Effect of Practitioner Self Care and Anxiety on Relationships within the Context of Organizational Change

Juanita Manning-Walsh
Western Michigan University, juanita.manning@wmich.edu

Effect of Practitioner Self Care and Anxiety on Relationships within the Context of Organizational Change

Juanita Manning-Walsh, PhD, RN,
1903 West Michigan Avenue, Kalamazoo, MI 49008, (269) 387-8192,
juanita.manning@wmich.edu

Abstract: The purpose of this research paper is to review the literature and suggest the relationships between organizational change through implementation of new health information technology (HIT) and/or reconfiguration of existing HIT, practitioner anxiety, and effective caring practitioner/patient and practitioner/practitioner relationships using a conceptual framework of Relationship Centered Care (RCC). Engaging in frequent and regular self-care interventions has been shown to be related to practitioner/patient caring ability and caring efficacy. According to a published model of RCC, it may be anticipated that self-care may decrease practitioner anxiety in the context of organizational change and increase ability of the practitioner to engage in effective caring relationships with patients and other practitioners. Through the lens of RCC and within the context of organizational changes such as implementing HIT, a conceptual model for research is proposed, research questions and hypotheses are stated, and methodology for a future stream of research is briefly discussed.

INTRODUCTION

Relationships between individuals and their healthcare practitioners are of vital importance. They provide the means for exchange of communication, sharing of feelings, emotions, and concerns, and are at the core of human needs (Manning-Walsh, Wagenfeld-Heintz, Asmus, et al., 2004). It is within the connectedness of relationships that meaning and purpose in life are derived. Healthcare practitioners often find satisfaction and gratification from relationships that they establish with patients (Lampe & Snyder, 2008). Effective relationships among practitioners in healthcare are essential to attend fully to the multiple factors that affect healthcare delivery and healthcare outcomes such as exchanging information, allocating resources, arriving at a correct diagnosis, choosing treatments and interventions, and evaluating outcomes of care (Beach & Inui, 2006).

There is an expansive body of literature that covers at least five decades which defines caring as an ontological perspective of being (Watson & Smith, 2002). Caring is a manifestation of being in the world and interacting with others rather than a set of tasks and skills that require knowledge, ongoing exploration, and learning (Watson, 2008). There has long been a focus on the primacy of relationships within caring nursing practice. Caring is more than a behavioral, technical or mechanistic approach to delivering healthcare, it focuses attention on a holistic approach which includes the mind, body, and spirit of the self and the other in a relationship (Manning-Walsh, Wagenfeld-Heintz, Asmus, et al., 2004). While caring is an essential human attribute and should be a total way of being for the practitioner, it remains an elusive construct to measure. RCC moves caring one step beyond essential human attribute and emphasizes the importance of relating and interacting among individuals as essential to therapeutic healing activities regardless of healthcare setting or discipline. Healing happens when caring relationships between practitioners and patients are encouraged, developed, and nurtured.

Nursing has a long history of emphasizing caring in relationships with patients, families, and with other healthcare practitioners and it has long been asserted that caring heals (Johnson, 2012). However, it has only been in the recent decade and a half that caring has become a core concept in other healthcare disciplines. For more than a century the biomedical model was the predominant paradigm that defined healthcare delivery and education (Tresolini & Shugars, 1994). This model has a narrow focus on illness and curing. During the 1980s there was a shift in the United States political structure which resulted in an even greater de-emphasis of caring and relationship building because of an increased emphasis on economic and business aspects of healthcare. Changes in healthcare financing at the national level placed undue attention on the "bottom line" at the expense of caring and relationship building in healthcare delivery.

Recognizing a need to address the interdependence of psychological, social, and biological factors that contribute to health and illness, and to identify issues vital to education of a wide range of healthcare practitioners, two distinguished groups of researchers, educators and practitioners (Fetzer Institute and Pew Health Professions Commission) formed a taskforce which explored new possibilities and new concepts related to, and necessary for, a shift to a new paradigm for healthcare (Tresolini & the Pew-Fetzer Task Force, 1994). The goal of this collaborative effort was to broaden understanding of how educational programs could help students of various disciplines learn and apply an integrated approach to healthcare. Among the landmark results of this collaborative taskforce was the introduction of the concept of relationship centered care. RCC is contextual and includes non-hierarchical relationships between practitioner and patient, practitioner and practitioner across multiple disciplines, and practitioners and the communities in which they practice. Within RCC, healthcare is delivered in such a way that humanism is advanced, relationships are valued and attended to, the patient's subjective or lived experience of health and illness is valued, and a holistic approach of tending to the mind, body, and spirit is embraced (Suchman, 2006). A hallmark of RCC is that it moves the emphasis within healthcare delivery away from the medical model of illness and cure and the business model of technology and technical skills to an emphasis on relationships. Major emphasis is placed on the importance of relationships in improving or maintaining health and well-being or supporting and enhancing the dying process. RCC is a vital concept and a primary complement to healthcare efforts of curing illness, promoting patient healing, improving quality outcome measures, and reducing cost. It is the glue of the practitioner/patient relationship and may be a necessary component for teaching people to care for their own health (Lampe & Snyder, 2008). Through the lens of RCC emerges a progression that takes an individual from self-awareness to recognition of the need for self-care which ultimately enhances practitioner/patient relationships. There is need for research validating this progression, examining the same progression for practitioner/practitioner relationships, as well moving one step further and examining RCC's relationship to organizational outcomes and patient healing.

A small group of community leaders, healthcare providers, and educators in SW Michigan developed a network in the late 1990s to explore implementation of RCC within healthcare and to evaluate how effectively it was being taught to healthcare disciplines in that area. Upon recognizing a need to further explicate and make operational, for the purposes of teaching and research, the work of Tresolini and the Pew- Fetzer Task Force (1994), this small group of professionals met monthly or oftener for over two years to develop a conceptual model of RCC that would be useful for healthcare practice, healthcare education across disciplines, and research. The Relationship Centered Care: The Expanding Cup Model (Manning-Walsh, Wagenfeld-Heintz, Asmus, et al., 2004) was the product of the group and it was subsequently published and presented at international conferences. Concepts within the model include self (including self-awareness as an individual and self in relationship with others), reciprocal learning (allowing the patient to be the expert teacher about his/her own life story and understanding of his/her individual meaning of health and/or illness), mutuality (the working phase of the relationship in which the practitioner and other co-create a desired reality), and transformed relational capacity (not the end of personal or relational growth rather a trigger for new cycles of expanding RCC capacity when establishing new relationships). The schematic of the model (Manning-Walsh, Wagenfeld-Heintz, Asmus, et al.,) suggests progression through the phases of the relationship, beginning with self and moving towards transformed relational capacity, which becomes circular in nature as practitioners become changed by relationships and capacity for subsequent relationships is expanded. While this RCC model is used as the conceptual framework for nursing care delivery in at least two health care systems in SW Michigan and the concepts of the RCC model have been incorporated into the philosophy and mission of at least one baccalaureate and master's level school of nursing in the area, little research has been done to validate the relationships among the concepts in the model.

LITERATURE REVIEW

Relationship Centered Care

Self, including self-awareness, is at the center of the RCC: Expanding Cup model (Manning-Walsh, Wagenfeld-Heintz, Asmus, et al., 2004) and self-care interventions initiated in response to needs identified through increased self-awareness may be essential to the practitioner's ability to engage in effective therapeutic relationships with patients as well as other practitioners. By the phrase "self-awareness", the author means awareness of self alone and in relationship to others. There appears to be interconnectedness between the practitioner's relationship with self,

and his/her relationship with patients and families, and with colleagues (Johnson, 2012). The practitioner's relationship to his/her own self may be the least explored concept of RCC. Working to improve the health of another requires "resourcefulness and resilience on the part of the [practitioner] that has its deepest roots in the practitioner's right relationship with self and self well-being" (Beach & Inui, 2006, p. S7). To date there has been one study conducted specifically to validate the RCC: Expanding Cup model. In a study of 75 registered nurses working in a rural hospital in SW Michigan, there was a strong positive relationship between overall self-care and perceived caring ability (r=.647, p<0.001) (Manning-Walsh, 2011, unpublished manuscript). Additionally, there was a moderate positive relationship between the nurses engaging in self-care and perceived relational efficacy with patients (r=.329, p<0.01). In other words, the nurses who scored higher on a measure of self-care related to measures of health perceived themselves better able to develop caring relationships with patients. They also perceived that their relationships were more effective in achieving positive patient outcomes.

In a study (Stark, Manning-Walsh, & Vliem, 2005) using a longitudinal single group design, nursing students had a significant increase in self-care activities for at least one year after completing a course in which they were taught multiple holistic and complementary interventions and in which they developed and followed a self-care plan for one semester. The care plan that the students developed included, by course requirement, holistic modality interventions to improve the students' health in areas that were self-identified by the students to be areas of actual or potential need. In a questionnaire administered one year after completion of the course, the scores on measures of health remained statistically higher than baseline scores. These findings suggested that nursing students can and do increase self-care when given time to develop self-care interventions as a component of a nursing course and that they maintain higher than baseline levels of well-being for at least one year following implementation of the self-care plan. One might speculate that these findings may also be true for registered nurses in practice however, that is not currently known.

Self-care precedes effective caring relationships among practitioners as well according to the RCC: Expanding Cup model. Yet little is found in the literature that examines practitioner/practitioner relationships (Safran, Miller, & Beckman, 2006) especially as they relate to patient and organizational outcomes. Nonetheless, practitioner/practitioner relationships may well be foundational to organizational functioning and patient outcomes. Available evidence suggests that effective practitioner/practitioner relationships may offer the potential for breakthroughs in organizational performance, improved quality of life for healthcare practitioners, and improved measures of patient outcomes and patient healing (Safran, Miller, & Beckman). However, new knowledge about the antecedents of effective practitioner/practitioner and practitioner/patients relationships is lacking and needs to be generated through research. Additionally, the RCC: Expanding Cup Model needs to be validated as a useful conceptual framework for research and practice. To that end, a model demonstrating proposed relationships between self-care and practitioner/patient and practitioner/practitioner relationships within the context of organizational change and the anticipated effect it has on practitioner anxiety is proposed (see Figure 1). Following a review of the literature on changes in organizational HIT and the effect those changes may have on practitioner anxiety, research questions and hypotheses emanating from the proposed model will be stated.
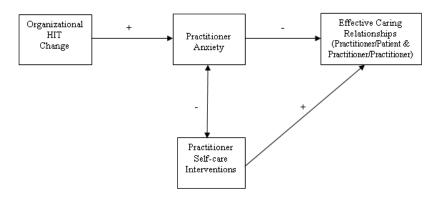

Figure 1: Relationships among Conceptual Concepts of RCC and Organizational Change

Changes in Organizational HIT

Many changes in healthcare are related in some way to HIT. Healthcare is in the midst of an information explosion (Lorenzi & Riley, 2003).   National efforts in the U.S. are aimed at improving healthcare quality including streamlining and sharing of health information through interconnected HIT systems. The use of electronic health records (EHR), one form of expanding HIT, has increased in the United States from use in predominantly large academic medical centers to community-based health care services and outpatient settings in the past decade (Kossman & Scheidenhelm, 2008). Research is needed to better understand the effect of increasing use of information technology on the practice of nursing as well as on other disciplines and on levels of anxiety of practitioners who are the users of HIT. There is insufficient knowledge about the use of EHR/HIT and how it affects not only the work flow of the practitioner, but how it affects practitioner anxiety, patient care outcomes, and practitioner relationships as well.

The Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association, better known as DSM IV, describes anxiety as a mood state in which the individual experiences fear, apprehension, nervousness, worry, and/or tension (Beckers, Wicherts, & Schmidt, 2007). There is a body of literature over the past three decades that examines a phenomenon labeled computer anxiety. Computer anxiety, by definition, is linked to the actual or symbolic presence of a computer and is manifested by a sense of computer illiteracy, lack of self-efficacy, heightened physical arousal in the presence of or at the thought of computers, feelings of dislike of computers, interruption in self-confidence, and negative beliefs about the role of computers in everyday life. While validity studies on computer anxiety have shown it to be a robust phenomenon, there is no consensus on whether computer anxiety is situational (state anxiety) or a characteristic of the individual's personality (trait anxiety) or a combination of both state and trait anxiety. Computer anxiety may contain an existential component related to the conception of self which may force individuals to radically rethink their beliefs and values resulting in a conclusion that alters meaning and purpose in life (Beckers, Wicherts, & Schmidt). When meaning and purpose are disrupted, spiritual and emotional distress may result (Manning-Walsh, 2005) requiring the individual to re-evaluate self awareness which may ultimately affect the individual's ability to engage in effective caring relationships with others.

While new technology may enhance nursing practice, it may also have negative aspects that increase anxiety for practitioners (Kossman & Scheidenhelm, 2008; Zuzelo, Gettis, Hansell, & Thomas, 2008).   Among the perceived negatives are increased time spent retrieving or documenting information, decreased time spent with the patient, decreased practitioner/practitioner communication, and decreased critical thinking. Some nurses have reported spending an average of 50% of their work time using EHRs (Kossman & Scheidenhelm) and perceived that in addition to being time consuming, the EHR had negative effects on nursing work. While positives are generally reported to be greater than negatives, the problems encountered add to the frustration and anxiety of the practitioner using HIT. While the use of an EHR may improve patient safety, quality of care may suffer because of the amount of time that the practitioner must spend with the EHR. Some studies reported that when physicians and physician assistants were not proficient in retrieving information from the EHR, they would turn to nurses to retrieve the information adding to the workload and anxiety of the nurse. Having multiple practitioners competing for a limited number of computer stations also increased practitioner anxiety (Lee, 2007). Additional research is needed to more clearly elucidate the effect of EHR/HIT on patient outcomes, practitioner anxiety, and relationships between practitioners/patients and practitioners/practitioners.

Because of inherent instability in the business environment (Bloodgood & Salisbury, 2001), frequent changes in healthcare reimbursement, and the U.S. national Health Care Reform Bill of 2010, healthcare organizations may find themselves forced to change the ways they manage healthcare information. Bloodgood and Salisbury suggest four categories of change interventions related to HIT; a) reconfiguring existing resources, b) acquiring and reconfiguring resources, c) acquiring resources without configuring, and d) doing business as usual. These interventions might help practitioners and researchers understand and explicate the relationship between the emergence and acquisition of changes in HIT management within a healthcare organization along with the adequacy and efficacy of practitioner/patient and practitioner/practitioner relationships. One might logically assume that doing business as usual, in terms of the effects of change, would create the least anxiety for practitioners in the healthcare workplace. Acquiring resources with or without reconfiguring, as in the purchase and implementation of a new HIT package or system, would require considerable acquisition of explicit knowledge by the practitioner users which would likely result in increased anxiety while practitioners were on the steep slope of a learning curve. On the other hand, reconfiguring existing resources allows the practitioners to use existing tacit knowledge while learning new

applications for the existing system thus reducing the incidence of increased anxiety. Existing routines might be able to continue with reconfigured resources rather than implementation of newly acquired resources. While experts in HIT are comfortable with explicit knowledge because it is more easily handled by IT (Bloodgood & Salisbury), much of the knowledge that healthcare practitioners (i.e. nurses and physicians) manage on a daily basis is tacit knowledge. The need to manage predominantly tacit knowledge as explicit knowledge can lead to increased anxiety for the practitioner who is forced to learn a newly acquired or re-configured technology system and is pushed into using predominantly check boxes to replace narrative documentation.

In a study that examined the effect of a workplace stress reduction program utilizing positive emotion refocusing and emotional restructuring techniques, McCraty, Atkinson, and Tomasine (2003) found that compared to the control group, the study group of 38 hypertensive employees demonstrated reduction in systolic blood pressure and improvement in emotional health. The improved emotional health included reductions in stress symptoms, depression, and global psychological distress and significant increases in peacefulness and positive outlook leading to decreased anxiety. The study group also demonstrated increased work-place satisfaction and value of personal contribution to the organizational work. Employee (practitioner) emotional well-being has been identified as one important determinant of organizational health, performance, and productivity. High level of emotional distress is among the most costly health problems to employers resulting in absenteeism, disability, and failure to meet productivity standards while positive emotions and psychological well-being have been linked to numerous organizationally relevant benefits including job performance, job achievement, and job satisfaction (McCraty, Atkinson, & Tomasine).

Dealing with change is one of the most difficult problems healthcare organizations face (Lorenzi & Riley, 2003). Implementing major HIT changes is challenging and many healthcare organizations have had some type of "failure" in the roll-out of new information systems. While the "failure" may not be the entire HIT system, it may result in spending huge amounts of money and frustrating countless people in the efforts of implementation. Although installing the hardware and software components of healthcare systems is a huge task, installation does not equate with implementation. People are required to use the systems and need sufficient training and support. When organizations fail to recognize these aspects, practitioner issues such as anxiety may become magnified. When evaluating the cost to the organization of a new or reconfigured HIT system, intangibles such as stress on the organization and anxiety for the practitioners involved must be taken into consideration. Dix, Steggles, Baptiste, and Risdon, (2008) suggest that sustainable organizational change, such as changes in HIT, will only occur if behaviors of healthcare practitioners change. "In today's rapidly changing environment, the ability to change rapidly, efficiently, and almost continually" (Lorenzi & Riley, p. 197) creates dilemmas for organizations and challenges for individual practitioners. There is a dearth of literature examining practitioners' perspectives over time related to use of HIT. Such variables as age, organizational role, length of organizational employment, prior and frequency of computer use may be predictive of willingness to change, perceived ease of use and overall usefulness of HIT, and amount of practitioner anxiety when new HIT is introduced and implemented (Kossman & Scheidenhelm, 2008; Seckman, Romano, Mills, Friedmann, & Johantgen, 2009).

Managing the effects of change involved in HIT systems and upgrades should start early in the technical and planning process (Zuzelo et al, 2008). "Change management is the process of assisting individuals and organizations in passing from an old way of doing things to a new way of doing things" (Lorenzi & Riley, 2003, p. 200). It involves understanding the culture of the healthcare organization and determining if it is stable or whether there are cultural changes already occurring. Change resistance may be lessened if there is already a low level of pressure and stress within the organization. Many technically sound applications have failed as a result of sabotage by practitioners who resisted change because they liked the old ways in which things were done. The cost of successfully anticipating increased anxiety, implementing interventions to manage practitioner anxiety through increased practitioner self-care, and managing change may be expensive in terms of time and energy, but would be less costly in the long run than that of an expensive HIT system that never gains real practitioner acceptance or of disrupted practitioner/patient or practitioner/practitioner relationships that result in negative organizational and/or patient outcomes. Understanding the relationship between HIT system change, practitioner anxiety, and the effect on caring relationships is crucial for managing change while maintaining effective caring practitioner/patient and practitioner/practitioner relationships.

Research Hypotheses and Questions

1.   Ho: There is a positive relationship between practitioner self-care interventions and effective caring practitioner/patient relationships.
2.   Is there a positive relationship between practitioner self-care interventions and effective caring practitioner/practitioner relationships?
3.   Is there an inverse relationship between practitioner self-care interventions and practitioner anxiety?
4.   Do practitioners who have increased anxiety engage in more self-care interventions to reduce that anxiety?
5.   Is there an inverse relationship between ongoing changes in HIT and practitioner anxiety?
6.   Is there an inverse relationship between increased practitioner anxiety and effective caring practitioner/patient relationships?
7.   Is there an inverse relationship between increased practitioner anxiety and effective caring practitioner/practitioner relationships?

While not part of the conceptual model of this research paper, additional streams of research might also examine the relationships among study variables when patient self-care is added to the model as well as both state and trait anxiety experienced by the patient. Future studies might well examine caring relationships from the perspective of the patient as well as the practitioner.

METHODS

Knowledge discovery about the relationships that exist between the concepts introduced in this author's writing can be accomplished in several ways. A survey can be developed to test the relationships discussed herein, as well as direct observations of practitioners in environments where systems are being implemented and used. Of particular interest is a longitudinal approach that may show the modulation of anxiety, relationships, and caring over time. Data on demographic characteristics that may have an effect on the degree to which an individual engages in self-care and to describe study participants is deemed important to understand the nature of the concepts discussed. Following Institutional Review Board approval, participants will be recruited from healthcare organizations that will be implementing HIT change within the organization. Data will be analyzed using the appropriate statistics and published.

CONCLUSION AND FUTURE DIRECTIONS

This paper reviewed some of the emergent issues that originate from the influx of technology, EHRs, and the people who use them. Central to this case is that caring should not be compromised because of the use of technologies that are intended to improve care. There are many opportunities that exist to inform the healthcare and technology communities about what happens in health care organizations when technologies are used, particularly at the patient and practitioner level. This research is in high demand and will continue to grow over the next decade.

In the future, the concepts brought forward here will also need to be explored in terms of family members and their caregivers because technology is increasingly encroaching into their personal space. At this time, there is little direct research on the effects of technology on family relationships. Additionally, as the use of technology increases, so does the ability of patients and family members to acquire information. It is likely that the fundamental power that patients and caregivers have in relationship to the health care providers is likely to shift. It will be important to understand the shifts in power and the expectations of patients and their health care providers in an enlightened environment.

REFERENCES

Beach, M., & Inui, T., (2006). Relationship-centered care: A constructive reframing. *Journal of General Internal Medicine, 21*, S3-8.

Beckers, J., Wicherts, J., & Schmidt, H., (2007). Computer anxiety: "trait" or "state"?. *Computers in Human Behavior, 23*, 2851-2862.

Bloodgood, J. & Salisbury, W.D., (2001). Understanding the influence of organizational change   interventions   on information technology and knowledge management interventions. *Decision Support systems, 31*, 55-69.

Dix, L., Steggles, E., Baptiste, S., & Risdon, C., (2008). A process-oriented approach to enhancing interprofessional education and collaborative relationship-centered care: The PIER Project. *Journal of Interprofessional Care, 22*(3), 321-324.

Johnson, J., (2012). Creation of the caring factor survey – Care provider version (CFS-CPV). In J. Nelson & J. Watson (Eds), *Measuring Caring: International Research on Caritas as Healing* (pp. 40-42). New York: Springer.

Kossman, S. & Scheidenhelm, S., (2008). Nurses' perceptions of the impact of electronic health records on work and patient outcomes. *Computers, Informatics, Nursing, 26*(2), 69-77.

Lampe, F & Snyder, S., (2008). Bethany Hays, MD: Inspiring healthy living through relationship-centered care. *Alternative Therapies, 14*(5), 60-73.

Lee, T., (2007). Nurses' experiences using a nursing information system: Early stage of technology implementation. *Computers, Informatics, Nursing, 25*(5), 294-300.

Lorenzi, N. & Riley, R., (2003).   Organizational issues = change. *International Journal of Medical Informatics, 69*, 197-203.

Manning-Walsh, J., (2011). *Relationship centered care: Self-care to caring for others connection.* Unpublished manuscript.

Manning-Walsh, J., (2005). Psychospiritual well-being and symptom distress in women with breast cancer. *Oncology Nursing Forum, 32*(3), E56-E62.

Manning-Walsh, J., Wagenfeld-Heintz, E., Asmus, A., Chambers, M., Reed, W., & Wylie, J. (2004). Relationship-Centered care: The expanding cup model. International *Journal for Human Caring, 8*(2), 26-31.

McCraty, R., Atkinson, M., & Tomasino, D., (2003). Impact of a workplace stress reduction program on blood pressure and emotional health in hypertensive employees. *Journal of Alternative and Complementary Medicine, 9*(3), 355-369.

Safran, D., Miller, W., & Beckman, H., (2006). Organizational dimensions of relationship-centered care. *Journal of General Internal Medicine, 21*(1), S9-15.

Seckman, C., Romano, C., Mills, M., Friedmann, E., & Hohantgen, M., (2009, September/October). *Clinicians' perceptions of usability of an electronic medical record (EMR) over time.* Paper presented at the Summer Institute in Nursing Informatics, University of Maryland School of Nursing, July 22-25, 2009.

Spielberger, C., Gorsuch, R., & Lushene, R., (1983). *Manual for the state-trait anxiety inventory STAI (Form Y).* Palo Alto: Consulting Psychologists Press.

Stark, M., Manning-Walsh, J., & Vliem, S., (2005). Caring for self while learning to care for others: A challenge for nursing students. *Journal of Nursing Education, 44*(6), 266-270.

Suchman, A., (2006). A new theoretical foundation for relationship-centered care: Complex responsive processes of relating. *Journal of General Internal Medicine, 21*, S40-44.

Tresolini, C., & the Pew-Fetzer Task Force, (1994). *Health professions education and relationship-centered care: Report of the Pew-Fetzer task force on advancing psychosocial education*. San Francisco: Pew Health Professions Commission.

Tresolini, C., & Shugars, D. (1994). An integrated health care model in medical education: Interview with faculty and administrators. *Academic Medicine, 69*(3), 231-236.

Watson, J. (2008) *Assessing and Measuring Caring in Nursing and Health Sciences. Second Revised Edition.* NY: Springer.

Watson, J., & Smith, M., (2002). Caring science and the science of unitary human beings: A trans-theoretical discourse for nursing knowledge development. *Journal of Advanced Nursing, 37*(5), 452-461.

Zuaelo, P., Gettis, C., Hansell, A., & Thomas, L., (2008). Describing the influence of technologies on registered nurses' work. *Clinical Nurse Specialist, 22*(3), 132-140.