is taken understanding the limitation it poses in varying levels of informant ability or expertise to differentiate constructs by the different groups.

Analysis of Specific Aim #3

Once again, the analysis strategy for testing these models was the use of simultaneous equation methods to solve for the strength of the relationships tested with the independent sub-groups of the nursing facilities. Two significant advantages of using SEM are that it produces a goodness of fit measure and a decomposition of effects (e.g. measures all the paths not just the direct effects). This allows us to test the relationships hypothesized in the proposed conceptual model with different populations. Each separate analysis of the model takes into account the group uniqueness of the respondent group derived in the survey construction phase of this project. An item mapping of the respective surveys has been done to insure consistency across populations. Although the management survey is the most extensive of the two surveys, the staff survey is comprised of the same fundamental constructs and items. This study uses the same dimensions and items for each of the constructs used in the model testing the specific populations.

The formal analysis used to compare the differences between groups applies the chi-square differences test by affixing a parameter for two sample comparison populations with a fixed value to be equal, and assessing the resulting change in the chi-square. After running the structural equation model with the equalized pathways, the resulting fit of the model is evaluated and compared to the fit of the unequalized model (Arbuckle and Wothke, 1999; Rigdon et. Al., 1998; and Maruyama, 1998). The degrees of freedom will be higher in the equalized model because the number of constraints has been

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increased. If the increase in the degrees of freedom is matched by a substantial increase in the chi-square, then one can conclude that at least some of the structural coefficients are not the same between population groups. The significance of the chi-square increase in comparison to the increase in the degrees of freedom is found using a chi square table. For our purposes, a one degree of freedom change needs to be matched by a 3.84 or higher increase in the chi-square to formally conclude that path coefficients in two samples are not equal, using the .05 level. This is done for the three population types using the new alternative model, and helps us evaluate the potential differences in pathways. Once again, because we can't compare correlations across groups we are using the completely unstandardized estimates of these paths utilizing covariances.

An assessment of the differences between these groups using the alternative model is summarized below in Table 14:

Table 14: Chi-square Differences Tests results for comparing the three groups (>3.84 is significant at the .05 level)

	Mgmt - Prof Nursing	Mgmt - NA	Prof. Nurs.- NA	Summary results
B_{21} FV→SM	.43	.47	.01	No difference
B_{43} SC→PM	.00	7.49	5.80	NA different
B_{65} EC→HR	.35	.00	.57	No difference
B_{85} EC→Sat	1.12	1.30	.02	No difference
B_{42} SM→PM	2.41	3.97	.12	Mgmt & NA slightly different
B_{64} PM→HR	.39	.03	.42	No difference
B_{86} HR→Sat	.05	.59	.19	No difference

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A narrative summary describing the nature of path coefficients difference or similarities between each of these groups is further outlined below, including citing results of any formal Chi-square tests:

Hypothesis B_{21}, which are the path coefficients between focused visionary and strategic management reveal no difference between all three groups.

Hypothesis B_{43}, which are the path coefficients between supporting change and process management reveal significantly stronger coefficients for management and professional nurses than nursing assistants. The resulting change in chi-square for the one degree of freedom gained using the comparison groups was 7.49 between management and nursing assistants, and 5.80 for professional nurses and nursing assistants. This seems to be one of the key differences.

Hypothesis B_{65}, which are the path coefficients between effective communication and human resources reveal no difference between the three groups.

Hypothesis B_{85}, which are the path coefficients between communication and satisfaction reveal no difference between the three groups.

Hypothesis B_{42}, which are the path coefficients between strategic planning and process management seem relatively the same, although management seems to be different than nursing assistants. The resulting change in chi-square for the one degree of freedom gained using the comparison groups was 3.97 between management and nursing assistants. Although statistically significant, the modest result is not of primary interest to this study of leadership practices, and is not robust enough to be included in the conclusions.

Hypothesis B_{64}, which are the path coefficients between process management and human resource practices, reveal no difference between the three groups.

Hypothesis B_{86}, which are the path coefficients between human resources practices and satisfaction reveal no difference between the three groups.

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Table 15: Summary table of path coefficient comparison results.

Paths	Results
B_{21} FV→SP	All three groups show no significant difference
B_{43} SC→PM	Nursing assistants different than other groups
B_{65} EC→HR	All three groups show no significant difference
B_{85} EC→Sat	All three groups show no significant difference
B_{42} SP→PM	Mgmt and NA show a modest difference
B_{64} PM→HR	All three groups show no significant difference
B_{86} HR→Sat	All three groups show no significant difference

Alternative model comparison results

In summary, the relationships between leadership practices and the organizational practices are similar between groups. The relationship between strategic management, process management and human resource practices is similar between groups. The main difference to explain is that management and professional nurses attribute significantly more importance to supporting change with process management than nursing assistants. Based on their higher hierarchical role in the organizations this result may be explained by their greater change influence at the "system" level.

Direct, Indirect and Total Effects

A final step in the analysis involves reporting the direct, indirect and total effects, to more fully explain the overall model. The aggregate model tested with all the respondents is used to examine the various causal relationships.

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Based on the relative overall consistency of the alternative model with the different groups, there is not a compelling need to do this separately for each group. Direct effects, as reported in the previous models, are the effects between two variables. Indirect effects are the effects between two variables mediated by other variables. Adding these two effects derives the total effect. This analysis gives another picture of the actual organizational relationships depicted in the model. Table 16 gives both the unstandardized and standardized path coefficients of each practice effect on satisfaction.

Table 16: Path Coefficients of Variables on Satisfaction

Practice	Direct Effect	Indirect Effects	Total Effects
Focused Visionary	.00 (.00)	.31 (.28)	.31 (.28)
Supporting Change	.00 (.00)	.18 (.15)	.18 (.15)
Effective Communication	.17 (.16)	.26 (.25)	.43 (.41)
Strategic Planning	.00 (.00)	.34 (.33)	.34 (.33)
Process Management	.00 (.00)	.57 (.51)	.57 (.51)
Human Resources	1.10 (.73)	.00 (.00)	1.10 (.73)

Note: Unstandardized coefficients are listed first; standardized coefficients are in parentheses.

The results help tell a more complete story. Clearly, the most important practice correlated with satisfaction is still human resource practices. Yet, process management and strategic planning also have a significant relationship to satisfaction. Process management has a larger coefficient than strategic planning which makes sense based on the fact that strategic planning as a higher order practice it is further removed from employee satisfaction. The

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leadership practices, focused visionary and supporting change, not directly significant to satisfaction in the model report an indirect effect with satisfaction through the proposed organizational practices. A review of the group results confirms the greater indirect and total effect of supporting change on satisfaction for management and professional nurses than nursing assistants. Communication continues to report a strong relationship with satisfaction.

This exercise adds to the previous findings by providing a real world context to the model. This analysis supports an understanding of the complexity and relationships of organizations. It also uncovers information that safeguards from reporting results without a full accounting of how everything works together in this model. An example is that although communication as a leadership practice is the most important to satisfaction the other leadership practices are also important. From a practical standpoint, this model informs individuals and organizations on how to leverage and understand the impact of leadership practices.

IMPLICATIONS

Summary of findings

The first specific aim was to construct a model, which would allow us to measure effective leadership practices. We identified a well-fitting model consisting of four different practices: focused visionary, supporting change, effective communication and a visible presence. These practices are separate constructs, yet, as expected, there were some correlation issues with the leadership measurement model. The models across all groups were relatively well fitting and the various scales have high internal consistency. As we moved hierarchically down the organization, it was more difficult for staff to differentiate between practices.

The second specific aim was to construct an organizational model explaining the impact of leadership practices on satisfaction, using a quality management framework. This model fit relatively well except for a few paths. The hypothesized paths to employee satisfaction directly from the leadership practices of focused visionary, supporting change and a visible presence were not statistically significant. The rest of the model held up well, which confirmed that different leadership practices are important for strategic, operational and tactical quality management practices. Leadership communication directly affects satisfaction, although human resource practices are clearly the primary relationship. Therefore, an alternative, "simpler" model was constructed and the overall data fit this new "quality leadership practices path model" well.

The third specific aim explored occupational group differences that might prove insightful and interesting using the results from the alternate model.

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One significant difference was uncovered in the path strengths explaining how supporting change affects process management, with a stronger relationship among more professional, management-oriented employees. Lastly, a review of the overall effects of practices on satisfaction helped tell a fuller story of the proposed model

Discussion

This study successfully uses a leadership theory framework (Jago, 1982) as a context to identify an approach to model leadership practices important to employee satisfaction. Organizational dynamics of leadership practices are further explained by applying quality management practices. The fit of the different models informs organizational leadership research, the quality management field and the health care service field regarding the role of leadership. Although drawing upon past research has helped provide a framework for the construction of this model, this is one of the first studies to fully explore the multidimensionality of leadership practices within an organizational context testing different groups of employees.

The original model hypothesized hierarchical relationships (from strategic to operational to tactical) between leadership practices and quality management practices, with all leadership practices also having a direct effect on employee satisfaction. In the absence of empirical studies testing these relationships, this original model was constructed using both conceptual and related literatures, along with some consideration of the context of the long-term care field. It is recognized that the literature to help support the hypothesized direct relationship between leadership and satisfaction was drawn from a wide array of fields and may not be as strong as other organizational relationships proven in the literature. Although the statistical model verified the hierarchical

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relationships, the direct relationships of leadership practices on employee satisfaction held only for the practice of effective communication. The results indicate the higher order leadership practices, focused visionary and supporting change, do not have the hypothesized direct effect on satisfaction.

Why didn't these higher order leadership practices have a significant relationship to satisfaction as predicted in the original model? First, it may be that nursing homes are not typical organizations. Although attempts were made to take into account the organizational environment of long-term care when constructing the hypotheses and scales, the nursing facilities may have some unique properties. One plausible explanation of these results is that nursing facilities may be less complex than other organizations and the role of leadership may be more easily understood through traditional organizational quality practices. For instance, the need for leadership to be directly viewed as supportive of change may be greater in entrepreneurial or high technology industries where change is faster paced. Another alternative may be that the workforce is less connected to leadership practices due to interest, sophistication, or training, and consequently less oriented to their own individual relationship to these higher order leadership practices. Nursing facilities are largely comprised of individuals focused on providing care, who seldom have educational backgrounds, which might orient them to the relevance of organizational quality leadership.

A second possible explanation for the lack of direct significance of these higher order leadership practices is that the assumptions and hypotheses related to their direct paths to satisfaction are wrong. Therefore, the hypothesized relationships are weak or non-existent, and the alternative derived quality leadership practice model more accurately describes the true nature of organizational quality leadership. This belief would suggest that there is a

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potential for the pursuit of a more universal theory for quality leadership across organizational settings. The approach recommended in this dissertation would be to continue to test the full original model for significance and be cognizant that the higher order practices may not empirically validate direct paths of significance. When testing this model in different settings, the nature of the organization (type of business or service) and the make-up of the workforce may have an incremental influence on the relationship of each of these direct paths. The direct paths of the higher order leadership practices to satisfaction are expected to be less strong than effective communication, which is more closely associated with an employee's daily experience and, consequently, with perceived satisfaction. This author suggests that the changes experienced in the coefficients between these higher order leadership practices and satisfaction will be modest and will not substantially alter the overall results of this inquiry. The general conclusion suggesting that leadership's main impact is experienced through quality management practices would not be jeopardized and a greater understanding of leadership's direct relationship to satisfaction would be fostered in a variety of settings. This suggested research approach would begin to build a stronger empirical foundation for the alternative model, which has a good fit in all other hypothesized direct and indirect paths.

Exploring the differing perspectives of different groups within organizations leads us in two directions. First, the models do fit all groups about the same, and therefore would suggest that for this particular model of leadership an aggregated view of the organization could be satisfactory and an arguable approach. Further, this serves to reinforce the argument for the relationships between leadership and the quality management practices modeled and their relationship to employee satisfaction. The overall leadership and quality management effects on satisfaction are explained well using the new alternative "quality leadership practices path" model.

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The differences in the models do, however, suggest that different roles within an organization have some differing perspectives and needs. These particular results require further consideration of these path strengths in the models, their differences and any implications. Considering the nature of the roles within the groups helps us frame this discussion. The path from communication to employee satisfaction was not significant in the management model. This result may be in part because management perceives their own organizational functioning at a higher level within the facility and does not attribute as much importance to their own satisfaction needs for effective communication. Their level of influence is viewed as more organizational in nature and, as depicted in the model, working through organizational practices. This conclusion should be cautionary in nature, because the chi-square differences test for this path did not reveal a significant difference between groups. This lack of group difference may be simply because the study does not afford the necessary statistical power. Additionally, both management and professional nurses attribute more importance to supporting change with process management. Management and licensed nurses generally have greater control and diversity in their roles based on their professional background and organizational standing and may perceive that they have an ability to influence their own overall work system by supporting change. Lastly, it should be noted that human resource practices are an important driver for satisfaction in all groups. The dimensions underlying human resource practices include supervision, empowerment, job design, coordination, education and orientation.

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Limitations

The sample for this study represents groups within nursing facilities that are part of two multi-site corporations located in Minnesota. Although this does offer fewer outside variables that may influence our data, it needs to be recognized that this is not a random sample of nursing facilities. Both of these corporations are non-profit, church-related entities and one could argue that they might have some operational and structural forces that could limit the generalizability of the results.

A second limitation is the multicollinearity of the constructs, especially focusing on the leadership constructs in the original model. Multicollinearity exists when two or more independent variables are correlated. This problem is unavoidable in studying leadership practices, which by their nature are highly related to each other. One of the primary problems is that the T tests are distorted due to the inflation of the standard errors, which can result in insignificant T tests. When using structured equation modeling, both the correlations between construct scales and the alpha reliabilities must be considered. Multicollinearity becomes a problem when correlations between scales are above 0.8 and 0.9 and the alpha reliabilities are low (Maruyama, 1998). The alpha reliabilities for the scales used in this study are all high, and no scales are correlated above 0.9. Therefore, multicollinearity was not a significant problem in the original model, and the additional exclusion of related paths with the derived model limited any effect of multicollinearity.

A third limitation is the choice of the dependent variable in the model itself. As put forward earlier, employee satisfaction is a strong, positive outcome considering the labor-intensive environment of nursing facilities and also an appropriate outcome for the proposed health care related quality management

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practices model. Yet, it needs to be recognized that this is not the only outcome leadership is responsible for in their role.

Limitations related to the nature of the data include problems that are associated with response rate and cross-sectional data. The challenges include potential bias and empirically proving causality. Lastly, the individual respondents' ability to self-report attributions may affect the accuracy of the data. These are all problems inherent in the collection of the data and design of the study.

Significance

Studying the broad-based implications of these findings helps us understand the phenomenon of leadership's impact throughout the organization. The relationship between the constructs depicted in the proposed model informs leadership in two different ways. First, the model explains the impact of leadership practices within an organizational context. Secondly, this study helps explain the reason why the only leadership practice that *directly* affected staff satisfaction was effective communication. However, based on the construction of the model and the results, the *indirect* impact of leadership practices through quality management practices on satisfaction is important to understand. One of the important take-home messages of this study is that different groups have slightly different needs and values. For example, it is understandable why having leadership support change isn't as important to nursing assistants given their attention to more fundamental, lower order practices. Conversely, management's lack of a significant need for communication may be based on their attention to higher order practices.

This model is also one of the first attempts to inform leadership by modeling the influence of multi-dimensional leadership practices and organizational

quality practices. This new awareness creates opportunities for leadership to understand situation and context, as described in this model. Past leadership research has typically only measured leadership practices to attempt to help people differentiate between them (Clark and Clark, 1990). This study takes the next logical and necessary step by providing a conceptual model explaining how leadership practices actually work within an organization, and empirically validating those relationships.

The field of quality management benefits from the articulation and measurement of leadership practices with a specific attention to the quality literature and goals. These fundamental quality leadership practices can be used as a foundation for further research. Additionally, the conceptualization and operationalization of these multi-dimensional leadership practices adds new insight to a field that has proven the importance of leadership as a driving force behind quality (Anderson, Rungtusanatham, Schroeder, and Devaraj, 1995; Meyer, 1988), but previously treated it as a single construct. Lastly, the rigorous measurement of organizational quality management practices within the context of the Baldrige Criteria adds new knowledge to a field demanding this type of research inquiry.

At the provider level, we have a leadership practice model integrating specific quality management practices and, ultimately, employee satisfaction. This can serve as a framework for informing key decision-makers in the educational and provider arenas of long-term care leadership. To influence changes in this field the following steps need to be taken. First, an assessment of the current expectations and roles of key leaders, administrators and directors of nursing, in the nursing facilities is needed. Second, changes to their job descriptions or work portfolios should include the identified leadership practices and provide for a greater understanding of the dynamics of quality management practices. Third, an education and training regimen should be incorporated into new

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practitioner training (e.g. academic programs and licensure training) and also be made available for existing long-term care leaders. Lastly, an evaluation component should be built into these changes to measure their success and impact. A practical policy application would be to include these leadership concepts in standards for nursing home administrator licensure (see Appendix N), which in part drive educational requirements. For example, in the future the first responsibility for a person in charge of a nursing facility should not be submitting reports, but should rather relate to influential leadership practices. Informing individuals and organizations in the quality management and leadership fields to consider our results is also necessary. From a practical standpoint, leaders in organizations may refine their own internal strategies to improve the performance of their organizations.

The general understanding of this model helps inform leadership that these daily leadership practices are important to the quality management practices and the outcome of employee satisfaction in a nursing facility. This model informs various disciplines about the relationship between the multi-dimensional components of leadership and quality management practices.

Another part of the discussion centers on what group of staff members we should focus on, given the scenario depicted in this model. One could assert that the nursing assistant response is the most critical, as font-line staff. This assertion is based on the fact that nurses and nursing assistants are the primary drivers of resident satisfaction measures. Employee satisfaction at this level has an impact on resident perceptions. This is especially true in the high touch environment of long-term care. Emphasizing the significance of communication, especially now when employees are difficult to attract and retain, is a valuable contribution. Further, to influence and support change in the organization leadership should focus a greater proportion of their initial

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energy on management staff and professional nurses that have a significantly greater path coefficient between these system changes and process constructs. During this time of tremendous pressure to change the face of nursing homes this is critical information. This approach of group analyses allows leadership to leverage their understanding and give them the ability to target certain leadership practices with an identified group.

Lastly, the setting for this study is nursing facilities, which are characteristic of a high touch and labor-intensive environment. A strong argument for the application of this study's results can be made for use across the country in the skilled nursing facility industry. Other health care and service organizations, such as hospitals and hotels, that depend heavily on employees for the delivery of their human-oriented service may also benefit by applying this model.

Future research

One important area requiring further study is the confirmation of the alternative quality leadership practices model across different settings. Secondly, this alternative, derived model requires testing at a nursing facility level. Third, to assure the right approach at the facility level, the model should be tested on all remaining employee groups, for instance ancillary or support staff. Fourth, two of the leadership practices derived earlier, understanding TQM (conceptually) and a visible presence (conceptually and empirically) should be explored more fully across occupational groups. Fifth, how does this model inform the influence of leadership on other important organizational outcomes? Lastly, as an extension of this outcome idea, an additional area to probe would be the impact on residents or customers and the question it raises, "to what degree are employee satisfaction and resident satisfaction related?" and "how can leadership impact service outcomes?"

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Conclusion

This study contributes to the field of leadership by developing and testing measurable constructs of leadership practices derived from a synthesis of literature. The three practices identified as significant include focused visionary, supporting change, and effective communication in the organization. The study also contributes to the field of quality management by treating leadership practices as a multi-dimensional construct, enabling investigation of varying relationships between these leadership practices, quality management practices, and employee satisfaction. This study provides a deeper understanding of how leadership practices influence quality management practices in the organization. Leadership research has typically only measured leadership practices to describe them at an individual level. This study actually extends these practices into the milieu of the organization and provides an empirically validated model explaining how leadership practices relate to other quality management practices and outcomes within an organization.

The results of the derived quality leadership practices model specifically inform us about the impact of leadership practices on organizational quality practices and satisfaction. The major impact of leadership on satisfaction is through the quality management practices substantiated by the measurement of the *indirect and total* effects, which were overall much stronger than the *direct* paths from leadership. The one significant *direct* leadership path was the empirical and conceptual relationship between effective communication and satisfaction. Therefore, overall, the role of leadership in nursing facilities should be focused on understanding quality management practices, their leadership connections and their importance to organizational success. Leadership needs to understand the dynamics of how a facility works and their role within that organizational system. The significant drivers of satisfaction, as would posited

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to be true with other outcomes, depend on organizational processes. Focusing solely on the outcomes of an organization will not help move this traditionally reactive industry to a more proactive management environment. Changes in curriculum, continuing education and regulatory job requirements are all necessary elements to influence a systematic re-orientation.

People with years of experience in the field of long-term care have suggested that leadership has an impact on employee satisfaction in a nursing facility. This study empirically explains this phenomenon. Findings of this research inform the field of long-term care regarding how leadership practices affect employee satisfaction in this high touch environment, which is critical to nursing facilities. For example, the study reveals the importance of understanding and potentially leveraging leadership communication energy to maximize its impact on employee satisfaction, which is especially important during this difficult time of attracting and retaining good service employees. Yet the general conclusion remains that leadership primarily works through quality management practices to influence satisfaction.

Exploring group similarities and differences enhances the value of this study. Management and professional nurses have a statistically higher significance level with the relationship between the leadership practice of supporting change and process management and this knowledge can be used to foster system change and improvement within facilities, which is crucial to this industry. Leadership energy focused on system improvements should be targeted initially towards the management and professional nursing staff, which would be an appropriate strategy to influence successful adoption of organizational changes. The influence of effective leadership communication on job satisfaction for professional nurses and nursing assistants is significant, although the quality management practice of human resources is the most significant driver of

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satisfaction. From another perspective, the consistent story told between the groups provides further cross validation of the "quality leadership practices path model" constructed in this study. The model results, along with the incorporation of the occupational group perceptions, add interesting new insight and perspective to the ongoing inquiry into the fundamental nature of leadership impact. The major contribution of this study is to establish a new set of quality leadership practices and put forward a proven quality leadership model, which extends the relationship of leadership practices into the organization. This study is one of the first rigorous approaches to exploring the relationship of multi-dimensional leadership and quality management practices with a variety of occupational groups.

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Appendix A
Performance Improvement in Long-Term Care Organizations

Management Organizational Quality Survey (OQS)

EBENEZER   UNIVERSITY OF MINNESOTA

Purpose of Research: You are invited to participate in a statewide study being conducted by Sandra Potthoff. Principal Investigator (PI) and Doug Olson, Co-PI and Project Director, at the University of Minnesota in collaboration with Ebenezer Social Ministries and the Good Samaritan Society. Your facility has agreed to participate in this survey. The purpose of the study is to understand how to improve efficiency and effectiveness in nursing facilities through better quality management practice.

Survey Duration and Procedures: This survey will take approximately 15 to 20 minutes to complete.

Right to Refuse: Your decision to participate in this survey will not affect your relationship with the facility. Your participation in this survey is voluntary.

Confidentiality: All of your responses to the survey will be kept confidential. Sandra Potthoff and Doug Olson at the University of Minnesota, as the primary research partner, will keep all of your answers private, and only provide total survey data to the facilities.

Sharing of Survey Results: Results from the survey will be shared with all of the Ebenezer Social Ministries and Good Samaritan nursing facilities in Minnesota. Specific facility leadership results will only be shared with local facilities.

Contact Information: If you have any questions you may contact the person in charge of the survey administration or you may call Doug Olson or April Todd-Malmlov at the University of Minnesota at (612) 626-7225

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), contact the Research Subjects' Advocate line, D528 Mayo, 420 Delaware Street Southeast, Minneapolis, Minnesota 55455, telephone (612) 625-1650.

Instructions:

There are two Organizational Quality Surveys for employees, one for Administrators and Department Heads and one for all other staff. This survey is to be taken by the Administrator, Assistant Administrator, and Department Directors only. All other staff are to take the Staff OQS Survey. Please complete the survey that applies to you

Please indicate your response on the survey by circling a number on the scale to the right of each item. Your responses are confidential. No one at the nursing home will see your responses

If you require assistance in answering the survey, please talk to the person in charge of the survey administration. Do not ask another employee of the facility.

When you have completed this survey, please seal it in the envelope provided and put it in the collection box designated by your facility

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Background: Please circle the number in the box that corresponds with the answer that describes you best

Please indicate the position that most closely describes your role: Your response to this question will be strictly confidential. The information that you provide will be used to identify the leadership group in each facility

Administrator	1	Director of Development	12
Assistant Administrator	2	Director of Volunteer Services	13
Director of Nursing	3	Assistant Director of Nursing	14
Director of Social Services	4	Director of Staff Development	15
Director of Pastoral Care	5	Director of Maintenance	16
Director of Food Service	6	Director of Housekeeping	17
Director of Activities	7	Director of Laundry Services	18
Director of the Business Office	8	Director of Environmental Services	19
Director of Community Services	9	Director of Quality	20
Director of Health Information Records	10	Director of Personnel	21
Director of Therapy/Rehabilitation	11	Other, please list	22

Please rate the level of leadership influence the following roles have in the overall direction of your facility.

	Position doesn't exist	No influence	A little influence	Some influence	Very influential	Extremely influential
Administrator	na	1	2	3	4	5
Assistant Administrator	na	1	2	3	4	5
Director of Nursing	na	1	2	3	4	5
Director of Social Services	na	1	2	3	4	5
Director of Pastoral Care	na	1	2	3	4	5
Director of Food Service	na	1	2	3	4	5
Director of Activities	na	1	2	3	4	5
Director of the Business Office	na	1	2	3	4	5
Director of Community Services	na	1	2	3	4	5
Director of Health Information Records	na	1	2	3	4	5
Director of Therapy/Rehabilitation	na	1	2	3	4	5
Director of Development	na	1	2	3	4	5
Director of Volunteer Services	na	1	2	3	4	5
Assistant Director of Nursing	na	1	2	3	4	5
Director of Staff Development	na	1	2	3	4	5
Director of Maintenance	na	1	2	3	4	5
Director of Housekeeping	na	1	2	3	4	5
Director of Laundry Services	na	1	2	3	4	5
Director of Environmental Services	na	1	2	3	4	5
Director of Quality	na	1	2	3	4	5
Director of Personnel	na	1	2	3	4	5

Please indicate the number of years you have been in your current position at this facility:

under 1 year	1	6 to 9 years	4
1 to 2 years	2	10 to 14 years	5
3 to 5 years	3	over 15 years	6

Please indicate the highest level of education attained:

Some High School Coursework	1	Undergraduate Coursework	5
High School Graduate	2	Undergraduate Degree	6
Some Technical School Coursework	3	Graduate Coursework (Masters, PhD)	7
Technical School Graduate	4	Graduate Degree (Masters, PhD)	8

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How often are you involved in outside educational opportunities:

Frequently, 4+ per year	1	
Often, 2 to 3 per year	2	
Sometimes, 1 per year	3	

Rarely, once every 2 years	4
Never	5

Autonomy:

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. Our facility's senior leadership staff has the ability to direct its own local quality improvement initiatives.	1	2	3	4	5
b. Our corporate office encourages our facility to direct our own local activities.	1	2	3	4	5
c. Our corporate office encourages our facility to direct our own local quality improvement initiatives.	1	2	3	4	5

Self-Identity:

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. I am a central component to the leadership of this facility.	1	2	3	4	5
b. I am very involved in setting the direction for this facility	1	2	3	4	5
c. I am involved in the key planning activities for this facility.	1	2	3	4	5
d. I spend a great deal of my time with other leadership staff (e.g. Administrator).	1	2	3	4	5

I. The following statements concern your facility's Key Leadership.
Definition of Key Leadership Staff: refers to the roles or positions that influence the overall direction of the facility Examples of such roles could include the Administrator. Director of Nursing, and or other department head staff.

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. Our key leadership staff sets the direction for our facility.	1	2	3	4	5
b. Our facility has a vision which has been the focus of our energies	1	2	3	4	5
c. All employees support the vision of this facility.	1	2	3	4	5
d. Our key leadership staff has a clear set of priorities	1	2	3	4	5
e. Our key leadership staff is visible in our facility.	1	2	3	4	5
f. Our key leadership staff knows the names of employees.	1	2	3	4	5
g. Our key leadership staff knows the names of residents.	1	2	3	4	5
h. Our key leadership staff displays a sense of caring when walking around the facility	1	2	3	4	5
i. Our key leadership staff is visible in the local community representing our facility.	1	2	3	4	5
j. Our key leadership staff is involved in community efforts to strengthen local services	1	2	3	4	5
k. Our key leadership staff encourages learning and growth.	1	2	3	4	5
l. Our key leadership staff encourages staff to take on new initiatives	1	2	3	4	5
m. Our key leadership staff is willing to take risks.	1	2	3	4	5
n. Our key leadership staff ensures that employees adhere to agreed upon standards	1	2	3	4	5

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	Not at all	Rarely	Some-times	Usually	Always
o. Our key leadership staff listens to employees.	1	2	3	4	5
p. Our key leadership staff places a priority on communication with employees.	1	2	3	4	5
q. Our key leadership staff is approachable.	1	2	3	4	5
r. Our key leadership staff is honest.	1	2	3	4	5

II. The following statements concern your facility's Understanding of the Quality Commitment:

Definition of Quality: the term "quality" refers to performance activities and functions involved in the delivery of services.

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. Our key leadership staff fails to understand the importance of involvement in quality efforts.	1	2	3	4	5
b. Our key leadership staff understands the need to internally use continuous improvement principles.	1	2	3	4	5
c. Our key leadership staff solicits participation in improvement efforts from a variety of individuals.	1	2	3	4	5
d. Our key leadership staff successfully manages facility changes needed to improve the quality of services.	1	2	3	4	5
e. The key leadership staff is the driving force behind quality improvement efforts.	1	2	3	4	5
f. The key leadership staff allocates inadequate resources (e.g. pe time, dollars, and equipment) to improving quality.	1	2	3	4	5
g. I spend time utilizing quality management practices during a typical week.	1	2	3	4	5

III. The following statements concern your facility's Information Management.

Definition of Information Management: this area refers to the selection, management, and effectiveness of the use of information and data to support tasks and resident service.

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. Our facility has an information system that serves our needs.	1	2	3	4	5
b. Our facility dedicates staff time for collecting and analyzing data.	1	2	3	4	5
c. Our facility can track trends in care and service to identify problems by shift and by wing or unit.	1	2	3	4	5
d. Our computer system is useful in keeping staff up-to-date on resident care and service needs.	1	2	3	4	5
e. We use comparative information within our corporation to create budgets.	1	2	3	4	5
f. We have adequate sources of benchmarking information for quality.	1	2	3	4	5
g. We use benchmarking information to identify areas that need improvement.	1	2	3	4	5
h. We compare performance measures between facilities within our corporation.	1	2	3	4	5

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	Not at all	Rarely	Some-times	Usually	Always
i. Our use of information helps service staff do their work.	1	2	3	4	5
j. We use data to identify what our facility is doing well.	1	2	3	4	5
k. The data we collect help identify problems with services.	1	2	3	4	5
l. We continually try to improve how we use data and information on the quality of services.	1	2	3	4	5

IV. The following statements concern your facility's Strategic Management.

Definition of Strategic Management: this area examines how the facility sets strategic directions, and how it develops the critical strategies and action plans to support the directions. Also examined are how plans are deployed and how performance is tracked.

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. Each department sets goals to improve the quality of services	1	2	3	4	5
b. This facility involves all levels of staff in planning for the futu	1	2	3	4	5
c. Our department heads take time to plan for improving the qua of services.	1	2	3	4	5
d. This facility does a good job of prioritizing goals	1	2	3	4	5
e. Facility plans are turned into specific activities for each depar	1	2	3	4	5
f. Short and long term decisions are consistent with our overall facility plans.	1	2	3	4	5
g. The specific actions required to meet facility goals are clearly communicated to staff.	1	2	3	4	5
h. Our leadership staff takes responsibility for results based on th facility's plans and goals.	1	2	3	4	5

V. The following statements concern your facility's Human Resource Management.

Definition of Human Resource Management: this area focuses on how the facility enables all staff to develop and utilize their full potential. Also examined are the facility's efforts to build and maintain a work environment and work climate conducive to performance excellence, full participation, and personal and organizational growth.

Definition of immediate supervisor(s): refers to the person(s) who is responsible for overseeing the work that you do or who you report to. An immediate supervisor(s) could be a shift manager, floor manager, charge nurse, department manager, DON, assistant department director, department director, administrator, and or regional director

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. My immediate supervisor(s) responds to concerns in a timely manner	1	2	3	4	5
b. My immediate supervisor(s) gives constructive suggestions to improve my work performance.	1	2	3	4	5
c. My immediate supervisor(s) is open to suggestions.	1	2	3	4	5
d. My immediate supervisor(s) treats me fairly.	1	2	3	4	5
e. I have the opportunity to make independent decisions in this facility.	1	2	3	4	5
f. I am encouraged to think of better ways of doing things	1	2	3	4	5
g. I have the opportunity to participate in decision making.	1	2	3	4	5
h. I participate in planning care and services in this facility	1	2	3	4	5

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

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	Not at all	Rarely	Some-times	Usually	Always
i. The staffing levels in this facility negatively affect resident care.	1	2	3	4	5
j. My job duties allow me enough time to do my job properly	1	2	3	4	5
k. The work assignments are well planned in my department/facility.	1	2	3	4	5
l. This facility works to find staffing practices to improve resident care and service.	1	2	3	4	5
m. Good communication exists between departments.	1	2	3	4	5
n. Good communication exists between shifts.	1	2	3	4	5
o. My department/facility works as a team in providing good care to residents.	1	2	3	4	5
p. Resident care is coordinated with all departments	1	2	3	4	5
q. The orientation and training program prepares employees to do their job well.	1	2	3	4	5
r. My job allows me to develop new knowledge and skills.	1	2	3	4	5
s. This facility supports the career development of staff.	1	2	3	4	5
t. This facility educates and trains people on how to identify and solve problems.	1	2	3	4	5
u. This facility enforces safety rules.	1	2	3	4	5
v. This facility educates staff on how to prevent work-related injur	1	2	3	4	5
w. The staff in this facility fail to report safety hazards.	1	2	3	4	5

VI. The following statements concern your facility's Focus on Residents.
Definition of Focus on Residents: this area examines how the facility determines requirements, expectations, and preferences of residents. Also examined is how the facility builds relationships and determines satisfaction

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. Our facility uses multiple sources for resident feedback. (e.g. focus groups, etc.).	1	2	3	4	5
b. Our staff listens to resident suggestions.	1	2	3	4	5
c. Families and responsible parties of residents are encouraged to give us feedback.	1	2	3	4	5
d. We coordinate resident feedback across all departments.	1	2	3	4	5
e. Our facility communicates satisfaction information to resident and families.	1	2	3	4	5
f. Our facility interviews residents who have been discharged to about their experience.	1	2	3	4	5

VII. The following statements concern your facility's Management of Processes.
Definition of Management of Processes: this area focuses on the aspects of process management, including resident-focused design, health care service delivery, support, and supplier and partnering processes. This area examines how processes are designed, implemented, managed, and improved to achieve better performance.

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. The climate of this facility encourages new ideas.	1	2	3	4	5
b. We are encouraged to develop innovative ways to deliver resident care and services.	1	2	3	4	5

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

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c. There is a commitment to education and training in this facilit	1	2	3	4	5
d. Data from residents is used to improve resident services	1	2	3	4	5
e. All appropriate departments are involved in refining services	1	2	3	4	5
f. Input from service staff is used to improve resident services	1	2	3	4	5
g. This facility uses a formal problem solving process to improve services.	1	2	3	4	5
h. This facility uses interdepartmental teams to solve problems	1	2	3	4	5
i. Service staff actively participate in quality improvement efforts in this facility.	1	2	3	4	5
j. Service performance standards are understood by all departmen	1	2	3	4	5
k. Our facility typically develops strong working relationships with our suppliers.	1	2	3	4	5
l. Quality is our most important reason for selecting suppliers.	1	2	3	4	5
m. Suppliers are involved in improving services.	1	2	3	4	5
n. We measure the performance of our care and services	1	2	3	4	5
o. Feedback on care and services is obtained from other departm	1	2	3	4	5
p. Feedback on care and services is obtained from residents and state health department	1	2	3	4	5
q. A system to monitor quality is in place in this facility.	1	2	3	4	5
r. Our facility continuously evaluates our care and services to change future care and services	1	2	3	4	5

VIII. The following statements concern your facility's Performance.

Definition of Performance: this area examines the organization's performance and improvement in areas such as job satisfaction, resident service, mission, and overall facility performance.

Please circle the response indicating your perception of **how often or to what degree** the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. I would recommend this facility as a good place to work.	1	2	3	4	5
b. I would feel comfortable with a friend or family member being cared for in this facility	1	2	3	4	5
c. This facility cares about the well-being of its staff.	1	2	3	4	5
d. I find my work satisfying and fulfilling.	1	2	3	4	5
e. I feel emotionally drained at work.	1	2	3	4	5
f. Working at this job puts too much stress on me.	1	2	3	4	5
g. I feel tired at work.	1	2	3	4	5
h. At work, I feel overwhelmed.	1	2	3	4	5
i. My facility carries out the mission of our corporation.	1	2	3	4	5
j. I believe in the mission of my facility	1	2	3	4	5
k. This facility supports the values of our corporation.	1	2	3	4	5
l. Our facility has a good working relationship with local churches	1	2	3	4	5
m. I get to know the residents personally.	1	2	3	4	5
n. The staff encourage residents to do things for themselves.	1	2	3	4	5
o. It takes a long time for the residents to get help.	1	2	3	4	5
p. The administration is visibly interested in the care that residents receive.	1	2	3	4	5
q. The staff take the time to listen to the residents.	1	2	3	4	5
r. The staff respect the residents' privacy	1	2	3	4	5
s. Theft is a problem here.	1	2	3	4	5

Please circle the response indicating your perception of **how often or to what degree** the following occur in your facility

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t. The staff are concerned for the residents' safety	1	2	3	4	5
u. The staff ignore the residents' personal choices.	1	2	3	4	5
v. The staff respect the residents' spiritual preferences.	1	2	3	4	5
w. This facility does a good job in meeting the residents' needs.	1	2	3	4	5

*Please indicate your **agreement or disagreement** with the following statements.*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. The pay I receive is good, compared to the pay for similar work in in the surrounding area.	1	2	3	4	5
b. The insurance benefits I receive are good, compared to the same benefits for similar jobs in the surrounding area.	1	2	3	4	5
c. This facility has adequate health insurance to cover my family.	1	2	3	4	5
d. The vacation/paid-time-off benefits I receive are good, compared to the same benefits for similar jobs in the surrounding area	1	2	3	4	5
e. The pension benefits I receive are good, compared to the same benefits for similar jobs in the surrounding area.	1	2	3	4	5
f. Long term service is rewarded in this facility	1	2	3	4	5
g. Good performance is ignored in this facility.	1	2	3	4	5

*Please circle the response indicating your perception of your **facility's current performance** on each of the following*

	Poor	Fair	Good	Very Good	Excellent
a. Overall satisfaction of residents.	1	2	3	4	5
b. Overall satisfaction of employees.	1	2	3	4	5
c. Overall satisfaction of resident families.	1	2	3	4	5
d. Overall satisfaction of the community	1	2	3	4	5
e. Overall effectiveness of quality management practices.	1	2	3	4	5
f. Overall quality of clinical care of residents	1	2	3	4	5
g. Overall financial stability of the facility.	1	2	3	4	5

We are going to be doing this same survey again in one year. We would like to contact you again in order to have a better ability to compare changes over that time period. Your name and signature below would give us permission to include you in the next survey process. As noted in the survey instructions your individual responses will be kept confidential and private, and will also be destroyed at an established time after the study

Name (please print) _____

Signature: _____ **Date:** _____

Additional Comments: (optional)
a. Please list what you like most about your job or facility _____
_____
_____

b. Please list any suggestions you have for improving your job or facility _____
_____
_____

c. Please list any additional comments that you would like to share with us _____
_____
_____

Thank you for completing this survey.

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Appendix A (cont'd)
Performance Improvement in Long-Term Care Organizations

Staff Organizational Quality Survey (OQS)

EBENEZER   UNIVERSITY OF MINNESOTA

Purpose of Research: You are invited to participate in a statewide study being conducted by Sandra Potthoff, Principal Investigator (PI) and Doug Olson, Co-PI and Project Director, at the University of Minnesota in collaboration with Ebenezer Social Ministries and the Good Samaritan Society. Your facility has agreed to participate in this survey. The purpose of the study is to understand how to improve efficiency and effectiveness in nursing facilities through better quality management practice.

Survey Duration and Procedures: This survey will take approximately 15 to 20 minutes to complete.

Right to Refuse: Your decision to participate in this survey will not affect your relationship with the facility. Your participation in this survey is voluntary.

Confidentiality: All of your responses to the survey will be kept confidential. Sandra Potthoff and Doug Olson at the University of Minnesota, as the primary research partner, will keep all of your answers private, and only provide total survey data to the facilities.

Sharing of Survey Results: Results from the survey will be shared with all of the Ebenezer Social Ministries and Good Samaritan nursing facilities in Minnesota. Specific facility leadership results will only be shared with local facilities.

Contact Information: If you have any questions you may contact the person in charge of the survey administration or you may call Doug Olson or April Todd-Malmlov at the University of Minnesota at (612) 626-7225.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), contact the Research Subjects' Advocate line, D528 Mayo, 420 Delaware Street Southeast, Minneapolis, Minnesota 55455; telephone (612) 625-1650.

Instructions:

There are two Organizational Quality Surveys for employees, one for Administrators and Department Heads and one for all other staff. This survey is to be taken by staff. The Administrator, Assistant Administrator, and Department Directors are to take the Management OQS Survey. Please complete the survey that applies to you.

Please indicate your response on the survey by circling a number on the scale to the right of each item. Your responses are confidential. No one at the nursing home will see your responses.

If you require assistance in answering the survey, please talk to the person in charge of the survey administration. Do not ask another employee of the facility.

When you have completed this survey, please seal it in the envelope provided and put it in the collection box designated by your facility.

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Background: Please circle the number in the box that corresponds with the answer that describes you best.

a. What is your age?

under 20	1
20 to 29	2
30 to 39	3
40 to 49	4
over 50	5

b. What is your sex?

Male	1
Female	2

c. What is your race? (select one)

White	1
Black	2
Asian	3
American Indian	4
other, please list	5

d. Are you Hispanic?

Yes	1
No	2

e. Do you speak English as your first language?

Yes	1
No	2

f. What is your highest level of education?

Some High School	1
High School Graduate	2
Some Technical School	3
Technical School Graduate	4
Some Undergraduate/College	5
Associate Degree (2 year degree)	6
Undergraduate/College Degree (4 year)	7
Some Graduate Coursework (Masters, PhD)	8
Graduate Degree (Masters, PhD)	9

g. What is your position in the facility? (select one)

Nursing (RN, LPN)	1
Nursing (NAR, CNA, TMA)	2
Food Service	3
Office Administration/Medical Records	4
Social Services/Activities/Recreation	5
Housekeeping/Laundry/Maintenance	6
Therapy/Rehabilitation	7
other, please list position	8

h. Do you have a supervisory position?

yes	1
no	2

i. What shift do you normally work? (select one)

Day	1
Evening	2
Night	3
Rotating	4

j. How many hours do you work *per week*?

over 40 hours	1
32 to 40 hours	2
24 to 31 hours	3
16 to 23 hours	4
8 to 15 hours	5
less than 8 hours	6

k. How many years have you worked in this facility?

under 1 year	1
1 to 2 years	2
3 to 5 years	3
6 to 9 years	4
10 to 14 years	5
over 15 years	6

l. How many nursing homes have you worked for in the last 10 years?

one	1
two	2
three	3
four	4
five	5
over five	6

m. What is your rate of pay?

under $6.00 per hour	1
$6.01 to $8.00 per hour	2
$8.01 to $10.00 per hour	3
$10.01 to $12.00 per hour	4
$12.01 to $15.00 per hour	5
$15.01 to $18.00 per hour	6
$18.01 to $21.00 per hour	7
$21.01 to $24.00 per hour	8
over $24.00 per hour	9

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I. The following statements concern your facility's Key Leadership.
Definition of Leadership Staff: refers to the roles or positions that influence the overall direction of the facility.
Examples of such roles could include the Administrator, Director of Nursing, and/or other department head staff.

Please circle the response indicating your perception of **how often or to what degree** *the following occur in your facility*

	Not at all	Rarely	Some-times	Usually	Always
a. Our leadership staff sets the direction for our facility.	1	2	3	4	5
b. Our facility has a vision which has been the focus of our energies.	1	2	3	4	5
c. All employees support the vision of this facility.	1	2	3	4	5
d. Our leadership staff has a clear set of priorities.	1	2	3	4	5
e. Our leadership staff is visible in our facility.	1	2	3	4	5
f. Our leadership staff knows the names of employees	1	2	3	4	5
g. Our leadership staff knows the names of residents.	1	2	3	4	5
h. Our leadership staff displays a sense of caring when walking around the facility.	1	2	3	4	5
i. Our leadership staff encourages learning and growth.	1	2	3	4	5
j. Our leadership staff encourages staff to take on new initiatives.	1	2	3	4	5
k. Our leadership staff is willing to take risks.	1	2	3	4	5
l. Our leadership staff ensures that employees adhere to agreed upon standards.	1	2	3	4	5
m. Our leadership staff listens to employees.	1	2	3	4	5
n. Our leadership staff places a priority on communication with employees.	1	2	3	4	5
o. Our leadership staff is approachable.	1	2	3	4	5
p. Our leadership staff is honest.	1	2	3	4	5

II. The following statements concern your facility's Information Management.
Definition of Information Management: this area refers to the selection, management, and effectiveness of the use of information and data to support tasks and resident service.

Please circle the response indicating your perception of **how often or to what degree** *the following occur in your facility*

	Not at all	Rarely	Some-times	Usually	Always
a. Our facility has an information system that serves our needs.	1	2	3	4	5
b. Our facility dedicates staff time for collecting and analyzing data.	1	2	3	4	5
c. Our facility can track trends in care and service to identify problems by shift and by wing or unit.	1	2	3	4	5
d. Our computer system is useful in keeping staff up-to-date on resident care and service needs.	1	2	3	4	5
e. Our use of information helps service staff do their work.	1	2	3	4	5
f. We use data to identify what our facility is doing well	1	2	3	4	5
g. The data we collect help identify problems with services.	1	2	3	4	5
h. We continually try to improve how we use data and information on the quality of services.	1	2	3	4	5

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III. The following statements concern your facility's Strategic Management.

Definition of Strategic Management: this area examines how the facility sets strategic directions. and how it develops the critical strategies and action plans to support the directions. Also examined are how plans are deployed and how performance is tracked.

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. Each department sets goals to improve the quality of services.	1	2	3	4	5
b. This facility involves all levels of staff in planning for the futu	1	2	3	4	5
c. Our department heads take time to plan for improving the qual of services.	1	2	3	4	5
d. This facility does a good job of prioritizing goals.	1	2	3	4	5
e. Facility plans are turned into specific activities for each depart	1	2	3	4	5
f. Short and long term decisions are consistent with our overall facility plans.	1	2	3	4	5
g. The specific actions required to meet facility goals are clearly communicated to staff.	1	2	3	4	5
h. Our leadership staff takes responsibility for results based on th facility's plans and goals	1	2	3	4	5

IV. The following statements concern your facility's Human Resource Management.

Definition of Human Resource Management: this area focuses on how the facility enables all staff to develop and utilize their full potential. Also examined are the facility's efforts to build and maintain a work environment and work climate conducive to performance excellence. full participation. and personal and organizational growth.

Definition of immediate supervisor(s): refers to the person(s) who is responsible for overseeing the work that you do or who you report to. An immediate supervisor(s) could be a shift manager. floor manager. charge nurse. department manager. DON. assistant department director. department director. administrator. and or regional director

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. My immediate supervisor(s) responds to concerns in a timely manner.	1	2	3	4	5
b. My immediate supervisor(s) gives constructive suggestions to improve my work performance.	1	2	3	4	5
c. My immediate supervisor(s) is open to suggestions.	1	2	3	4	5
d. My immediate supervisor(s) treats me fairly.	1	2	3	4	5
e. I have the opportunity to make independent decisions about the care and service that I give to residents.	1	2	3	4	5
f. I am encouraged to think of better ways of doing things	1	2	3	4	5
g. I have the opportunity to participate in decision making.	1	2	3	4	5
h. I participate in planning resident care and services.	1	2	3	4	5
i. The staffing levels in this facility negatively affect resident care.	1	2	3	4	5
j. My job duties allow me enough time to care for the residents properly	1	2	3	4	5
k. The work assignments are well planned in my department/facility.	1	2	3	4	5
l. This facility works to find staffing practices to improve resident care and service.	1	2	3	4	5
m. Good communication exists between departments.	1	2	3	4	5
n. Good communication exists between shifts.	1	2	3	4	5
o. My department/facility works as a team in providing good care to residents.	1	2	3	4	5
p. Resident care is coordinated with all departments.	1	2	3	4	5

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Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
q. The orientation and training program prepares employees to do their job well.	1	2	3	4	5
r. My job allows me to develop new knowledge and skills.	1	2	3	4	5
s. This facility supports the career development of staff.	1	2	3	4	5
t. This facility educates and trains people on how to identify and solve problems.	1	2	3	4	5
u. This facility provides the equipment I need to do my job safely	1	2	3	4	5
v. This facility enforces safety rules.	1	2	3	4	5
w. This facility educates staff on how to prevent work-related inju	1	2	3	4	5
x. The staff in this facility fail to report safety hazards	1	2	3	4	5

V. The following statements concern your facility's Focus on Residents.

Definition of Focus on Residents: this area examines how the facility determines requirements, expectations, and preferences of residents. Also examined is how the facility builds relationships and determines satisfaction.

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. Our facility uses multiple sources for resident feedback. (e.g. s focus groups, etc.).	1	2	3	4	5
b. Our staff listens to resident suggestions.	1	2	3	4	5
c. Families and responsible parties of residents are encouraged to give us feedback.	1	2	3	4	5
d. We coordinate resident feedback across all departments.	1	2	3	4	5
e. Our facility communicates satisfaction information to resident and families.	1	2	3	4	5
f. Our facility interviews residents who have been discharged to h about their experience.	1	2	3	4	5

VI. The following statements concern your facility's Management of Processes.

Definition of Management of Processes: this area focuses on the aspects of process management, including resident-focused design, health care service delivery, support, and supplier and partnering processes. This area examines how processes are designed, implemented, managed, and improved to achieve better performance.

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. The climate of this facility encourages new ideas.	1	2	3	4	5
b. We are encouraged to develop innovative ways to deliver resident care and services.	1	2	3	4	5
c. There is a commitment to education and training in this facilit	1	2	3	4	5
d. Data from residents is used to improve resident services.	1	2	3	4	5
e. All appropriate departments are involved in refining services.	1	2	3	4	5
f. Input from service staff is used to improve resident services.	1	2	3	4	5
g. This facility uses a formal problem solving process to improve services.	1	2	3	4	5

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Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
h. This facility uses interdepartmental teams to solve problems.	1	2	3	4	5
i. Service staff actively participate in quality improvement efforts in this facility	1	2	3	4	5
j. Service performance standards are understood by all departmen	1	2	3	4	5
k. Our facility typically develops strong working relationships with our suppliers.	1	2	3	4	5
l. Quality is our most important reason for selecting suppliers.	1	2	3	4	5
m. Suppliers are involved in improving services.	1	2	3	4	5
n. We measure the performance of our care and services.	1	2	3	4	5
o. Feedback on care and services is obtained from other departme	1	2	3	4	5
p. Feedback on care and services is obtained from residents and t state health department.	1	2	3	4	5
q. A system to monitor quality is in place in this facility	1	2	3	4	5
r. Our facility continuously evaluates our care and services to change future care and services.	1	2	3	4	5

VII. The following statements concern your facility's Performance.

Definition of Performance: this area examines the organization's performance and improvement in areas such as job satisfaction, resident service, mission, and overall facility performance.

Please circle the response indicating your perception of how often or to what degree the following occur in your facility

	Not at all	Rarely	Some-times	Usually	Always
a. I would recommend this facility as a good place to work.	1	2	3	4	5
b. I would feel comfortable with a friend or family member being cared for in this facility.	1	2	3	4	5
c. This facility cares about the well-being of its staff.	1	2	3	4	5
d. I find my work satisfying and fulfilling.	1	2	3	4	5
e. I feel emotionally drained at work.	1	2	3	4	5
f. Working at this job puts too much stress on me	1	2	3	4	5
g. I feel tired at work.	1	2	3	4	5
h. At work, I feel overwhelmed.	1	2	3	4	5
i. My facility carries out the mission of our corporation.	1	2	3	4	5
j. I believe in the mission of my facility.	1	2	3	4	5
k. This facility supports the values of our corporation.	1	2	3	4	5
l. Our facility has a good working relationship with local churches	1	2	3	4	5
m. I get to know the residents personally.	1	2	3	4	5
n. The staff encourage residents to do things for themselves	1	2	3	4	5
o. It takes a long time for the residents to get help.	1	2	3	4	5
p. The administration is visibly interested in the care that residents receive.	1	2	3	4	5
q. The staff take the time to listen to the residents.	1	2	3	4	5
r. The staff respect the residents' privacy.	1	2	3	4	5
s. Theft is a problem here.	1	2	3	4	5
t. The staff are concerned for the residents' safety.	1	2	3	4	5
u. The staff ignore the residents' personal choices.	1	2	3	4	5
v. The staff respect the residents' spiritual preferences	1	2	3	4	5
w. This facility does a good job in meeting the residents' needs.	1	2	3	4	5

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*Please indicate your **agreement or disagreement** with the following statements.*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. The pay I receive is good, compared to the pay for similar work in in the surrounding area.	1	2	3	4	5
b. The insurance benefits I receive are good, compared to the same benefits for similar jobs in the surrounding area.	1	2	3	4	5
c. This facility has adequate health insurance to cover my family.	1	2	3	4	5
d. The vacation/paid-time-off benefits I receive are good, compared to the same benefits for similar jobs in the surrounding area.	1	2	3	4	5
e. The pension benefits I receive are good, compared to the same benefits for similar jobs in the surrounding area.	1	2	3	4	5
f. Long term service is rewarded in this facility.	1	2	3	4	5
g. Good performance is ignored in this facility.	1	2	3	4	5

*Please circle the response indicating your perception of your **facility's current performance** on each of the following.*

	Poor	Fair	Good	Very Good	Excellent
a. Overall satisfaction of residents.	1	2	3	4	5
b. Overall satisfaction of employees.	1	2	3	4	5
c. Overall satisfaction of resident families.	1	2	3	4	5
d. Overall satisfaction of the community.	1	2	3	4	5
e. Overall effectiveness of quality management practices.	1	2	3	4	5
f. Overall quality of clinical care of residents.	1	2	3	4	5
g. Overall financial stability of the facility.	1	2	3	4	5

We are going to be doing this same survey again in one year. We would like to contact you again in order to have a better ability to compare changes over that time period. Your name and signature below would give us permission to include you in the next survey process. As noted in the survey instructions your individual responses will be kept confidential and private, and will also be destroyed at an established time after the study.

Name (please print) _____

Signature: _____ *Date:* _____

Additional Comments: (optional)
a. Please list what you like most about your job or facility _____

_____

b. Please list any suggestions you have for improving your job or facility _____

_____

c. Please list any additional comments that you would like to share with us _____

_____
_____

Thank you for completing this survey.

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APPENDIX B
Response rate explanatory note:

Estimated staff ratios by group reported by corporation(s)
Actual staff surveys sent out were approximately 8693 − 748 = 7945

Nursing 60% of hours and staff, therefore 4767 eligible respondents

35% professional nursing, therefore 1668 eligible respondents

65% nursing assistants, therefore 3099 eligible respondents

Management staff actually had 748 eligible respondents

Therefore, the response rates were:

➤ Overall, 3514/8693 = 40%
➤ Management, 628/748 = 84%
➤ Professional Nursing, 569/1668 = 34%
➤ Nursing Assistants, 1024/3099 = 33%

If you include a total staff ineligible factor, estimated by the corporations at 10%:
You would have reported at 7945(.9) = 7150

Nursing 60% of hours and staff, therefore 4290 eligible respondents

35% professional nursing, therefore 1501 eligible respondents

65% nursing assistants, therefore 2789 eligible respondents

Management staff actually had 748 eligible respondents

Therefore, the response rates were:
➤ Overall, 3514/7945 = 44%
➤ Management, 628/748 = 84%
➤ Professional Nursing, 569/1501 = 38%
➤ Nursing Assistants, 1024/2789 = 35%

March 10, 2000

APPENDIX C

Survey Question Origins for Study Constructs

Leadership

Focused Visionary:
L1. Derived from Meyer, 1998, based on Baldrige 1.1a(3)
L2. Derived conceptually from Easton, 1990.
L3. Derived conceptually from Gaster, 1991.
L4. Derived from Sashkin, LBQ, Focused Leadership section, HRD Press, 1995.

Supporting Change:
L11. Derived conceptually from Peters, numerous cites.
L12. Derived conceptually from Kanter, 1983.
L13. Derived from Sashkin, LBQ, Risk leadership narrative, HRD Press, 1995.
L14. Derived conceptually from Kouzes & Posner, 1991.

Effective Communication:
L15. Question originated from Bovett, 1994 and nursing assistant focus group conducted in 1998.
L16. Derived conceptually from the Baldrige criteria leadership section narrative. Original pilot questions related to verbal and written communication, and this adapted question posed a more general communication construct. This question also specified an audience, and was reviewed by research team.
L17. Question originated from nursing assistant focus group conducted in 1998.
L18. Derived conceptually from Kouzes & Posner, 1991.

Visible Presence:
L5. Derived conceptually from Drucker, 1990 and question originated from Shortell, 1992.
L6. Derived conceptually from Kerr & Jermier, 1978.
L7. Derived conceptually from Kerr & Jermier, 1978.
L8. Derived conceptually from role modeling work of Kouzes & Posner, 1996, adapted to visibility and reviewed by research team.

Strategic Management

S3. Question originated from Shortell, 1992.
S4. Derived conceptually from Easton, 1990.
S5. Derived from Meyer, 1998, based on Baldrige 3.2, Note (2).
S7. Question originated and derived from Shortell, 1992.
S8. Derived from provider input and expertise of research team.

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Process

Learning:

M1. Conceptually derived from Senge, 1990.
M2. Conceptually derived from Dervitsiotis, 1998.
M3. Conceptually derived from Senge, 1990.

Operational:

M8. Derived from quality principles, provider input and expertise of research team.
M9. Derived conceptually from Imai, 1976.
M10. Derived from provider input and expertise of research team.

Evaluation:

M14. Conceptually derived from Meyer, 1998 and based on Baldrige 5.5a.
M17. Derived from quality principles, provider input and expertise of research team.
M18. Derived from quality principles, provider input and expertise of research team.

Human Resources

Supervision:

H1. Adapted from an Ebenezer Social Ministry (Ebenezer Hall, 1994) and the Good Samaritan Society, 1998 employee climate surveys.
H2. Adapted from an Ebenezer Social Ministry (Itasca Nursing Home, 1994) employee climate survey.
H3. Adapted from an Ebenezer Social Ministry (Ebenezer Hall, 1994) employee climate survey.
H4. Adapted from Ebenezer Social Ministry (Martin Luther Manor, 1988 and Ebenezer Hall, 1994) employee climate surveys.

Empowerment:

H5. Derived conceptually from Tonges, Rothstein, & Carter, 1998.
H6. Adapted from Ebenezer Social Ministry (Martin Luther Manor, 1988 and Ebenezer Hall, 1994) and Fairview Riverside Medical Center employee climate surveys.
H7. Adapted from an Ebenezer Social Ministry (Martin Luther Manor, 1988) employee climate survey.
H8. Derived conceptually from Tonges, Rothstein, & Carter, 1998.

Job Design:

H10. Question originated from nursing assistant focus group conducted in 1998 and expertise of research team.
H11. Question originated from nursing assistant focus group conducted in 1998 and expertise of research team.
H12. Adapted from an Ebenezer Social Ministry (Ebenezer Hall, 1994) employee climate survey.

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Coordination:

H13. Adapted from the Volunteers of America Health Services Survey, and the Good Samaritan Society employee climate survey, 1998.

H14. Adapted from the Volunteers of America Health Services Survey, and the Good Samaritan Society employee climate survey, 1998.

H15. Adapted from Ebenezer Social Ministry (Martin Luther Manor, 1988 and Ebenezer Hall, 1994) employee climate surveys.

H16. Derived conceptually from Tonges, Rothstein, & Carter, 1998.

Education and Training:

H17. Adapted from the Good Samaritan Society employee climate survey, 1998.

H18. Adapted from the Good Samaritan Society employee climate survey, 1998.

H19. Adapted from the Good Samaritan Society employee climate survey, 1998.

H20. Adapted from the Western Network Health Care Quality Improvement Survey, 1992.

Performance Outcomes

Satisfaction:

P1. Adapted from an Ebenezer Social Ministry (Ebenezer Hall, 1994) and the Fairview Riverside Medical Center employee climate surveys.

P2. Adapted from the Good Samaritan Society employee climate survey, 1998.

P3. Adapted from the Good Samaritan Society employee climate survey, 1998.

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Appendix D
Survey Assistance Instructions

Privacy and Confidentiality:

1. When assisting someone with the survey, please make sure that such assistance is conducted in private to ensure confidentiality of the respondent. For example, when assisting residents with the survey, make sure that no staff or other residents are within hearing distance.

2. Before beginning the survey, please make sure that the respondent understands the survey instructions. Once the survey instructions are read and understood, ask the respondent if they are willing to participate in the survey. It is important that the respondent understand that their answers will be kept confidential and that they have the right to refuse to participate.

3. Do not discuss a respondent's information with family, friends, or other persons. Information learned from respondents will always be confidential. You have gained the trust of the respondent. Information given to you was given in confidence.

4. It is very important that you never assist a respondent that you know as a relative, friend, or neighbor. This respondent is entitled to confidentiality. Knowing the respondent could compromise the integrity of the survey by the inhibiting the respondent to be honest.

5. Assistance with the Residents: For longitudinal study purposes, the residents will be asked to put their names on their surveys. It is important that the residents understand that no names will be associated with the data. Names will never be in the reports; the reports will show statistical data in the aggregate. No one will be identified or identifiable in any reports. After a resident completes their survey, please seal it in the envelope provided and assist the resident in placing it in the anonymous survey box in the facility.

Wording of Questions:

6. It is mandatory that each question be read exactly as it is written. The slightest change in wording can bias the response. If there is a need to interpret the questions for respondents who do not speak English, please try to interpret the questions word for word if possible.

7. Do not reword questions. Rewording questions will lead to different answers. If the respondent does not understand the question, repeat the question slowly. If the respondent asks for the meaning of a word used in a question, do not explain it to them. Tell them, "The survey does not offer an explanation. When that happens we would like you to interpret it

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to whatever it means to you. The researchers want us to be very careful not to bias or influence you."

8. In order to prevent bias, each respondent must hear the entire question before they answer. If a respondent answers before the entire question has been read, there is a chance that his/her response would be different if he/she heard the entire question. If the respondent interrupts, you can say, "I would like you to hear the entire question before you answer."

Order of Questions:

9. Questions are ordered in a certain way to prevent some answers from influencing other answers. Information is asked in logical progression. Any alteration of the order of questions could bias a respondent's answers. All questions must be read in the order they appear on the survey.

10. Don't skip a question because the answer was given earlier or because you know the response. Although it is tempting to skip a question because you feel the respondent has already answered it, always ask each question in its entirety.

11. Even if the respondent has already talked about a situation, when it comes times to ask the question which addresses the same issue, ask the question anyway and take their response.

Avoiding Bias:

12. You must be careful to avoid behavior, conscious or unconscious, spoken or unspoken, which could affect the way a respondent answers a question. It is important that the facts and opinions a respondent gives are his/her own. Questions should be read in a conversational tone without intonation that may change the meaning or bias the response.

13. Do not help or direct the respondent on a question by mentioning a response or comment made by the respondent on a previous question.

14. Do not express your own opinions or how you think the respondent should answer. Respondents will change thir answer to please the interviewer or change their answers to what the interviewer believes to be the correct answer. Tell the respondent that "There are no right or wrong answers" or "Its your opinions that are important."

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Appendix E

Who is the formal leadership of nursing facilities?

(developed for a future National Science Foundation research brief)

Introduction:

The leadership of nursing facilities is an important organizational factor for nursing homes. Leadership in nursing facilities has not been well understood or studied for the past 30 years. The purpose of this National Science Foundation Research Brief is to assist facilities to begin to understand the formal leadership within their organizations by providing them with information on the actual results of leadership assessment by their own management teams.

Management team, or "department head" responses to a set of leadership peer assessment questions and their own self reported assessment question on the NSF Organizational Quality Survey (OQS) administered during the spring of 1999 were used to identify the formal leadership within their facilities. A cross validation approach using aggregated peer assessment responses and self report was used to identify the roles and group composition within each nursing facility. The results are outlined in the two-by-two matrix below:

		Peer assessment		
		Leader	Non-leader	Total
Self-identity	Leader	86	141	227
	Non-leader	19	356	375
	Total	105	497	602

Using this approach we conclude that we have 86 persons identified by both themselves and their peers to be the leaders within the nursing facilities, and 105 peer identified leaders. These are the groups that we will use to run additional analysis to help describe the group compositions sizes within facilities.

Results: The results below reported by facility show a majority of the facilities have between one and five roles designated as part of formal leadership of nursing facilities. Further review suggests that there is a more dominant pattern emerging with two or three leadership roles within these facilities.

144

Leadership Group Sizes

Std Dev = 1 94
Mean = 3
N = 63 00

Size of Leadership Group
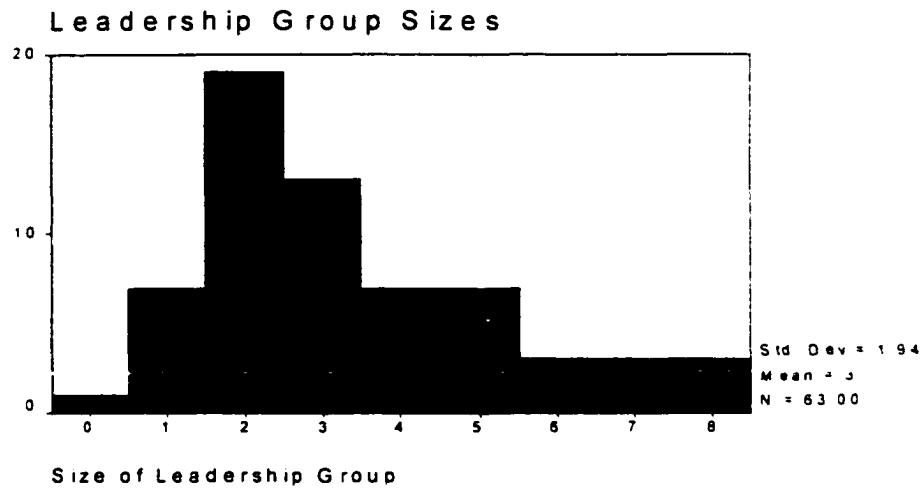
The composition of designated leadership roles is categorized below reported by both raw data and in percentage terms, accounting for facilities that have the role listed in place in their organization (Valid N) using the peer evaluation data.

Title	Leaders	Valid N	% leaders
Administrator	58	62	94%
Assistant Administrator	1	3	33%
Director of Nursing	41	63	65%
Director of Social Services	8	62	13%
Director of Pastoral Care	1	40	3%
Director of Food Service	1	63	2%
Director of Activities	3	62	5%
Director of the Business Office	8	62	13%
Director of Community Services	1	22	5%
Director of Health Information/Records	0	54	0%
Director of Therapy/Rehabilitation	2	48	4%
Director of Development	0	21	0%
Director of Volunteer Services	0	53	0%
Assistant Director of Nursing	5	43	12%
Director of Staff Development	1	54	2%
Director of Maintenance	0	61	0%
Director of Housekeeping	0	56	0%
Director of Laundry Services	0	55	0%
Director of Environmental Services	1	46	2%
Director of Quality	3	35	9%
Director of Personnel	2	21	10%

This is based only on peer evaluation since not all leaders were respondents.

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Conclusion: The results show that the role of Administrator is viewed as a formal leader in the organization. The Director of Nursing role is viewed as a designated leader in a majority of facilities. These two roles are the most clearly expressed in terms of the management group evaluation. Another level of roles which can be classified as sometimes cited as leadership would include those reported over 10% including: Assistant Administrator, Director of Social Services, Director of the Business Office, Assistant Director of Nursing, and Director of Personnel. There is very little evidence to support the inclusion of any other roles within this leadership designation

Discussion: The results provide insight into the formal leadership groups and roles within the facilities in our study. However, the results do not provide information on specific results of the leadership groups. The findings presented in this brief could be used by facilities as a discussion tool to adjust or take advantage of the current composition of the group. From a corporation standpoint clearly the message that stands out the most is the empirically derived results that suggest the high leadership designation of both the Administrator and Director of Nursing. The corporations would be advised to use this information as a starting point for investigating and formulating strategies to maximize the combined impact of these roles for their facilities. An example may be that the title of Director Nursing may have outlived its useful life. A second finding is to view the data and determine the impact of the next level of leadership cited, which seem to fall into the category of professional leadership support staff. How could this administrative leadership team best be utilized within facilities? Lastly, we need to ask the questions regarding the structural effectiveness of the majority of managers that are not designated as leaders, and the managerial role they play in the facilities. Leadership strategies, organizational structures and role clarification are operational areas that could benefit from this descriptive research.

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Appendix F
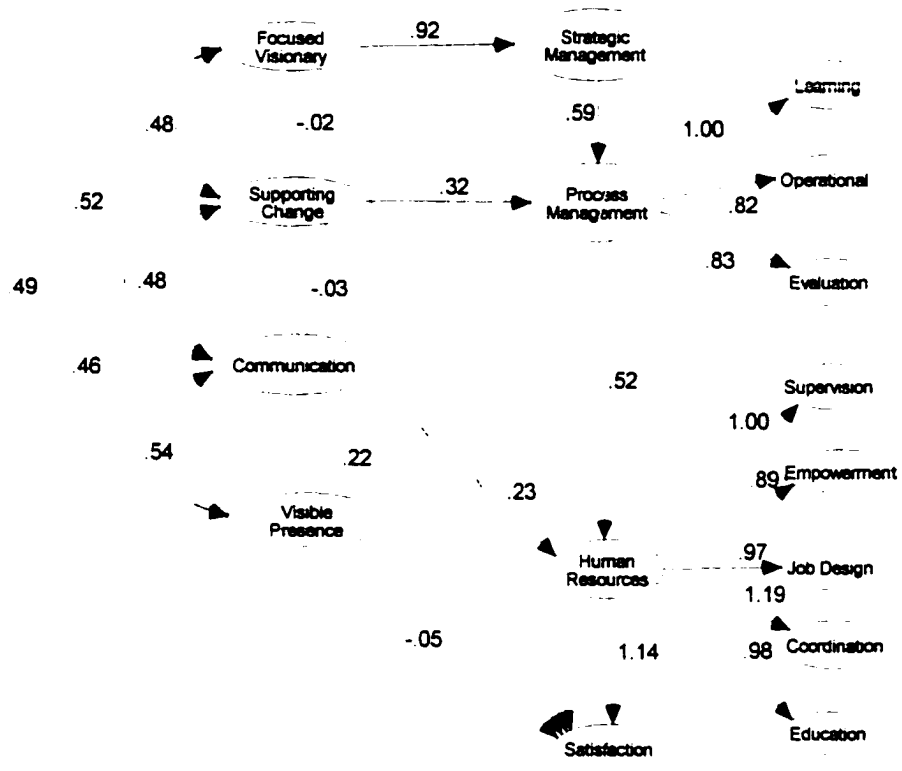
Aggregate Model
Chi-square = 6808.748
DF = 1250
RMSEA = .045
CFI = .928

147

Original Model - Aggregate

Super construct	Construct	Variable label	Factor loading	Error term	Variance of the error term
Leadership	Focused Visionary	L1	.84	e1	.58
		L2	.98	e2	.42
		L3	.83	e3	.57
		L4	1.00	e4	.38
	Supporting Change	L11	1.16	e11	.31
		L12	1.14	e12	.31
		L13	.96	e13	.54
		L14	1.00	e14	.51
	Effective Communication	L15	1.06	e15	.23
		L16	1.05	e16	.23
		L17	1.02	e17	.31
		L18	1.00	e18	.35
	Visible Presence	L5	.91	e5	.46
		L6	.80	e6	.55
		L7	.82	e7	.55
		L8	1.00	e8	.36
Strategic Management	Strategic Management	S3	.93	e20	.36
		S4	1.00	e21	.28
		S5	.89	e22	.39
		S7	.93	e23	.35
		S8	.97	e24	.32
Process Management	Learning	M1	1.00	e31	.30
		M2	1.00	e32	.29
		M3	.84	e33	.48
	Operational	M8	1.00	e34	.45
		M9	1.12	e35	.29
		M10	1.01	e36	.40
	Evaluation	M14	1.00	e37	.43
		M17	1.05	e38	.36
		M18	1.20	e39	.20

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Human Resources	Supervision	H1	1.00	e41	.35
		H2	.94	e42	.43
		H3	1.08	e43	.25
		H4	1.02	e44	.34
	Empowerment	H5	1.00	e55	.43
		H6	1.10	e56	.35
		H7	1.23	e57	.20
		H8	.94	e58	.40
	Job Design	H10	1.00	e59	.53
		H11	1.13	e60	.42
		H12	1.33	e61	.33
	Coordination	H13	1.00	e62	.34
		H14	.91	e63	.42
		H15	.89	e64	.45
		H16	.94	e65	.42
	Education	H17	1.00	e66	.59
		H18	1.15	e67	.38
		H19	1.22	e68	.35
		H20	1.19	e69	.39
Satisfaction	Satisfaction	P1	.93	e71	.31
		P2	.90	e72	.39
		P3	1.00	e73	.24

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Appendix G

Focused
Visionary .96 Strategic
Management

Learning

.31 .00 .50 1.00

Operational

.26 Supporting
Change .39 Process
Management 82

74 Evaluation

.23 .29 - 10

Supervision

.25 Communication .57 1.00

.26 13 Empowerment

21 90

Visible
Presence

70 Job Design

95

Human
Resources

- 08 1.11 84 Coordination

Education

Satisfaction

Management Model
Chi-square = 3169.591
DF = 1250
RMSEA = .049
CFI = .911

150

Original Model - Management

Super construct	Construct	Variable label	Factor loading	Error term	Variance of the error term
Leadership	Focused Visionary	L1	.70	e1	.44
		L2	1.14	e2	.34
		L3	.92	e3	.41
		L4	1.00	e4	.29
	Supporting Change	L11	1.15	e11	.24
		L12	1.15	e12	.24
		L13	.93	e13	.34
		L14	1.00	e14	.39
	Effective Communication	L15	1.07	e15	.18
		L16	1.12	e16	.21
		L17	1.04	e17	.25
		L18	1.00	e18	.25
	Visible Presence	L5	.95	e5	.39
		L6	1.02	e6	.33
		L7	.98	e7	.42
		L8	1.00	e8	.33
Strategic Management	Strategic Management	S3	.91	e20	.34
		S4	1.00	e21	.27
		S5	.98	e22	.31
		S7	.97	e23	.29
		S8	1.02	e24	.28
Process Management	Learning	M1	1.00	e31	.31
		M2	1.05	e32	.27
		M3	.88	e33	.37
	Operational	M8	1.00	e34	.46
		M9	1.16	e35	.36
		M10	1.07	e36	.38
	Evaluation	M14	1.00	e37	.41
		M17	1.16	e38	.29
		M18	1.07	e39	.15

151

Human Resources	Supervision	H1	1.00	e41	.34
		H2	1.00	e42	.44
		H3	1.06	e43	.19
		H4	1.06	e44	.28
	Empowerment	H5	1.00	e55	.28
		H6	1.10	e56	.22
		H7	1.18	e57	.12
		H8	.90	e58	.31
	Job Design	H10	1.00	e59	.50
		H11	1.02	e60	.38
		H12	1.66	e61	.28
	Coordination	H13	1.00	e62	.25
		H14	.98	e63	.27
		H15	.72	e64	.36
		H16	.93	e65	.36
	Education	H17	1.00	e66	.49
		H18	1.33	e67	.30
		H19	1.47	e68	.34
		H20	1.49	e69	.39
Satisfaction	Satisfaction	P1	1.02	e71	.19
		P2	.98	e72	.22
		P3	1.00	e73	.19

152

Appendix H

Focused Visionary — .90 → Strategic Management

Learning

.37 .06 .61 1.00

Operational

.48 Supporting Change — .39 → Process Management .80

.96 Evaluation

41 .38 .07

32 Communication .53 Supervision

1.00

47 .24 .89 Empowerment

.24

Visible Presence .88 Job Design

Human Resources 1.02

-.17 .98 .91 Coordination

Satisfaction Education
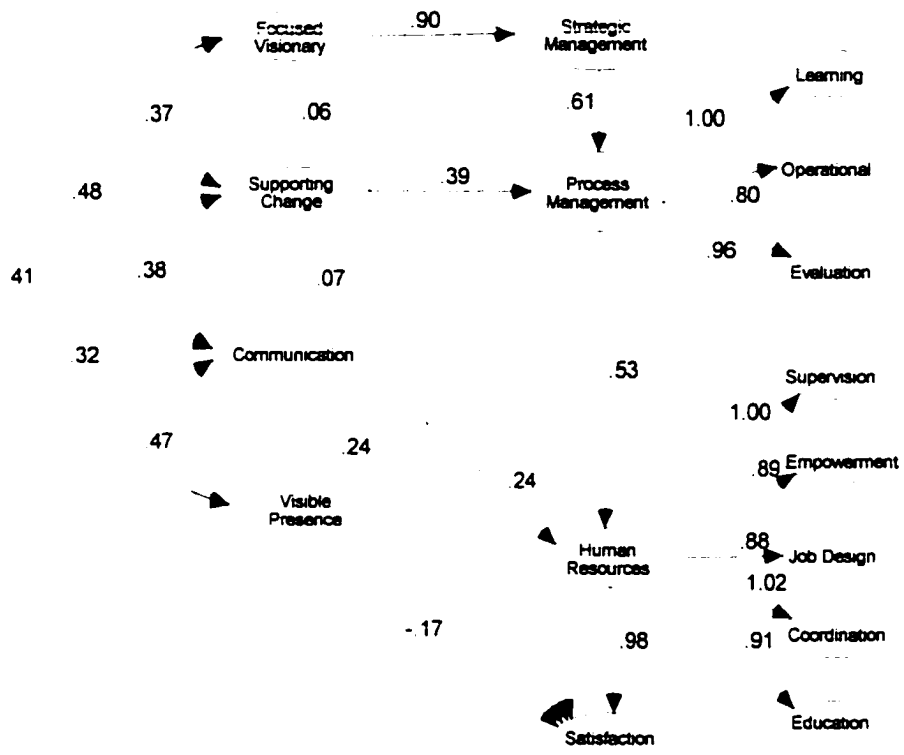
Professional Nursing Model
Chi-square = 2950.115
DF = 1250
RMSEA = .049
CFI = .918

153

Original Model – Professional Nurses

Super construct	Construct	Variable label	Factor loading	Error term	Variance of the error term
Leadership	Focused Visionary	L1	.86	e1	.49
		L2	1.02	e2	.39
		L3	.80	e3	.51
		L4	1.0	e4	.35
	Supporting Change	L11	1.37	e11	.34
		L12	1.30	e12	.28
		L13	1.11	e13	.45
		L14	1.00	e14	.56
	Effective Communication	L15	1.01	e15	.22
		L16	1.05	e16	.19
		L17	1.02	e17	.29
		L18	1.00	e18	.36
	Visible Presence	L5	1.07	e5	.40
		L6	.97	e6	.41
		L7	.99	e7	.43
		L8	1.00	e8	.38
Strategic Management	Strategic Management	S3	.91	e20	.32
		S4	1.00	e21	.25
		S5	.93	e22	.31
		S7	.93	e23	.36
		S8	1.01	e24	.30
Process Management	Learning	M1	1.00	e31	.23
		M2	.98	e32	.27
		M3	.78	e33	.57
	Operational	M8	1.00	e34	.35
		M9	1.12	e35	.25
		M10	1.02	e36	.37
	Evaluation	M14	1.00	e37	.37
		M17	.97	e38	.34
		M18	1.05	e39	.23

154

Human Resources	Supervision	H1	1.00	e41	.32
		H2	.96	e42	.38
		H3	1.07	e43	.23
		H4	1.01	e44	.26
	Empowerment	H5	1.00	e55	.34
		H6	1.11	e56	.29
		H7	1.13	e57	.19
		H8	.80	e58	.36
	Job Design	H10	1.00	e59	.40
		H11	1.13	e60	.36
		H12	1.28	e61	.33
	Coordination	H13	1.00	e62	.35
		H14	.87	e63	.38
		H15	.95	e64	.41
		H16	1.06	e65	.35
	Education	H17	1.00	e66	.58
		H18	1.05	e67	.37
		H19	1.23	e68	.33
		H20	1.24	e69	.32
Satisfaction	Satisfaction	P1	1.00	e71	.26
		P2	.84	e72	.36
		P3	1.00	e73	.23

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Appendix I

Focused Visionary

.92

Strategic Management

Learning

.63

.09

.63

1.00

65

Supporting Change

.21

Process Management

Operational

.85

.85

Evaluation

65

59

-.12

61

Communication

56

Supervision

1.00

64

.15

84 Empowerment

21

Visible Presence

1.11 Job Design

1.27

Human Resources

.03

1.10

1.09 Coordination

Satisfaction

Education
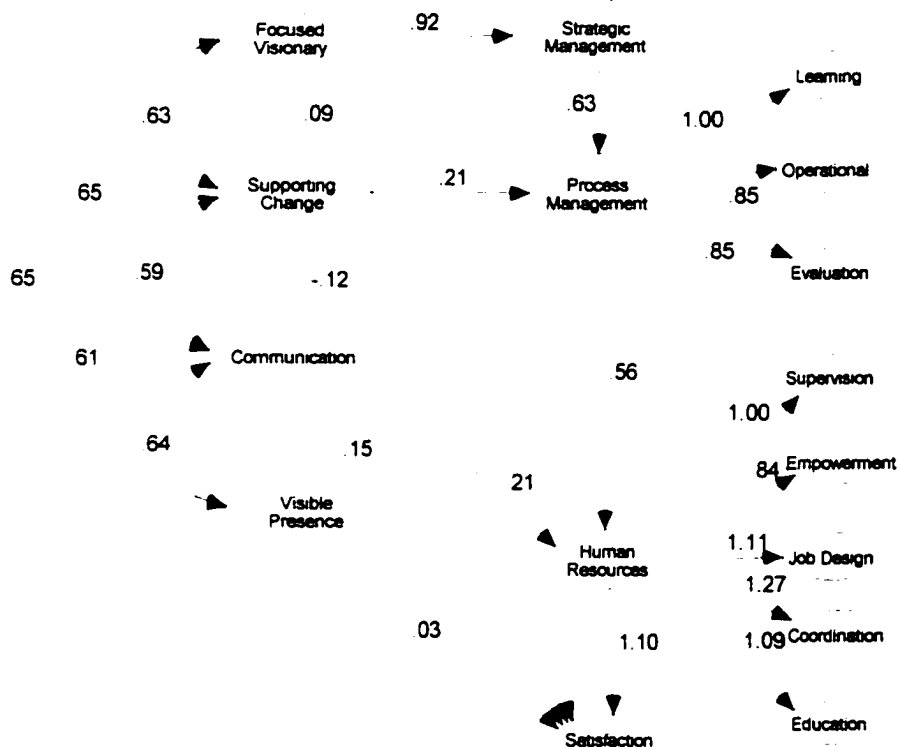
Nursing Assistant Model
Chi-square = 3679.264
DF = 1250
RMSEA = .044
CFI = .935

156

Original Model – Nursing Assistants

Super construct	Construct	Variable label	Factor loading	Error term	Variance of the error term
Leadership	Focused Visionary	L1	.84	e1	.72
		L2	.89	e2	.48
		L3	.86	e3	.65
		L4	1.00	e4	.45
	Supporting Change	L11	1.10	e11	.32
		L12	1.07	e12	.37
		L13	.84	e13	.69
		L14	1.00	e14	.54
	Effective Communication	L15	1.06	e15	.25
		L16	1.05	e16	.25
		L17	1.03	e17	.35
		L18	1.00	e18	.40
	Visible Presence	L5	.84	e5	.54
		L6	.73	e6	.73
		L7	.82	e7	.63
		L8	1.00	e8	.38
Strategic Management	Strategic Management	S3	.94	e20	.39
		S4	1.00	e21	.32
		S5	.87	e22	.46
		S7	.94	e23	.36
		S8	.93	e24	.35
Process Management	Learning	M1	1.00	e31	.34
		M2	1.00	e32	.32
		M3	.87	e33	.48
	Operational	M8	1.00	e34	.47
		M9	1.13	e35	.26
		M10	1.01	e36	.42
	Evaluation	M14	1.00	e37	.43
		M17	1.05	e38	.39
		M18	1.19	e39	.23

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Human Resources	Supervision	H1	1.00	e41	.37
		H2	.94	e42	.42
		H3	1.08	e43	.29
		H4	.98	e44	.43
	Empowerment	H5	1.00	e55	.56
		H6	1.10	e56	.45
		H7	1.21	e57	.26
		H8	.89	e58	.44
	Job Design	H10	1.00	e59	.59
		H11	1.10	e60	.47
		H12	1.17	e61	.34
	Coordination	H13	1.00	e62	.38
		H14	.94	e63	.51
		H15	.92	e64	.52
		H16	.95	e65	.47
	Education	H17	1.00	e66	.63
		H18	1.07	e67	.42
		H19	1.11	e68	.36
		H20	1.14	e69	.37
Satisfaction	Satisfaction	P1	.90	e71	.40
		P2	.91	e72	.50
		P3	1.00	e73	.26

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Focused Visionary   93   Strategic Management

Learning

48   .59   1.00

52   Supporting Change   32   Process Management   Operational

.82

48   83   Evaluation

Communication   .52   Supervision

1.00

23   .89 Empowerment

17   Human Resources   .97 Job Design

1.19

1.10   .98 Coordination

Satisfaction   Education

Aggregate Model
Chi-square = 5808.194
DF = 1062
RMSEA = .045
CFI = .934

159

Alternate model – Aggregate

Super construct	Construct	Variable label	Factor loading	Error term	Variance of the error term
Leadership	Focused Visionary	L1	.84	e1	.59
		L2	.98	e2	.42
		L3	.84	e3	.57
		L4	1.00	e4	.38
	Supporting Change	L11	1.15	e11	.32
		L12	1.15	e12	.30
		L13	.97	e13	.54
		L14	1.00	e14	.51
	Effective Communication	L15	1.07	e15	.22
		L16	1.07	e16	.22
		L17	1.02	e17	.31
		L18	1.00	e18	.35
Strategic Management	Strategic Management	S3	.93	e20	.36
		S4	1.00	e21	.28
		S5	.89	e22	.39
		S7	.93	e23	.35
		S8	.97	e24	.32
Process Management	Learning	M1	1.00	e31	.30
		M2	1.00	e32	.29
		M3	.84	e33	.48
	Operational	M8	1.00	e34	.45
		M9	1.12	e35	.29
		M10	1.01	e36	.40
	Evaluation	M14	1.00	e37	.43
		M17	1.05	e38	.36
		M18	1.20	e39	.20

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Human	Supervision	H1	1.00	e41	.43
Resources		H2	.94	e42	.36
		H3	1.08	e43	.20
		H4	1.02	e44	.35
	Empowerment	H5	1.00	e55	.43
		H6	1.10	e56	.35
		H7	1.23	e57	.20
		H8	.94	e58	.40
	Job Design	H10	1.00	e59	.53
		H11	1.13	e60	.42
		H12	1.32	e61	.33
	Coordination	H13	1.00	e62	.34
		H14	.91	e63	.42
		H15	.89	e64	.45
		H16	.94	e65	.42
	Education	H17	1.00	e66	.59
		H18	1.15	e67	.38
		H19	1.22	e68	.35
		H20	1.19	e69	.39
Satisfaction	Satisfaction	P1	.93	e71	.31
		P2	.90	e72	.39
		P3	1.00	e73	.24

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Appendix K

Focused Visionary — .96 → Strategic Management

.31   .51   1.00   Learning

.26   Supporting Change — .39 → Process Management   .83   Operational

.28   .74   Evaluation

Communication   .57   Supervision

.21   1.00   Empowerment   .90

.06   Human Resources   .70   Job Design   .95

1.01   .84   Coordination

Satisfaction   Education

Management Model
Chi-square = 2774.783
DF = 1062
RMSEA = .051
CFI = .916

162

Alternate model – Management

Super construct	Construct	Variable label	Factor loading	Error term	Variance of the error term
Leadership	Focused Visionary	L1	.70	e1	.44
		L2	1.14	e2	.34
		L3	.93	e3	.41
		L4	1.00	e4	.29
	Supporting Change	L11	1.15	e11	.24
		L12	1.16	e12	.23
		L13	.94	e13	.33
		L14	1.00	e14	.39
	Effective Communication	L15	1.08	e15	.18
		L16	1.14	e16	.21
		L17	1.05	e17	.25
		L18	1.00	e18	.25
Strategic Management	Strategic Management	S3	.91	e20	.34
		S4	1.00	e21	.27
		S5	.98	e22	.31
		S7	.97	e23	.29
		S8	1.02	e24	.28
Process Management	Learning	M1	1.00	e31	.31
		M2	1.05	e32	.26
		M3	.88	e33	.37
	Operational	M8	1.00	e34	.46
		M9	1.16	e35	.36
		M10	1.07	e36	.38
	Evaluation	M14	1.00	e37	.41
		M17	1.03	e38	.29
		M18	1.36	e39	.15

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Human Resources	Supervision	H1	1.00	e41	.34
		H2	1.00	e42	.44
		H3	1.06	e43	.19
		H4	1.06	e44	.28
	Empowerment	H5	1.00	e55	.28
		H6	1.10	e56	.22
		H7	1.17	e57	.12
		H8	.90	e58	.31
	Job Design	H10	1.00	e59	.50
		H11	1.02	e60	.38
		H12	1.65	e61	.28
	Coordination	H13	1.00	e62	.25
		H14	.99	e63	.27
		H15	.72	e64	.36
		H16	.93	e65	.36
	Education	H17	1.00	e66	.49
		H18	1.33	e67	.30
		H19	1.46	e68	.35
		H20	1.49	e69	.39
Satisfaction	Satisfaction	P1	1.02	e71	.37
		P2	.98	e72	.37
		P3	1.00	e73	.46

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Appendix L

Focused Visionary .91 → Strategic Management

Learning

.37 .61 1.00

47 Supporting Change .39 → Process Management ► Operational

80

.96 Evaluation

.38

Communication

.53 Supervision

1.00

.24 89 Empowerment

16 Human Resources

88 Job Design

1.02

Coordination

1.04 .91

Satisfaction Education
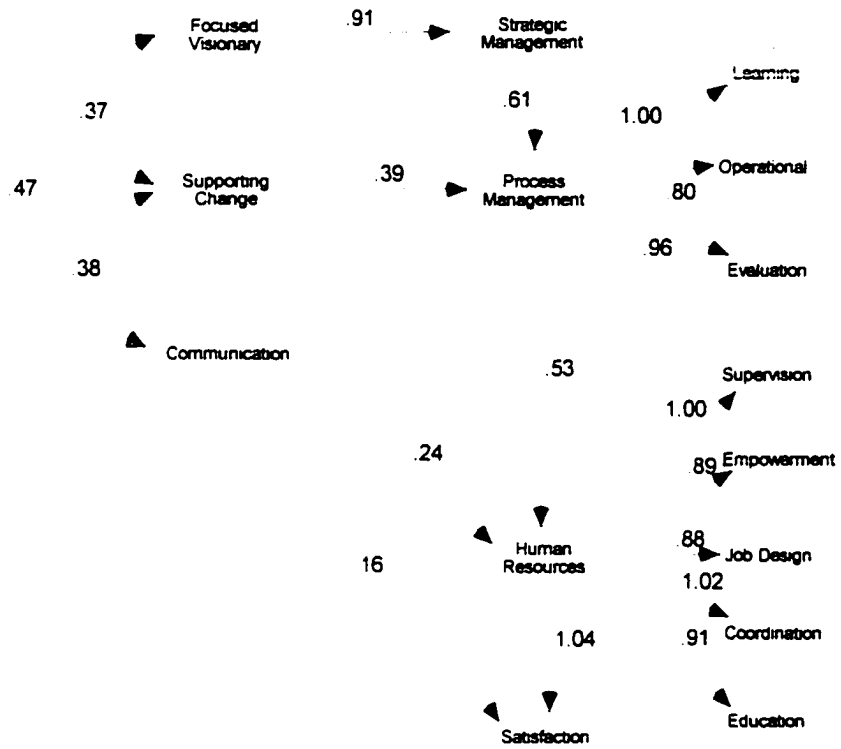
Professional Nursing Model
Chi-square = 2479.384
DF = 1062
RMSEA = .048
CFI = .926

165

Alternate model – Professional Nursing

Super construct	Construct	Variable label	Factor loading	Error term	Variance of the error term
Leadership	Focused Visionary	L1	.86	e1	.49
		L2	1.03	e2	.39
		L3	.81	e3	.51
		L4	1.00	e4	.35
	Supporting Change	L11	1.36	e11	.35
		L12	1.31	e12	.28
		L13	1.11	e13	.45
		L14	1.00	e14	.56
	Effective Communication	L15	1.02	e15	.22
		L16	1.07	e16	.17
		L17	1.02	e17	.31
		L18	1.00	e18	.37
Strategic Management	Strategic Management	S3	.91	e20	.32
		S4	1.00	e21	.25
		S5	.93	e22	.31
		S7	.93	e23	.36
		S8	1.01	e24	.30
Process Management	Learning	M1	1.00	e31	.23
		M2	.98	e32	.27
		M3	.78	e33	.57
	Operational	M8	1.00	e34	.35
		M9	1.12	e35	.25
		M10	1.02	e36	.37
	Evaluation	M14	1.00	e37	.37
		M17	.97	e38	.34
		M18	1.05	e39	.23

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Human Resources	Supervision	H1	1.0	e41	.32
		H2	.96	e42	.38
		H3	1.07	e43	.23
		H4	1.01	e44	.26
	Empowerment	H5	1.00	e55	.34
		H6	1.11	e56	.29
		H7	1.13	e57	.19
		H8	.80	e58	.36
	Job Design	H10	1.00	e59	.40
		H11	1.13	e60	.36
		H12	1.29	e61	.33
	Coordination	H13	1.00	e62	.35
		H14	.87	e63	.38
		H15	.95	e64	.41
		H16	1.06	e65	.35
	Education	H17	1.00	e66	.58
		H18	1.05	e67	.37
		H19	1.23	e68	.33
		H20	1.24	e69	.31
Satisfaction	Satisfaction	P1	1.00	e71	.26
		P2	.84	e72	.36
		P3	1.00	e73	.23

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Appendix M
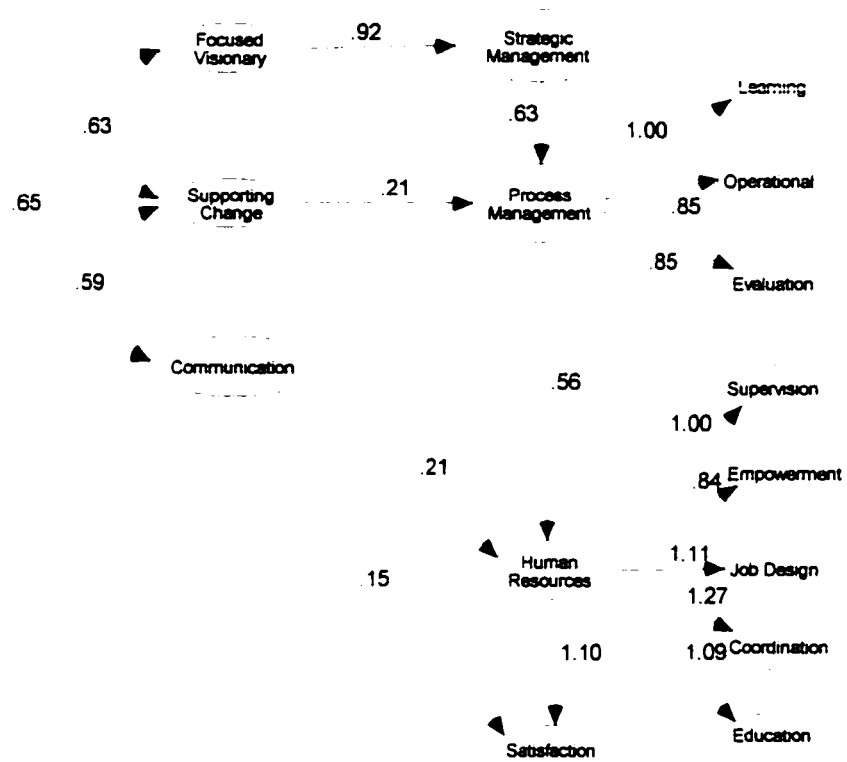
Nursing Assistant Model
Chi-square = 3105.496
DF = 1062
RMSEA = .043
CFI = .941

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Alternate model – Nursing Assistants

Super construct	Construct	Variable label	Factor loading	Error term	Variance of the error term
Leadership	Focused Visionary	L1	.83	e1	.72
		L2	.89	e2	.48
		L3	.86	e3	.65
		L4	1.00	e4	.45
	Supporting Change	L11	1.09	e11	.33
		L12	1.07	e12	.36
		L13	.84	e13	.68
		L14	1.00	e14	.54
	Effective Communication	L15	1.07	e15	.25
		L16	1.06	e16	.24
		L17	1.03	e17	.35
		L18	1.00	e18	.41
Strategic Management	Strategic Management	S3	.94	e20	.39
		S4	1.00	e21	.32
		S5	.87	e22	.46
		S7	.94	e23	.36
		S8	.93	e24	.35
Process Management	Learning	M1	1.00	e31	.34
		M2	1.00	e32	.32
		M3	.87	e33	.48
	Operational	M8	1.00	e34	.47
		M9	1.13	e35	.26
		M10	1.01	e36	.42
	Evaluation	M14	1.00	e37	.43
		M17	1.05	e38	.39
		M18	1.19	e39	.23

Human Resources	Supervision	H1	1.00	e41	.37
		H2	.94	e42	.42
		H3	1.08	e43	.29
		H4	.98	e44	.43
	Empowerment	H5	1.00	e55	.56
		H6	1.10	e56	.45
		H7	1.21	e57	.26
		H8	.89	e58	.44
	Job Design	H10	1.00	e59	.59
		H11	1.10	e60	.47
		H12	1.17	e61	.34
	Coordination	H13	1.00	e62	.38
		H14	.94	e63	.51
		H15	.92	e64	.52
		H16	.95	e65	.47
	Education	H17	1.00	e66	.63
		H18	1.07	e67	.42
		H19	1.11	e68	.36
		H20	1.14	e69	.37
Satisfaction	Satisfaction	P1	.90	e71	.40
		P2	.92	e72	.50
		P3	1.00	e73	.27

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Appendix N

Administrator: Scope of Position

THE ADMINISTRATOR ASSUMES THE ADMINISTRATIVE, EDUCATIONAL, FINANCIAL, REGULATORY COMPLIANCE, AND GOVERNING BOARD RESPONSIBILITIES FOR THE TOTAL OPERATION OF THE FACILITY. ADMINISTRATOR HAS LEGAL AND ULTIMATE RESPONSIBILITY FOR ENSURING THAT QUALITY CARE BE DELIVERED TO FULFILL THE PHILOSOPHY OF....SAID INSTITUTION.

4655.1400 RESPONSIBILITIES OF THE ADMINISTRATOR IN CHARGE

A. Maintenance, completion, and submission of reports and records as required by the board.

B. Formulation of written general policies; admission, discharge, and transfer policies; and personnel policies, practices, and procedures that adequately support sound patient or resident care.

C. Establishment of a recognized accounting system.

D. The development and maintenance of channels of communications with employees.

E. Establishing and maintaining effective working relationships with hospitals and other types of care facilities and with public or voluntary health and social agencies.

F. Developing written disaster plan with procedures for the protection and evacuation of all persons in the case of fire or explosion or in the event of floods, tornados, or other emergencies.

G. Establishment of a patient care policy committee in each nursing home with representation from all disciplines directly involved in patient care for the development and implementation of guidelines for patient care.

GENERAL ROLE

TO PLAN, ORGANIZE, DIRECT AND MANAGE THE DAY TO DAY OPERATIONS OF THE HEALTH CARE CENTER FOR THE PURPOSE OF ASSURING A QUALITY SERVICE TO EACH INDIVIDUAL RESIDENT AND TO THE COMMUNITY AS A WHOLE.

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