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THE RELATIONSHIP OF SPAN OF CONTROL TO NURSE MANAGER SATISFACTION

By

JEFFREY BATCHER BSN, RN

A Thesis

Presented in Partial Fulfillment of Requirements for the

Degree of

Master's in Nursing Science

In the

WellStar College of Health and Human Services

Kennesaw State University

Kennesaw, GA

April 27, 2020

ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to both Dr. Rachel Myers and Dr. Nancy Ballard for their time, patience, and unconditional support throughout this thesis process. Without the support of these two amazing professionals and mentors, success would have probably not occurred. Dr. Myers' consistent push, direction, recognition, and sense of humor helped to motivate me through the completion process of my thesis. Each of you helped me through difficult times and provided me with great resources. The amount of time both of you spent physically and mentally to motivate me to complete my research is not taken for granted and the friendships that we have developed will radiate throughout my career.

Secondly, I would like to thank Melissa Box, Allison Blank and Eunice Stauffer for their continued support and mentorship. Each of you provided additional resources, helped to eliminate barriers, and provided me with the additional time and support to complete my thesis. Your partnership, leadership and drive are exactly what I needed to succeed and overcome the onslaught of challenges I faced throughout this process.

Finally, I would like to thank my wife and children for their unconditional love and support throughout my Master of Science in Nursing. The time you put aside to help me succeed and the support each of you provided has been extremely helpful in my success. Each of you showed patience and motivated me to complete this journey. Without our team, this journey would not have been successful.

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ABSTRACT

Purpose: The purpose of this study was to examine the relationship between span of control (SOC) and nurse manager job satisfaction for nurse managers working in a hospital system. The study may help administrators identify how wide and narrow SOC correlates to the overall job satisfaction of nurse managers.

Design: A non-experimental descriptive correlational study design was used.

Methods: Data were collected from a convenience sample of nurse managers working within an eleven-hospital healthcare system. Survey Monkey was used for data collection and included a demographic questionnaire, The Ottawa Hospital Model of Nursing Clinical Practice (TOH MoNCP) Clinical Management Span of Control Decision-Making Tool, and a Job Satisfaction Tool. Final sample was 76 participants.

Results: Pearson correlation coefficients revealed a weak significant negative correlation between SOC and nurse manager satisfaction, $r(75) = -.263, p = .022$. A weak significant correlation was also found between the number of years in nursing and nurse manager satisfaction, $r(75) = .294, p = .01$, and between SOC and the time a nurse manager was in their current position, $r(75) = -.237, p = .04$.

Conclusion: Results of this study adds to the literature by describing how SOC relates to nurse manager satisfaction. As nurse manager SOC increases, nurse manager satisfaction decreases. Increased turnover, vacancy rates and negative patient care outcomes may result from an increased SOC and decreased manager satisfaction level. Health care administrators can use the data to better understand how SOC relates to nurse manager satisfaction and can implement strategies to help maintain manageable levels of SOC and preserve nurse manager satisfaction.

Key Words: *Nurse manager, span of control, job satisfaction, healthy work environment, nurse leadership, nurse manager burnout, retention*

CHAPTER 1: INTRODUCTION

Introduction

Nurse managers are an essential part of the health care system, and their role directly impacts a nursing unit's overall quality and culture (Lee & Cummings, 2008). Nurse managers have been described as the "key interface between patients, nursing staff, medical staff, other clinical and ancillary staff, and hospital administration" (Decampli, Kirby, & Baldwin, 2010, p. 132). Overall, their role is to oversee and direct the activities of nurses within a specific unit of a hospital or medical facility (Adriaenssens, Hamelink, & Van Bogaert, 2017).

Current economic conditions within health care have led to a decrease in the number of nurse manager positions and an increase in the managers' scope and span of control (Jones, McLaughlin, Gebbens, & Terhorst, 2015). Brown, Fraser, Wong, Muise, and Cummings (2015) identified that higher workloads, minimal resources and decreased empowerment are all reasons for nurse managers to become dissatisfied, which can eventually lead to increased turnover. Holm-Petersen, Ostergaard, and Andersen (2017) showed that having a wide span of control (SOC) increases job complexity and decreases job satisfaction.

Purpose of the Study

The purpose of this descriptive, correlational study was to examine the relationship between SOC and nurse manager job satisfaction for nurse managers working in a hospital setting. The study may help administrators identify how wide and narrow SOC correlates to the overall job satisfaction of nurse managers.

Background and Significance

According to the Bureau of Labor Statistics *Employment Projections 2014-2024*, registered nursing is one of the top occupations for job growth through 2024 with a total number

of job openings to be greater than 1.09 million by 2024 (American Association of Colleges of Nursing, 2017). Nurse managers represent the largest segment of the United States health care management workforce in the range of around 300,000 employees (Djukic, Jun, Kovner, Brewer, & Fletcher, 2017). Within the nursing profession, turnover is high among the front-line leaders including nurse managers and charge nurses (Swearingen, 2009). Approximately 49% of current nurse managers are planning on retiring from the United States workforce by the year 2020 (Hader, 2010). Warshawsky and Havens (2014) found that 72% of nurse managers planned on leaving their positions within the next 5 years. This turnover can be associated with retirement, promotions, and burnout, with burnout being one of the most cited reasons for managers to leave their role (Loveridge, 2017).

The cost of replacing nurse managers is estimated to be 75% to 125% of their annual salary (Pine & Tart, 2007). With the increase in costs associated with nurse manager turnover, it is important to decrease vacancy rates among nurse managers. The American Organization for Nursing Leadership (AONL) reported vacancy rates for nurse managers are on average as high as 8.3% nationally (Zastocki & Holly, 2010). With a high vacancy rate, recruitment for these positions also becomes extremely important. Collins and Collins (2007) found that 82% of U.S. health care organizations report that recruiting qualified nurse managers is very difficult while McCright, Pabico, and Roux (2018) indicate that the cost of this can range from \$132,000 to \$228,000. Hospitals have difficulty recruiting and retaining nurse managers, which directly impacts the ability for a hospital to maintain positive patient and staff outcomes (Djukic et al., 2017).

Job satisfaction for nurse managers can be complex as many factors influence their overall satisfaction. Nurse managers who perceive receiving more support from their

organization, report higher levels of overall job satisfaction (Lee & Cummings, 2008; Patrick & Laschinger, 2006). Reasons that overall satisfaction decreases are due to role conditions and expectations being too high, combining of responsibilities, and the lack of work life balance (Brown et al., 2013). In the mid 1990's, hospitals went through restructuring and downsizing due to lower levels of financial support nationally. This restructuring is happening again almost two decades later (Burke, Ng, & Wolpin, 2016). Restructuring and downsizing generally has negative implications for the work environment including workload, satisfaction, and psychological well-being.

Because nurse managers are subjected to stressful environments that lead to career burnout, manager satisfaction becomes very important. It is important to create infrastructures that support nurse manager's satisfaction and retention. Some of the demands being placed on nurse managers include "increased number of direct reports, decreased resources, decreased clinical involvement, increased staff diversity, increased coordination across differing nursing units, issues with assistive personnel, changing regulatory requirement, the need for the new management skill coupled with the increased complexity of hospitalized patients, and staffing" (Zastocki & Holly, 2010, p. 3). A decrease in nurse manager job satisfaction causes turnover rates to increase. This turnover directly affects patient outcomes such as falls and pressure ulcers (Warshawsky, Rayens, Stefaniak, & Rahman, 2013).

SOC has traditionally been defined as the number of staff being supervised by one manager and has been used in non-healthcare industry to help managers to allocate sufficient time to their employees (Jones et al., 2015). Healthcare complexity, financial constraints and continuously changing healthcare environments have led to increased nurse leader SOC. The literature does not define a valid ideal size of SOC and it is unknown as to what factors are more

important than others. Holm-Petersen et al. (2017) explain that SOC depends on complexity of context and work being done; the skills and the experience of the managers and employees; and the number of units and geographical contiguity. The authors further explain that these factors tend to be omitted from consideration when defining overall SOC.

According to the Society for Human Resource Management (2013), as the number of direct reports for any given manager decreases and becomes narrower, the cost associated with this structure becomes increasingly expensive. They further identify that organizational size, workforce skill level, organizational culture and managers' responsibilities all affect SOC either positively or negatively. Zastocki and Holly (2010) identified that wide SOC can be due to lack of resources, lack of clinical involvement, issues with assistive personnel, regulatory requirements changing, communication devices leading to a sense of being available all day/every day, increased staff diversity, and the increasing complexity of hospitalized patients. According to The Advisory Board (Stewart, 2015), nurse leaders' SOC has increased since 2011. They further explain that nurse supervisors have the greatest variation in SOC dependent often on the size of the hospital and whether the facility is a teaching hospital.

Nursing staff and patient satisfaction are directly affected through differences in managers' SOC (Jones et al., 2015). Organizational success may improve as nurse manager satisfaction and retention improve. It is important for organizations to help develop resources for managers with larger SOC. Although an ideal SOC tool has not yet been defined, it is important to utilize the available SOC tools so that relationships between nurse manager satisfaction and SOC can be identified. Organizations can then respond and further improve the resources available for these leaders.

Statement of the Problem

In light of the need to minimize vacancy rates and turnover among nurse managers in a hospital environment, it is important to understand how SOC may be related to overall manager satisfaction. However, there is a paucity of published research that has examined the relationship between nurse manager SOC and job satisfaction. Davison (2003) found that wide SOC results in poorer morale, ineffective decision making and loss of agility and flexibility. Another study demonstrated that no leadership style can overcome a wide SOC (McCutcheon, Doran, Evans, Hall, & Pringle, 2009). Holm-Petersen et al. (2017) found that working in units with larger SOC, led to managers feeling inadequate and frustrated. Every hospital system should evaluate their level of nurse manager SOC to help improve the overall satisfaction of the managers, which may improve overall patient care outcomes.

Conceptual Framework

Prior to 2008, most research on SOC had not been guided by a theoretical framework, but some of the frameworks used were built around relationships affecting job satisfaction (Lee & Cummings, 2008). The framework for this study was guided by Karasek's job strain model (Figure 1) and the span of control theory in collaboration with Nancy New's Span of Control Pyramid (New, 2009). Within Karasek's model, workplace stress is related to the demands of the job and how much control a person has over their responsibilities rather than just one aspect of the work environment. The model predicts that job strain will increase as job demands increase. The model further explains that at some point, maximum capacity of SOC affects the leader's ability to be effective (McCutcheon et al., 2009).

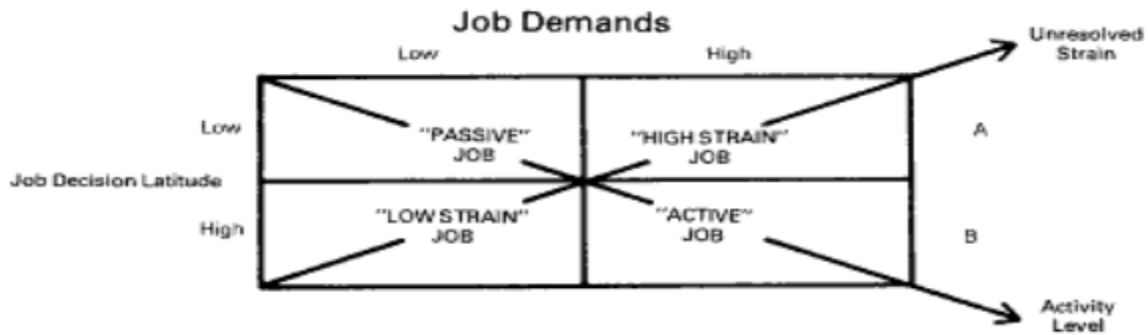


Figure 1: Karasek's Job strain model. Reprinted from "Job demands, job decision latitude, and mental strain: Implications for job redesign," by R. Karasek, 1979, *Administrative Science Quarterly*, 24(2), p. 288. Copyright 1979 by Cornell University. Reprinted with permission.

The Span of Control Pyramid (New, 2009) describes factors that influence SOC and how those factors relate to a narrow versus broad SOC. The factors affecting overall SOC according to New's model lie within the overall ability of the nurse manager, the workers, the organization, and the overall work. The model identifies fifty factors that directly affect SOC and depending on each factor will shape the overall SOC.

Researchers have found that lower performance, the ability to support staff, and patient outcomes are all influenced by different levels of SOC (McCutcheon et al., 2009; Wong et al., 2015). When the factors identified in the SOC pyramid are leveraged, the overall stress related to the work environment will also be leveraged. As the stress related to the work environment of the nurse manager decreases, the overall satisfaction of these leaders should also decrease and lead to a stronger work environment for nurse managers.

Research Question

The research question guiding this study was:

1. What is the relationship between nurse manager satisfaction and span of control?

Definition of Variables

1. Nurse Managers – For this study, nurse managers refer to leadership with a job title of nurse manager within a specific healthcare system who all manage front line staff.
2. Span of Control – In this study, span of control was measured using The Ottawa Hospital Model of Nursing Clinical Practice (TOHMoNCP©) Clinical Management Span of Control Decision-Making Tool (Morash, Brintnell, & Rodger, 2005).
3. Nurse Manager Satisfaction – In this study, nurse manager satisfaction was measured using a score tool developed by Warshawsky and Havens (2014).

Assumptions

There was one assumption in this study. It was assumed that the nurse managers completed the survey tools accurately and with honesty.

Limitations

One limitation of this study was lack of generalizability, based on a convenience sample of nurse managers within an 11-hospital system located within the Southeastern United States. Another limitation relates to the SOC tool that was used: complexity of the unit, material management, volume of staff, skill level/autonomy of staff, staffing stability, diversity of staff, budget and program diversity. This tool has only been validated within the Canadian healthcare systems and although field tested, the tool needs to be further tested for validity and reliability. Other study limitations included several variables that were not taken into consideration in data analyses that could impact the relationship between SOC and job satisfaction, such as nurse managers' experience levels or tenure with the organization.

CHAPTER 2: REVIEW OF THE LITERATURE

Introduction

This chapter provides literature that supports the purpose of this study and is guided by the research question. The chapter begins with a review of span of control (SOC) and how it is defined within the literature, followed by nurse manager satisfaction, and concludes with how the study can address gaps surrounding the use of a SOC tool.

The literature review addresses areas related to the relationship between SOC and nurse manager satisfaction. The first section addresses research related to nurse manager SOC. The second section focuses on research studies about nurse manager satisfaction. Finally, the third section examines the relationship between the two variables and the need for further research.

Span of Control

Traditionally, SOC has been defined by theorists as the number of people directly supervised by a manager and measured by the number of Full-Time Equivalent (FTEs) reporting to one person (Morash et al., 2005). Although limited, the literature supports that developing and utilizing a defined SOC tool is important to help support the success of nurse managers (Baird-Simpson, Dearmon, & Graves, 2017; Holm-Petersen et al., 2017; Jones et al., 2015; McCutcheon et al., 2009; Merrill, Pepper, & Blegen 2013; New, 2009).

A defined tool to identify an appropriate SOC for nurse managers has not been well defined within the literature. The Ottawa Hospital's (TOH) tool was developed and validated through their own research (Morash et al., 2005). Their research was guided by a report from the Canadian Nursing Advisory Committee, recommending that a reasonable and manageable SOC be examined and assessed so that clinical managers can complete their work and meet nurse and patient needs. TOH and its partners functioned from five campuses and had the largest group of

nurses in Canada at the time of their study. TOH had many differences within their nursing leadership and nursing practice models, which led to their purpose to standardize and determine whether their spans of control were appropriate. The methods used for their study consisted of surveys, focus groups and field testing. One survey was conducted with a selected group of hospitals and the other with TOH clinical managers to determine if any work on SOC was in progress. The survey was distributed to 22 Magnet hospitals in the United States and six Ontario facilities recognized as benchmark hospitals and included three questions: 1). "Has your organization standardized the span of control of your frontline clinical managers? 2). What number of units would a frontline manager typically have? and 3). How many services would frontline managers typically have?" (Morash et al., 2005, p. 86). Their response rate of the Magnet and benchmark hospitals was 64% and 67%, respectively, and revealed great variances around manager's responsibility. TOH also found that none of the surveyed hospitals had a standardized tool they were using in relation to SOC.

To develop a standard tool, TOH surveyed clinical managers as well as reviewed the literature in order to determine the elements within their tool. A response rate of 51% showed differences in nurse manager responsibility as well as a consistent pattern of managers spending much of their time coordinating staffing issues, patient flow and working on committees; less time was spent on staff development, continuous quality improvement and performance appraisals. These results guided their Clinical Management Work Group to develop a tool that was presented to two focus groups where changes were made. The final tool was presented to nursing professional practice department members, clinical directors, advanced practice nurses, and nurse educators before being field tested using the last 12 months of operation on each unit. The Model of Nursing Clinical Practice Staff Mix Guide tool was used by TOH along with their

survey results to assist the working group in categorizing the weight of each variable as low, medium or high. They field tested it on twenty diverse units before identifying that it adequately depicted the current SOC and scope of responsibility. Limitations to their study was with regards to randomly assigning weights of each variable as well as the need to conduct more studies to further establish validity, reliability and generalizability for other healthcare settings (Morash et al., 2005).

Due to restructuring in nurse managers' SOC and reduced visibility, Merrill et al. (2013) conducted a study to compare two methods of measuring SOC: departmental complexity and the number of direct reports. Their descriptive correlational study sampled nurse managers from adult inpatient departments who worked within 22 hospitals located in the western United States. Within their study all managers had to meet an inclusion criterion that included a minimum of bachelor's degree; work in a hospital with 30 to 440 beds; and were responsible for at least one adult inpatient nursing department including medical, surgical, medical-surgical combined, intensive care, step-down and rehabilitation (Merrill et al., 2013). The researchers utilized the TOH-SOC tool with a calculated Cronbach's alpha being 0.838. Bivariate relationships were estimated using Pearson's r correlation, and a scatter plot graph was developed with trend lines and regression lines (R^2) to help identify outliers and predictability on how well direct reports predicted departmental complexity. The response rate for the study was 80% with respondents who were predominately women with greater than eight years of experience as a nurse manager. The mean number of direct reports was 62.1 with a range of 10 to 107. Through their bivariate analysis, the following things were identified: a moderate positive relationship between direct reports and department complexity ($r=.492, p<.01$), a significant relationship between direct reports and departmental complexity in rehabilitation departments ($r=.955, p=.003$), and no

significant relationship for the medical-surgical and intensive care departments ($r=.348$ and $.196$, respectively; $p>.05$) (Merrill et al., 2013).

The results of the study by Merrill et al. (2013) supports that nurse manager SOC consists of more than simply the number of staff reporting to the manager and demonstrates the idea that complexity of services and programs contributes to nurse manager SOC. The study further demonstrates that with a too narrow or too broad SOC, nurse manager's outcomes and performance may be impacted. Limitations of the study included small sample size, data from one unit type (adult inpatient departments) and use of one health system in the United States. The researcher also felt that the weighting of the TOH-SOC tool needs further evaluation from a statistical standpoint to better determine accuracy on SOC. In conclusion, the pilot study helped to support that nurse manager SOC must be viewed as more than simply the number of direct reports and that the role includes departmental factors, staff factors, and hospital or program factors. Further research on SOC and how it relates to nurse manager satisfaction, burnout and turnover is needed.

The University of Pittsburgh Medical Center utilized the Ottawa Hospital SOC tool and the findings from The Advisory Board Company (2008) as their framework for the development of a SOC tool (Jones et al., 2015). The Medical Center is an integrated health care delivery system consisting of 22 hospitals. Their goal was to develop a way to determine the amount of clinical and administrative support for their nurse managers. Each of the nurse managers were evaluated on the number of cost centers they were responsible for, headcount, department workload, hours of operation and controllable expenses. Weights for each metric were established and evaluated using a points system, and then each nurse manager was ranked into a low, middle and high tier. The results of their 1-way analysis of variance showed that there were

significant differences in SOC scores among tiers. Analysis revealed significant differences between low and middle tiers ($p < .001$), between the low and high tiers ($p < .001$), and between middle and high tiers ($p < .001$) and therefore indicated levels of support were needed. Based on their findings, The University of Pittsburgh Medical Center redesigned the clerical support used for their nurse managers. After implementation of their changes, they established a decrease in nurse manager separation rates from 58% to less than 3.5% in a matter of twelve months. This included a decrease in the amount of nurse managers transferring out of the nurse manager position, resulting in a decrease in the overall vacancy rates and fill rates for their nurse manager positions (Jones et al., 2015).

McCutcheon et al. (2009) examined the relationship between leadership style, SOC, nurse's job satisfaction and patient satisfaction. Participants for this study included a total of 41 managers across 51 units, 717 nurses and 686 patients from medical, surgical, obstetrics or day surgery units. The researchers hypothesized three relationships: "(a) managers' positive style of leadership will have a positive effect on nurses' job satisfaction and patient satisfaction; (b) managers' SOC will have a negative effect on nurses' job satisfaction and patient satisfaction; and (c) managers' SOC will have a moderating effect on the relationship between leadership style and nurses' job satisfaction and patient satisfaction" (McCutcheon et al., 2009, p. 52). Staff nurses completed the Multifactor Leadership Questionnaire and the McCloskey-Mueller Satisfaction Scale; patients completed a subscale of the Patient Judgments of Hospital Quality Questionnaire; and nurse managers completed the Managers' SOC Questionnaire. The Statistical Package for Social Science (SPSS) was used to analyze the data along with The Statistical Analysis System (SAS) and S Plus to test their hypothesis. They further concluded that as spans of control increase in size, no leadership style can overcome the negative effects

from SOC. McCutcheon et al. (2009) found that the positive effects of transactional and transformational leadership styles on patient and nurse satisfaction were significantly reduced in units where SOC was wider. Their researchers also found that interactions between the manager and nursing staff were decreased due to greater SOC and therefore caused managers greater difficulty finding time to spend coaching and mentoring staff.

A pilot study was conducted in an urban, not-for-profit, 447-bed Magnet non-teaching hospital specializing in cardiac, cardiovascular, neurosurgery, and orthopedic services (Baird-Simpson et al., 2017). Due to the organization having a negative trend in quality and performance indicators, nurse manager turnover, high vacancies, and poor customer satisfaction scores specific to units with higher SOC, administrators decided that a change was needed to help the overall success of the organization. The team performed a strengths, weaknesses, opportunities, and threats (SWOT) analysis to identify organizational challenges. During their analysis, they found that in the previous two years, the nurse manager responsibilities increased without a formal process or use of a measurement tool to guide SOC decisions. This led to nurse manager dissatisfaction and turnover. Prior to the pilot study, 16 nurse managers within the organization were assessed using the Ottawa TOH tool. This assessment was then validated, and a team analyzed the data, which identified nurse managers with SOC as being excessive. The results identified that zero of the nurse managers had the capacity to grow in SOC accountability and that half of them had an appropriate SOC. However, seven out of eight (87%) of those nurse managers that had appropriate SOC scored in the upper one-third threshold of the appropriate SOC. The other eight nurse managers all scored in the excessive threshold according to the scoring guidelines.

The data collected led the team to develop a project “to decrease the negative effects of larger SOC by providing administrative assistance and individualized nurse manager transformational leadership development. The project goals were to increase NM satisfaction and transformational leadership competency” (Baird-Simpson et al., 2017, p. 181). The study specifically targeted the eight nurse managers that scored excessive on the TOH tool, and all of them had accountability of at least one cost center in a procedural, outpatient or inpatient department. Due to the limited number of tools to specifically measure nurse manager satisfaction, a six-point Likert scale instrument was used with permission from a previous study (Baird-Simpson et al., 2017). Based on those results, the organization added four administrative assistants to help support the nurse managers and implemented an individualized nurse manager development plan.

After implementation of the development plan and through the addition of administrative assistants, positive results were achieved. The participants’ average age for nurse managers was 42.6 years old with an average of 18.6 years of experience as a RN. The average number of years in nursing leadership was found to be 10.2. With regards to the overall satisfaction questions, the mean scores of the two questions to identify nurse manager satisfaction both increased post intervention. They also found an increase in the number of years the respondents planned on staying in their current position. Data from the pretest showed that the main reasons for wanting to leave their current role was burnout, career change, education plans, and promotions. The posttest showed a decrease in the respondents wanting to leave their role due to burnout from 38.5% to 11.1%. It also showed that there was an increase in managers planning on leaving their role due to education plans and promotions in the posttest, possibly indicating an increase in professional leadership. Responses around the LPI scores all showed significant

positive changes from the pretest to the posttest, indicating a difference in the leadership practices of the participating nurse managers.

The major limitations associated with this study was small sample size and the short timeframe for implementation, which limited the ability to generalize the results. Another limitation to the study was that the instrument used to assess nurse manager satisfaction had not been tested for validity and reliability. Overall, the study concluded that appropriate SOC and leadership competencies are important for the support of the nurse manager. The authors also recommended that annual measurements and focus groups should be used to gauge the overall satisfaction of the nurse managers. This would allow organizations to help implement changes to further support the vital role of nurse manager (Baird-Simpson et al., 2017).

Due to the growth in SOC within Danish hospitals, Holm-Petersen et al. (2017) conducted a qualitative explorative multilevel case study to explore how a large SOC impacts hospital staff and their leaders. The researcher identified three hospital wards in central Denmark that ranged from 50-70 staff members. The wards were similar to each other in level of experience, composition of staff, 24-hour service, a mix of acute and planned services, and geographically situated in the same region. Semi-structured interviews were conducted that included group interviews of nurses, practical nurses and nurse coordinators/specialists and individualized interviews with senior doctors and middle managers. The group interviews were done in order to identify the collective understanding of leadership, while the individual interviews took place to help explore role expectations. A total of 103 people participated in a total of 4 interviews. Half of the interviews took place in 2009, and the other half took place in 2011 with an overlap of participants being 55%. The questions during the interview were guided by literature search, observation studies, and the National Research Centre for the Working

Environment survey instrument on job satisfaction (COPSOC). The interviews produced common themes related to satisfaction, leadership tasks, delegation, and reflections on size. Other common themes that were central to the study were “disorganized leadership,” “no follow up,” “not being seen,” “role overload” and “greater flexibility” (Holm-Petersen et al., 2017, p. 198). The interviews also produced findings further identified that the perceptions of the nurse managers were similar to the perceptions of the front-line nursing staff. Prior to the interviews taking place, explorative observations took place with both the nurse leaders as well as with the front-line staff. This was done to help the researchers understand the interactions of both groups and help shape the interview guide which helped in the process of coding and interpreting the data.

The results from Holm-Petersen et al.’s (2017) research supported the literature by identifying prominent themes around working in departments with higher SOC. Specifically, the nursing staff felt that they were not being seen, and the leader felt inadequate and frustrated. Staff developed the feeling of absence and lack of visualization between their manager and staff, which contributed to an inability to provide a sense of direction and shared goals, difficulty in communication and standardization. Through this study, the researcher also identified a strength that by having an increased SOC, there was greater flexibility and development possibilities. The small number of units contributed to limits in generalizability. Also, the headcount for total SOC may have been conservative due to many inpatient wards, having some staff that did not hold permanent positions but were still affiliated with that leader. Furthermore, each of the departments that took part in the study had a relatively high degree of experience, which may have caused the ward to be more resilient to a larger SOC. The study also did not include small units with a narrower SOC.

Synthesis of the research suggests the need to maintain optimal SOC for nurse managers. Within SOC, further research is needed to help define an optimal SOC tool. The literature has identified that as SOC moves either upward or downward, the level of support needed for nurse managers will also be affected (Baird-Simpson et al., 2017; Holm-Petersen et al., 2017; McCutcheon et al., 2009). Also, the number of direct reports is consistent with SOC but should not be the only identifying factor due to the complexity of the nurse manager position. As managers gain support, healthier work environments may develop, and outcomes should improve.

Nurse Manager Satisfaction

Some research suggests that the role of nurse manager has one of the most demanding work schedules in healthcare and has a direct effect on the team members that report directly to the leader (Anthony et al., 2005; Doran & McCutcheon, 2004; Johansson, Sandahl, & Andershed, 2011). The demands placed on nursing managers affect nurse job satisfaction and patient satisfaction (McCutcheon et al., 2009). The nurse manager role also has direct effects on the overall organizational environment including profitability and nurse retention (Cowden, Cummings, & Profetto-McGrath, 2011; Gray, 2012; Shirey, McDaniel, Ebright, Fisher, & Doebbeling, 2010). Satisfied nurse managers tend to have a more positive impact on retention, productivity, staff retention and overall hospital outcomes (Lee, Peck, Rutherford, & Shannon, 2008). Hewko, Brown, Fraser, Wong, and Cummings (2015) found that the most important factors associated with manager's intent to leave was due to work overload, inability to ensure quality patient care, insufficient resources, and lack of empowerment.

Zwink et al. (2013) conducted a qualitative descriptive study to explore and describe opportunities to improve satisfaction, work-life balance and retention for the role of Nurse

Manager. This study was from a three-time Magnet designated University of Colorado Hospital and consisted of nurse managers from inpatient acute care requiring 24/7 responsibility. Twenty nurse managers were interviewed out of a possible twenty-one participants. Through their research, Zwink et al. (2013) found many reasons that nurse managers want to stay in their current position: positive peer collaboration, staff recognition, support and mentorship from their directors, growth of their hospital, and the ability to coach their team so that they can improve their unit. The researchers further identified aspects of their role that lead to burnout: inability to meet the needs of the workload, poor work-life balance, difficulty maintaining positive relationships, lack of director support, and the increased need to be a “cheerleader” within their role. Finally, their study identified traits required for successful nurse managers: communication, resiliency, vision, integrity, ability to connect with staff, and approachability. Although the authors of the study found consistency around both the challenges and reasons to stay in the nurse manager role, themes associated with SOC did not emerge as the full-time equivalent (FTE) of the participants ranged from 24 to 142. What their organization did to help support those with higher SOC was to add administrative and/or associate nurse manager positions so that they could lessen the burnout and turnover of their leaders. The study was limited in that some leaders may not have been comfortable sharing their thoughts in an interview, the managers were from one institution, and the researchers were well-known to the participants involved.

Hewko et al. (2015) conducted a cross sectional, three phase study to identify factors that influence nurse managers’ intentions to remain or leave their current position. The study took place in Canada and was developed in response to difficulties with retaining nurse managers. Phase 1 consisted of individual interviews; phase 2 involved the completion of a web-based

survey; and phase 3 included a paper-based survey to those managers who responded to the electronic survey. Their sample consisted of 36 managers in acute care hospitals, 33 in general hospitals and 26 in long-term care facilities. Based on survey results, the participants were identified as either managers intending to stay or managers with an intent to leave their current role. They were then asked to rate the importance of 15 factors associated with their intent to leave or their intent to stay, based on their initial categorization. Work-life balance, support from immediate supervisor and ability to ensure quality care were the top factors contributing to managers' intent to stay ($n = 28$ managers). Factors contributing to managers' intent to leave were overload and lack of work-life balance, inability to ensure high quality care, insufficient human/fiscal resources, and lacking the ability to feel empowered ($n = 67$ managers). Hewko et al. (2015) found that the number of staff managed was not significantly different for managers intending to stay versus those managers intending to leave (35 compared to 38.79, respectively). The managers that had a larger intention to leave were more likely to be working in an acute care teaching hospital as compared to those working in a general hospital setting. Fifty-six percent of the managers in the acute care teaching hospitals indicated that they intended to stay in their current role for an additional 2 years as compared to 86% of those who were working in a general hospital ($p=0.04$). Work-life balance, empowerment and sufficient support from immediate supervisors were the most important factors managers identified as being important for their intent to stay. The four most important factors managers identified as intent to leave were: inability to ensure quality patient care, work overload, insufficient empowerment, and insufficient human and fiscal resources. One limitation identified within this study was that many of the nurse managers had diploma level education, which may have impacted their intent to stay due to a perceived lack of alternatives. They also had a response rate of 32%, which

limits the ability for the study to be generalizable. Finally, during the study the region went through large managerial layoffs, which threatened the internal and external validity of their findings.

Warshawsky and Havens (2014) conducted a study that showed 30% of nurse managers were very satisfied, while 41% were satisfied with their position as a nurse manager. In addition, the majority were either likely or very likely to recommend nursing management as a career (78%). The study further found that 28% of the respondents were either dissatisfied or very dissatisfied in the amount of time they have to work with their staff, while another 52% answered as being neutral with regards to this question. Twenty-five percent of the respondents ($n=74$) reported that they intended to leave their current position within the next 2 years, 37% reported intention to leave within the next 3-5 years, and 72% within the next 5 years. The top contributors to their wanting to leave was burnout or stress, career change, retirement and promotion. This study was limited to acute care nurse managers and consisted of nurse managers who had large spans of control (Mean of 60.8 FTE and 1.7 units to manager), well experienced (average of 9 years of experience as nurse managers) and well-educated (85% had BSN or greater).

Warshawsky, Wiggins, and Rayens (2016) completed a secondary analysis of cross-sectional data obtained through an electronic survey from a previous study of Warshawsky, Rayens, Lake and Havens (2013). This study was approved through the University of Kentucky and included a convenience sample of 356 nurse managers working in 25 hospitals from 9 health systems. The researchers utilized The Nurse Manager Practice Environment Scale, which assesses 44 elements of a quality practice environment. Responses were then measured on a 6-point Likert scale. Within the study, job satisfaction and intent to leave were measured by asking

specific questions to each respondent. Within their results they found that all hospitals within the study were pursuing either Magnet or Pathway to Excellence designation or had already achieved one of those prestigious designations. Scores from the practice environment scales tended to be on the high side, which indicates the managers had a positive perception of their work environment. The areas of lowest scores leading to managers' intent to leave was related to inadequate budget resources. Overall, their study indicated that the average nurse manager may have thought about leaving their current role but were not actively pursuing an immediate opportunity. Nurse managers cited four top reasons to stay in their current position for less than three years: burnout, promotions, other organization stressors, and career changes. Furthermore, the study reported that job satisfaction was predicted by culture of patient safety, nurse manager-director relationships, and culture of generativity (making a conscious decision to leave your mark on the world to make the world a better place for future generations). Just under the level of significance was fair and manageable workloads ($\beta = .109, p = 0.51$), but still a positive relationship.

Relationship between SOC and Nurse Manager Satisfaction

In summary, the literature review revealed several researchers have examined the relationship between SOC and nurse manager satisfaction, but there is a need for further research. A decrease in nurse manager satisfaction can be related to an increase in SOC as found by Baird-Simpson et al. (2017). They found that 50% of their sample size ($n=16$) had appropriate SOC according to the TOH tool, but seven of the eight were at the upper one-third threshold for appropriate SOC. After measures were taken to help decrease nurse manager SOC, they found an increase in the level of satisfaction of their sample. Lee and Cummings (2008) also suggested that addressing SOC could have a positive impact on the overall job satisfaction

of nurse managers. McCutcheon et al. (2009) found that multiple complexities contribute to nurse manager overall satisfaction, including SOC. Improvement in role effectiveness through the decrease in SOC can help with overall job satisfaction, and due to the increasing complexity of the nurse manager role, further research is necessary. Merrill et al. (2013) identified that SOC is complex and should not be defined simply by the number of direct reports but rather through the complexity of services within the manager's oversight. When measures are put in place to improve SOC, nurse manager satisfaction has been found to improve. Jones et al. (2015) found a decrease in separation rate by 58%, a decrease in nurse manager transfers, and a decrease in vacancy rate were all related to improvements in SOC.

The literature helps to identify areas affecting nurse manager satisfaction and their practice environment. Many factors affect the overall satisfaction of nurse managers and their intent to stay in their current nurse manager positions. One challenge imposed to the nursing profession is that the literature has not identified a precise SOC for nurse managers to help them be most efficient within their role, leading to greater satisfaction and intent to remain in their role rather than leaving due to burnout. The aim of this study was to identify if a relationship exists between SOC and nurse manager satisfaction. The results of the study may help nursing administrators and others understand the relationship between SOC and nurse manager satisfaction.

CHAPTER 3: METHODS

Introduction

This chapter outlines the methods used in this study to examine the relationship between span of control (SOC) and nurse manager job satisfaction. The research design, setting, participants and procedures taking place within the study are outlined. The data collection instruments, threats to validity, and data analysis are described. Finally, steps taken to provide security for the participants and of the data are identified.

Research Design

A descriptive, correlational design was used to examine the relationship between SOC and nurse manager job satisfaction. The research question guiding this study was: What is the relationship between nurse manager satisfaction and span of control?

Setting

The research took place at an eleven hospital, not-for-profit healthcare system located within the South Eastern United States. Inclusion criteria for this study was that all participants must be nurse managers with greater than six months of experience.

Participants

A convenience sample ($N = 324$) restricted to nurse managers with greater than six months of experience were invited to participate in this study. An email list of nurse managers was obtained from the health system and provided to the researcher. The researcher sent all eligible participants a Survey Monkey link for participation. Based on statistical a priori power analysis with an effect size of $p = 0.3$, an α err probability of 0.05, and Power of 0.80, a total sample population goal was 64 participants. To help assure an adequate response rate was

obtained, survey distribution was not limited to any particular hospital but rather sent to nurse managers within all eleven hospitals with the health system.

Data Collection

Institutional Review Board (IRB) approval was obtained and the research was considered exempt from further review by the Human Protection Administrator of the IRB. A list of nurse managers was provided to the researcher from the institution, and participants were then sent an email requesting they complete an online survey. The online survey was within Survey Monkey, an on-line survey-compiling program, and provided over the course of a two-week period. The survey did not include individual personal identifiers including IP address information. The online survey consisted of a consent form (Appendix A), a demographic questionnaire (Appendix B), The Ottawa Hospital Model of Nursing Clinical Practice (TOHMoNCP©) Clinical Management Span of Control Decision-Making Tool (Morash et al., 2005) (Appendix C), and a nurse satisfaction tool (Appendix D). If the participant did not complete the on-line consent, the participant would be unable to participate further in the survey.

Methods and Instruments

Data were collected using the demographic questionnaire (Appendix B), The Ottawa Hospital Model of Nursing Clinical Practice (TOH MoNCP) Clinical Management Span of Control Decision-Making Tool (Appendix C), and Job Satisfaction Score (Appendix D). The latter two measures were chosen with permission from the authors to utilize their instruments (Appendix E and F, respectively) and have been found to be reliable and valid.

The demographic questionnaire (Appendix B) consisted of nine items created by the researcher: participants age, gender, number of years as a nurse, number of years in management, years in current position, highest level of education, national certification, type of facility

(Hospital vs outpatient span of control), and type of department the participant managed. These variables were chosen as valuable for the researcher because the researcher suspected that these variables may affect overall satisfaction.

The Ottawa Hospital Model of Nursing Clinical Practice (TOHMoNCP©) Clinical Management Span of Control Decision-Making Tool (Morash et al., 2005) was selected to measure nurse manager SOC and validated through expert opinion by a consensus of over 100 clinical managers (Appendix C). The tool consists of completion instructions and includes three framework areas: unit focused indicators, staff focused indicators, and program focused indicators. The unit focused indicators include two areas: 1). complexity questions: hours of operation, predictability of patient flow, turnover and occupancy of the department, potential for litigation, time spent on quality indicators, and 2). material management question: Time spent dealing with equipment, vendors, etc. Staff focused indicators include four subcategories and asks questions within each subcategory. The subcategories consist of staff volume, staff skill level and autonomy, staffing stability, and diversity of staff. The final area of focus on the SOC tool is program focused indicators, which includes diversity and budget questions. Overall, the instrument consists of 17 items, three subscales and one overall department complexity score with a maximum score of 135 being possible. All questions are designated a point value and arbitrarily weighted following numerous discussions from the work group members to provide a total score. Low, medium and high titles were given numeric values of 1, 2 and 3, respectively and multiplied by the numerical weight to provide a final value. Although the original authors did not report a Cronbach's alpha score, the tool was used in a 2013 study and was found to have a Cronbach alpha score of 0.838 (Merrill et al., 2013). In this study, the TOH tool had an acceptable reliability with a Cronbach alpha score of 0.798. The final score indicates how wide

or narrow the SOC is for each participant with a greater value indicating a wider SOC (range = 0-135).

To measure nurse manager satisfaction, a two item Likert scale questionnaire was used (Appendix D) with permission from the original author (Warshawsky et al., 2016). This instrument consists of a 6-point Likert scale (1 = “very dissatisfied/unlikely” to 6 = “very satisfied/likely”) and includes the following questions: “*How satisfied are you with being a nurse manager?*” and, “*How likely are you to recommend nursing management as a career choice to other nurses?*” Warshawsky et al. (2016) utilized descriptive analysis, including means and standard deviations of frequency distributions. Pearson product-moment correlations was used when looking at the relationships among subscale scores. Their study also used multilevel regressions to review the relationship of nurse manager practice environment scale and job satisfaction. Their team conducted sensitivity analysis when reviewing their results, and their analysis was conducted using SAS version 9.3 with an α level of 0.05. Their study does not identify reliability and validity data with regards to their specific tool. A Cronbach alpha score was calculated to determine the internal consistency of the measures in this study. The job satisfaction tool showed good reliability for the sample, with Cronbach’s alpha being 0.821. The response scores from the participants in this study were collected and analyzed using an average mean score. The greater the average mean score indicates a greater satisfaction level of the participant.

Threats to Validity

The use of a convenience sample approach may affect internal validity and generalizability of the findings. Secondly, the researcher has a professional relationship and knowledge of many nurse leaders across the 11-hospital health system. Although responses and

participation in the study were confidential and not identifiable, this relationship may have caused certain biases in both participation and responses. The researcher has no reason to believe the participants acted with bias. Finally, reactivity and the desire to please the researcher may also have influenced the results of this study.

Data Analysis

Descriptive and inferential statistics were used to report findings of the demographic questionnaire along with the SOC and nurse satisfaction tools and analyzed using SPSS. Pearson correlation coefficients were conducted to examine the relationship between SOC and nurse manager satisfaction. A p value $< .05$ was considered statistically significant. If a participant did not answer all the survey questions, the survey was removed from the data analysis.

Protection of Human Subjects

Approval from the Senior Vice President and Chief Nurse Executive of the health system was received (Appendix I), followed by approval from the IRB of both the 11-hospital health system (Appendix G) and Kennesaw State University (Appendix H) to ensure proper guidelines were followed and ethical rights protected. Participant consent was required so that each participant was voluntarily taking part of the study. Incentives were not utilized for participation with the study, and non-participation did not affect participant job security. There were no known risk factors anticipated with participation in the study.

Data Security

Data were collected using Survey Monkey after consent was granted by each participant. All participants were instructed on how to complete the survey. Participant identifiers or Internet Protocol (IP) addresses were not collected or stored via the Survey Monkey system. The email address file was deleted upon completion of the data collection, and all data were transferred and

stored within Survey Monkey. Access to the data is password protected and restricted to those conducting the statistical data analysis. Data were entered into an SPSS database for analysis and stored on a jump drive that will remain secured in a locked box by the researcher for a minimum of three years before being destroyed.

CHAPTER 4: RESULTS

Introduction

This chapter provides an overview of the data analyzed for this study. The chapter provides the format for a discussion of the data analysis plan, sample characteristics and the results of the analysis. The results help to answer the research question: What is the relationship between nurse manager satisfaction and SOC?

Data Analysis

The purpose of this study was to examine the relationship between nurse manager satisfaction score and SOC. Descriptive and inferential statistics were analyzed using SPSS for Windows Release 26.0. Descriptive statistics including frequencies, percentages, mean, mode, and standard deviation were performed and reported on nurse manager satisfaction score and SOC total score. Descriptive statistics were also used to report nurse manager demographic variables. Inferential statistics were conducted using Pearson correlation to examine the relationship between SOC and nurse manager satisfaction. A p value of $\leq .05$ was considered statistically significant.

Sample

For the purpose of this study, an investigator-initiated email invitation was distributed to 324 nurse managers and yielded a total of 163 completed surveys. Of the 163 completed surveys, 42 were eliminated because the survey was not completed in its entirety. The final number of participants who completed the survey in its entirety was 121. An additional 45 surveys were eliminated because those participants worked in an environment outside of a hospital environment. Therefore, the data analyzed consisted of a final sample size of 76 nurse managers and met the minimal sample size to achieve a Power of .80. The sample distribution of

age ranges showed most nurse managers were above the age of 30 with the greatest percentage being in the range of 41-50 years old ($n=26$, 34%) (Table 1). Most nurse managers were female ($n=66$, 87%) and had been in the profession greater than 20 years ($n=45$, 59%). The number of years in management showed that the greatest range was between 1-5 years ($n=24$, 32%), while most nurse managers had been in their current position four years or less ($n=50$, 65.8%) (Table 1). Just over half of the nurse managers held a national nursing certification ($n=43$, 57%) and most held either a master's degree in nursing ($n=46$, 61%) or a Baccalaureate degree in nursing ($n=24$, 32%). There was a lot of variation to the type of unit the manager worked within. The highest percentage was categorized as "other" ($n=12$, 16%) and surgical ($n=10$, 13%). Because the study was interested in managers only working within a hospital setting, the type of facility variable was eliminated from data analysis due to lack of relevance. Nurse managers holding a second degree consisted of 24% of those surveyed ($n=18$).

Table 1
Demographic Characteristics of the Sample (N=76)

Characteristics	N(76)	%
Age		
20-30	2	2.6
31-40	15	19.7
41-50	26	34.2
51-60	21	27.6
> 60	12	15.8
Gender		
Female	66	86.8
Male	10	13.2
Years as RN		
5-10	10	13.2
11-15	12	15.8
16-20	9	11.8
>20	45	59.2

Years in Management

<1	4	5.3
1-5	24	31.6
6-10	12	15.8
11-15	16	21.1
16-20	7	9.2
>20	13	17.1

Years in Current Position

<1	18	23.7
1-2	15	19.7
3-4	17	22.4
5-6	4	5.3
>6	22	28.9

Highest Nursing Degree

Diploma	2	2.6
Associate	2	2.6
Bachelor	24	31.6
Master	46	60.5
Doctorate	2	2.6

2nd Degree

Yes	18	23.7
No	58	76.3

Certification

Yes	43	56.6
No	33	43.4

Type of Unit

Ambulatory	1	1.3
Administration	5	6.6
Cardiac	6	7.9
Emergency Department	5	6.6
ICU	5	6.6
Medical	8	10.5
Other	12	15.8
Oncology	1	1.3
Pulmonary	1	1.3

Progressive Care	2	2.6
Procedural	5	6.6
Rehab	7	9.2
Surgical	10	13.2
Women's Services	5	6.6
Wound Center	3	3.9

Analysis

The research question for this study was: *What is the relationship between nurse manager satisfaction and span of control?* Nurse manager satisfaction score ranged from one to six with a mean value of 4.3 ($SD=1.11$), median value of 4.5 and a mode of 5.0 ($n=21$, 27%). The SOC total score had a mean value of 83.7 ($SD=12.91$), median value of 84 and a mode of 93 ($n=4$, 5%). The SOC score ranged from 50 to 119 out of a possible maximum score of 135 and plotted against the nurse manager satisfaction scores (Figure 2).

Figure 2

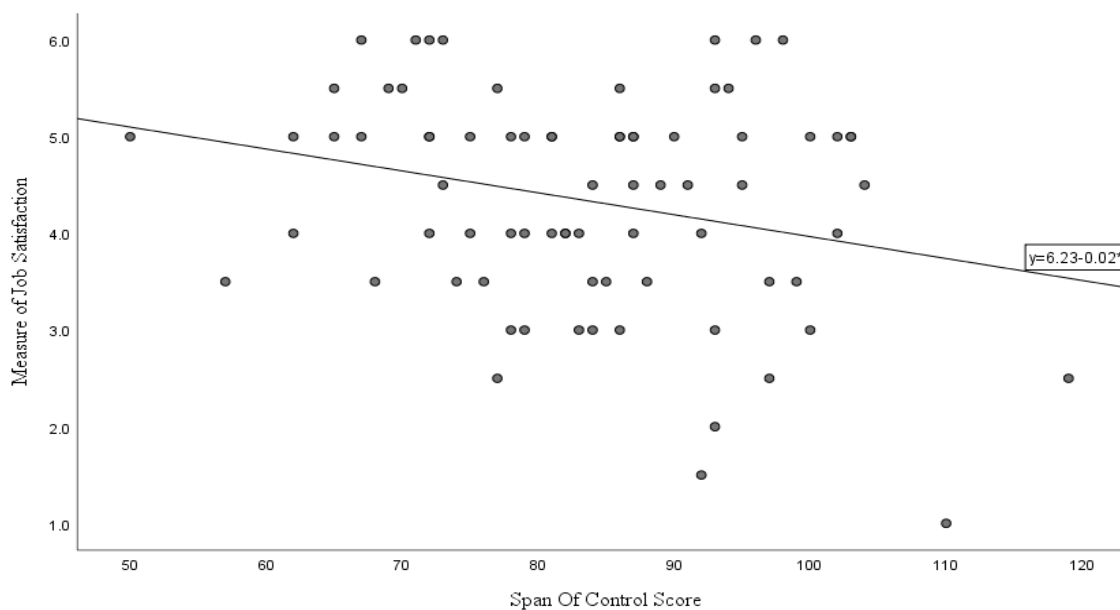


Figure 2. Relationship between Job Satisfaction Score and Span of Control Score.

Bivariate relationships were developed using Pearson's r correlation, and a scatter plot graph was developed with a trend line. Pearson correlation coefficient revealed a weak statistically significant negative correlation between SOC and the measure of job satisfaction for nurse managers, $r(75) = -.263, p=.022$ (Table 2). Evaluation of the demographic variables found only one variable with a statistically significant relationship to nurse manager satisfaction. The association between the number of years in nursing and nurse manager satisfaction demonstrated a statistically significant relationship, $r(75) = .294, p=.01$. Most of the demographic variables were not statistically significant when compared to the span of control score. Surprisingly, the number of years a nurse manager was in their current position did have a statistically significant negative association to SOC, $r(75) = -.237, p=.04$.

Table 2

Correlation between Nurse Manager Job Satisfaction and Span of Control (N=76)

		Measure of Job Satisfaction	Span of Control Score
Measure of Job Satisfaction	Pearson Correlation	1	-.263*
	Sig. (2-tailed)		0.022
Span of Control Score	Pearson Correlation	-.263*	1
	Sig. (2-tailed)	0.022	

*. Correlation is significant at the 0.05 level (2-tailed).

CHAPTER 5: DISCUSSION

Introduction

The purpose of this descriptive correlational study was to examine the relationship between span of control (SOC) and nurse manager job satisfaction for nurse managers working in a hospital system. The interpretation of the data findings of the study and relationship to previous literature and theory are discussed. Limitations to the study are also discussed, along with future implications of the research findings.

To answer the research question in this study, the researcher conducted a bivariate correlational study. The results showed a statistically significant, weak negative correlation between SOC and nurse manager satisfaction. As nurse manager SOC became greater, nurse manager satisfaction decreased. Although a weak correlation was found, it supports findings from the literature guiding this research study. For example, Wong et al. (2015) found that the TOH tool was a more robust tool and the scoring was a valid predictor to manager job outcomes. Their findings suggested that increased SOC, increases nurse manager workload and decreases job satisfaction. Holm-Petersen et al. (2017) identified that managers who had an increased SOC also had a poorer leadership style and a higher degree of work overload. Baird-Simpson et al. (2017) found that by implementing a mitigation strategy around SOC, nurse manager satisfaction increased.

It is important for administrators to have open relationships and conversations with nurse managers so that they can collaborate on challenges around increased workload and SOC. Collaboration could help identify concerns from the nurse manager and facilitate the implementation of processes to offer support to the nurse manager and maintain manager

satisfaction. This in turn, should decrease turnover and improve overall patient care and nursing outcomes.

Within this study most of the demographic variables did not show significant correlations to either SOC or nurse manager satisfaction. Two demographic variables demonstrated statistically significant correlations to either SOC or nurse manager satisfaction. The first variable with a statistical significant association was the number of years a manager was in nursing and nurse manager satisfaction. The second variable found to have a statistical significant association was the number of years a nurse manager was in their current position with SOC.

The number of years in nursing had a statistically significant weak positive correlation to nurse manager satisfaction. This finding supports the literature that if nurse manager satisfaction decreases, turnover will increase and patient outcomes improve (Jones et al., 2015; Lee & Cummings, 2008; Loveridge, 2017; McCutcheon et al., 2009; Moore, Sublett, & Leahy, 2016; Swearingner, 2009; Warshawsky, Rayens, Stefaniak, et al., 2013). The study supports that a satisfied nurse manager will remain within the nursing profession longer. What the study does not point out are the factors that lead to increased satisfaction for nurse managers. Further research is needed to help identify factors that cause an increase in nurse manager satisfaction so that our leaders remain within their hospital leadership roles longer. Some factors leading to nurse manager intent to leave or intent to remain in the profession have been identified by Warshawsky et al. (2016) and support the need to have high satisfaction among nurse managers. Although some factors that are important to nurse managers have been identified in the literature, emphasis on how to keep nurse managers highly satisfied must remain a focus. Continued

attention on nurse manager satisfaction will help to improve the work environment, and retention of nurse managers (Brown et al., 2013).

The second variable within this study that revealed a statistically significant correlation was the number of years nurse managers were in their current position related to SOC. This relationship showed a weak negative correlation, indicating that as the number of years nurse managers remain in their current position increased, SOC decreased. This is an interesting finding because if you remain in your current position, one may expect that the SOC would continue to increase based on increased responsibilities. This finding could be related to improvements being made within current healthcare environments so that nurse managers are better supported within their current roles (Moore et al., 2016). Healthy work environments are important to help maintain nurse managers within the workforce. Continued focus on healthier work environments could help improve nurse manager satisfaction and tenure. As measures are placed to help support nurse managers within their work environment, health improves and burnout decreases (Skagert, Dellve, & Ahlberg, 2011). Further research is needed to identify specific reasons for this relationship as well as understand nurse manager perspectives within their work environments.

The relationships found in this study supports Karasek's job strain model, which shows a positive relationship between job strain and job demand (Karasek, 1979). This study showed that an increase in job demand or in this case, SOC, was associated with decreased nurse manager satisfaction. Further research is needed to identify if nurse manager satisfaction is associated with the perception of job strain. The TOH tool that was used to measure SOC supports Nancy New's Span of Control Pyramid (New, 2009), which describes factors that influence SOC and how those factors relate to a narrow versus broad SOC. The TOH tool only

touched on certain factors that may impact a nurse manager's SOC. New (2009) identified many areas that impact SOC like complexity of the organization, turbulence of the work environment and low morale. Although many factors were included in the SOC tool, these areas were not addressed in the SOC tool, specifically.

The number of characteristics that affect SOC is large and causes it to be very difficult to determine optimal SOC for a nurse manager. The need for researchers and administrators to find an appropriate SOC for nurse managers is important so that job strain decreases. Further research is needed to find out how each complex characteristic specifically affects SOC. Processes need to be streamlined to help eliminate variation so that it is easier for nurse managers to complete their work most effectively. Another example of a factor influencing SOC is the experience level of the workers within the work environment. Many of the elements within the SOC pyramid will affect overall SOC and how it is defined. Additional research is needed to identify how job strain, SOC, and nurse manager satisfaction relate to one another.

Limitations

There were several limitations to this study. The first limitation is that a convenience sample was used leading the research to be limited to only nurse managers in acute care and not a representation of all nurse managers. A second limitation was the amount of time the researcher spent recruiting survey participation. Recruitment did not occur outside of the email being sent to the participants and the participants had only two weeks to complete the survey. An increase in the amount of time could have yielded a larger number of participants within the study. Third, the setting of the study was located within the South Eastern portion of the United States which impacts generalization to other regions of the country. The instruments used were also a limiting factor because overall scores were used. Due to time constraints, the researcher

did not analyze each question within the data collection instruments as to which items within the SOC had a greater frequency. Rather, the researcher used the overall score to analyze overall SOC. Within the SOC tool, there were questions that were more subjective rather than objective. For example, one question was: “*What is the potential for litigation in the unit/specialty you are working in?*” With that in mind, the tool should be further revised to help obtain greater objectivity. Although the SOC tool was validated in Canada, completing this study in the United States has added to the validity of the SOC tool, but a need for additional studies is still needed to support the validity of the tool within the United States. It is also unclear as to how much support each nurse manager had from their administrative team, within this study. The amount of support could directly impact the level of SOC as well as nurse manager satisfaction. Further research is necessary to help identify how the amount of support a nurse manager has impacts both SOC and nurse manager satisfaction. Although unplanned, another limitation was that the survey was administered to participants during a global pandemic. The decision to complete the study was identified before there was any threat of a global pandemic. Unfortunately, the survey was distributed at the same time the pandemic arrived into the United States, due to time constraints around completion of the study. This may have led to a decreased participation rate as well as possibly skewed the perception of the current SOC for many of the nurse managers involved.

Implications to Nursing Research

With the expanding role of the nurse manager, it is important to keep in mind how complex the nurse manager’s work environment becomes. This research helps administrators to understand the relationship between nurse manager satisfaction and SOC. It provides a SOC tool that administrators could use to help guide the level of complexity within the nurse manager role.

Although most of the SOC tool was objective, some questions were subjective and required interpretation. A fully objective tool should be developed to help limit variation due to participant interpretation. Questions still arise around optimal SOC and further research is necessary to properly identify specific levels of SOC that impact optimal patient outcomes and decrease turnover. As SOC for nurse managers is more specifically and objectively defined to include the complexity of the role, mitigation strategies around broad SOC can be developed by administrators to help improve manager satisfaction and patient outcomes. Further research is necessary to help define a tool that reviews the complexities around the role of nurse manager.

The study also identified a negative correlation between SOC and the number of years nurse managers were in their current position. It is difficult to fully understand why this negative relationship existed within this study, and further research should be done to find possible explanations for this. The results could be due to health administrators have already implemented measures to help improve work environments for nurse managers through the years, as supported by the literature. Further questions need to be answered and research is needed around the full nature of the work, qualities of the work, attributes of the nurse manager and organizational characteristics so that a better understanding can be made around this relationship.

It is important to maintain high levels of nurse manager satisfaction. Developing and sustaining nurse manager satisfaction helps to decrease turnover and could contribute to a healthier work environment for their staff and patients. Further research is required to see the impact of nurse manager satisfaction on patients and staff. While this study did not analyze turnover directly, the literature suggests that as nurse manager satisfaction improves, turnover and outcomes also improve.

Repeating this study with a larger sample would be highly recommended to see if there is a variation in the findings compared with this study. Due to the unexpected global pandemic that may have influenced the findings, it would be beneficial to also repeat this study in its entirety to compare the results to evaluate if the current condition had an impact on the results of this study.

Conclusion

The aim of this study was to see if a relationship exists between SOC and nurse manager satisfaction. The findings are valuable and highlight that a relationship does exist between the two variables. Optimal SOC is important to the overall satisfaction of nurse managers. It is important for administrators to identify the appropriate SOC so that it does not negatively affect nurse manager satisfaction. However, more research is necessary to help define optimal SOC for nurse managers. It would also be helpful to add to the literature and repeat the study to see if findings from this study are replicated. Improving both SOC and nurse manager satisfaction may help improve turnover rates, costs, and overall patient care outcomes.

REFERENCES

- Adriaenssens, J., Hamelink, A., & Van Bogaert, P. (2017). Predictors of occupational stress and well-being in first line nurse managers: A cross-sectional survey study. *International Journal of Nursing Studies*, 73, 85-92.
- American Association of Colleges of Nursing. (2017). *Fact Sheet: Nursing shortage*. Retrieved from <https://www.aacnnursing.org/Portals/42/News/Factsheets/Nursing-Shortage-Factsheet-2017.pdf>
- Anthony, M. K., Standing, T. S., Glick, J., Duffy, M., Paschall, F., Sauer, M. R., Sweeney, D. K., Modic, M. B., & Dumpe, M. L. (2005). Leadership and nurse retention: the pivotal role of nurse managers. *Journal of Nursing Administration*, 35(3), 146-155.
- Baird-Simpson, B., Dearmon, V., & Graves, R. (2017). Mitigation the impact of nurse manager large spans of control. *Nursing Administration Quarterly*, 41(2), 178-186. Doi: 10.1097/NAQ.0000000000000214.
- Brown, P., Fraser, K. L., Wong, C., Muise, M., & Cummings, G. (2013). Factors influencing intentions to stay and retention of nurse managers: a systematic review. *Journal of Nursing Management*, 21, 459-472. Doi. 10.1111/j.1365-2834.2012.01352.x
- Burke, R., Ng, E., & Wolpin, J. (2016). Effects of hospital restructuring and downsizing on nursing staff: The role of union support. *Journal of Health Management*, 18(3), 473-488. Doi. 10.1177/0972063416651598.
- Collins, S. K., & Collins, K. S. (2007). Changing workforce demographics necessitates succession planning in healthcare. *The Health Care Manager*, 26(4), 318-325.
- Cowden, T., Cummings, G., & Profetto-McGrath, J. (2011). Leadership practices and staff nurses' intent to stay: A Systematic review. *Journal of Nursing Management*, 19(4), 461-

477.

- Davison, B. (2003). Management span of control: How wide is too wide? *Journal of Business Strategy*, 24, 33-39.
- Decampoli, P., Kirby, K. K., & Baldwin, C. (2010). Beyond the classroom to coaching: preparing new nurse managers. *Critical Care Nursing Quarterly*, 33(2), 132-137. doi.
<http://dx.doi.org.proxy.kennesaw.edu/10.1097/CNQ.0b013e3181d913db>
- Djukic, M., Jun, J., Kovner, C., Brewer, C., & Fletcher, J. (2017). Determinants of job satisfaction for novice nurse managers employed in hospitals. *Health Care Manage Rev*, 42(2), 172-183. Doi. 10.1097/HMR.000000000000102.
- Doran, D., & McCutcheon, A. S. (2004). Impact of the manager's span of control on leadership and performance. *Canadian Foundation for Healthcare Improvement*. Retrieved from <https://www.cfhi-fcass.ca/SearchResultsNews/04-09-01/b3cabd8a-3277-40b8-bd29-b56c67773de4.aspx>
- Gray, L. (2012). Nurse manager engagement: A concept analysis. *Nursing Forum* 47(3), 193-199.
- Hader, R. (2010). Nurse leaders: A closer look. *Nursing Management*, 41(1), 25-29.
<https://doi.org/10.1097/01.NUMA.0000366900.80524.d4>.
- Hewko, S. J., Brown, P., Fraser, K. D., Wong, C., & Cummings, G. (2015). Factors influencing nurse managers' intent to stay or leave: a quantitative analysis. *Journal of Nursing Management*, 23(8), 1058-1066.
- Holm-Petersen, C., Ostergaard, S., & Andersen, P. (2017). Size does matter – span of control in hospitals. *Journal of Health Organizations & Management*, 31(2), 192-206. Doi.
<http://dx.doi.org.proxy.kennesaw.edu/10.1108/JHOM-04-2016-0073>

- Johansson, G., Sandahl, C., & Andershed, B. (2011). Authentic and congruent leadership providing excellent work environment in palliative care. *Leadership in Health Services, 24*(2), 135-149.
- Jones, D., McLaughlin, M., Gebbens, C., & Terhorst, L. (2015). Utilizing a scope and span of control tool to measure workload and determine supporting resources for nurse managers. *The Journal of Nursing Administration, 45*(5), 243-249.
- Karasek, A., Jr. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly, 24*(2), 285-308. Doi 10.2307/2392498
- Lee, H., & Cummings, G. (2008). Factors influencing job satisfaction for front line nurse managers: a systematic review. *Journal of Nursing Management, 16*, 768-783.
Doi.10.1111/j.1365-2834.2008.00879
- Lee, B., Peck, C., Rutherford, P., & Shannon, D. (2008). *Transforming care at the bedside how-to guide: Developing frontline nursing managers to lead innovation and improvement*. Cambridge, MA: Institute for Healthcare Improvement.
- Loveridge, S. (2017). Straight talk: Nurse manager role stress. *Nurse Management, 48*(4), 20-27. <http://dx.doi.org.proxy.kennesaw.edu/10.1097/01.NUMA.0000514058.63745.ad>
- McCright, M., Pabico, C., & Roux, N. (2018). Addressing manager retention with the Pathway to Excellence framework. *Nursing Management, 49*(8), 6-8. Retrieved from <https://journals.lww.com/nursingmanagement/Pages/articleviewer.aspx?year=2018&issue=08000&article=00002&type=Fulltext>
- McCutcheon, A., Doran, D., Evans, M., Hall, L.M., & Pringle, D. (2009). Effects of leadership and span of control on nurses' job satisfaction and patient satisfaction. *Nursing Leadership, 22*(3), 48-67.

- Merrill, K., Pepper, G., & Blegen, M. (2013). Managerial span of control: A pilot study comparing departmental complexity and number of direct reports. *Nursing Leadership*, 26(3), 53-67.
- Moore, L., Sublett, C., & Leahy, C. (2016). Nurse managers' insights regarding their role highlight the need for practice changes. *Applied Nursing Research*, 30, 98-103.
- Morash, R., Brintnell, J., & Rodger, G. L. (2005). A span of control tool for clinical managers. *Nursing Leadership*, 18(3), 83-93.
- New, N. (2009). Optimizing Nurse Manager Span of Control. *Nurse Leader*, 7(6), 46-48. Doi. <https://doi.org/10.1016/j.mnl.2009.05.003>
- Patrick, A., & Laschinger, H. K. (2006). The effect of structural empowerment and perceived organizational support on middle level nurse managers' role satisfaction. *Journal of Nursing Management*, 14(1), 13-22. Doi.10.1111/j.1365-2934.2005.00600.x
- Pine, R., & Tart, K. (2007). Return on investment: benefits and challenges of baccalaureate nurse residency program. *Nursing Economics*, 25(1), 13-18.
- Shirey, M., McDaniel, A., Ebright, P., Fisher, M., & Doebbeling, B. (2010). Understanding nurse manager stress and work complexity. *Journal of Nursing Administration*, 40(2), 82-91.
- Skagert, K., Dellve, L., & Ahlborg Jr., G. (2011). A prospective study of managers' turnover and health in a healthcare organization. *Journal of Nursing Management*, 20(7), 889-899.
- Society for Human Resource Management. (2013, April 25). *Span of control: What factors should determine how many direct reports a manager has?* Retrieved from <https://www.shrm.org/resourcesandtools/tools-and-samples/hr-qa/pages/whatfactorsshoulddeterminehowmanydirectreportsamanagerhas.aspx>

- Stewart, J. (2015, April). *7 Insights from hospital span of control benchmarks*. Retrieved from <https://www.advisory.com/research/hr-advancement-center/resources/2015/seven-insights-from-hospital-span-of-control-benchmarks>
- Swearingen S. (2009). A journey to leadership: Designing a nursing leadership development program. *The Journal of Continuing Education in Nursing*, 40(3), 107-114.
<http://dx.doi.org.proxy.kennesaw.edu/10.3928/00220124-20090301-02>
- The Advisory Board Company. (2008). *Benchmarking nursing organizational structure*. 1-44.
Retrieved from <http://www.advisory.com/Research/Nursing-Executive-Center/Studies/2008/Benchmarking-Nursing-Organizational-Structure>
- Warshawsky, N., & Havens, D. (2014). Nurse manager job satisfaction and intent to leave. *Nursing Economics*, 32(1), 32039.
- Warshawsky, N., Rayens, M., Lake, S., & Havens, D. (2013). The nurse manager practice environment scale; development and psychometric testing. *Journal of Nursing Administration*, 43(5), 250-257.
- Warshawsky, N., Rayens, M. K., Stefaniak, K., & Rahman, R. (2013). The effects of nurse manager turnover on patient fall and pressure ulcer rates. *Journal of Nursing Management*, 21(5), 725-732. Retrieved from <http://dx.doi.org.proxy.kennesaw.edu/10.1111/jonm.1210>
- Warshawsky, N., Wiggins, A., & Rayens, M. (2016). The influence of the practice environment on nurse managers' job satisfaction and intent to leave. *The Journal of Nursing Administration*, 46(10), 501-507.

Wong, C., Elliott-Miller, P., Laschinger, H., Cuddihy, M., Meyer, R., Keatings, M., Burnett, C., & Szudy, N. (2015). Examining the relationships between span of control and manager job and unit performance outcomes. *Journal of Nursing Management*, 23, 156-168.

Zastocki, D., & Holly, C. (2010). Retaining nurse managers. *American Nurse Today*, 5(12), 3.
Retrieved from <https://www.americannursetoday.com/retaining-nurse-managers/>

Zwink, J., Dzialo, M., Fink, R., Oman, K., Shiskowsky, K., Waite, K., DeVine, D., Sanders, C., & Le-Lazar, J. (2013). Nurse manager perceptions of role satisfaction and retention at an academic medical center. *The Journal of Nursing Administration*, 43(3), 135-141.

APPENDICES

APPENDIX A

Online Consent Form

ONLINE QUESTIONNAIRE CONSENT FORM

You are being invited to take part in a research study entitled, “The relationship of span of control to nurse manager satisfaction”. This study is being conducted by Jeffrey Batcher, a graduate nursing student at the WellStar School of Nursing, Kennesaw State University. Before you decide to participate in this study, you should read this form and ask questions about anything that you do not understand.

The purpose of this study is to identify if a relationship exists between nurse manager span of control and nurse manager satisfaction. As a voluntary participant in this study, you will be asked to complete an anonymous on-line questionnaire in Survey Monkey® that should take about 15-20 minutes to complete. The questionnaire contains questions related to your department as well as nurse manager satisfaction. Following consent, you will be given further instructions to complete your responses.

You may opt out of the study at any time without penalty by exiting the questionnaire. Once submitted, however, there will not be any way to identify or withdraw your data. There are no known risks or anticipated discomforts for completing this questionnaire. While there is no direct benefit to you and no compensation, potential benefits of this study include a better understanding of the relationship between span of control and nurse manager satisfaction, which in turn may help inform leaders and enable them to develop strategies to best support the role of nurse managers.

The results of your participation in this study will be anonymous. No personal identifiable information such as IP address will be collected about you to connect you to the data.

You must be at least 18 years old to participate in this study. Participants should also be working within the job title of nurse manager at the time of completing the questionnaire.

Thank you for your consideration. Your participation indicates your voluntary consent. Should you have any questions or encounter any problems, please contact Jeffrey Batcher, BSN, RN via email at jdb9235@students.kennesaw.edu or via phone: 470-644-6645 (work), 678-314-0120 (cell).

Research at Kennesaw State University that involves human participants is carried out under the oversight of an Institutional Review Board. Questions or problems regarding these activities should be addressed to the Institutional Review Board, Kennesaw State University, 585 Cobb Avenue, KH3417, Kennesaw, GA 30144-5591, (470) 578-6407.

PLEASE PRINT A COPY OF THIS CONSENT DOCUMENT FOR YOUR RECORDS, OR IF YOU DO NOT HAVE PRINT CAPABILITIES, YOU MAY CONTACT THE RESEARCHER TO OBTAIN A COPY

I agree and give my consent to participate in this research project. I understand that participation is voluntary and that I may withdraw my consent at any time without penalty.

I do not agree to participate and will be excluded from the remainder of the questions.

APPENDIX B

Demographic Questionnaire

Demographic Questionnaire

Below are some questions which are asked for background and descriptive purposes only. Please answer ALL the following questions completely.

Age:

- 20-30
- 31-40
- 41-50
- 51-60
- >60

Gender:

- Male
- Female
- Other

Number of years working as a nurse:

- <5
- 5-10
- 11-15
- 16-20
- >20

Years of Nursing Management Experience:

- <1 year
- 1-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- >20 years

Years in current position:

- <1 year
- 1-2 years
- 3-4 years
- 5-6 years
- >6 years

Highest Level of Nursing Education Completed:

- Diploma

- Associate degree
- Bachelor's degree
- Master's degree
- Doctorate degree

Second degree outside of nursing

- Yes
 - Type of Degree _____
- No

National Certification:

- Yes
 - If so What type: _____
- No

Type of facility you work in:

- Hospital
- Outpatient
- Other _____

Department type (Select one that best fits your department type):

- Medical
- Surgical
- Neurological
- Cardiac
- Renal
- Psychological
- Pulmonary
- Rehab
- Intensive Care
- Progressive Care
- Women's services
- Pediatrics
- Emergency Department
- Procedural Department
- Ambulatory
- Specialty (describe):
- Other (describe)

APPENDIX C

Clinical Manager Span of Control Decision-Making Indicators Tool



The Ottawa Hospital
Model of Nursing Clinical Practice©

CLINICAL MANAGER SPAN OF CONTROL DECISION-MAKING INDICATORS

This tool is designed to assist in identifying and measuring the span of control of a Clinical Manager. The results of this decision aid tool can then be utilized by the Director for comparison purposes, workload readjustment, resource allocation, etc.

This tool has been created and validated through expert opinion by a consensus of over 100 Clinical Managers.

The following framework summarizes the indicators that will be reviewed.

<i>Unit Focused Indicators</i>			
Complexity		Material Management	
Low		Low	
Medium		Medium	
High		High	
<i>Staff Focused Indicators</i>			
Volume of Staff	Skill level/autonomy of Staff	Staffing Stability	Diversity of Staff
Low	Low	Low	Low
Medium	Medium	Medium	Medium
High	High	High	High
<i>Program Focused Indicators</i>			
Diversity		Budget/Statistical	
Low		Low	
Medium		Medium	
High		High	

How to use this tool:

1. Reflect on the reality of your unit/service for the last 12 months.
2. Circle a value of high, medium or low for each indicator, based on the corresponding definitions. Then multiply the point for that value times the weight to provide a total. Then add up all of the totals for each indicator and place your grand total on page 5.
Example: for hours of operation, if a unit is open 24/7 then you would circle high and multiple 3 points times a weighting of 2 for a total of 6. If a manager has 2 units and one is 24/7 and one is weekdays only, you would choose the higher rating.
3. Discuss the score with your Director to validate scoring range and its implications.
4. The Director will utilize the scoring for comparison purposes, workload readjustment, resource allocation, etc.

UNIT FOCUSED INDICATORS

Complexity

What are the hours of operation of the unit/service?

Hours of operation	Definition of Level	Point	X	Weight	Total
Low	Weekdays only, 8-4	1		2	
Medium	Extended hours	2		2	
High	24/7 (services available, including standby)	3		2	

How predictable is the patient flow of the unit/service? Does it necessitate frequent reassignment of staff on a shift?

Unpredictability	Definition of Level (frequency)	Point	X	Weight	Total
Low	Never or rarely (0-1x/wk) have reassignment of staff on a shift.	1		3	
Medium	Sometimes (2-5x/wk) have reassignment of staff on a shift.	2		3	
High	Frequently (>5x/wk) have reassignment of staff on a shift.	3		3	

How do you rate the unit/service capacity taking into consideration high patient turnover and occupancy level and off-service patients?

Unit Capacity	Definition of Level (frequency)	Point	X	Weight	Total
Low	Never or rarely (0-1x/wk) exceeds the capacity of the unit/service.	1		2	
Medium	Sometimes (2-5x/wk) exceeds the capacity of the unit/service.	2		2	
High	Frequently (>5x/wk) exceeds the capacity of the unit/service.	3		2	

What is the potential for litigation in the unit/specialty you are working in?

Actual Litigation	Definition of Level	Point	X	Weight	Total
Low	All units other than those in levels medium and high	1		2	
Medium	Surgical units, OR, Emergency, PACU	2		2	
High	Obstetrics	3		2	

How much time do you have to spend on actual and preventative activities including CQI, comment cards, patient complaints, incident reports, quality assurance, etc

Risk Management	Definition of Level (hours)	Point	X	Weight	Total
Low	< 2.5 hrs/wk	1		2	
Medium	2.5-5.5 hrs/wk	2		2	
High	> 5.5 hrs/wk	3		2	

Material Management

How much time is spent dealing with equipment: specialized equipment, large amount of different equipment, vendors, maintenance, replacement?

Material Mgmt	Definition of Level (hours)	Point	X	Weight	Total
Low	< 4 hrs/wk	1		2	
Medium	4 – 8 hrs/wk	2		2	
High	> 8 hrs/wk	3		2	

STAFF FOCUSED INDICATORS

Volume of Staff

How many staff report directly to the Clinical Manager?

Volume of staff.	Definition of Level (number)	Point	X	Weight	Total
Low	< 30	1		5	
Medium	31 – 70	2		5	
Medium-High	71-100	3		5	
High	> 101	4		5	

Skill Level/Autonomy of Staff

What is the percentage of novice nurses on the unit/service? (A novice is defined as a new grad or a nurse new to a particular unit or as defined as novice by Benner (1981)).

Novice nurses	Definition of Level (percentage)	Point	X	Weight	Total
Low	< 5 %	1		3	
Medium	5 – 15 %	2		3	
High	> 15 %	3		3	

What is the percentage of non-regulated staff on the unit/service? (e.g. unregulated care providers, clerks, logistical services, housekeeping, etc.)

Non-regulated staff	Definition of Level (percentage)	Point	X	Weight	Total
Low	< 10 %	1		3	
Medium	10 – 20 %	2		3	
High	> 20 %	3		3	

Staffing Stability

What is the number of new hires per year on the unit/service?

Turnover Rate	Definition of Level (number)	Point	X	Weight	Total
Low	< 10	1		3	
Medium	10 – 20	2		3	
High	> 20	3		3	

TOH-MoNCP© Toolbook: #3.0 Tools
 3.5 Clinical Management Span of Control Decision-Making Indicators
 Revised: 12/2002, 03/2003, 02/2010; 08/2010
 Created by: Management Work Group; 01/2002

Used with permission from The Ottawa Hospital, Nursing Professional Practice Department

How many staff have absenteeism occurrences above the hospital average?

Absenteeism	Definition of Level (number)	Point	X	Weight	Total
Low	< 6	1		2	
Medium	7 - 14	2		2	
High	> 14	3		2	

Diversity of Staff

How many categories of staff report directly to the Clinical Manager?

Diversity of staff	Definition of Level	Point	X	Weight	Total
Low	1 - 3	1		2	
Medium	4 - 6	2		2	
High	> 6	3		2	

PROGRAM FOCUSED INDICATORS

Diversity

How many Directors or VPs does the Clinical Manager report to?

Directors	Definition of Level	Point	X	Weight	Total
Medium	1	2		2	
High	> 1	3		2	

How many designated medical specialties are there on the unit/service requiring meetings with Chiefs and Department Heads?

Designated Specialties	Definition of Level	Point	X	Weight	Total
Medium	1 - 2	2		3	
High	> 2	3		3	

The Clinical Manager is responsible for how many units/services? For those managers who have > 1 unit/service spread across the campus(es) and not side by side, please add an additional 2 points to your total for number units. (Regional programs are considered a unit/service)

Units/Services	Definition of Level (number)	Point	X	Weight	Total
Medium	1	2		4	
High	> 1	4		4	

Budget/Statistical

What is the total size of the budget for all units/services combined?

Budget	Definition of Level (\$ million)	Point	X	Weight	Total
Low	< 2	1		2	
Medium	2 - 4	2		2	
High	> 4	3		2	

Grand Total _____
135

Hypothesis:

All of these factors are based on the assumption that

- Environment for Scheduling Personnel (ESP) support is standardized
- Educational support is available for staff
- Educator Span of Coverage is appropriate

References:

Morash, R., Brintnell, J. & Lemire Rodger, G. (2005). A span of control tool for clinical managers. *Nursing Leadership*, 18(3) 83-92.

APPENDIX D

RN Satisfaction Questionnaire

**Nurse Manager Satisfaction Questionnaire (adapted with permission from Warshawsky,
Wiggins, & Rayens, 2016)**

Item	Response Option
1. How satisfied are you with being a nurse manager?	1 = Very dissatisfied to 6 = very satisfied
2. How likely are you to recommend nursing management as a career choice to other nurses?	1 = Very unlikely to 6 = very likely

APPENDIX E

Ottawa Hospital Permission to Use Instrument



**The Ottawa
Hospital** | **L'Hôpital
d'Ottawa**

Debra Bournes, RN, PhD

Chief Nursing Executive and
Vice President Clinical
Programs

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Affiliated with
Affilié à uOttawa



April 23, 2018

Mr. Jeffrey Batchler
938 Bentwater Drive
Acworth, GA
USA
30101

Dear Mr. Batchler:

**Re: The Ottawa Hospital Model of Nursing Clinical Practice (TOH MoNCP®)
Clinical Management Span of Control Decision-Making Tool**

I am responding to your request for permission to use the TOH MoNCP® Span of Control tool in your graduate studies at Kennesaw State University.

We thank you for your interest in TOH MoNCP® and its tools. The Department of Nursing Professional Practice is happy to share with other hospitals and health care students the work they had accomplished as part of the development of TOH MoNCP®.

We are giving you permission to use the Span of Control tool in your studies. Please keep in mind that the tool is not a stand-alone tool and that it is closely linked to the other tools and processes within the Model. Additionally, the tool has been validated within the Canadian healthcare context and might need to be validated within the US Healthcare system prior to use.

Should you decide to use the Span of Control Tool, we ask that you cite: "*used with permission from The Ottawa Hospital, Nursing Professional Practice Department*" at the bottom of all documentations and presentations. We also ask that you refer any additional outside requests for permission for use back to The Ottawa Hospital.

We hope that this resource would assist you with your studies. Thank you for your interest.

Sincerely,

Debra Bournes

cc: Jennifer Bennett, Coordinator, Nursing & Interprofessional Practice

Inspired by research. **Inspiré par la recherche.**
Driven by compassion. **Guidé par la compassion.**

APPENDIX F

RN Satisfaction Authors Permission to Use Instrument

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Notifications

Updates Messages Requests

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Permission to use Likert tool

[Report message](#) · [Block user](#)**Jeffrey Batcher**

Mar 6, 2018

Good morning, and thank you for taking the time to correspond with me. I am a graduate student at Kennesaw State University located in Kennesaw, Georgia. As a nurse manager and student, I am extremely interested in nurse manager job satisfaction as it relates to span of control. As I am working on my thesis and reviewing the literature, I came across your article in Nursing Economic\$ 2014 (32)1. The title of the article is Nurse manager job satisfaction and intent to leave. I would be interested in using your likert tool from Table 1 (pg. 34) of the article to conduct a similar published study, with your permission. Would you provide me your permission to use this tool and if this would be free of charge? Also, do you have a version that would be formatted for easy distribution, that you would be willing to share? I appreciate your time and with your support, hope to improve the work environment for nursing leaders. Thank you!

**Nora E Warshawsky** to you

Mar 6, 2018

Jeffrey, Yes, of course you may use the items as they are published in the Nursing Economic\$ article. I have since tweaked the job satisfaction measure a little. I now score both the "How satisfied are you with being a nurse manager?" and "How likely are you to recommend nursing management as a career choice to other nurses?" on a 6-point scale. Then i average the 2 scores together tp get a measure of job satisfaction. I used this method in my 2016 article-I attached it here for your convenience.

Good luck with your project!

Nora

APPENDIX G

Wellstar Health System Institutional Review Board Approval



31 Jan 2020

RE: [1559081-1] The Relationship of Span of Control to Nurse Manager Satisfaction

Dear Jeffrey Batchter:

Your online request to conduct research was reviewed. It has been determined that the proposed activity is exempt from further review by the Human Protections Administrator or the Institutional Review Board.

This determination was made based on 45 CFR 46.101(b) of the Code of Federal Regulations, Category 2: Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) the information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects (ii) any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; OR (iii) the information obtained is recorded by the investigator in such a manner that the identity of human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited review to make the determination required by 45 CFR 46.111(a)(7) (which relate to there being adequate provisions for protecting privacy and maintaining confidentiality) **AND the research is not subject to subpart D.**

This determination applies only to the activity described in your online request and does not apply should any changes be made. If changes are being considered and there are questions about whether IRB review is needed, please contact the Human Research Protections Program to discuss these changes. You may be asked to submit a new online request to conduct research.

This determination does not constitute nor guarantee institutional approval and/or support. Investigators and study team members must comply with all applicable federal, state, and local laws, as well as WellStar policies and procedures, which may include obtaining approval for your research activities from other individuals or entities.

For research-related questions, you may contact the Human Research Protections Program at research@wellstar.org.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within WellStar IRB's records.

APPENDIX H

Kennesaw State University IRB Approval

3/25/2020

Jeffrey Batcher, Student
WellStar School of Nursing

RE: Your follow up submission of 3/25/2020, Study #20-477: The Relationship of Span of Control to Nurse Manager Satisfaction

Hello Mr. Batcher,

Your application for the new study listed above has been administratively reviewed. This study qualifies as exempt from continuing review under DHHS (OHRP) Title 45 CFR Part 46.101(b)(2) - Educational tests, surveys, interviews, observations of public behavior. The consent procedures described in your application are in effect. You are free to conduct your study.

NOTE: All surveys, recruitment flyers/emails, and consent forms must include the IRB study number noted above, prominently displayed on the first page of all materials.

Please note that all proposed revisions to an exempt study require submission of a Progress Report and IRB review prior to implementation to ensure that the study continues to fall within an exempted category of research. A copy of revised documents with a description of planned changes should be submitted to irb@kennesaw.edu for review and approval by the IRB.

Please submit a Progress Report to close the study once it is complete.

Thank you for keeping the board informed of your activities. Contact the IRB at irb@kennesaw.edu or at (470) 578-6407 if you have any questions or require further information.

Sincerely,

Christine Ziegler, Ph.D.
KSU Institutional Review Board, Director of Human Subjects Research

cc: rmyers23@kennesaw.edu "rmyers23@kennesaw.edu"

APPENDIX I

Wellstar Health System Sr. VP & Chief Nurse Executive Approval

Jeffrey Batchner
938 Bentwater Drive
Acworth, GA 30101
Phone: 678-314-0120
E-Mail: jdb9235@students.kennesaw.edu

March 27, 2019

Jill Case-Wirth
Senior Vice President & Chief Nurse Executive
WellStar Health System
793 Sawyer Rd
Marietta, GA 30062

Dear Ms. Case-Wirth:

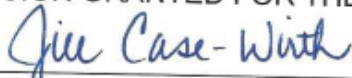
The purpose of writing this letter is to request your consent to survey all nurse managers at WellStar's eleven hospitals to include the use of the Survey Monkey tool for my Master's Thesis at Kennesaw State University. My thesis is titled "The Relationship of Span of Control to Nurse Manager Satisfaction" which I will be asking participants to complete the Clinical Manager Span of Control Decision-Making Indicators with permission from The Ottawa Hospital (TOH-MoNCP). The participants would also be asked to complete a Likert scale to identify satisfaction with being a nurse manager. The research will be collected and follow the appropriate IRB approval processes for both Wellstar Health System and Kennesaw State University.

If this request meets with your approval, please sign this letter where indicated below and return it to me. Thank you very much.

Sincerely,

Jeffrey Batchner

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:



[Jill Case-Wirth, Senior Vice President & Chief Nurse Executive]

Date: 3-28-19