6-1988

Relationship of Quality Circles in Nursing to Leadership, Job Satisfaction, Patient Care, and Cost Containment

Shirley A. Weiglein

Western Michigan University

Follow this and additional works at: https://scholarworks.wmich.edu/dissertations

Part of the Nursing Commons

Recommended Citation


https://scholarworks.wmich.edu/dissertations/2202

This Dissertation-Open Access is brought to you for free and open access by the Graduate College at ScholarWorks at WMU. It has been accepted for inclusion in Dissertations by an authorized administrator of ScholarWorks at WMU. For more information, please contact maira.bundza@wmich.edu.
RELATIONSHIP OF QUALITY CIRCLES IN NURSING TO
LEADERSHIP, JOB SATISFACTION, PATIENT CARE,
AND COST CONTAINMENT

by
Shirley A. Weiglein

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Education
Department of Educational Leadership

Western Michigan University
Kalamazoo, Michigan
June 1988
RelatIonship of Quality Circles in Nursing to Leadership, Job Satisfaction, Patient Care, and Cost Containment

Shirley A. Weiglein, Ed.D.
Western Michigan University, 1988

The use of quality circles in nursing has been widely espoused in nursing literature as a concept that enhances participatory leadership, promotes job satisfaction, improves the quality of patient care and contributes to cost containment. This study was conducted to examine the relationship between the use of quality circles in nursing units and leadership, job satisfaction, the quality of patient care and cost containment.

Quality circle and non-quality circle units in two midwest hospitals were used for data collection. Staff nurses only were asked to complete the survey. A total of 125 of the possible 295 staff nurses in the two hospitals made up the 43% return rate.

Conclusions in this study were: (1) Nurses in quality circle units perceive their leaders to be more of a participatory nature than do those in non quality circle units, (2) Staff nurses perceive job satisfaction being greater in units using quality circles than in those not using them, (3) The quality of patient care is higher in units using quality circles than in those not using them,
(4) The correlation between willingness to be a patient in one's own hospital and five quality care items was relatively low (r ranged from .18 to .40), and (5) Participants in quality circles felt more involved in cost containment measures than those in non-quality circle groups.

Even though the literature review and the data analysis provided a strong argument for the use of quality circles in nursing, many hospitals previously using quality circles have discontinued them. Telephone interviews with nursing leaders in hospitals who discontinued their use suggested three major reasons: (1) staffing problems, (2) cost containment, and (3) administrative changes. This prompted a recommendation for continued study of problems nursing leaders encounter in today's health care industry.
INFORMATION TO USERS

The most advanced technology has been used to photograph and reproduce this manuscript from the microfilm master. UMI films the original text directly from the copy submitted. Thus, some dissertation copies are in typewriter face, while others may be from a computer printer.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyrighted material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each oversize page is available as one exposure on a standard 35 mm slide or as a 17" × 23" black and white photographic print for an additional charge.

Photographs included in the original manuscript have been reproduced xerographically in this copy. 35 mm slides or 6" × 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.
Relationship of quality circles in nursing to leadership, job satisfaction, patient care, and cost containment

Weiglein, Shirley A., Ed.D.
Western Michigan University, 1988

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
ACKNOWLEDGMENTS

A special thank you to Dr. Uldis Smidchens, my advisor and committee chair, for his continuous support, input and encouragement throughout the research process. Thanks to Drs. Robert Brashear, David Cowden and Thelma Urbick, members of my dissertation committee, for their encouragement, suggestions and valuable advice during this project.

Without the assistance and encouragement of faculty and staff at St. Joseph's Hospital and School of Nursing and Ferris State University, this project could not have been completed. This writer extends a hearty thank you to them and to the staff participants and administration in each of the hospitals used in the study.

A special thanks also goes to Dr. Fred Swartz of Ferris State University, Big Rapids for his assistance in data processing and use of the SPSS-X Data Analysis system.

And last, but certainly not least, a big thank you for the patience, encouragement, and understanding of my family during the years spent in achieving this long-term goal.

Shirley A. Weiglein
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>ACKNOWLEDGEMENTS</th>
<th>ii</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF TABLES</td>
<td>vi</td>
</tr>
</tbody>
</table>

## CHAPTER

### I. INTRODUCTION                                    | 1 |
| Purpose                                              | 2 |
| Definitions                                          | 3 |
| Summary                                              | 5 |

### II. LITERATURE REVIEW                              | 6 |
| Quality Circles                                       | 6 |
| Leadership                                           | 12 |
| Job Satisfaction                                     | 17 |
| Quality Patient Care                                 | 19 |
| Cost Containment                                     | 21 |
| Summary                                              | 25 |

### III. DESIGN AND METHOD                             | 28 |
| Population                                           | 28 |
| Sampling                                             | 29 |
| Data Collection                                       | 30 |
| The Instrument                                       | 31 |
| Leader Behavior Description Questionnaire            | 33 |
| Job Descriptive Index                                | 34 |
| Quality Patient Care Questionnaire                   | 35 |

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Table of Contents--Continued

CHAPTER

Surveys of Employer Health Care
Cost Containment Activities ................ 36
Pilot Study .................................. 38
Reliability .................................. 39
Validity ..................................... 41
Data Analysis ............................... 41

IV. FINDINGS ............................... 44
Leadership Hypothesis ....................... 45
Job Satisfaction Hypothesis .................. 47
Quality Patient Care Hypothesis ............ 49
Cost Containment Hypothesis ............... 54
Problems Encountered ....................... 59
Rationale for Continuation ................. 60
Changes in Approach to Study ............... 62
Telephone Questionnaire Data ............... 62
Summary ...................................... 66

V. CONCLUSIONS AND RECOMMENDATIONS ......... 70
Original Study .............................. 71
Addition to Original Study .................. 73
Staffing ..................................... 73
Cost Containment ............................ 75
Administrative Changes ...................... 76
Suggestions for Further Study ............. 77

iv
Table of Contents--Continued

APPENDICES .............................................. 78

A. Prentice-Hall, Inc. .............................. 80
   Avatar International, Inc. ................. 81
B. Nursing Service Survey ...................... 83
   Telephone Questionnaire .................... 88

BIBLIOGRAPHY ............................................ 89
LIST OF TABLES

1  Relationship Between Leadership Styles, Maturity Levels, and Other Organizational Behavior Theory, Concepts and Research ................... 15
2  Test Reliability .................................. 39
3  Pilot Study Cronbach's Alpha .................... 40
4  Leadership Variable Means and Standard Deviation ........................... 46
5  Comparison of Staff Nurse Perceptions of Leadership in Units Using Quality Circles and Those not Using Them ............................. 47
6  Job Satisfaction Variable Means and Standard Deviation ......................... 48
7  Comparison of Staff Nurse Perceptions of Satisfaction With Their Jobs in Units Using Quality Circles and Those not Using Them .................... 49
8  Quality of Patient Care Variable Means and Standard Deviation ................ 51
9  Comparison of Staff Nurse Perceptions of Patient Care Delivered in Their Units .......................... 52
10 Comparison Between Willingness to be a Patient in One's Own Institution and Items Reflecting the Quality of Patient Care .......................... 53
11 Cost-Containment Variable Means and Standard Deviation ......................... 58
12 Comparison of Staff Nurse Perceptions of Their Involvement in Cost Containment Within Their Units .......................... 59
13 Ranked Telephone Survey Responses .......................... 64
CHAPTER I

INTRODUCTION

Today's health care industry, of which nursing is an integral part, is one of the largest and most complex businesses in this country.

Health care has entered a decade of challenge. On the one side, we see pressure to reduce costs while maintaining quality of care. On the other, there is pressure to respond to the changing characteristics of the work force with its higher levels of education, new work ethic and desire to participate in decisions that affect the work environment. (Edey, 1984, p. 19)

According to Himmelsback (1984), these changes in the work force and "problems affecting the health care industry are not new. They have been faced in the past by companies in other sectors of the economy" (p. 26). He suggested that perhaps those in the health care industry could benefit by applying the trends and opportunities that have distinguished the "winners" in other industries.

One of the trends and opportunities Himmelsback was referring to as "winners" is the concept of quality circles (QC), which are being implemented by many of today's Fortune 500 companies. The three quotations that follow piqued my interest in and provided impetus for the study of quality circles in the health care industry.

1

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
According to Edey (1984) QC's were introduced to the North American health care industry in 1980 with pilot programs at Barnes Hospital in St. Louis, Henry Ford Hospital in Detroit, and Mount Sinai Medical Centre of Greater Miami (p. 19).

"Hospital Quality Circle Programs: A Research Report," recently published by Avatar International, Inc., shows that more and more hospitals are implementing Quality Circles in an effort not only to cut costs but also to improve hospital efficiency in such areas as communication, employee morale and quality of care. (Johnson & Everett, 1983, p. 3)

"In hospitals, a QC program can improve patient care and staff satisfaction, as well as contain costs" (Haggard, 1983, p. 34). Although nursing managers have implemented a variety of systems to gain employee participation, quality circles seems to be the most promising method currently available (Wine & Baird, 1983, p. 5).

These three quotations prompted the study of quality circles in nursing and the inclusion of leadership, staff satisfaction, patient care and cost containment issues.

Purpose

The purpose of the study was to explore the implied relationship between quality circles in nursing and staff nurse perceptions of leadership style, job satisfaction, the quality of patient care and involvement in cost containment. The biggest question in the mind of the
researcher was whether or not there was a difference in staff nurse perceptions in these four areas in nursing units using quality circles and those not using them. Further impetus for the study was provided by the following study objectives, which served as guidelines for the review of literature.

1. Explore differences in leadership styles in nursing units using quality circles and those not using circles;

2. Examine the difference between job satisfaction in units using quality circles and those not using them;

3. Explore the difference between nurses' perception of the quality of patient care given in nursing units using quality circles and those without quality circles; and

4. Study the difference between nurses' involvement in cost containment measures initiated in nursing units with quality circles and those without.

The initiation of quality circles in today's health care industry and these objectives led to implementation of the following definitions which became an integral part of the literature review.

Definitions

*Quality Circles*, as defined by Garson (1982), "are groups of employees who volunteer to meet one hour per
week to identify, analyze and solve work related problems which are not covered by personnel policy" (p.65). Quality circle members are usually from the same general work area, or do similar types of work, so that the problems they select will be familiar to them.

Leadership, as defined by Claus & Bailey (1977), is "a set of actions that influence members to move toward goal setting and attainment, ...encompassing the wise use of power, managerial functions, and human relations processes" (p. 5).

Job satisfaction is defined as the gratification one gets in the performance of role responsibilities within the work setting.

Quality of patient care is the degree of physical care, psychological and spiritual support, rehabilitation, patient education and discharge planning offered the patient throughout the hospitalization.

Cost containment, in this context, is defined as strategies/measures identified to monitor health care costs. Options for controlling health care costs delineated in several surveys provided guidelines for this section of the study.

Unique to this study was the combination of variables which address these five major concepts. These variables were identified as they emerged in the literature review.
Summary

This chapter summarized some of the challenges in today's health care industry, the purpose and objectives on which the study was based, and definitions used for the purpose of this study. The concepts that provided the major foci of this study are quality circles, leadership, quality patient care, job satisfaction and cost containment involvement of nurses. The study investigated the relationship between the presence or absence of quality circles in the hospital setting and staff nurse perceptions of leadership styles, job satisfaction, the quality of patient care, and their involvement in cost containment strategies.
CHAPTER II

LITERATURE REVIEW

Quality Circles

Investigation of the concept of quality circles found the majority of the authors overwhelmingly support the idea. However, quality circles have been viewed by some as a passing fad, on the one hand, or as a panacea, on the other. The caution one must consider is that it could be either of the above, or it could be a useful management approach to some of the concerns hospitals face today.

Recognizing that quality circles programs were not originally designed for hospitals and/or service organizations, the natural question then becomes, "Does a quality circle program suit the crises-oriented setting of a hospital? A number of management consultants feel that quality circles will sweep through the hospital industry as they have through the Fortune 500 companies" (Haggard, 1983, p. 32). This question and the ultimate answer to it may bridge the gap between two tradition bound arenas, business and the health care field. Can quality circles bridge that gap? Many hospitals have felt the need to function more as a business enterprise,
yet maintain the purpose and philosophy upon which they were founded, i.e., care of the ill regardless of the ability to pay for services. It is this dichotomy that quality circles may help to ease.

Given the growing awareness of the benefits of QC's in the health care industry, the next step is to identify the process. The quality circle process, as described by Adair, Fitzgerald and Nygard (1982) for the National League for Nursing involves the following basic steps:

1. Problem selection involving brainstorming ideas.

2. Collection of baseline data to verify actual problems and measure outcomes of problem resolution.

3. Analyze the reasons for the problems through C-E (fishbone) diagrams.

4. Develop solutions considering ones that are BEST:
   B=Budgetary considerations
   E=Effectiveness
   S=Staff requirements
   T=Time

5. Evaluate the outcomes based on measures from baseline data previously collected.


Hospital Quality Circle Programs: A Research Report, published by Avatar International, Inc. in 1983, shows that more and more hospitals are recommending the implementation of quality circles.
"Perhaps the strongest evidence of recommenda-
tion is that several of the hospitals in the
survey are marketing their Quality Circle
program to other hospitals...The survey results
show Quality Circles as a key factor now that
hospitals must begin increased efforts to
diversify and develop new strategies to adjust
to this economic situation" (Johnson & Everett,

Implementation of quality circles involves a commit-
ment from top management down to the employees. According
to Frank (1982), "On the Scene: An administrator looks at
circles at Barnes Hospital"

Management has a delicate role to play, it might
be summed up in the words, "keep a low
profile." Too much management involvement could
have an adverse effect. We are trying very hard
to avoid the traditional concept that management
says 'do' and the workers do it. (p. 29)

Frank continued with:

The board of trustees, for instance, should be
supportive but not operationally involved. Top
management should be supportive but only a
little involved. Management should be visible
at the training programs, which are a very
important part of the QCC idea. (QCC or Quality
Control Circle--is used synonymously with Quality
Circle in the literature). Without management
support, the people down the line will not be
interested in doing the work necessary to start
and continue the circles. (p. 29)

One of the keys to successful implementation of
quality circles is the role of the facilitator. Wine
SBaird (1983), suggested the facilitator be someone who:

1. Is committed to the Quality Circle process
2. Is able to devote the necessary time
3. Understands the organization, both techni-
cally and politically
4. Is skilled as a communicator, both in formal presentations and informal inter­actions; and,
5. Is respected throughout the general organi­zation (p. 8).

At the 1982 International Association of Quality Circles annual conference, Buback and Dutkevych (1982) discussed characteristics of problems to be investigated by a quality circle. As reported by Orlikoff & Snow (1984), these characteristics include the following items as they relate to the circle members' work.

1. Affect the level of quality
2. Affect patient satisfaction
3. Help reduce costs, if solved
4. Improve the work environment, if solved
5. Be soluble within three to six months (p. 42).

The majority of the authors reviewed recommend consultation prior to the initiation of a quality circles program. Geldbach, Klein and Moore (1981) suggest that the consulting firm's credentials include experience with circles past the pilot stage, as well as an understanding of the health care field (p. 1034).

Haggard (1983) made the following suggestions for those exploring the possibility of implementing a quality circles program.

To begin a QC program in your institution, the first requirement is enthusiasm about the con­cept. Find out everything you can about Quality Circles, the more data you can gather, the more ammunition you will have for the selling job to follow. Since start-up costs are likely to run up to $20,000 for a consultant firm, training
sessions, and material, information about predicted cost savings will be especially important. Demonstrate that once the program is in effect, it will more than pay for itself. (p. 32)

The concept of savings was exemplified by Moore (1982) in her discussion of one operating room which cut its overtime by nearly 75% which was a savings of approximately $10,000 in overtime on operations over a period of months (p.44). With start up costs ranging from $5,000 to $20,000 this kind of savings would soon pay the original cost of the program. The original cost of the programs are thought to reap a return of anywhere from two to eight times the cost, depending on the situation reported. These costs include consultant fees, instruction materials, training time for facilitators and circle leaders, as well as initial orientation and selling the program to the employees.

Haggard (1983) took the return on investment a step further and added the human component when she stated, "When one considers improvement in service, decrease in patient complaints, and increased enthusiasm, and job satisfaction for employees starting a Quality Circles program becomes even more attractive" (p.32). Other payoffs identified in the literature included increased mutual trust, improved communication, increased productivity, improved quality, and patient satisfaction.
The effectiveness of quality circles was expounded in several articles with comments such as that made by Campbell and Hatfield (1982):

With support by administration, a willingness to listen and respond to the suggestions, needs and observations of the staff, Quality Circles ARE an effective means to set and accomplish goals, improve harmony among staff, reduce costs, develop new cost effective programs internally with available resources, improve morale, improve the quality of patient care and increase revenue. (p. 46)

Beddie (1983) also supported the concept of successful quality circles to promote a team approach, develop a feeling of self-worth and contribution among employees, and enhance the concept of quality and cost-effective care. However, he went on to state, "To successfully apply the circle approach, management must encourage participative, interdepartmental collaboration and must be willing to listen to and act on circle members recommendations" (p. 81).

This review of current quality circle literature established the basis for the investigation of a relationship between quality circles and four major themes expressed throughout: leadership, job satisfaction, quality of patient care and cost containment.

All quality circle literature clearly delineates a "participative management system" as critical for the successful utilization of quality circles. However, is
there a leadership profile that "fits" the participative management mold and is it functional within the situational environment of today's health care setting?

Leadership

Much of the leadership literature in nursing paralleled Davis, Oakley, and Sochalski's (1982) definition, "Leadership should be viewed as multidimensional, encompassing the wise use of power, managerial functions, and human relations processes" (p. 15). Davis et al. continued, "When combined, these characteristics can influence members of a group to move toward goal setting and goal attainment."; and, "The concepts of leadership and power have an active orientation, identifying leaders not only by the power they possess, but also by their responsible use of it" (p. 15).

Given this conceptualization and the "participative management system" identified with quality circles, the literature review includes a variety of leadership styles and theories in an effort to identify a leadership profile that has the potential to enhance perceptions of job-satisfaction, quality patient care and cost containment involvement in hospitals using quality circles. Other relevant concepts in the literature review include group behavior/activities,
communication and leader-follower behavior as they support particular leadership styles.

Pesut (1985) issued a challenge to nursing leaders to "Mold a future with creative nonconformity" (p. 8). The essence of his challenge was to "begin to explore and relate other fields of interest to nursing" (p. 8). Thus, the attempt to develop a "leadership profile" from the social and behavioral sciences that fits the crises-oriented setting of today's hospitals.

Bass (1981) discussed several hospital studies on subordinate satisfaction as the result of leader initiation of structure and consideration. Although low stress and pleasant working situations were reported, they did not demonstrate a relationship to group productivity (pp. 381-2). Perhaps initiation of structure and consideration is an appropriate start for the exploration of leadership styles in the hospital setting.

The Ohio State leadership studies (Stogdill, Scott, & Jaynes, 1956) eventually narrowed the description of leader behavior to two dimensions: (1) Initiating Structure and (2) Consideration. According to Halpin (1959), Initiating Structure refers to "the leader's behavior in delineating the relationship between himself and members of the work group and in endeavoring to establish well-defined patterns of organization,"
channels of communication, and methods of procedure" (p. 4). Consideration refers to "behavior indicative of friendship, mutual trust, respect, and warmth in the relationship between the leader and members of his staff" (p. 4).

Although these operational definitions of Initiating Structure and Consideration identify concepts important in the hospital setting, other theories and styles provide further dimensions to the "profile" of nursing leaders. Harris (1983), offered a psychological profile and effectiveness variables in negating any proposition that there is one best style. He stated,

Effective leaders have the self-confidence that allows them to take risks and accept responsibilities. ...There is no best approach because the effectiveness of any style is a function of three general interrelated variables which are: 1) The traits, characteristics and needs of leaders; 2) The traits, characteristics and needs of followers; and, 3) environmental and situational variables. (p. 22)

This quotation suggested the potential for exploration of a variety of personality, trait, environmental and situational theories. Hersey and Blanchard's (1969, 1972) Life Cycle Theory relates a variety of these theories to follower maturity levels and corresponding appropriate leadership styles. According to Bass (1981) "Hersey and Blanchard's (1969, 1972) Life Cycle Theory of Leadership is a theory of leadership effectiveness synthesizing Blake and Mouton's (1964) managerial grid
postulations, Reddin's (1977) 3-D Effectiveness typology, and Argyris' (1964) Maturity-Immaturity theory" (p. 34). Table 1 (below), reproduced with permission of Prentice-Hall, (see Appendix A), summarizes this synthesis and offers a conceptual framework from which to examine nursing leadership.

Table 1
Relationship Between Leadership Styles, Maturity Levels, and Other Organizational Behavior Theory, Concepts and Research.

<table>
<thead>
<tr>
<th>FOLLOWER MATURITY</th>
<th>LEADER STYLE</th>
<th>FOLLOWER MATURITY</th>
<th>LEADER STYLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(M1) Low Maturity</td>
<td>(S1) HT/LR Telling</td>
<td>(M2) Low to Moderate Maturity</td>
<td>“Unable but confident or willing…”</td>
</tr>
<tr>
<td>“Unable and insecure or unwilling…”</td>
<td>“Provide specific instructions and closely supervise…”</td>
<td>Safety/Social hygiene factors</td>
<td>Theory X (attitude)</td>
</tr>
<tr>
<td>Physiological/safety hygiene factors</td>
<td>Theory X (attitude)</td>
<td>Safety/Social hygiene factors</td>
<td>Theory X (attitude)</td>
</tr>
<tr>
<td>Low achievement motivation</td>
<td>Coercive and connection power</td>
<td>Low achievement motivation</td>
<td>System 2/System 3</td>
</tr>
<tr>
<td>Child (destructive) ego state</td>
<td>Type 1 control system</td>
<td>Child (happy)/parent ego state</td>
<td>Connection, reward and legitimate power</td>
</tr>
<tr>
<td>I’m not OK, you’re not OK</td>
<td>Leader control contracting</td>
<td>I’m not OK, you’re OK</td>
<td>Type 2 control by follower/equal control contractor.</td>
</tr>
<tr>
<td>Unacceptable behavior</td>
<td>Direction growth stage</td>
<td>Unacceptable behavior</td>
<td>Coordination growth stage</td>
</tr>
<tr>
<td>Leader “owns the monkey”</td>
<td>Unfreeing, changing (coercion)</td>
<td>Unacceptable behavior</td>
<td>Unfreeing, changing (identification)</td>
</tr>
<tr>
<td></td>
<td>Directive change cycle</td>
<td>both leader and follower</td>
<td>Directive/participative change cycles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“own the monkey”</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOLLOWER MATURITY</th>
<th>LEADER STYLE</th>
<th>FOLLOWER MATURITY</th>
<th>LEADER STYLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(M3) Moderate to High Maturity</td>
<td>(S3) HR/LT Participating</td>
<td>(M4) High Maturity</td>
<td>(S4) LR/LT Delegating</td>
</tr>
<tr>
<td>“Able but insecure or unwilling…”</td>
<td>“Share ideas and facilitate in decision making…”</td>
<td>“Able and confident or willing…”</td>
<td>“Turn over responsibility for decisions and implementation…”</td>
</tr>
<tr>
<td>Social esteem</td>
<td>Theory Y (attitude)</td>
<td>Theory Y (attitude)</td>
<td>System 4</td>
</tr>
<tr>
<td>Hygiene factors and motivators</td>
<td>System 3/System 4</td>
<td>System 3</td>
<td>Information, expert power</td>
</tr>
<tr>
<td>Social/self-actualizing man</td>
<td>legitimate, referent, information power</td>
<td>legitimate, referent, information power</td>
<td>Type 3 control system</td>
</tr>
<tr>
<td>High achievement motivation</td>
<td>Type 2 control system</td>
<td>High achievement motivation</td>
<td>follower control contracting</td>
</tr>
<tr>
<td>Parent and adult ego</td>
<td>Equal control/partial control by leader</td>
<td>Adult ego state</td>
<td>Delegation growth stage</td>
</tr>
<tr>
<td>I’m OK, you’re not OK</td>
<td>contracting</td>
<td>I’m OK, you’re OK</td>
<td>Refreezing</td>
</tr>
<tr>
<td>Acceptable behavior</td>
<td>Collaborative growth stage</td>
<td>Acceptable behavior</td>
<td>Participative change style</td>
</tr>
<tr>
<td>Follower “owns the monkey”</td>
<td>Changing/unfreeing (internalization)</td>
<td>No monkey exists</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participative/direction change cycles</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1-1 Taken from Paul Hersey, Ken Blanchard, MANAGEMENT OF ORGANIZATIONAL BEHAVIOR: Utilizing Human Resources, 4th Ed., ©1982 pages 309-310. Reproduced by permission of Prentice Hall, Englewood, N.J.
Given the conceptual framework provided by this synthesis, this researcher re-issued Pesut's challenge to nursing and hospital leaders. Take these other fields of interest and/or theories and adapt them to hospital situations "to help people understand and share expectations in their environment so that they can gradually learn to supervise their own behavior and become responsible, self-motivated individuals" (Hersey & Blanchard, 1982, p. 312).

Bennis (1984) admonished the human resources profession to begin to pay more attention to quality and less to quantity and, ultimately, money. His theory is that quality stimulates a sense of pride and evokes a force that energizes high performing systems. He identified four themes that effective leaders use to empower the work force. They are: (1) people feel they make a difference to the success of the organization, (2) learning and competence matter and these are gained through growing from our mistakes (not failures), (3) a sense of teamwork, a pulling together for a common vision, and (4) work is "stimulating, challenging, fascinating and fun" (p. 19).

Are these the profiles found in leaders in quality circles programs? Is there a relationship between leadership style and the use of quality circles in nursing?
Job Satisfaction

Job satisfaction in the nursing literature incorporated certain aspects of the above theorists. Berns (1982), in a study of elements of job satisfaction, stated, "Nursing should promote an open climate in the organization: one with high morale, with supportive relations between group members" (p. 32). She further stated, "A group that has a sense of pride is a group that will achieve high job satisfaction" (p. 32). Larson, Lee, Brown & Schorr (1984), "found that job satisfaction scores were significantly predicted by respondents' job expectations and the importance they placed on various components of the work situation" (p. 31).

Duxbury, Armstrong, Drew & Henly (1984), in their research study, supported the premise that "a head nurse can promote the organizational goals of high production emphasis and maintain higher levels of NICU (Neonatal Intensive Care Unit) staff nurse satisfaction and lower levels of NICU staff burnout when the leader also manifests higher scores on consideration" (p. 101).

The 1959 Herzberg, Mausner, and Snyderman critical incident techniques used to interview accountants and engineers in regard to events which significantly improved or reduced job satisfaction was reviewed as it

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
related to this study. Perhaps these critical incidents can be expanded to assist nursing leaders in maintaining contact with the hospital and nursing environment and/or climate to enhance the quality of patient care.

Herzberg's two factor theory differentiates between job satisfaction and job dissatisfaction, wherein the intrinsic factors are the main source of satisfaction and motivation, while the extrinsic factors seem to be the primary source of dissatisfaction (Sergiovanni & Starrett 1979, pp. 165-169).

Whether one chooses to view satisfaction and dissatisfaction on the bipolar continuum or Herzberg's non-conventional two continua model, attitudes must still be identified and measured, and there exist several instruments designed for the empirical study of job satisfaction.

The Job Descriptive Index (JDI) by Smith et al., (1969), has identified five components of overall satisfaction (i.e., pay, promotion, work, supervision, and co-workers);... (Gillo, 1982, p. 26).

Based on quality circle research and this literature review the JDI seems to be the most appropriate instrument to relate the job satisfaction variables conceptually.

Major questions raised in the literature review centered around the implication that quality circles enhance job satisfaction which, in turn, had a positive impact on the quality of patient care delivered. Does this imply a positive relationship between the use of...
quality circles on nursing units, job satisfaction and the quality of patient care given by staff nurses?

Quality Patient Care

Donabedian (1966) developed three classical approaches to patient care evaluation. They included structure, process and outcome (p. 143). However, according to Abdellah, Beland, Martin, & Matheney (1973), "Criterion measures of patient care and precise instrumentation to measure the effect of nursing practice on patient care are the major gaps in nursing research" (p. 26). Much of the literature revealed that instruments used to measure patient care are difficult to generalize to other patient populations. The Quality of Care "Probe" questionnaire (Funkhouser, 1976) and two sequential articles (Funkhouser, 1976 & 1977), which analyzed the data, stimulated interest in the nurses' perception of quality patient care.

The major emphasis on the measurement of quality patient care involved physical and psychological care, rehabilitation measures, discharge planning, patient education and patient dignity. One of the most important questions raised was whether or not the nurse would be a patient in his/her own hospital. These concepts provided the variables used in the quality of care portion of the survey instrument used in this study. Majesky, Brester,
and Nishio (1978) also provided part of the rationale for using staff nurse perceptions of quality patient care when they stated, "Although since the early 1950's investigators have sought to identify valid and reliable criteria to appraise quality of nursing care, empiric assessment of quality of care has been difficult for practitioners and administrators in nursing" (p. 365). Funkhouser (1977) further solidified this researcher's decision to use these perceptions by stating, "When nurses talk about the health care being delivered today, they're not theorizing from behind a desk in an office somewhere. They're speaking from the perspective of on-the-floor delivery" (p. 27).

Hatfield (1982) stated that, as a result of quality circles, "The number of patient complaints over the past two months have declined" (p. 40). Yager (1980) also applauded quality circles when he stated that the most important result of this effort was to involve workers so that they are more committed to quality and see a direct relationship between their work and the ultimate quality of the product (p. 684).

The review of literature presents a strong argument for the use of quality circles to improve the quality of patient care on nursing units. The implication that quality circles are effective means of improving patient care through staff involvement also implies involvement
Cost Containment

Innovative approaches to in-patient care, efficient utilization of staff, and strategic planning to increase the revenue base and enhance the image of nursing in the community is critical if nursing is to meet the challenges in today's health care industry. Contemporary nursing leaders must look at and beyond their own departments. They need to be a part of an administrative team that deals with all aspects affecting the organization. They also need to involve their staff in aspects affecting departmental functioning.

According to the literature, quality circles have been an effective method of involving staff nurses in the daily operations of nursing departments. However, the issue of cost containment is a major component of today's nursing leadership concern. Many staff nurses are not involved in the critical budget decisions but can deal with money saving ideas and issues within the quality circles framework.

Thus, "Budget information and education about what it means to be within budget limits are important elements in increasing staff awareness of cost effectiveness and productivity" (Gil & Sumner 1984, p. 35). These innovative approaches to staff involvement in all
aspects of their department promote growth and development and lead to involvement in cost containment activities. However, the cost of initiating quality circle programs can be prohibitive for some hospitals without the luxury of time to wait for the return on the investment.

The original cost of quality circle programs is thought to reap a return of anywhere from two to eight times the cost, depending on whom you cite. These costs include consultant fees, instructional materials, training time for facilitators and circle leaders, as well as initial orientation and selling the program to the employees. Cost savings have been quoted as high as "$200,000 in just one year" (Simler, 1982, p. 64).

According to Haggard (1983), "Among the more than 300 American firms which have instituted Quality Circles, the cost savings from improved productivity and quality of services have been impressive. Lockheed, Ford, General Motors, General Electric, Westinghouse, and other companies report savings of $2 to $10 for every dollar invested in a Quality Circle program" (p. 32).

Simler, a Washington editor discussed the savings of about $200,000 in just one year at Mount Sinai Medical Center of Greater Miami (FL) (Simler, 1982, p. 64). A chart on the same page substantiated the figures and
delineated the areas in which circles were functioning, the project involved, and the cost, savings, and net savings.

Rusti Moore (1982), the QCC director at Barnes Hospital, answered one of the most often asked questions in the health care industry: "What is the bottom-line dollar figure?" Her response was: "For every dollar you put in, you get two dollars back. That's a low estimate. Some industries say it's closer to eight to one." She went on to caution, "Do not just look for short-term bottom-line results, however. Circles are a long-range management plan. You should look for the long-term benefits to patient care--employee satisfaction and quality" (p. 44).

This bottom-line dollar, the demand for quality, and limited resources plague much of today's health care industry. As Dutkewych & Knuerr (1983) commented on quality circles at Detroit's Henry Ford Hospital,

Limited resources are a fact of life that most of us in health care live with every day. And because demand for the latest and best in health care services is growing stronger, it is not surprising that hospitals have increasingly explored ways to improve productivity and quality of services (p. 31).

The most conclusive documentation of cost effectiveness of the circles was presented in a special report prepared by Greg Johnson and Michael Everett (1983), senior associates of Avatar International, Inc., a
consulting firm specializing in health care. They state:

More than 60 U.S. hospitals now have active Quality Circles, and their success in cost-containment and other areas represents an exciting new development. Of those hospitals surveyed which listed cost-containment as a specific goal of their program, fully two thirds reported either a positive or a very positive result. Moreover, program success is not limited to hospitals of any fixed size or geographic region. The survey documents positive results in both urban and rural areas, and in hospitals ranging from fewer than 250 beds to more than 1,000. (p. 3)

The final paragraph in the Johnson and Everett (1983) report provided further impetus and enthusiasm for initiating this study. They stated:

Despite this evidence, the research report cautions that Quality Circles should not be regarded as a panacea; nor should a hospital administrator expect optimum success if cost containment is its sole objective. A flexible management attitude, along with a genuine interest in improving the quality of work life at all levels, is crucial to success. If a hospital makes a thoughtful and informed decision in favor of Quality Circles, however, the new research indicates that the chances for substantial savings are excellent. With 100 percent of the surveyed hospitals responding that they would 'highly recommend' Quality Circles to other hospitals, it appears that the potential growth of these programs may be virtually unlimited. (p. 4)

It was this potential for growth along with the consistent inclusion of participatory leadership styles, job satisfaction, quality of patient care and cost containment references that solidified the decision to study all four variables (leadership, job satisfaction, the quality of patient care and cost containment) and
their relationship to the presence or absence of quality circle programs in selected hospitals.

Summary

This review of literature presented a strong positive stance for the use of quality circles in nursing units. The same four variables, leadership, increased job satisfaction, the quality of patient care, and cost containment consistently surfaced in relation to the use of quality circles. The major question raised in all of this was whether the presence or absence of quality circles was the major difference in staff nurse perceptions of the four variables. Because the four variables selected (leadership, job satisfaction, the quality of patient care and cost containment) were so closely aligned in much of the literature, the major question became whether or not there was a relationship between the use of quality circles and leadership, job satisfaction, the quality of patient care and cost containment issues.

In the literature review process, leadership was identified as critical to the success or failure of quality circle programs. Predictors of success seemed to center around the "Initiating Structure and Consideration" dimensions identified in the Ohio State Studies (Stogdill, et al., 1956). Many of these same
behaviors surfaced in Hersey and Blanchard's (1982) *Management of Organizational Behavior Utilizing Human Resources*. Participatory leadership concepts continually surfaced in the literature review, leading to the first conceptual hypothesis as stated below.

1. Participatory leadership is more prevalent in nursing units using quality circles than in those not using them.

Items identified in the majority of the literature as critical components of job satisfaction became the concepts used to develop this portion of the study. These concepts were related to feelings about and motivation within their job, behaviors of the manager which affected their job and working relationships among co-workers. The literature indicated that the use of quality circles enhanced the satisfaction experienced in units using quality circles. Thus, the second conceptual hypothesis was related to enhanced job satisfaction and was stated as follows.

2. Job satisfaction in nursing units using quality circles is greater than in those not using them.

The concepts which were most consistently noted and subsequently developed for the quality patient care variable in the study included physical and psychological care of the patient and family, rehabilitation measures, discharge planning, patient and family education,
maintenance of patient dignity, and whether or not the nurses would be patients in their own hospitals. The literature review implied the following third conceptual hypothesis.

3. The quality of patient care in units using quality circles is rated superior to the care in those units not using them.

The final concept, cost containment involvement was stimulated by the Campbell and Hatfield (1982) statement, "Reduce costs, develop cost effective programs internally with available resources and increase revenue" (p. 48). Concepts identified with cost containment included use of group ideas for savings on specific units, financial incentives and benefit packages available to staff nurses. Thus, the inclusion of the final hypothesis:

4. There is more staff involvement in cost containment measures in nursing units using quality circles than in those not using them.

The original study objectives and these four hypotheses provided the framework from which to develop the design and method.
CHAPTER III

DESIGN AND METHOD

The effectiveness of quality circles in nursing was illustrated throughout the literature review. The stated hypotheses along with the leadership "profile," job satisfaction components, the quality of nursing care concepts, and cost containment items identified in the summary of the literature review chapter are reviewed in this chapter as they were ultimately used to develop the design and method for this study.

This chapter contains twelve sections addressing implementation of the study. These sections are: (1) The population, (2) sampling, (3) data collection, (4) the instrument, (5) Leader Behavior Description Questionnaire, (6) Job Description Index, (7) Quality Patient Care Questionnaire, (8) Surveys of Employer Health Care Cost Containment Activities, (9) the pilot study, (10) reliability, (11) validity, and (12) data analysis.

Population

Participants in this study consisted of staff nurses on all three shifts from two hospitals with units using
the quality circles as well as units not using quality circles. Staff nurses only were selected for participation in the survey. The original projected population was to have been from 200 to 500 staff nurses from four midwest hospitals using quality circles and four not using them. However, due to problems encountered with midwest hospitals no longer using quality circles, the final population was limited to a total of 126 of the possible 295 staff nurses in the hospitals surveyed.

The problems encountered during the data collection phase are further clarified and discussed in Chapter IV.

Sampling

Participants were selected from the convenience sample of staff nurses available on Monday through Saturday. A total of 126 of the possible 295 staff nurses in these two hospitals completed the survey. Participants from all three shifts (days, evenings and nights) were selected from those staff nurses available on the variety of days this researcher was in the hospital. Monday, Wednesday and Saturday were the days chosen in order to allow for the most representative participation. Times selected provided representation for all three shifts on each of these days. Data collection hours were 7-8 a.m. for night shift nurses.
coming off duty, 3-4 p.m. for day shift nurses and 11 p.m.-12 a.m. for evening shift nurses.

Nursing administrative personnel assisted with the scheduling of meetings with staff nurses to enhance the potential for equal representation from quality circle and non-quality circle units. This also provided an opportunity for participation by a larger variety of nurses as the times and days were scheduled according to specific staffing patterns which were representative of all full time nurses scheduling. Although this is considered to be a representative sample of the staff nurses in the two hospitals, the response rate was lower than expected. The response rate ended up being 43% (126 of 295) of the available staff nurses. As participation was voluntary and schedules were arranged through administrative personnel, the researcher was unable to solicit further responses.

The explanation and completion of the instrument took about twenty minutes. The personalized approach to data collection eliminated the problems usually associated with mail surveys. Surveys were completed on-site and any questions regarding the survey were answered immediately.

Data Collection

Participants completed the 52 item questionnaire.
Of the 52 items, 12 each addressed the 4 major variables of leadership, job satisfaction, quality of patient care, and cost containment. The remaining 4 items included: the participation or non-participation in quality circles, the age of the respondent, the educational level of the respondent, and, the number of years the respondent had been employed at the hospital. These last three items were selected as potential variables for future study as they may add new knowledge to further study even though they were not alluded to in the literature review. It should be noted, however, that these three variables are not a part of this original investigation.

The Instrument

Several instruments were identified in the literature and examined for relevance to the stated hypotheses and items applicable to the variables included for the this study. An original instrument, Nursing Service Survey (Appendix B) was developed to correlate leadership style, job satisfaction, quality patient care, and cost containment in hospitals with and without quality circles programs.

The Nursing Service Survey contained 52 items. Each of the 12 items (statements) relevant to the four dependent variables, leadership, job satisfaction, the quality
of patient care, and cost containment involvement, were
alternately distributed throughout the survey with
responses to be circled on a Likert scale.

Items describing the four dependent variables were
alternated throughout the survey. The alternate
distribution of items avoided concentration on simply the
leadership variable while addressing the other variables
throughout the survey. The total of 48 items describing
the four dependent variables were measured on a Likert
Scale from 1 through 5, with 1 being strongly agree and 5
being strongly disagree with each of the items (state-
ments describing the variable). This rating scale al-
lowed the staff nurse to strongly agree, agree, remain
neutral, disagree or strongly disagree with each of the
12 items representing all the variables.

Given that all items were stated in the positive form
a score of 1 or 2 for each participant indicated agree-
ment and 4 or 5 indicated disagreement with 3 being the
neutral response to the item.

Items for inclusion in the statements describing each
of the variables were adapted from three previously
researched instruments and from concepts identified in
the literature review. These items are operationalized
and further discussed as they relate to the conceptual
hypotheses.
Leader Behavior Description Questionnaire

Several forms of the Leader Behavior Description Questionnaire (LBDQ) (Stogdill et al., 1956) were reviewed for samples of items to be included in the survey to examine the hypothesis that there is a difference between staff nurse perceptions of leadership in units using quality circles and those not using them.

The LBOQ and subsequent forms, developed by researchers at Ohio State University, provided a technique for the description of leader behaviors in formal organizations (Stogdill et al., 1956). Two fundamental dimensions of leader behavior, initiating structure and consideration were identified in early studies done at Ohio State University.

Initiation and consideration factors originally identified as leader behaviors in the LBOQ were adapted from the various forms for inclusion in this survey based on those most frequently mentioned in the literature review. Survey items relating to leadership behavior most consistently identified as those of participatory leadership include:

- # 2 top level awareness of problems;
- # 8 friendly and approachable;
- # 12 willing to make changes;

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
# 16 makes attitudes clear;
# 20 keeps staff informed;
# 24 finds time to listen;
# 28 looks out for department welfare;
# 32 maintains definite performance standards;
# 36 treats staff as equals;
# 40 gives advance notice of change;
# 44 encourages participation in decision making;
# 48 backs the actions of staff.

Job Descriptive Index

The Job Descriptive Index (JDI) (Smith, Kendall, and Hulun, 1969) was chosen to select statements for the job satisfaction section. Smith, et al., (1969) defined job satisfaction as "feelings or affective responses to facets of the situation" (p. 6). This definition led to the inclusion of the following items to examine the hypothesis that job satisfaction in nursing units using quality circles is greater than in those not using them.

# 3 satisfied with present job;
# 5 cooperation from co-workers;
# 9 creativity allowed;
# 14 feeling of service to others;
# 18 enjoys work;
# 22 expertise respected;
# 26 receives praise;
These items were identified in the literature review as those feelings and/or situations that most frequently led to the feeling of job satisfaction. They included items reflecting managerial stimulation, self-motivating items and cooperation from coworkers.

Quality Patient Care Questionnaire

Statements for the quality care section were adapted from "Quality of Care: A Nursing 76 Research Questionnaire" (Funkhouser, 1976) originally published in the May issue of Nursing 76. The following items were included in this survey to examine the hypothesis that staff nurses rate the quality of patient care higher in units using quality circles than in those not using them.

# 1 physical assessment done on admission;
# 6 highest quality of care in area;
# 10 routine physical assessments completed;
# 13 excellent physical care delivered;
# 17 excellent psychological care given;
# 21 would be a patient in own hospital;
# 25 patient education programs;
# 29 rehabilitation part of patient care plan;
# 33 discharge planning initiated on admission;
# 37 patient care conferences held;
# 41 written care plans on all patients; and,
# 45 patient dignity maintained.

These items reflect actual patient care items, care planning items and patient education items. These are consistent with concepts identified in the literature as indicative of the quality of patient care administered.

Surveys of Employer Health Care Cost Containment Activities

Cost containment items were selected from Surveys of Employer Health Care Cost Containment Activities done by the American Medical Association (1985) and The Equitable Healthcare Survey III: Corporate Initiatives & Employee Attitudes on Cost Containment (1985) conducted for The Equitable Life Assurance Society of the United States. A Mercer-Meidinger survey, (1985) Employer Attitudes Toward the Cost of Health was also used along with other concepts identified in the literature review. Administrative considerations for cost containment explored in the Mercer-Meidinger survey included employee participation in benefit options, types of insurance available, financial incentives offered, second opinions.
for health care, and group suggestions for cost containment. The following items selected for inclusion in the survey are based on these issues and relate to hypothesis that there is more staff nurse involvement in nursing units using quality circles than in those not using them.

# 4 employees pay portion of insurance premium;
# 7 health promotion/wellness program for staff;
# 11 second opinions required for treatment;
# 15 employees offered a choice of benefit options;
# 19 HMO's available for employees;
# 23 PPO's available;
# 27 employees pay a deductible;
# 31 awareness programs throughout hospital;
# 35 group ideas for cost containment adopted;
# 39 committees make suggestions;
# 43 financial incentives offered; and,
# 47 quality maintained with cost reductions.

A background section contained the final four items. The first item was used to determine participation or non-participation in quality circle programs. The other three items, though not addressed in the literature review, were selected as potential variables for further study as they may add new knowledge. They were: age and educational level of the respondent and number of years employed at the hospital. However, it should be
noted that these last three variables were not a part of this original investigation.

Pilot Study

The pilot study was conducted in an Indiana hospital which had nursing units using quality circles and other units not using them. The hospital has a bed capacity of 689 and normally runs at 70-80% capacity. Full time nursing staff averages between 160 and 190 depending on percent of bed capacity filled.

Data were collected on a convenience sample of 60 staff members from the nursing department. The convenience sample consisted of 30 staff members from the first shift, 20 from the second shift and 10 from the third shift who were available or on duty during the three days and variety of times this researcher was scheduled to be in the hospital for explanation and distribution of the survey. The days and times were arranged with the Division Director, Administrative Nursing, to provide the potential for participation by as many staff members as possible. The ratio of staff participation per shift was indicative of the normal registered nurse staffing for the pilot hospital. There were more RN's on the day shift, fewer on afternoons and even fewer on nights.

The pilot study was used to test the reliability and
validity of the instrument prior to use in the final study. The results are delineated under the next two sections of this chapter.

Reliability

The instrument was constructed by this investigator with items selected from other instruments and related items discussed in the review of literature. Given that the instrument was constructed specifically for this study it was necessary to examine the reliability and validity.

A split-half reliability study, corrected using the Spearman-Brown formula, was done on each of the four sections and all items to calculate major section and whole test reliability. The reliability analysis on all 12 items of each dependent variables is depicted in Table 2.

Table 2
Test Reliability

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>Split-half</th>
<th>Spearman-Brown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>.91</td>
<td>.95</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>.72</td>
<td>.84</td>
</tr>
<tr>
<td>Quality Patient Care</td>
<td>.48</td>
<td>.65</td>
</tr>
<tr>
<td>Cost Containment</td>
<td>.45</td>
<td>.62</td>
</tr>
<tr>
<td>All Items</td>
<td>.85</td>
<td>.92</td>
</tr>
</tbody>
</table>
To further explore reliability, Cronbach's alpha was derived from a correlation matrix for each of the variables. Each of the 12 items representing the major variable was correlated with each of the remaining items and the alpha derived from Cronbach's formula using SPSS-X (Norusis, 1987). Table 3 illustrates Cronbach's alpha for the pilot study variables with quality circles, non-quality circles, and the combination of both.

Table 3
Pilot Study
Cronbach's Alpha

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>QC's n=30</th>
<th>NOC's n=30</th>
<th>ALL n=60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>.95</td>
<td>.96</td>
<td>.95</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>.85</td>
<td>.83</td>
<td>.85</td>
</tr>
<tr>
<td>Quality Patient Care</td>
<td>.77</td>
<td>.80</td>
<td>.81</td>
</tr>
<tr>
<td>Cost-Containment</td>
<td>.62</td>
<td>.57</td>
<td>.60</td>
</tr>
</tbody>
</table>

Hinshaw and Atwood (1982) indicated an acceptable alpha for a new scale is 0.70 or above and for a mature scale it is 0.80 or above (p. 172). Alpha varies between 0.00 and 1.00 and usually provides a conservative estimate of the reliability of a test. Test reliability is rarely lower than the alpha.

Table 3 demonstrates a degree of internal consistency.
for the first three variables and a moderate to low degree for the cost containment variable.

Both the split-half (corrected with the Spearman-Brown) and Cronbach's alpha demonstrated a high reliability coefficient for the overall instrument which was then used for data collection.

Validity

"Content validity is the representativeness or sampling adequacy of the content—the substance, the matter, the topics—of a measuring instrument" (Kerlinger, 1973, p. 458). Content validity, even though items chosen were based on the investigator's selection of questions from other proven instruments and literature review concepts, was still judgmental and required input (judgments) by other experts and professionals. Nursing faculty members, nursing service directors and other researchers reviewed the items for content validity. Items describing each of the variables were considered important based on the literature review and input from other colleagues, thus they were left in the survey following completion of the pilot study.

Data Analysis

The independent variable, quality circles, consisted of two categories which were treated as nominal data.
The measures on the dependent variables, leadership, job satisfaction, quality patient care, and cost containment involvement, were treated as interval data. The scaled scores were: 1 = strongly agree (SA) with the statement; 2 = agree (A), but not as strong; 3 = neither agree or disagree (N) with the statement; 4 = disagree (D) with the statement; and, 5 = strongly disagree (SD).

Scores ranging from 1 to 5 were possible for each item describing the dependent variables. A total range between 12 and 60 was a possible score for each variable. Mean and standard deviations are reported for individual items and the total 12 item variable in Chapter IV.

A computer-based record for each participant was developed in a "Stat Soft" statistical package for ANSI.SYS which was then converted to a standard ASCII-Code for use with the Ferris State University, Big Rapids mainframe for data generation from the SPSS-X System. Following data entry, accuracy was verified by comparison of the original instruments with print-outs from the Stat Soft and SPSS-X Systems. The only corrections necessary in the print-outs, when compared with the original instruments, involved incorrect data entry from the originals. The SPSS-X system was used for data analysis procedures because of its increased capacity for handling more variables.
A t-test for independent means was used to test each of the hypotheses. In addition, the quality of patient care variable was compared with the Funkhouser (1976) study found in the literature review.

An inter-item correlation was used to demonstrate a categorical comparison between willingness to be a patient in one's own institution and items reflecting the quality of patient care used in the 1976 Funkhouser study. The Funkhouser study used physical care, psychological care, rehabilitation, patient education, and discharge planning for an inter-item correlation with willingness to be a patient in one's own hospital. These items represent item numbers 13, 17, 29, 25, 33 and 21 respectively in the instrument used in this study.

The Mercer-Meidinger survey (1985) discussed many items included in this study under the cost containment variable. This led to a comparison of the cost effectiveness discussed in the Mercer-Meidinger survey and the responses to these same items in this study.
CHAPTER IV

FINDINGS

The study was designed to determine whether or not a relationship existed between quality circles and nurses' perception of leadership, job satisfaction, the quality of patient care given, and their involvement in cost containment activities. Each hypothesis is examined according to the methods and procedures presented in the previous chapter.

This chapter delineates the findings of the study based on the hypotheses, data collection, data analysis, and other studies identified in the literature review. Discussion under separate variable headings (sections) along with tables and comparisons with studies found in the literature review are used to clarify and support the findings.

Problems encountered during data collection as discussed in Chapter III are included as the final section of this chapter. It was discovered that quality circle programs had been discontinued in those hospitals most frequently cited in the literature. This presented a dilemma and necessitated some changes in the original design of the study which are clarified and expanded in
Leadership Hypothesis

The hypothesis that participatory leadership is more prevalent in nursing units using quality circles than in those not using them was investigated using the items identified in Chapter III and a 12 item total mean. For these twelve items of the leadership variable, the quality circle (QC) involvement group mean (2.02) was lower than that of the non-quality circle (NQC) group mean (3.03) (see Table 4). The rating scale as discussed in Chapter III was developed so that the lower numbers corresponded with agreement with the items. All items operationalizing the variable were positive behaviors expected of a participatory style leader. Thus, the lower numbers associated with the mean of the leadership variable indicated that the perceptions of participatory behaviors in their leaders by those involved in quality circles tended to be greater than those not involved in quality circles.
TABLE 4

Leadership Variable Means and Standard Deviation

<table>
<thead>
<tr>
<th>Variable Items</th>
<th>QC (n=62)</th>
<th>NQC (n=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>Description</td>
<td>Mean 1</td>
</tr>
<tr>
<td>Q 2</td>
<td>top level awareness</td>
<td>2.35</td>
</tr>
<tr>
<td>Q 8</td>
<td>friendly</td>
<td>1.76</td>
</tr>
<tr>
<td>Q12</td>
<td>makes changes if nec</td>
<td>1.95</td>
</tr>
<tr>
<td>Q16</td>
<td>makes attitudes clear</td>
<td>2.13</td>
</tr>
<tr>
<td>Q20</td>
<td>keeps staff informed</td>
<td>1.90</td>
</tr>
<tr>
<td>Q24</td>
<td>listens to staff</td>
<td>1.95</td>
</tr>
<tr>
<td>Q28</td>
<td>dept welfare concern</td>
<td>1.76</td>
</tr>
<tr>
<td>Q32</td>
<td>performance standards</td>
<td>1.79</td>
</tr>
<tr>
<td>Q36</td>
<td>treats staff as equal</td>
<td>2.37</td>
</tr>
<tr>
<td>Q40</td>
<td>adv notice for change</td>
<td>2.15</td>
</tr>
<tr>
<td>Q44</td>
<td>participatory management</td>
<td>2.06</td>
</tr>
<tr>
<td>Q48</td>
<td>backs staff actions</td>
<td>2.00</td>
</tr>
</tbody>
</table>

12 item total for Leadership variable: 2.02 | .73 | 3.03 | .98

A t-test for independent means (Table 5) was done to
compare staff nurse perceptions of leadership in units using quality circles and those not using them.

Table 5

Comparison of Staff Nurse Perceptions of Leadership in Units Using Quality Circles and Those not Using Them

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>MEAN</th>
<th>SD</th>
<th>T-VAL</th>
<th>DF</th>
<th>PROB</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC INV</td>
<td>62</td>
<td>2.02</td>
<td>.73</td>
<td>-6.59</td>
<td>124</td>
<td>0.00</td>
</tr>
<tr>
<td>NQC INV</td>
<td>64</td>
<td>3.03</td>
<td>.98</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant at p<.05

The t-test findings (t=-6.59, 124 df) were significant at the .05 alpha level as the critical value for a one-tailed test at the .05 level is -1.64. This supported the hypothesis that nurses' perceptions of leadership in units using quality circles was more participatory in nature than in those not using them.

Job Satisfaction Hypothesis

Participatory leadership appeared to be more prevalent in units using quality circles, but does the same hold true for job satisfaction? The conceptual hypothesis stated that job satisfaction was greater in units using quality circles than in those not using them. Those items identified in Chapter III from Smith,
Kendall, and Hulun's (1969) Job Descriptive Index were used to investigate this hypothesis. Table 6 identifies the items and means for individual items and the 12 item total.

Table 6
Job Satisfaction Variable Means and Standard Deviation

<table>
<thead>
<tr>
<th>Variable Items</th>
<th>QC (n=62)</th>
<th>NQC (n=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean 1</td>
<td>S.D.</td>
</tr>
<tr>
<td>Q 3 satisfied with job</td>
<td>1.92</td>
<td>.64</td>
</tr>
<tr>
<td>Q 5 co-worker help</td>
<td>1.66</td>
<td>.68</td>
</tr>
<tr>
<td>Q 9 creativity allowed</td>
<td>2.13</td>
<td>.98</td>
</tr>
<tr>
<td>Q14 feeling of service</td>
<td>1.48</td>
<td>.57</td>
</tr>
<tr>
<td>Q18 enjoys work</td>
<td>1.66</td>
<td>.75</td>
</tr>
<tr>
<td>Q22 expertise respected</td>
<td>2.29</td>
<td>.91</td>
</tr>
<tr>
<td>Q26 receives praise</td>
<td>2.24</td>
<td>1.08</td>
</tr>
<tr>
<td>Q30 accomplishment</td>
<td>1.60</td>
<td>.68</td>
</tr>
<tr>
<td>Q34 promotion potential</td>
<td>2.79</td>
<td>1.18</td>
</tr>
<tr>
<td>Q38 tactful supervisor</td>
<td>2.24</td>
<td>1.04</td>
</tr>
<tr>
<td>Q42 comparable salary</td>
<td>2.05</td>
<td>.98</td>
</tr>
<tr>
<td>Q46 good benefits</td>
<td>2.23</td>
<td>.97</td>
</tr>
<tr>
<td>12 item total</td>
<td>2.02</td>
<td>.55</td>
</tr>
</tbody>
</table>
The individual item means were higher in the NQC group than in the QC group as were the 12 item totals (QC = 2.02 and NQC = 2.42). The implication here is that those involved in quality circle activities are more satisfied with their jobs than those with no involvement in quality circles.

A t-test for independent means (Table 7) was done for comparison of staff nurse perceptions of satisfaction with their jobs in units using quality circles and those not using them.

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>MEAN</th>
<th>SD</th>
<th>T-VAL</th>
<th>DF</th>
<th>PROB</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC</td>
<td>62</td>
<td>2.02</td>
<td>.55</td>
<td>-3.72</td>
<td>124</td>
<td>0.00</td>
</tr>
<tr>
<td>NQC</td>
<td>64</td>
<td>2.42</td>
<td>.63</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant at p < .05

The t-test results (t = -3.72, 124 df) were significant at the .05 alpha level which supported the hypothesis that job satisfaction was greater in those units using quality circles than in those not using them.

Quality Patient Care Hypothesis

The quality of patient care has been difficult to
appraise over the years. Patient outcomes, patient indicators of nursing care and other instruments have been developed but not refined. According to Abdellah, Beland, Martin and Matheney (1973), "Criterion measures of patient care and precise instrumentation to measure the effect of nursing practice on patient care are the major gaps in nursing research" (p. 26). However, the Quality of Care Probe done by Funkhouser (1976) for Nursing 76 made some interesting correlations with some of the same items selected in this study to test the hypothesis that the quality of patient care is perceived as better in nursing units using quality circles than in those not using them.

Along with the t-test for independent means used to test the first two hypothesis an inter-item correlation was done on the same items used in the Funkhouser (1976) study. Table 8 describes the mean for each of the individual items and the 12 item variable total. Table 9 is the t-test for independent means done to compare quality circle and non quality circle involvement. Table 10 is the inter-item correlation of items in this study as they compared with those identified in the Funkhouser (1976) article (p. 26).
Table 8
Quality of Patient Care Variable
Means and Standard Deviation

<table>
<thead>
<tr>
<th>Variable Items</th>
<th>QC (n=62)</th>
<th>NQC (n=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean 1</td>
<td>S.D.</td>
</tr>
<tr>
<td>Q 1 physical assessment (adm)</td>
<td>2.08</td>
<td>1.28</td>
</tr>
<tr>
<td>Q 6 highest quality care</td>
<td>1.37</td>
<td>.73</td>
</tr>
<tr>
<td>Q10 physical assessment (d)</td>
<td>1.53</td>
<td>.82</td>
</tr>
<tr>
<td>Q13 physical care</td>
<td>1.77</td>
<td>.78</td>
</tr>
<tr>
<td>Q17 psychological care</td>
<td>2.06</td>
<td>.81</td>
</tr>
<tr>
<td>Q21 would be patient</td>
<td>1.19</td>
<td>.44</td>
</tr>
<tr>
<td>Q25 patient education</td>
<td>1.55</td>
<td>.72</td>
</tr>
<tr>
<td>Q29 rehabilitation</td>
<td>1.61</td>
<td>.66</td>
</tr>
<tr>
<td>Q33 discharge planning</td>
<td>1.55</td>
<td>.76</td>
</tr>
<tr>
<td>Q37 pt. care conferences</td>
<td>2.45</td>
<td>1.30</td>
</tr>
<tr>
<td>Q41 written care plans</td>
<td>1.56</td>
<td>.93</td>
</tr>
<tr>
<td>Q45 patient dignity</td>
<td>1.50</td>
<td>.50</td>
</tr>
<tr>
<td>12 item total</td>
<td>1.68</td>
<td>.39</td>
</tr>
</tbody>
</table>

As was true with the first two hypotheses, the individual item and 12 item total group means (QC = 1.68 and NQC = 2.17) were higher for the quality circle.
involvement group. The t-test for independent means (Table 9) also demonstrates a difference in the QC and NQC group.

Table 9

Comparison of Staff Nurse Perceptions of the Quality of Patient Care Delivered in Their Units

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>MEAN</th>
<th>SD</th>
<th>T-VAL</th>
<th>DF</th>
<th>PROB</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC</td>
<td>62</td>
<td>1.69</td>
<td>.39</td>
<td>-6.01</td>
<td>124</td>
<td>0.00</td>
</tr>
<tr>
<td>NQC</td>
<td>64</td>
<td>2.17</td>
<td>.50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant at p < .05

The t-test for independent means \( t = -6.01, 124 \text{ df} \) supported the hypothesis that staff nurses perceive the quality of care to be better in units using quality circles than in those not using them. However, the acid test for rating the quality of patient care is the willingness to be a patient in one's own unit. Funkhouser (1976) correlated willingness to be a patient where one works with physical care, psychological support for patients, rehabilitation, patient education and discharge planning (p. 26). An inter-item correlation of these items from the questionnaire used in this study was compared with those in the Funkhouser (1976) study in Table 10.
TABLE 10

Comparison Between Willingness to be a Patient in One's Own Institution and Items Reflecting the Quality of Patient Care

<table>
<thead>
<tr>
<th>Item &amp; descpt</th>
<th>Q21 Willingness to be a patient</th>
<th>Funkhouser Study</th>
<th>QC Inv.</th>
<th>NOC Inv.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q13 Physical Care</td>
<td>.39</td>
<td>.28</td>
<td>.31</td>
<td></td>
</tr>
<tr>
<td>Q17 Psychological Care</td>
<td>.31</td>
<td>.29</td>
<td>.30</td>
<td></td>
</tr>
<tr>
<td>Q29 Rehabilitation</td>
<td>.30</td>
<td>.38</td>
<td>.32</td>
<td></td>
</tr>
<tr>
<td>Q25 Patient Education</td>
<td>.29</td>
<td>.18</td>
<td>.39</td>
<td></td>
</tr>
<tr>
<td>Q33 Discharge Planning</td>
<td>.24</td>
<td>.32</td>
<td>.40</td>
<td></td>
</tr>
</tbody>
</table>

The inter-item correlation in this study compared reasonably well with those in the Funkhouser (1976) study. However, the relative strengths (correlations) of the responses in both studies were low. Those in non-quality circle units demonstrated a low correlation to the willingness to be a patient in their own hospital with a range of .30 to .40 in this investigators' study. The quality circle involvement group correlation was even lower (.18 to .38) while the range for the Funkhouser study was .24 to .29. In essence there is little difference, but the non-quality circle group had a slightly higher correlation to willingness to be a patient in their own hospital than did those involved in
quality circles. Funkhouser (1976) stated in his article that "willingness to be a patient where one works varies from one specialty to another..." and "nurses working in larger hospitals and nurses specializing in administration, emergency and OB/GYN, are more inclined to be patients where they work than are nurses in other settings and specialties" (p. 26). This has some credibility for this study as most of the staff nurses in quality circles were from specialty areas.

However, it leaves the dilemma of whether or not the quality of care is perceived to be better in units using quality circles than in those not using them. The t-test for independent means revealed a difference but the acid test of being a patient in one's own hospital was inconclusive. Thus, this investigator would hesitate to state with any assurance that the hypothesis could be fully supported in this situation even though the t-test for independent means did indicate a difference at the .05 alpha level.

Cost Containment Hypothesis

This hypothesis stated that there is more staff involvement in cost containment measures in nursing units using quality circles than in those not using them. This variable was much more fragmented than the other variables due to the variety of items found in
the literature that related to cost containment issues in today's health care industry. Although the variable was fragmented, it identified a variety of cost containment issues which paralleled administrative considerations for cost containment identified in the Mercer-Meidinger (1985) survey.

The Mercer-Meidinger (1985) survey included employers throughout the United States who are using a wide variety of approaches to manage health care costs (p. 3-12). Excerpts from the Mercer-Meidinger survey were included as they related to cost containment items used for this study.

The Mercer-Meidinger survey reinforced the concept of employee involvement in benefit programs covered in questions 4 (employees pay insurance), 15 (benefits options choice) and 27 (employees pay deductible) in this study. The following quotation identifies the Mercer-Meidinger survey approach to these questions regarding benefit programs.

Offering employees more choice in the design of their benefit program has been cited as an effective way to encourage employee involvement in understanding today's health care delivery process. Such choice allows employees to select the health coverage which best covers their particular health care needs. Employers are incorporating choice into health care plans as a cost management approach in two ways: 32% of the companies offer, or plan to offer, several health benefit price options, and 23% sponsor, or are planning, flexible benefit programs (p. 9).
The mean for the QC group (1.91) and the NQC group (2.09) on these three items demonstrated that leaders in the hospitals studied are beginning to incorporate employee participation in their own health care coverage. Staff nurses from both groups agreed with the items that indicated they have choices in the health care plans available to them.

"Survey findings also demonstrate corporate uncertainty regarding the cost-effectiveness of HMO's and Preferred Provider Organizations." "More than half the responding employers were unsure of how the use of alternative delivery systems was affecting their companies health care costs" (Mercer-Meidinger, 1985, p. 3). Questions 19 and 23 in this investigator's survey asked if HMO's and PPO's respectively were available. The mean of these two items (QC = 1.79 & NQC = 1.74) indicated that both groups had these alternative health care coverage available to them.

The final concept covered in the Mercer-Meidinger survey relating to this investigator's study was that of wellness and health promotion programs. Over 90% of the Chief Executive Officers (CEO's) indicated a belief that health promotion programs could help control costs, but that they are underused as cost-containment approaches by employers (p. 4). Question 7, "This hospital has a health promotion/wellness program for its employees," was
answered by both QC and NQC groups to indicate that these programs are available in the two hospitals surveyed.

The items in this study related to those in the Mercer-Meidinger survey tended to demonstrate little difference between the QC and NQC groups. This same trend carried over for the entire cost containment variable. There appeared to be less difference in the individual item and total item mean scores of the two groups with this variable (Total item means QC = 2.13 & NQC = 2.34) than was noted in the leadership, job-satisfaction and quality patient care variables (see Table 11 on following page).

A t-test for independent means (Table 12) was done to further compare the two groups. The t-test results were significant at the .05 alpha level (t = -2.92, 124 df). This supported the hypothesis that the respondents in the quality circle group tended to feel more involved in cost containment issues than those in the non-quality circle group.
<table>
<thead>
<tr>
<th>Variable Items</th>
<th>QC (n=62)</th>
<th>NQC (n=64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number Item Dscrpt</td>
<td>Mean 1</td>
<td>S.D.</td>
</tr>
<tr>
<td>Q 4 employees pay ins</td>
<td>1.69</td>
<td>.90</td>
</tr>
<tr>
<td>Q 7 education programs</td>
<td>1.74</td>
<td>.81</td>
</tr>
<tr>
<td>Q11 second opinions for tx</td>
<td>2.63</td>
<td>1.22</td>
</tr>
<tr>
<td>Q15 benefit options choice</td>
<td>2.29</td>
<td>1.13</td>
</tr>
<tr>
<td>Q19 HMO's available</td>
<td>1.69</td>
<td>.80</td>
</tr>
<tr>
<td>Q23 PPO's available</td>
<td>1.89</td>
<td>.79</td>
</tr>
<tr>
<td>Q27 deductible employee paid</td>
<td>2.35</td>
<td>1.27</td>
</tr>
<tr>
<td>Q31 program awareness</td>
<td>1.73</td>
<td>.73</td>
</tr>
<tr>
<td>Q35 group ideas adopted</td>
<td>2.08</td>
<td>.89</td>
</tr>
<tr>
<td>Q39 committees make suggest</td>
<td>2.24</td>
<td>.92</td>
</tr>
<tr>
<td>Q43 financial incentives</td>
<td>3.26</td>
<td>.92</td>
</tr>
<tr>
<td>Q47 quality maintained</td>
<td>1.94</td>
<td>.87</td>
</tr>
<tr>
<td>12 item total</td>
<td>2.13</td>
<td>.38</td>
</tr>
</tbody>
</table>
Table 12
Comparison of Staff Nurse Perceptions of Their Involvement in Cost Containment Within Their Units

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>MEAN</th>
<th>SD</th>
<th>T-VAL</th>
<th>DF</th>
<th>PROB</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC</td>
<td>62</td>
<td>2.13</td>
<td>.38</td>
<td>-2.92</td>
<td>124</td>
<td>0.004</td>
</tr>
<tr>
<td>NOC</td>
<td>64</td>
<td>2.34</td>
<td>.45</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant at p<.05

Data in Tables 4 through 12 demonstrated support for the hypotheses that a relationship exists between the four variables, leadership, job satisfaction, the quality of patient care, and cost containment and the use of quality circles in nursing units within selected hospitals. Even though these findings support the hypotheses, they should be interpreted cautiously because of the nature of the sample selection and problems encountered during the data collection process. These problems are discussed in the following section of this chapter.

Problems Encountered

Data collection, analysis and the overall study were jeopardized as data collection proved to be much more difficult than originally anticipated. Following completion of the pilot study and in preparation for further...
data collection, it was discovered that quality circle programs had been discontinued in those hospitals most frequently cited in the literature.

However, given the ever changing climate of today's health care industry, this researcher chose not to abandon the study. This decision necessitated reevaluation of and significant changes in the approach to the study plus answers to three critical questions. The three major questions to be answered then were: (1) What can we learn from the discontinuation of quality circles in hospitals who at one time used them? (2) What can we learn from the data collected from the two hospitals still using quality circles? and, (3) What relationships, if any, were identified?

The remainder of this chapter addresses rationale for continuation of and significant changes in the approach to the study. It also examines question number one in detail and summarizes the data analysis and findings based on the original hypotheses which explored answers to the last two questions.

Rationale for Continuation

The original purpose of this study, as stated above, was expanded to explore the discontinuation of quality circles in hospitals who had previously used them. Campbell (1977) argued that, in view of the
present state of leadership research in general,

it would be advantageous for the field if a much greater emphasis were given simply to defining, describing, and measuring leadership phenomena. We need much more discussion and argument about what we are trying to explain, not whether a particular theory has been supported or not. (p. 234)

Given this context, the study was not abandoned but instead was expanded to explore the rationale for discontinuation of quality circles as a leadership tool.

Sheridan, Vredenburg, and Abelson (1984) argued that:

Leadership influence can be estimated and explained only within the work context in which the leader demonstrated the behavior and that research needs to examine the complete circumstances under which the leader's behavior emerges as an important influence on subordinates. (p. 58)

Leadership, the quality of patient care, job satisfaction, and cost containment continue to be important research concepts in light of federal regulations, the cost of health care and trends in today's health care industry.

Trends in hospital management are leaning toward big business enterprises versus the traditional "patient care" concerns of a few years ago which could revive the quality circle concept if it were found to be cost effective as some of the literature indicated. Because of the strong support for quality circles in the literature it was decided that the study still had sufficient value.
Changes in the Approach to the Study

The search for midwest hospitals still using quality circles was expanded to include hospitals in Indiana, Illinois, Ohio, Michigan and Missouri. There were only two hospitals found still using quality circles. One was the hospital used for the pilot study and the other was of similar size and was subsequently used for data collection.

Along with the change in focus, several key questions were posed to Nursing and Education Department leaders in those hospitals previously using quality circles but no longer doing so. A telephone questionnaire was developed and used to explore rationale for discontinuation, length of time quality circles were used and situational changes that may have impacted the decision. A copy of this questionnaire was included in Appendix B along with the original instrument used for the study. Analysis of the data from the telephone questionnaires consisted of simply sorting, categorizing and reporting the responses.

Telephone Questionnaire Data

"What can we learn from the hospitals that discontinued use of quality circles?" became the question of concern for lending credence to the decision to proceed with the study. The telephone questionnaire was
developed as a guide for interviews. A spokeswoman from Barnes Hospital, St. Louis, one of the most frequently cited hospitals in early quality circle related literature, was extremely helpful in the quest to gather data. She assisted with the identification of hospitals previously using quality circles and suggested reasons why Barnes Hospital had discontinued their use. The questionnaire was developed around these reasons.

A total of eight hospitals in the midwest were surveyed that were known to have used quality circles. The use of quality circles in these hospitals ranged from four to eight months in length.

The telephone survey elicited some interesting responses that are listed in Table 13. Staffing, cost containment and administrative changes were the most frequent responses given for discontinuing quality circles. However, as discussion continued with the respondents, it was discovered that other reasons discussed easily fell under these three major categories. Responses, for purposes of discussion, have been grouped into and are discussed under these three major categories.
Table 13
Ranked Telephone Survey Responses
Rationale for Discontinuation
of Quality Circles

<table>
<thead>
<tr>
<th>RATIONALE</th>
<th>NUMBER OF RESPONSES (n=8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing</td>
<td>6</td>
</tr>
<tr>
<td>Cost containment</td>
<td>5</td>
</tr>
<tr>
<td>Administrative changes</td>
<td>4</td>
</tr>
<tr>
<td>Organizational changes</td>
<td>3</td>
</tr>
<tr>
<td>Economic changes</td>
<td>3</td>
</tr>
<tr>
<td>Size of hospital</td>
<td>2</td>
</tr>
<tr>
<td>Administrative philosophy</td>
<td>2</td>
</tr>
<tr>
<td>Overtime concerns</td>
<td>2</td>
</tr>
<tr>
<td>Legislation</td>
<td>2</td>
</tr>
<tr>
<td>Lack of interested staff</td>
<td>2</td>
</tr>
<tr>
<td>No follow-up by QC group or</td>
<td>2</td>
</tr>
<tr>
<td>Administration</td>
<td></td>
</tr>
</tbody>
</table>

Staffing concerns included an increasing pattern of short staff due to reduced patient count, short hospital stays as a result of legislation (Diagnostic Related Groups), and the inability of hospitals to pay overtime for nurses who were willing to be involved in quality circles. Because of the short staffing there was not time on a "normal" shift for RN staff participation. This, along with the lack of follow-up of group
suggestions or recognition of quality circle ideas, led to the demise of quality circles in at least two of the hospitals surveyed.

Cost containment issues revolved around regional changes in the economy, cost of overtime, the cost of adequate staffing to provide quality care, and competition among hospitals to keep cost down. Three of the respondents clearly identified economic changes as a major cost containment factor. Industries moving from the area and the loss of jobs were identified as issues impacting the patient census and consequently the economic status of the hospital.

Administrative and organizational changes appeared to go hand-in-hand in discussions with the respondents. Four of the eight hospitals had top-level administrative changes within the past year and three others experienced major organizational changes. The changing regulatory and economic climate in the health care industry has produced many of these changes. Chief Executive Officers (CEO's) facing these pressures have explored an organizational model consisting of dual leadership which includes a Chief Operating Officer, a model identified as being used in four of the eight hospitals. The administrative changes, along with the many hospital mergers continually in the news, have resulted in political and philosophical changes which impose a whole
new organizational climate. The mergers in some instances have made the hospitals so large that the feeling of two of the respondents was that the hospital had become so large that individual departments were lost in organizational change.

Summary

This chapter focused on analysis of data and the results relative to the relationships stated in the hypotheses. These relationships were tested using the t-test for independent means for all four variables. An inter-item correlation was used to compare some of the quality circle items used in this study with the same items in another study (Funkhouser, 1976). The cost containment variable was discussed further as it related to the Mercer-Meidinger (1985) survey.

The leadership variable test results supported the hypothesis that nurses in quality circle units perceive their leaders to be more of a participatory nature than do those in non quality circle units. The t-test for independent means ($t = -6.59, 124 \, df$) was significant at the .05 alpha level.

Staff nurse perceptions of job satisfaction being greater in units using quality circles than in those not using them was also supported. The individual and group means were lower in the quality circle group than in the
non-quality circle group. The t-test for independent means ($t = -3.72$, 124 df) was significant at the .05 alpha level.

The quality of patient care variable was tested by examining the individual and group means, t-test for independent means and an inter-item correlation of several items with findings in the Funkhouser (1976) study. The hypothesis that the quality of patient care is higher in units using quality circles than in those not using them was supported in this sample. However, the acid test of one's willingness to be a patient in one's own hospital revealed a somewhat different picture. The correlation of items relative to one's willingness to be a patient in their own hospital demonstrated very little difference in the quality circle group, the non quality circle group and the other study. It appeared that those surveyed were not very willing to be a patient in their own hospitals.

Items used to test the cost containment variable were fragmented, however they did relate to items discussed in various questionnaires used to interview administrators in the health care industry. The Mercer-Meidinger (1985) survey supported the inclusion of items addressing benefit packages, Health Maintanence Organizations, Preferred Provider Organizations and health/wellness programs as legitimate for the study of cost containment.
issues. The t-test for independent means ($t = -2.92, 124$ df) supported the hypothesis that participants in quality circles felt more involved in cost containment measures than those in non-quality circle groups.

Problems encountered as the study progressed were discussed as rationale for continuation of the study. The three questions asked were: (1) What can we learn from the discontinuation of quality circles in hospitals who had once used them? (2) What can we learn from the data collected from the two hospitals still using quality circles? and (3) What relationships, if any, were identified?

What did we learn from those who have discontinued the use of quality circles? The responses from this survey demonstrate an overlapping of concerns that transcend all three of the major categories (staffing, cost containment and administrative change) identified as rationale for discontinuing quality circle programs. It further identifies the complex nature of the health care industry and the leadership therein.

Recognizing this turmoil and the time span during which the majority of these hospitals attempted quality circles, one can still ask the question, "Are quality circles a viable leadership option for the health care industry?" Many of those interviewed on the telephone felt that given more time, appropriate staffing levels

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
and a stronger economy the quality circles would have been an effective leadership method.

The second and third questions, what can we learn from the data collected from the two hospitals still using quality circles and what relationships, if any, were identified, were answered in the following summary of the results previously discussed. The t-test for independent means computed on each of the hypotheses indicated support of the hypotheses. It is this researcher's contention that, based on the results of this study, quality circles could impact the leadership, job satisfaction, the quality of patient care, and cost containment effectiveness given appropriate time for them to pay for themselves.

The strong positive position for the value of the quality circles concept of leadership was espoused in the literature and supported by the sample for this study. However, its discontinuation in most of the hospitals cited in the literature raises serious questions about the leadership in nursing. These questions would support further study of leadership in nursing or possibly even a broader exploration of leadership in the health care industry. These questions and their impact are further discussed in Chapter V.
CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The study was undertaken to examine the relationship of nurses' perceptions of leadership, job satisfaction, the quality of patient care, and cost containment issues while involved or not involved in quality circles programs within their respective institutions. The study of these variables was hampered by the discontinuation of quality circles in many institutions previously identified as being in the vanguard of quality circles in the health care industry. This necessitated changes in the study which added the discontinuation of quality circles dimension.

All four hypotheses were examined using the t-test for independent means. An inter-item correlation was used in addition to the t-test for independent means for the quality of patient care variable to compare it to the Funkhouser (1976) study identified in the literature review. Further discussion of the cost containment variable was related to the Mercer-Meidinger (1985) survey which supported the examination of several items used in this study.

The findings should be interpreted and generalized to
other populations cautiously due to the nature of the sample selection and the revisions made to examine the discontinuation of quality circles in selected hospitals.

Original Study

The original study was designed for a larger sample than ultimately was available. However, there was some evidence offered in support of the original hypotheses.

The summary of the last chapter identified the results of this study. Even though the study was small, there were indications that the questionnaire used was reliable and perhaps could be used if quality circles were to re-surface as a leadership modality.

Results of the study of the leadership variable \( t = -6.59, \ 124 \ \text{df} \) were significant at the .05 alpha level. This supported the hypothesis that nurses in quality circle units perceived leadership to be more participatory in nature than did those in non quality circle units.

Given the issues that arose during this study, it would be advisable to explore leadership styles relative to job satisfaction and the quality of patient care without the quality circle component. Much of the literature identified leadership as a critical component of job satisfaction and, in turn, job satisfaction as an important concept in the quality of patient care.
Job satisfaction was more favorably reported by participants involved in quality circle units than those in non-quality circle units (t = -3.72, 124 df was significant at the .05 alpha level). As was reported in much of the literature, job satisfaction was seen as a positive result of the use of quality circles.

A strong positive argument for the use of quality circles was espoused by the majority of the authors quoted in the literature review. This study indicated that staff nurses perceived the quality of care to be better in units using quality circles than in those not using them (t = -6.01, 124 df was significant at the .05 alpha level). However, the question of whether or not one would be a patient in his/her own hospital exhibited a low inter-item correlation of five items identified in the quality patient care variable (physical care, psychological care, rehabilitation, patient education, and discharge planning) in this study and the Funkhouser (1976) study. The range of the correlation coefficient (r) was between .18 and .40 in this study and .24 and .39 in the Funkhouser study on these five patient care variables. This question evoked interest as to reasons participants would choose not to be a patient in their own hospitals, however, this would be another study.

The final hypothesis was also supported in this...
study. Staff nurses in quality circle units considered themselves more involved in cost containment issues than those in non-quality circle units. The t-test for independent means (t = -2.92, 124 df) was significant at the .05 alpha level. Cost containment could be further explored relative to leadership and job satisfaction but probably not as effectively with the quality of patient care variable.

Correlation studies for leadership, job satisfaction and the quality of patient care variables need to be done on larger samples. A follow-up study using leadership styles rather than quality circles is highly recommended.

Addition to Original Study

The discontinuation of quality circles identified three major issues within the health care industry and more specifically nursing. These issues are staffing, cost containment, and administrative changes. It is not surprising that these issues rose to the top of the list.

Staffing

Staffing and the shortage of nursing is emerging as a problem in much the same way as it did ten years ago. The shortage has been discussed from some different perspectives this time however. Much of the shortage resulted from severe reductions in students within the
education programs. Secretary of Health and Human Services, Otis Bowen stated in a June 29, 1987 visit with University of Michigan nurses, "Admissions to schools of nursing are declining, probably for a couple of reasons: there are fewer youngsters being graduated from high schools and competition for these students is greater" (Bowen, 1987, p. 3). Many other recent authors indicate the benefits and prestige of other careers, such as law, medicine, dentistry, etc., are attracting the brighter students who used to consider nursing and teaching as among the few opportunities open to women. The competition for these students is very keen in the college or university setting. The diploma programs that used to educate nurses within the hospital setting are no longer in existence in most states, which serves to further reduce the number of staff nurses available in many rural locations. Bowen also mentioned high stress, odd hours, salary structure, and the "handmaiden to the physician" concept of nurses as reasons for nurses leaving nursing altogether.

The Gramm-Rudman-Hollings Budget Deficit Control Act of 1985 (PL 99-177) will have a dramatic effect on federally financed social programs and may produce some very lean years for nursing programs in the community and for nursing education (Bullough, 1986, p.267). Thus, the staffing shortage may be more critical and longer lasting
than was the previous shortage cycle. Legislation not only has had an impact on the nursing shortage, but on cost containment as discussed in the next section.

Cost Containment

Cost containment has moved to the forefront of health care concerns with the impact of Diagnostic Related Groups (DRG's) and other federal legislation. The Mercer-Meidinger (1985) survey revealed "Third-party reimbursement--which insulates employees from health care costs--is perceived by the chief executives surveyed as the primary cause of increasing health care costs. Expensive medical technology is second. Only 10% of the respondents believe that 'too generous' private insurance is responsible for today's health care cost situation" (p. 1). This is interesting in that benefits were part of the cost containment survey in this study and most of the respondents perceived their benefits to be good and there was no difference noted in those involved in quality circles and those not involved.

The Mercer-Meidinger (1985) survey indicated that chief executive officers believe overwhelmingly the country still faces a health care crisis, but that it is a crisis of cost, not quality of care.

They (CEO's) believe that employers need to work on two fronts to control medical costs: one, the use of health promotion, wellness and preventive

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
programs, which they believe will cut costs; the other, a partnership between government and the private sector to assure affordable medical care for all citizens. (p. 1)

The indication here is that nursing and hospital leadership need to remain cognizant and lobby for or against legislative issues effecting health care.

Administrative Changes

Harvey, in an article in Hospital & Health Services Administration (1985) stated "To be fully effective as national leaders in healthcare delivery, healthcare executives must understand legislative, regulatory and environmental issues that affect delivery of health care" (p. 83). However, just being cognizant of these issues is not enough. The path to the top and staying there is not an easy one. According to several authors, changes of administration in many of the large healthcare corporations occur approximately every three years.

These three critical issues impacted this particular study as they were cited frequently as rationale for the discontinuation of quality circles. In conclusion, perhaps further research in these three critical areas could explore leadership styles most frequently used, their effectiveness and how they relate to the concepts of quality circles. A comparison of these issues in healthcare and the same basic issues in Fortune 500
companies using quality circles may also shed some light on effective use of them in healthcare. Suggestions for further study are outlined as follows.

Suggestions for Further Study

From the findings in this study it is clear that there are some leadership issues in the health care industry that could be investigated further. The three critical issues that arose stimulated interest in what effective leadership requires in today's health care industry. The following suggestions for further study are proposed.

1. Explore leadership in health care institutions of different sizes and/or organizational structures.
2. Examine the quality of patient care relative to size and/or the organizational structure.
3. Explore legislative issues and regulations that impact the health care industry.
4. Examine cost-containment issues as they impact the employee benefits and reflect in patient costs.
5. Repeat this study if quality circles emerge again in the health care industry.
APPENDIX A

Prentice-Hall, Inc. Permission Letter

Avatar International, Inc. Permission Letter
January 20, 1986

Shirley Weiglein
3024 Shalimar Circle
Fort Wayne, IN 46808

Dear Ms. Weiglein:

We are very glad to give you permission to quote from our book(s),
MANAGEMENT OF ORGANIZATIONAL BEHAVIOR: Utilizing Human Resources, 4th Ed., by Hersey & Blanchard
in accordance with the conditions outlined in your letter of 12/6/85.
Permission is granted for your dissertation use only.
Please give credit to the author(s), the title(s), and the publisher with copyright year date(s). Our usual credit line appears below:

Sincerely,

[Signature]
Mrs. Matty Lopes, Asst. Permissions Editor
November 13, 1985

Ms. Shirley Weiglein
3024 Shalimar Circle
Fort Wayne, IN  46808

Dear Shirley,

Thank you for your interest in Avatar International, Inc.

Enclosed for you is the research report for Hospital Quality Circle Programs as requested in your letter of September 23.

The normal fifteen dollar ($15.00) charge will be waived. In exchange, please send us a copy of your dissertation proposal on Quality Circles in Today's Health Care Industry.

We look forward to receiving your proposal. Please call if you desire more information.

Sincerely,

Darlene Jamerson
Assistant Vice President

DJ/com

Enclosure
APPENDIX B

Original Instrument

Telephone Survey Instrument
NURSING SERVICE SURVEY

Directions: Please complete the following survey as honestly as you can. All responses are confidential and will be used for statistical purposes only. To complete the survey circle the number on the right hand side that most closely reflects your ideas about each statement. If you circle 1, it means you strongly agree (SA) with the statement; a 2 means you agree (A), but not as strong; a 3 means you neither agree or disagree (N) with the statement; a 4 means you disagree (D) with the statement; and, a 5 means you strongly disagree (SD).

1. Physical assessments are done on each patient when admitted. 1 2 3 4 5
2. Nursing administration and division directors are aware of problems at my level of the organization. 1 2 3 4 5
3. I am satisfied with my job. 1 2 3 4 5
4. Employees pay a portion of their own health insurance premiums 1 2 3 4 5
5. The people I work with cooperate to get work done. 1 2 3 4 5
6. I believe this hospital gives the highest quality patient care of any hospital in the area. 1 2 3 4 5
7. This hospital has a health promotion/wellness program for its employees. 1 2 3 4 5
8. The nursing care manager is friendly and approachable. 1 2 3 4 5
9. I am given a real opportunity to be creative. 1 2 3 4 5
10. Routine physical assessments are done daily. 1 2 3 4 5

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
11. Employees are required to get second opinions for non-emergency treatment or surgery.  
12. The nursing care manager is willing to make changes.  
13. Nurses I work with give excellent physical care.  
14. Being of service to others is challenging to me.  
15. Employees are offered a choice of benefit options.  
16. The nursing care manager makes his/her attitudes clear to the department.  
17. Nurses I work with give excellent psychological support to patients.  
18. I enjoy my work.  
19. Employees are offered the opportunity to join an HMO (Health maintenance organization).  
20. The nursing care manager keeps department staff informed.  
21. If I became seriously ill I would choose to be a patient in this hospital.  
22. Nursing service administration respects my expertise.  
23. This hospital uses a PPO (preferred provider organization).  
24. Our nursing care manager finds time to listen to staff.
25. Patient education is an ongoing procedure.

26. My supervisor praises good work.

27. Employees are required to pay a deductible on insurance.

28. Our nursing care manager looks out for the welfare of the department.

29. Rehabilitation is part of the patient care plan.

30. My job gives me a sense of accomplishment.

31. A cost containment awareness program is promoted throughout the hospital.

32. Definite standards of performance are maintained by the nursing care manager.

33. Discharge planning is discussed with patients and families.

34. My chances for promotion are good.

35. Group ideas have been adopted that contribute to cost containment.

36. All staff members are treated as his/her equal by the nursing care manager.

37. Patient care conferences are held routinely in my unit.

38. My nursing care manager is tactful.

39. Special committees work on cost containment strategies.
40. Advance notice of changes is generally given by the nursing care manager.  
1 2 3 4 5

41. Written care plans are part of every patient's chart.  
1 2 3 4 5

42. My salary is comparable with that of others in my position.  
1 2 3 4 5

43. Financial incentives are offered to employees who have tests and minor surgery done outside hospitals.  
1 2 3 4 5

44. Our nursing care manager encourages staff participation in decision making.  
1 2 3 4 5

45. Patient dignity is maintained by the nursing staff.  
1 2 3 4 5

46. My benefits are excellent.  
1 2 3 4 5

47. Changes can be made to reduce costs as long as quality care is maintained.  
1 2 3 4 5

48. The nursing care manager backs up staff members in their actions.  
1 2 3 4 5

THANK YOU FOR COMPLETING THIS SURVEY. PLEASE TAKE AN EXTRA FEW MINUTES AND COMPLETE THE BACKGROUND INFORMATION ON THE FOLLOWING PAGE. THIS INFORMATION WILL BE USED ONLY BY THE RESEARCHER AND WILL NOT BE AVAILABLE TO ANYONE AT YOUR HOSPITAL.
BACKGROUND INFORMATION

49. QUALITY CIRCLES: # of years

1. _____ I have been a member of a quality circle_____
2. _____ I have not been a member of a quality circle

50. Age:

1. ___ Under 30
2. ___ 30-39
3. ___ 40-49
4. ___ 50-59
5. ___ 60 or over

51. Education:

1. Diploma____
2. BSN      ____
3. MSN      ____
4. Other degrees (specify)______________________________

52. Number of years employed at this hospital.

1. 1 - 2 __________
2. 2+ - 4 __________
3. 4+ - 6 __________
4. 6+ - 8 __________
5. Over 8 __________

SW-11/85
QUALITY CIRCLES
TELEPHONE QUESTIONNAIRE

BACKGROUND INFORMATION:

Hospital Name:
Location:
Telephone Number:
Title of Respondent:
Approx. Bed Capacity:
Approx. % of Capacity:
Approx. RN Staff:

QUALITY CIRCLES:

Have never used Quality Circles:

Used Quality Circles for (Mo's):

Still Use Quality Circles:

Discontinued QC's because:
1. 
2. 
3. 
4. 
5. 
6. 

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
BIBLIOGRAPHY


Buback, K., & Dutkeuych, J. I. (1982). **Characteristics of problems to be investigated by a quality circle.** Paper presented at the International Association of Quality Circles Annual Conference, St. Louis, MO.


